



MINISTRY OF EDUCATION

FOOD AND NUTRITION

for Senior High Schools

TEACHER MANUAL



YEAR THREE



NATIONAL COUNCIL FOR
CURRICULUM & ASSESSMENT
OF MINISTRY OF EDUCATION

MINISTRY OF EDUCATION



REPUBLIC OF GHANA

FOOD AND NUTRITION

For Senior High Schools Teacher Manual

Year Three



NATIONAL COUNCIL FOR
CURRICULUM & ASSESSMENT
OF MINISTRY OF EDUCATION

FOOD AND NUTRITION TEACHER MANUAL

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Introduction

The National Council for Curriculum and Assessment (NaCCA) has developed the third and final set of curriculum materials to support the implementation of the new Senior High School curriculum.

This Year Three Teacher Manual for Food And Nutrition covers all aspects of the content, pedagogy, teaching and learning resources and assessment required to effectively support learners in their final year of Senior High School. All the necessary information for the Student Assessment Portal has been included in the Year Three Teacher Manual to simplify the development of weekly learning plans, meaning that teachers have a single reference document.

The Year Three Teacher Manual has two main objectives:

- To support learners to consolidate and deepen their understanding of the content, pedagogy, and assessment across all three years of the new Senior High School curriculum in preparation for the West Africa Senior Secondary Certificate Examination (WASSCE).
- To equip teachers with the tools and resources needed to deliver revision-focused, assessment-led lessons that build on the knowledge learners have acquired from Year One to Year Three.

In this third year, teachers will be supporting learners to prepare for the WASSCE. Each section of the Teacher Manual is therefore structured around the highest Depth of Knowledge (DoK) levels, allowing learners to build progressively on knowledge acquired from Year One to Year Three. For each week, learning tasks and pedagogy are built around the assessment, ensuring that classroom activities directly prepare learners for the demands of the examination. Two sets of sample examination papers are also provided; one administered by Week 12 as a first semester practice examination, and one by Week 20 as a mock examination, to gauge learners' competencies and identify areas requiring remediation.

To further support teachers in delivering Year Three, NaCCA, working with the Ghana Education Service, has developed a subject specific App for each subject.

The Year Three PLC sessions have been revised in response to findings from the 2025 annual evaluation survey. The survey confirmed that teachers have made strong progress in lesson planning, use of varied instructional methods, ICT integration and modes of assessment. To address the identified gap in explaining concepts clearly using examples familiar to learners, each PLC

session now includes a dedicated Content Exploration segment. This ten-minute segment brings the subject group together to work through one challenging problem or concept from the week's Teacher Manual content, not to plan how to teach it, but to ensure that every teacher in the group fully understands it.

The PLC sessions in Year Three also place particular emphasis on connecting the week's content to equivalent topics taught in Years One and Two. Teachers are encouraged to note the recap weeks signposted throughout the Teacher Manual and to use the App to explore how content across all three years links together.

As in previous years, teachers are expected to integrate National Values, Gender Equality and Social Inclusion (GESI), Social and Emotional Learning (SEL), and 21st-century skills into their learning activities, assessment tasks, and rubrics and mark schemes. The subject-specific App will support teachers in doing this throughout the year.

Ghana Education Service acknowledges the dedication of the teachers who have implemented the new curriculum across Years One and Two and recognises that Year Three represents both the culmination of that effort and a critical moment for learners. The Year Three Teacher Manual and its accompanying resources have been developed to ensure that every learner, regardless of background, ability, or school context, is fully prepared to demonstrate what they know and can do in the WASSCE and to progress confidently to further studies, the world of work, and adult life.

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SECTION 1: FESTIVE AND FESTIVAL DISHES

STRAND: **NUTRITION AND HEALTH**

Sub-Strand: **Food for Healthy Living**

Week 1, 2,3,4

Learning Outcome: Explain the significance of Ghanaian festivals and festive occasions in promoting cultural identity, sustainable nutrition and healthy living.

Content Standard: *Demonstrate an understanding of the role of Ghanaian festivals and festive occasions in preserving culture, promoting sustainable nutrition and enhancing social well-being.*

Week 5,6,7

Learning Outcome: Plan and prepare nutritious special meals for different Ghanaian festive and entertainment occasions, considering health and sustainability principles.

Content Standard: *Demonstrate skills in modifying and preparing festival and festive meals for special occasions, events, and entertainment.*

INTRODUCTION AND SECTION SUMMARY

Ghanaian festivals are very vibrant and showcase the rich cultural heritage including festive special events at which food is an important aspect. This section of the teacher manual covers nutrition and health which is the first strand of Foods and Nutrition. This section guides the learners to understand, plan and prepare nutritious meals for Ghanaian festivals and festive occasions. Learners are expected to gain theoretical and practical knowledge to plan, prepare festival meals for specific Ghanaian festivals. To make the lesson learner centred, the section outlines interactive pedagogical, assessment and differentiated strategies that encourages the teacher to incorporate the generic learning techniques such as the application of GESI strategies (mixed gender and ability grouping etc), ICT skills, 21st century skills (collaborative learning skills, communication skills, practical learning sessions, critical thinking and problem - solving skills). The teacher must ensure that learners with special educational needs (SEN) are actively involved in the lesson delivery by using varied modes in presenting information (e.g., oral, written, demonstrations, use of audio-descriptive videos, description of images etc) to promote an inclusive classroom environment.

The weeks and the indicators covered by the section are:

Week 1: Describe major Ghanaian festivals and their associated traditional foods.

Week 2: Analyse the role of traditional foods in promoting sustainable nutrition and their impact on healthy living.

Week 3: Analyse how traditional festive meals can be modified for improved health benefits and sustainability.

Week 4: Examine the social and communal benefits of festive and festivals dishes in strengthening relationships and enhancing overall well-being.

Week 5: Plan festive and festivals meals suitable for various occasions /events.

Weeks 6 & 7: Prepare and cook dishes for festive/festivals/occasions/events.

SUMMARY OF PEDAGOGICAL EXEMPLARS

The teacher should use varied pedagogical strategies necessary for the lesson to make it more learner friendly. The use of group work (considering ability, mixed-ability, mixed-gender, mixed-cultural and friendship groupings), structured talk for learning and problem-based learning approaches, which consider the use of samples, charts, videos, posters, etc. on Festive and Festival dishes could be adopted. The learner is required to understand the concept of festive and festival dishes. The adoption of experiential learning approaches, where students are assigned to watch videos and do projects and present their findings in class, could also be considered. The teacher should ensure active participation of learners with special education needs (SEN) in the delivery of the lesson to promote an inclusive education classroom environment. The teacher should also include GESI (Gender Equality and Social Inclusion), SEN (Special Educational Needs), SEL (Social and Emotional Learning), 21st Century skills, Core National Values and ICT (Information, Communication and Technology) in the lesson delivery and differentiation strategies to address the varied learning requirements of all learners, being mindful that learners cannot always accomplish the same task., making relevant accommodation to ensure their full participation in all activities. To support teachers with their approach to differentiation, this manual sometimes refers to learners who may be struggling to learn as Approaching Proficiency (AP), learners who exhibit an average learning performance as Proficient (P) and learners who exhibit above average performance, those working at a High level of Proficiency (HP).

ASSESSMENT SUMMARY

To evaluate learners' achievement levels in relation to Depth of Knowledge (DoK), teachers should utilise diverse assessment strategies and tasks. Aligning assessment activities with learning indicators and pedagogical exemplars is crucial, creating a cohesive link between: Learning indicators, Pedagogical exemplars and Assessment strategies of festive and festival dishes, its modification, benefits of festive and festival dishes.

Indicators	DOK Level	Assessment Strategy and/or Mode
Describe major Ghanaian festivals and their associated traditional foods.	3	<i>Classwork</i>
Analyse the role of traditional foods in promoting sustainable nutrition and their impact on healthy living.	4	<i>Research</i>
Analyse how traditional festive meals can be modified for improved health benefits and sustainability.	3	<i>Essay</i>

Examine the social and communal benefits of festive and festivals dishes in strengthening relationships and enhancing overall well-being.	4	<i>Design a community programme</i>
Plan festive and festivals meals suitable for various occasions /events.	3	<i>Homework</i>
Prepare and cook dishes for festive/ festivals/occasions/events (1).	4	<i>Practical work</i>
Mid semester Examination		
Prepare and cook dishes for festive/ festivals/occasions/events (2).	4	<i>Practical work</i>

WEEK 1: MAJOR GHANAIAN FESTIVALS AND THEIR ASSOCIATED TRADITIONAL FOODS

Learning Indicator: Describe major Ghanaian festivals and their associated traditional foods

Focal Area: Ghanaian festivals and their associated traditional foods



Figure 1.1: *Fufu and palm soup*



Figure 1.2: *Adowa dance (Adeda Kese festival)*

1. Festivals: A special event or celebration that is organised to preserve cultural, religious or historical traditions. These activities bring different people together to honour their heritage, express gratitude and mark significant moments in life, etc.
2. Entertainment: Activities that provide relaxation, enjoyment and amusement. It plays a very important role in festivals as a way of expressing hospitality to promote excitement and attract large crowds.

a. Types of festivals

- i. Religious Festivals: Celebrated to honour deities, spiritual beliefs and religious teachings like Eid-ul-Fitr, Christmas, Easter and Damba Festival, etc.
- ii. Cultural Festivals: Rooted in traditions, customs and heritage of a particular ethnic group such as Homowo, Hogbetsotso, Aboakyer, Odwira Festival and Akwasidae Festival etc.
- iii. Harvest Festivals: Held to give thanks for a successful farming season and to promote food security such as Yam Festival, Paragbiele Festival, Kakube Festival and Kundum Festival, etc.
- iv. National Festivals: Mark historical or national events that are significant to a country's history such as Independence Day, Republic Day, Founders' Day, Kwame Nkrumah Memorial Day and Farmers' Day, etc.

b. Forms of Entertainment commonly found at Festivals

- i. Music and Dance: Traditional drumming, singing and dancing such as Kete, Adowa, Agbadza and Bawa, etc.
- ii. Drama and Storytelling: Theatrical performances and folktales that educate and entertain.
- iii. Games and Competitions: Wrestling, boat racing or beauty pageants associated with some festivals.
- iv. Feasting and Food Displays: Sharing traditional meals to promote communal living, etc.

c. Importance of Entertainment

- i. Social bonding: Strengthens social and cultural ties by bringing people together, fostering social bonds and community building.
- ii. Cultural exchange: Preserves indigenous art forms and creativity to promote cross-cultural activities and understanding.
- iii. Stress relief: Provides an opportunity for relaxation and stress relief to make people happy and reduces anxiety, depression and improve mood.
- iv. Entertainment promotes critical thinking, problem solving and creativity.
- v. Enhances the festive mood and attracts tourists to promote economic benefits through job creation in the entertainment and hospitality industry, etc.

d. Traditional significance of festivals

- i. Preserve cultural identity and heritage.
- ii. Promote social unity and community bonding.
- iii. Enhance economic activities through tourism and trade.
- iv. Encourage sustainable food consumption and showcase traditional meals.
- v. Provide a platform for entertainment and relaxation, etc.

e. Factors to consider when selecting and organising festivals and festive entertainment at events

- i. WEEK 1: Target audience
- ii. Purpose of the event
- iii. Budget and financial resources
- iv. Safety and security
- v. Publicity and invitations
- vi. Sustainability and environmental impact, etc.

f. Some major Ghanaian cultural festivals and their associated traditional foods

Festival	People who celebrate	Purpose of the Festival	Traditional food
i. Homowo Festival	Ga people in Accra	To commemorate the end of a famine and celebrate a bumper harvest. The meaning of Homowo is 'hooting at hunger'.	Kpokpoi (a flavourful porridge made from maize and palm nut soup)
ii. Fetu Afahye Festival	Fante people in Cape Coast	To honour ancestors and keep the town clean.	Banku (fermented corn and cassava dough) with various soups, grilled seafood, and fruits
iii. Bakatue Festival	People of Elmina	To mark the beginning of the fishing season.	Grilled lobster, crab stew, and fried fish
iv. Adae Kese Festival	Ashanti people	To celebrate the rich culture and heritage of the Ashanti people.	Fufu and light soup, rice dishes, and fried plantains
v. Kundum Festival	Nzema people	To thank God for the abundance of food during the harvest season.	Grilled Fish with Akyeke (steamed cassava), Banku: A fermented corn and cassava dough, often served with soups or stews.
vi. Ohum Festival	Akyem Abuakwa people	To mark the first yam harvest and ask for God's blessings of more harvest.	Various Yam Preparations – mashed yam oto, yam porridge, boiled yam, yam fufu.

vii. Damba	Dagomba	The festival is celebrated to commemorate the birth and naming of Prophet Mohammad, preserve traditional culture, bring people together, and promote peace and unity in the community. It is also an occasion for chiefs and people to display their traditional customs.	Tuo Zaafi (TZ) with ayoyo or dawadawa soup, tuo zaafi with green leafy soup, yam, millet-based foods, rice, beans and meat dishes.
viii. Bugum (Fire)	Dagomba	The festival is traditionally associated with the search for a missing chief's or king's child. Today, it also serves to preserve culture, bring communities together and promote unity.	Tuo Zaafi with soup, millet dishes, yam, meat.

Learning Tasks

1. Explain the concepts of festivals and entertainment.
2. Describe the major Ghanaian festivals and their associated traditional foods.
3. Outline factors that should be considered when selecting and organising entertainment.
4. Find out factors that contribute to the success of a party and report in class for further discussion.

Pedagogical Exemplars

1. **Problem based learning:** In mixed groups brainstorm/think-pair-share/think-pair-square-share explain the concepts of festivals and entertainment.
2. **Talk for Learning/Problem based learning:** In mixed groups with the aid of posters, pictures, with appropriate captions, audio-descriptive videos and concept maps, brainstorm/think-square-share to describe the major Ghanaian festivals and their associated traditional foods.

3. **Group Work:** In mixed groups, (peers with and without disability should be encouraged to work together) use think-pair-share to outline factors that should be considered when selecting and organising entertainment.
4. **Homework/Extended Learning:** Reading assignment: find out factors that contribute to the success of a party and report in class for further discussion.

Key Assessment Level 3: Individual Class Exercise

Task 1: Entertainment for Festival Celebrations (20 Marks)

- a. Describe **five** ways that entertainment activities contribute significantly to the vibrancy and meaning of festival celebrations. (10 marks)
- b. Describe **two** ways that entertainment can strengthen any **two** of the following during festive celebrations. (10 marks)
 - i. Social bonding
 - ii. Cultural exchange
 - iii. Economic development

Task 2: Factors that influence the planning and organisation of festivals (20 Marks)

- a. Examine **two** factors that influence the planning and organisation of festivals.
- b. Explain how considerations like target audience, budget, safety, and sustainability affect the success of an event

PLC Session 1

45 minutes

Planning & Reviewing the Learning Plan

1. Begin the session by recapping lessons from the previous year/session/week, focusing on how learning was applied.
2. Use your subject specific application to explore the content before planning. Ask the application to
 - a. explain the week's concepts in a practical way that will make it easier for learners to understand
 - b. identify two or three common misconceptions learners may have on the week's content and how to address them using contexts familiar to Ghanaian learners. (NTS 3a, 3g and 3m).
3. Use your subject specific application to plan your lesson. Ask the application to
 - a. suggest the most effective method for teaching the week's concepts to learners with diverse backgrounds.
 - b. suggest learning activities, differentiation and essential questions based on the method of teaching (NTS 3a-3q)
 - c. review your prepared learning plan and address any challenging issues you may have identified in your subject area (NTS 3a-3c).



Note

- Take note of the recap topics linked to Years 1 and 2 while preparing for your lesson.
- Refer to the Values Learning Community Handbook and link the values for the week in your lesson to ensure that learners are applying what they learn.

4. Plan the week's key assessment with your application

- The key assessment for the week is **individual class exercise**. Chat with your application to plan this assessment, indicating what you and your learners will do before, during and after the exercise (NTS 3k-3q).

10 minutes

Content Exploration

5. As a subject group, select one problem or idea/term in the week's content that is challenging (not a routine procedural question, but one that requires conceptual understanding) and then

- use the application, ask it to solve the problem step by step and explain the reasoning behind each step (you may be assisted by a teacher who is strong in the content area)
- all teachers in the group work through a similar problem individually for 3–4 minutes
- the group then works through the problem together step by step
- highlight the most common errors made at each step and discuss (NTS 1c, 1e, 2c, 2e, 3e-3j).



Note

- This part is not just about 'How do I teach this?' but how do I teach it for learners to understand?
- If the group still shares the same content gap, use the application: ask it to solve the problem step by step and explain the reasoning behind each step.
- Problems/ideas discussed should be sourced from the Teacher Manual content, not invented separately. This keeps the content exploration directly connected to what teachers will deliver.

30 minutes

Enactment

6. Enact a teaching activity based on your learning plan (NTS 1a-1b, 1e-1g, 2c, 2e, 2f, 3c-3j and 3o).

- Colleagues observe with specific attention to clarity of concept explanation, use of familiar Ghanaian examples and how misconceptions are handled if they arise.
- After the enactment, ask for structured feedback from the group
 - was the concept explained in a way that a learner with no prior knowledge could follow?
 - were the examples grounded in contexts familiar to Ghanaian learners?
 - did any misconceptions surface and if so, how were they addressed?

5 minutes**Reflection**

7. Reflect and share your views on the session. One thing that worked well, what did not work well and what you will do differently. (NTS 1a, 1b).
8. Identify a critical friend to observe and provide feedback on your lesson in relation to the PLC Session conducted (NTS 1f, 1g).
9. Remember to
 - a. transfer your chats into your learning planner template.
 - b. read your Teacher Manual and related Learner Material in preparation for the next session. Take note of the recap weeks, which are linked to Years 1 and 2 (NTS 3a).
 - c. integrate National Values, GESI, SEL, and 21st century skills into your learning activities, assessment tasks, and rubrics/mark schemes.

WEEK 2: THE ROLE OF TRADITIONAL FOODS IN PROMOTING SUSTAINABLE NUTRITION

Learning Indicator: Analyse the role of traditional foods in promoting sustainable nutrition and their impact on healthy living

Focal Area: The role of traditional foods in promoting sustainable nutrition



Figure 1.3: *Oto and egg groundnut and spring onions in a black earthenware bowl*

Traditional foods play a very important role in promoting sustainable nutrition and healthy living. By preserving cultural heritage and using local ingredients, traditional foods provide essential nutrients that support the overall well-being of humans. Therefore, the following traditional foods are significant in promoting sustainable nutrition and health.

a. Cultural Significance of Festival Foods in Ghana

- i. **Preservation of cultural heritage:** Traditional foods play a vital role in linking communities to their cultural heritage and identity. Traditional foods often involve intergenerational knowledge transfer, where older generations share their knowledge and skills in recipes with younger generations. This acquisition of knowledge helps preserve the cultural heritage and identity and promotes sustainable nutrition practices.
- ii. **Symbolism and Rituals:** Traditional foods are mostly filled with symbolic meanings mainly to various ritual ceremonies which reflect the cultural significance of food and connection in community, spiritual and cultural identity of a particular ethnic group. Some foods symbolise prosperity, abundance and are used for social bonding during ceremonies.
- iii. **Community Bonding and Unity:** Traditional foods are often at the centre of shared meals, bringing people together and fostering social connections through cultural celebrations and community engagement.

b. Nutritional Significance of Festival Foods

- i. **Balanced Diet and Nutrient Diversity:** Many traditional foods are rich in essential nutrients, such as vitamin C, vitamin D, calcium, and iron, which are vital for

maintaining optimal health, the ingredients mostly used are fruits, vegetables, whole grains, and lean proteins.

- ii. **Use of Indigenous and Organic Ingredients:** Indigenous and Organic Ingredients are often grown locally without any synthetic chemicals which are nutritionally dense, supporting overall well – being. It well promotes and preserves cultural heritage and traditional knowledge.
- iii. **Energy-Boosting Foods for Festival Activities:** Traditional foods rich in complex carbohydrates, such as whole grains, fruits, and vegetables, provide energy for festival activities. whole grain dishes, such as banku, or kenkey, provide complex carbohydrates, local snacks, such as roasted nuts, seeds, and dried fruits, provide a quick energy boost, legume-based dishes, such as stews or soups and local fresh fruits, such as mangoes, papayas, and pineapples, provide natural sugars, electrolytes, and hydration.

c. **Health Significance of Festival Foods**

- i. **Medicinal and Healing Properties:** Many traditional foods such as turmeric and ginger are rich in antioxidants, which help protect against oxidative stress, inflammation, and chronic diseases. Some traditional foods, such as garlic and onions, have antimicrobial properties, which can help protect against infections and promote immune function.
- ii. **Role in disease prevention:** festival foods are mostly rich in omega-3 fatty acids, such as nuts and seeds which can support heart health. Fruits and vegetables help in digestion and protect against certain cancers.
- iii. **Consideration of modern health challenges:** Adding more fruits and vegetables to festival foods can increase their nutritional value, as well as prevent obesity, diabetes, hypertension because they provide more fibre.
- iv. **Modern adaptations of traditional recipes:** Reducing sugar and salt in food can make it healthier. Adding more whole grains or fibre is good to reduce blood sugar levels, incorporating nutrient-dense ingredients like fruits, vegetables, and lean proteins can enhance the nutritional value.

Learning Tasks

1. Analyse the role of traditional foods in promoting sustainable nutrition and their impact on healthy living.
2. Develop concepts map to compare traditional festive meals with modern adaptations, focusing on health benefits and sustainability.
3. In your groups suggest healthy modifications to traditional festive meals while maintaining their cultural significance.

Pedagogical Exemplars

Problem-Based Learning /Collaborative Learning

1. In mixed ability/ cultural/gender groups, with aid of audio-descriptive videos, posters and sample recipes of festival and festive dishes:
2. Analyse the role of traditional foods in promoting sustainable nutrition and their impact on healthy living.

3. Develop concepts map to compare traditional festive meals with modern adaptations, focusing on health benefits and sustainability.
4. In your groups suggest healthy modifications to traditional festive meals while maintaining their cultural significance.

Key Assessment Level 3: Group Project Work

Task 1 - Comparative Research Study (40 Marks)

Conduct a comparative research study on the nutritional content of traditionally prepared 'dawadawa' (fermented locust beans) versus commercial monosodium cubes commonly used in Ghanaian households. Analyse your findings to determine their respective impacts on nutritional sustainability and health outcomes in your community.

You should present your research logically and systematically and provide references where required

Task 2 - Research on Indigenous Leafy Vegetable Consumption (40 Marks)

Research and document the consumption patterns of three indigenous leafy vegetables (such as kontomire, alefu, or gboma) in a selected Ghanaian community. Analyse how these consumption patterns have changed over the years and evaluate the nutritional implications of these changes.

You should present your research logically and systematically and provide references where required.

Hint



Assign Group Project to learners and give them reasonable time to complete it. Use the SS App to generate the project as well as the rubric. Learners' projects should be marked immediately and scores entered into the SAP.

PLC Session 2

45 minutes

Planning & Reviewing the Learning Plan

1. Begin the session by recapping lessons from the previous session, focusing on how learning was applied.
2. Use your subject specific application to explore the content before planning. Ask the application to
 - a. explain the week's concepts in a practical way that will make it easier for learners to understand.
 - b. identify three common misconceptions learners may have on the week's content and how to address them using contexts familiar to Ghanaian learners (NTS 3a, 3g and 3m).
3. Use your subject specific application to plan your lesson. Ask the application to
 - a. suggest the most effective method for teaching the week's concepts to learners with diverse backgrounds.

- b. suggest learning activities, differentiation and essential questions based on the method of teaching (NTS 3a-3q).
- c. review your prepared learning plan and address any challenging issues you may have identified in your subject area (NTS 3a-3c).



Note

- Take note of the recap topics linked to Years 1 and 2 while preparing for your lesson.
- Refer to the Values Learning Community Handbook and link the values for the week in your lesson to ensure that learners are applying what they learn.

4. Use your application to plan and administer the mode of assessment for the Student Assessment Portal (SAP)
 - a. The key assessment for the week is **group project**. Chat with your application to plan this assessment by reviewing or developing the assessment items/tasks and marking schemes/rubrics for the group project (NTS 3k-3q).

10 minutes

Content Exploration

5. As a subject group, select one problem or topic/idea/term in the week's content that is challenging (not a routine procedural question, but one that requires conceptual understanding) and then
 - a. use the application, ask it to solve the problem step by step and explain the reasoning behind each step (you may be assisted by a teacher who is strong in the content area)
 - b. all teachers in the group work through the problem individually for 3–4 minutes
 - c. the group then works through it together the problem, step by step
 - d. highlight the most common errors made at each step (NTS 1c, 1e, 2c, 2e, 3e-3j).



Note

- This part is not 'How do I teach this?' but how do I teach it for learners to understand?
- If the group still shares the same content gap, use the application: ask it to solve the problem step by step and explain the reasoning behind each step.
- Problems/ideas discussed should be sourced from the Teacher Manual content, not invented separately. This keeps the content exploration directly connected to what teachers will deliver.

30 minutes

Enactment

6. Enact a teaching activity based on your learning plan (NTS 1a-1b, 1e-1g, 2c, 2e, 2f, 3c-3j and 3o).

- a. Colleagues observe with specific attention to clarity of concept explanation, use of familiar Ghanaian examples and how misconceptions are handled if they arise.
- b. After the enactment, ask for structured feedback from the group
 - i. was the concept explained in a way that a learner with no prior knowledge could follow?
 - ii. were the examples grounded in contexts familiar to Ghanaian learners?
 - iii. did any misconceptions surface and if so, how were they addressed?

5 minutes**Reflection**

7. Reflect and share your views on the session. One thing that worked well, what did not work well and what you will do differently. (NTS 1a, 1b).
8. Identify a critical friend to observe and provide feedback on your lesson in relation to the PLC Session conducted (NTS 1f, 1g).
9. Remember to
 - a. transfer your chats into your learning planner template.
 - b. read your Teacher Manual and related Learner Material in preparation for the next session. Take note of the recap weeks, which are linked to Years 1 and 2 (NTS 3a).
 - c. integrate National Values, GESI, SEL, and 21st century skills into your learning activities, assessment tasks, and rubrics/mark schemes.

WEEK 3: MODIFICATION OF TRADITIONAL FESTIVE MEALS TO IMPROVE ITS HEALTH BENEFIT

Learning Indicator: Analyse how traditional festive meals can be modified for improved health benefits and sustainability

Focal Area: Modification of traditional festive meals to improve its health benefit

1. What are festive meals?

Festive dishes are dishes prepared to celebrate happy occasions which call for feasting to benefit the importance of the celebration. These dishes include: Chicken Jollof rice, oto with egg, T.Z and groundnut soup, etc.

Festival dishes are dishes prepared during festivals of ethnic groups, sometimes using special ingredients and utensils. These include: oto with egg, rice porridge, kpokpoi and Tunbani, etc.

Modifying traditional festive meals for better health and sustainability is essential in balancing cultural preservation with modern dietary needs and environmental awareness. Traditional Ghanaian festive dishes are deeply rooted in cultural heritage, but changes can enhance nutritional value while ensuring long-term sustainability. Factors for modifying traditional festive dishes are as follows:

a. Enhancing Nutritional Value

Festive meals can be improved for better health benefits by modifying ingredients (food stuff) and cooking techniques or methods. Some of the health-conscious modifications are:

- i. Lower oil consumption – Instead of deep-frying foods like kelewele (spicy fried plantain), grilling or air-frying reduces excess fat while retaining flavour.
- ii. Increasing fibre content – Use whole grains to support digestion and heart health instead of refined grains. E.g., of whole grains: brown rice, wheat or millet in Jollof rice.
- iii. Plant-based protein sources – Incorporating plant-based proteins like legumes, mushrooms, or soy-based proteins in stews and soups (e.g., groundnut soup) as alternatives to fatty red meat.

b. Sustainable Ingredient Choices

Using environmentally friendly and locally available ingredients helps reduce dependence on imports and supports local agriculture.

c. Eco-Friendly Sourcing

- i. Seasonal and diversifying ingredients – Choosing yams, cocoyam, garden eggs, and kontomire when they are in season enhances sustainability. Use gluten free local flour like cassava, sorghum, Low-sodium seasonings like local herbs and spices (prekese, ginger and dawadawa) to improve flavour while reducing blood pressure risks.

- ii. Locally sourced produce – Buying local foods rather than imported ones ensures freshness and supports Ghanaian farmers.
- iii. Minimal food waste – Leftover light soup can be repurposed into a vegetable sauce/ aprapransa or overripe plantains can be used for akakro/kelewele, preventing wastage.

d. Sustainable Cooking Techniques

- i. Adjusting how festive meals are prepared contributes to environmental conservation.
- ii. Energy-efficient cooking – Using modern gas stoves or solar cookers instead of charcoal stoves, tripod stoves reduce deforestation.

2. Menus for selected festivals

Components of the meal should include the following:

- a. Starter
- b. Main dish
- c. Accompaniment
- d. Side dish (optional)
- e. Snack dish
- f. Beverage
- g. Dessert

3. Examples of a festival menu

- a. Starter- light soup
- b. Main Dish - Fried or Grilled Tilapia (A popular fish dish in Ghana) - Garden Egg Stew (A stew made with garden eggs, onions, and spices)
- c. Accompaniment / one pot Dish - Aprapransa (One-pot dish made with roasted corn flour, tomatoes, and peper or palmnut soup) - Waakye (Rice and Beans dish, often served with meat or fish) or oto (mashed yam or plantain), etc.
- d. Snack dish - Akara (Fried Bean Cakes), bankye akrakuro etc
- e. Beverage – Bisab (A traditional Ghanaian drink made from hibiscus flower and sugar) – coconut drink - Coconut Water, juice plus syrup, prekese drink, ginger drink, millet drink etc.
- f. Dessert- Groundnut Balls (A sweet snack made from groundnuts and sugar), groundnut (nkate) cake, kube (cocoanut) cake.

Note: modify them to be more nutritious.

4. Meals that accompany special occasions

Special occasions/ events	Foods normally served
a. Ramadan	Waakye (Rice and Beans) – Grilled Meat (Beef or Chicken) – Fresh Fruit Salad

b. Christmas	Jollof Rice – Grilled Meat (Beef, Chicken, or Goat) – Kelewele (Spicy Fried Plantains) Salad
c. Wedding	Jollof Rice – Grilled Meat (Beef, Chicken, or Goat) – Banku or Fufu (depending on the ethnic group)
d. Graduation	Jollof Rice – Grilled Meat (Beef, Chicken, or Fish) – Snacks (e.g., Kelewele, Peanuts)
e. Funerals	Fufu or Banku – Light Soup (made with vegetables and sometimes meat or fish)/ groundnut soup – Grilled Meat (Beef, Chicken, or Goat)
f. Easter	Jollof Rice & Grilled Chicken or Fish Banku (Fermented corn dough) & Tilapia
g. Birthday	Jollof Rice – Grilled Meat (Beef, Chicken, or Fish) – Cake (often Western-style)

5. History behind some Ghanaian festival dishes

a. “Homowo”- Kpokpoi

According to tradition, the Ga people migrated from ancient regions in West Africa and settled in present-day Ghana. They experienced a devastating famine due to drought and after the hardship, they eventually received bountiful rains and a successful harvest, allowing them to overcome hunger. To celebrate their survival and give thanks to their ancestors, the Ga people created the Homowo festival, which means “hooting at hunger.” As part of the festivities, Kpokpoi was prepared from fermented corn dough, often served with groundnut or palm nut soup.

b. “Damba” festival dish Tuo Zaafi

Tuo Zaafi, a staple in northern Ghana, has long been a source of nourishment for farmers and warriors. Over time, it became a symbol of unity, especially during the Damba Festival, which celebrates heritage and leadership among the Dagomba, Gonja, and Nanumba people. Originally linked to the birth of Prophet Mohammed, the festival now blends Islamic and indigenous traditions, with families coming together to share meals. Tuo Zaafi is often prepared in large quantities to honour chiefs and elders, reinforcing its cultural significance.

c. Adade kese festival dish in Ashanti

The Adade Kese Festival is a grand celebration among the Ashanti people of Ghana, honouring their ancestors and the sacred Golden Stool, is a symbol of unity and power.

As part of the festivities, food plays a crucial role, with) to, a dish made from mashed plantain and hard-boiled eggs, being one of the most significant. This meal is offered in rituals, symbolising fertility, protection, and continuity. Other traditional foods like fufu with light soup, plantains, and palm nut soup are also prepared, reinforcing the communal bonds and rich agricultural heritage of the Ashanti.

d. Aboakyir Festival – Traditional Dishes

Aboakyir is celebrated mainly by the Effutu people of Winneba in the Central Region. The name Aboakyir means “hunting for an animal.” Traditionally, the people hunt a live antelope as part of the festival. The animal is presented to the chiefs and used in the traditional celebrations. The meat is then prepared and shared among the people. Other traditional foods: Kenkey, fish, soup and meat stews are commonly eaten during the celebrations.

e. Kundum Festival – Traditional Dishes

Kundum is celebrated mainly by the Ahanta and Nzema people in the Western Region of Ghana.

Dish: Yam

Yam has an important place in the festival because Kundum is closely connected with the yam harvest. The festival traditionally marks the harvesting of new yams and gives people an opportunity to thank God and celebrate a successful harvest. New yam is prepared and shared with family members, chiefs and visitors. Other traditional foods: boiled yam, yam fufu, fish, palm-nut soup, seafood and other local dishes may be prepared.

f. Bakatue Festival – Traditional Dishes

Bakatue is celebrated by the people of Elmina (Edina) in the Central Region. Bakatue literally mean opening of Benya lagoon into the sea. Bakatue symbolise the begin of a fishing season, which is the livelihood of the people of Elimina.

Dish: Fish and seafood

Bakatue is strongly connected with fishing, because Elmina is an important fishing community. The festival marks the opening of the fishing season after a period when fishing activities were traditionally restricted. Fish and seafood therefore have an important place in the celebrations and reflect the people’s dependence on the sea for food and livelihood. Other traditional foods: kenkey with fish, fried fish, fish stew, rice dishes and other seafood preparations are commonly associated with the celebration.

g. Hogbetsotso Festival Dish

One of the important traditional foods associated with the Hogbetsotso Festival of the Anlo people is Akple with Fetri Detsi (okra soup). Other foods commonly found during the festival include Aborbi Tadi, Yakayake, Dzowoe and Abolo.

Akple with Fetri Detsi has a strong connection with the food culture of the Anlo people. Akple is a traditional meal prepared mainly from maize flour and eaten with a soup or sauce, especially okra soup. Because maize is an important staple in the area, the dish forms part of the traditional diet of the people.

During Hogbetsotso, which commemorates the Anlo people's legendary migration from Notsie in present-day Togo to their present settlement in Ghana, traditional foods are prepared and shared as part of the celebration. The foods help preserve Anlo culture and provide an opportunity for families and visitors to enjoy traditional dishes together.

Learning Tasks

1. Design a balanced and sustainable menu for a selected festival of your choice.
2. Discuss how to incorporate local and seasonal ingredients to ensure food sustainability
3. Identify the various special occasions/events that are observed or celebrated among individuals, families and society.
4. Explain the history of festival dishes.

Pedagogical Exemplars

1. **Problem-Based Learning:** In mixed groups brainstorm/think-pair-square-share to design a balanced and sustainable menu for a selected festival of your choice.
2. **Group Work:** In mixed groups, use think-pair-share to identify the various special occasions/events we observe or celebrate.
3. **Collaborative/Talk for Learning:** In mixed groups explain the history of festival dishes. E.g., “Homowo”, “Damba”, “Aboakyer”, “Bakatua” etc.

Key Assessment Level 3: Essay

Task 1 (20 Marks)

Choose a festival dish from any culture and suggest three modifications to make it more nutritionally balanced while preserving its cultural significance. Evaluate the potential health benefits of your changes.

You should present your report logically and systematically with a conclusion and recommendations

Task 2 (20 Marks)

Choose a festive dish and compare its traditional cooking methods with energy-efficient alternatives. Analyze how these changes impact nutrition, sustainability, and cultural authenticity.

PLC Session 3

45 minutes

Planning & Reviewing the Learning Plan

1. Begin the session by recapping lessons from the previous year/session/week, focusing on how learning was applied.
2. Use your subject specific application to explore the content before planning. Ask the application to

- a. explain the week's concepts in a practical way that will make it easier for learners to understand
 - b. identify two or three common misconceptions learners may have on the week's content and how to address them using contexts familiar to Ghanaian learners. (NTS 3a, 3g and 3m).
3. Use your subject specific application to plan your lesson. Ask the application to
- a. suggest the most effective method for teaching the week's concepts to learners with diverse backgrounds.
 - b. suggest learning activities, differentiation and essential questions based on the method of teaching (NTS 3a-3q)
 - c. review your prepared learning plan and address any challenging issues you may have identified in your subject area (NTS 3a-3c).



Note

- Take note of the recap topics linked to Years 1 and 2 while preparing for your lesson.
- Refer to the Values Learning Community Handbook and link the values for the week in your lesson to ensure that learners are applying what they learn.

4. Plan the week's key assessment with your application
- a. The key assessment for the week is **essay**. Chat with your application to plan this assessment, indicating what you and your learners will do before, during and after the essay (NTS 3k-3q).

10 minutes

Content Exploration

5. As a subject group, select one problem or idea/term in the week's content that is challenging (not a routine procedural question, but one that requires conceptual understanding) and then
- a. use the application, ask it to solve the problem step by step and explain the reasoning behind each step (you may be assisted by a teacher who is strong in the content area)
 - b. all teachers in the group work through a similar problem individually for 3–4 minutes
 - c. the group then works through the problem together step by step
 - d. highlight the most common errors made at each step and discuss (NTS 1c, 1e, 2c, 2e, 3e-3j).



Note

- This part is not just about 'How do I teach this?' but how do I teach it for learners to understand?
- If the group still shares the same content gap, use the application: ask it to solve the problem step by step and explain the reasoning behind each step.

- Problems/ideas discussed should be sourced from the Teacher Manual content, not invented separately. This keeps the content exploration directly connected to what teachers will deliver.

30 minutes**Enactment**

6. Enact a teaching activity based on your learning plan (NTS 1a-1b, 1e-1g, 2c, 2e, 2f, 3c-3j and 3o).
 - a. Colleagues observe with specific attention to clarity of concept explanation, use of familiar Ghanaian examples and how misconceptions are handled if they arise.
 - b. After the enactment, ask for structured feedback from the group
 - i. was the concept explained in a way that a learner with no prior knowledge could follow?
 - ii. were the examples grounded in contexts familiar to Ghanaian learners?
 - iii. did any misconceptions surface and if so, how were they addressed?

5 minutes**Reflection**

7. Reflect and share your views on the session. One thing that worked well, what did not work well and what you will do differently. (NTS 1a, 1b).
8. Identify a critical friend to observe and provide feedback on your lesson in relation to the PLC Session conducted (NTS 1f, 1g).
9. Remember to
 - a. transfer your chats into your learning planner template.
 - b. read your Teacher Manual and related Learner Material in preparation for the next session. Take note of the recap weeks, which are linked to Years 1 and 2 (NTS 3a).
 - c. integrate National Values, GESI, SEL, and 21st century skills into your learning activities, assessment tasks, and rubrics/mark schemes.

WEEK 4: THE SOCIAL AND COMMUNAL BENEFITS OF FESTIVE AND FESTIVAL DISHES

Learning Indicator: Examine the social and communal benefits of festive and festival dishes in strengthening relationships and enhancing overall well-being

Focal Area: The social and communal benefits of festive and festival dishes

1. Social and communal benefits of festive and festival dishes

Food holds deep cultural, emotional, and social meaning in every society. In Ghana, festive and festival dishes are not only a vital part of celebrations but also serve as a medium for expressing hospitality, affection, tradition, and unity. These special meals bring people together, foster a sense of belonging, and contribute to both individual and communal well-being. By examining the role that these dishes play during festivals and celebrations, we gain a deeper appreciation of how food supports relationships and promotes social harmony.

a. Fostering Unity and Social Cohesion

Sharing food during festivals and celebrations strengthens bonds among family members, neighbours, and even strangers. It creates an atmosphere of love, openness, and unity.

b. Preserving Cultural Identity and Heritage

The preparation and enjoyment of traditional dishes play a crucial role in maintaining cultural heritage. Through food, younger generations learn about their roots and develop pride in their culture.

c. Enhancing Emotional and Mental Well-being

Festive and festival meals often bring feelings of joy and comfort. The act of eating together, especially during meaningful occasions, can reduce feelings of loneliness and stress.

d. Encouraging Generosity and Hospitality

During festive periods, it is common for people to prepare extra food to share with visitors, neighbours, and those in need. This spirit of generosity in Ghanaians fosters a strong sense of community and teaches values such as kindness, empathy, and consideration for others.

e. Promoting Inclusiveness and Respect for Diversity

Festive and festival dishes often transcend religious, ethnic, and social boundaries. People from diverse backgrounds come together to share the joy of one another's celebrations. This helps to build tolerance, respect, and mutual understanding among different groups within the community.

f. Strengthening Family Bonds

Food preparation during celebrations is often a family activity, involving parents, children, and extended relatives. Working together in the kitchen, serving meals, and eating as a unit fosters cooperation, communication, and unity. It becomes a moment for bonding, storytelling, and the expression of love.

2. Examples of Popular festive and festival Dishes and their Significance

- a. Kpokpoi and palm nut soup – Prepared by the Ga people during the Homowo Festival to commemorate the end of a historical famine and to celebrate a bumper harvest. The dish is a symbol of gratitude and resilience.
- b. Rice dishes – A simple but meaningful dish shared during Islamic festivals like Eid to break the fast and extend hospitality to guests and those in need. Cooked rice such as jollof, plain boil rice, rice balls, waakye etc.
- c. Jollof rice and cakes – Commonly served during birthdays, weddings, and Christmas celebrations, these dishes are enjoyed across different ethnic and social groups in Ghana.
- d. Akple with okro soup – A traditional dish from the Volta Region, often served during cultural gatherings and important family events, representing comfort, hospitality, and identity.

3. Festive Dishes and Their Importance

Festive dishes are special meals prepared and enjoyed during joyful occasions such as birthdays, weddings, Christmas, naming ceremonies, and other family or community celebrations. These dishes are often rich in flavour, colour, and variety, and are usually prepared with great care and shared among family, friends, and invited guests. Some common examples of festive dishes in Ghana include cakes, jollof rice and fries with sauces.

Festive dishes are more than just food; they carry deep cultural, religious, and social significance. The importance of festive dishes are as follow:

- a. **Spiritual & Religious Meaning:** Many festive dishes are tied to religious traditions, symbolising gratitude, sacrifice, or renewal. For example, eating dates during Ramadan follows the practice of Prophet Muhammad.
- b. **Community & Togetherness:** Sharing festive meals strengthens family and community bonds. Whether it's Christmas dinner with loved ones or Eid feasts with neighbours, food plays a key role in fostering unity and celebration.
- c. **Cultural Heritage & Identity:** These dishes preserve traditions passed down through generations, showcasing local flavours, cooking techniques, and historical influences.
- d. **Symbolism & Celebration:** Certain foods represent prosperity, health, and happiness. For instance, Christmas pudding is steeped in history and tradition.
- e. **Nourishment & Joy:** Beyond cultural significance, festive dishes bring warmth, comfort, and joy, making celebrations feel complete.

Learning Tasks

1. Discuss festive/festival dishes.
2. Discuss the reasons/importance of festive and festival dishes.
3. Share history behind preparation of festive/festival dishes in your locality.

Pedagogical Exemplars

1. **Problem based learning:** In mixed groups, discuss festive and festival dishes.
2. **Group work/ Collaborative learning:** In mixed groups, discuss the reasons/importance of festive and festival dishes.
3. **Experiential Learning:** In mixed groups, watch audio-descriptive videos, observe pictures, read text, interview people in the community and share the history behind the preparation of festive/festival dishes.

Key Assessment Level 4: Designing

Task 1 (25 Marks)

Design a culturally relevant community program that uses traditional cooking to engage the youth. Use supporting evidence of existing research and studies to support your design ideas.

Propose effective ways of measuring the success of your community programme.

Task 2 (25 Marks)

Festive dishes are an essential part of cultural celebrations, carrying deep spiritual, social, and symbolic significance. Choose a festive dish from any culture and explain how it reflects traditions and embodies cultural identity.

Your explanation should be logical and well structured

PLC Session 4

45 minutes

Planning & Reviewing the Learning Plan

1. Begin the session by recapping lessons from the previous year/session/week, focusing on how learning was applied.
2. Use your subject specific application to explore the content before planning. Ask the application to
 - a. explain the week's concepts in a practical way that will make it easier for learners to understand
 - b. identify two or three common misconceptions learners may have on the week's content and how to address them using contexts familiar to Ghanaian learners. (NTS 3a, 3g and 3m).
3. Use your subject specific application to plan your lesson. Ask the application to
 - a. suggest the most effective method for teaching the week's concepts to learners with diverse backgrounds.
 - b. suggest learning activities, differentiation and essential questions based on the method of teaching (NTS 3a-3q)
 - c. review your prepared learning plan and address any challenging issues you may have identified in your subject area (NTS 3a-3c).



Note

- Take of the recap topics linked to Years 1 and 2 while preparing for your lesson.
- Refer to the Values Learning Community Handbook and link the values for the week in your lesson to ensure that learners are applying what they learn.

4. Plan the week's key assessment with your application

- The key assessment for the week is **designing**. Chat with your application to plan this assessment, indicating what you and your learners will do before, during and after the design (NTS 3k-3q).

10 minutes

Content Exploration

5. As a subject group, select one problem or idea/term in the week's content that is challenging (not a routine procedural question, but one that requires conceptual understanding) and then

- use the application, ask it to solve the problem step by step and explain the reasoning behind each step (you may be assisted by a teacher who is strong in the content area)
- all teachers in the group work through a similar problem individually for 3–4 minutes
- the group then works through the problem together step by step
- highlight the most common errors made at each step and discuss (NTS 1c, 1e, 2c, 2e, 3e-3j).



Note

- This part is not just about 'How do I teach this?' but how do I teach it for learners to understand?
- If the group still shares the same content gap, use the application: ask it to solve the problem step by step and explain the reasoning behind each step.
- Problems/ideas discussed should be sourced from the Teacher Manual content, not invented separately. This keeps the content exploration directly connected to what teachers will deliver.

30 minutes

Enactment

6. Enact a teaching activity based on your learning plan (NTS 1a-1b, 1e-1g, 2c, 2e, 2f, 3c-3j and 3o).

- Colleagues observe with specific attention to clarity of concept explanation, use of familiar Ghanaian examples and how misconceptions are handled if they arise.
- After the enactment, ask for structured feedback from the group
 - was the concept explained in a way that a learner with no prior knowledge could follow?
 - were the examples grounded in contexts familiar to Ghanaian learners?
 - did any misconceptions surface and if so, how were they addressed?

5 minutes**Reflection**

7. Reflect and share your views on the session. One thing that worked well, what did not work well and what you will do differently. (NTS 1a, 1b).
8. Identify a critical friend to observe and provide feedback on your lesson in relation to the PLC Session conducted (NTS 1f, 1g).
9. Remember to
 - a. transfer your chats into your learning planner template.
 - b. read your Teacher Manual and related Learner Material in preparation for the next session. Take note of the recap weeks, which are linked to Years 1 and 2 (NTS 3a).
 - c. integrate National Values, GESI, SEL, and 21st century skills into your learning activities, assessment tasks, and rubrics/mark schemes.

WEEK 5: PLAN FESTIVE AND FESTIVALS MEALS SUITABLE FOR VARIOUS OCCASIONS/EVENTS

Learning Indicator: Plan festive and festivals meals suitable for various occasions/events

Focal Area: Meal planning of festive and festivals meals



Figure 1. 4: *Dinner meal with four different plates of meat, noodles and vegetables*

1. Festive and Festival dishes

Planning meals for different occasions requires a good understanding of the nature of the event, the type of guests expected, the time of day, and the level of formality. Each event has its own atmosphere and expectations, and the food served should match the mood and purpose of the gathering. Below are the various types of functions along with examples of suitable meals and service styles.

a. Dinners

Dinners are typically held in the evening and are often formal or semi-formal events. They may be organised to mark special celebrations such as weddings, anniversaries, graduations, award ceremonies, or important family or corporate gatherings.

- i. Time of Day: Usually from 6:00 p.m. to 9:00 p.m.
- ii. Formality: Formal or semi-formal
- iii. Expected Guests: Family, close friends, dignitaries, corporate representatives
- iv. Meal Types: Multi-course meals including a starter (soup or salad), main course (e.g., chicken stew and rice, fufu and groundnut soup), dessert (ice cream, fruit salad, or pudding), and drinks (soft drinks, fruit juices, or wine)
- v. Service Style: Plated service, buffet service

b. Cocktails

Cocktail events are short, informal gatherings often held before dinner or as part of a networking session/ conferences. The emphasis is on socialising and guests typically stand and mingle freely.

- i. Time of Day: afternoon to early evening e.g., 4:00 p.m. to 6:00 p.m.
- ii. Formality: Informal or semi-formal
- iii. Expected Guests: Business professionals, community members, or guests at conferences
- iv. Meal Types: Light finger foods such as spring rolls, samosas, pastries, puff-puffs, kebabs, and a variety of drinks including fruit cocktails or mocktails
- v. Service Style: Stand-up service with servers passing trays or guests helping themselves

c. Luncheons

Luncheons are daytime formal or semi-formal meals often held to celebrate achievements, welcome guests, or host community or business gatherings.

- i. Time of Day: Midday, between 12:00 p.m. and 2:00 p.m.
- ii. Formality: Formal or semi-formal
- iii. Expected Guests: Business partners, invited guests, community leaders
- iv. Meal Types: Light to moderate dishes such as jollof rice, grilled chicken, garden salad, vegetable stir fry, assorted pastries, and refreshing drinks
- v. Service Style: Plated or buffet style, depending on the size and setting

d. Tea Parties

Tea parties are small, social gatherings often held in the afternoon (afternoon tea) for leisure, celebrations, or fundraising purposes. They are usually elegant and relaxed.

- i. Time of Day: Between 3:00 p.m. and 4:00 p.m.
- ii. Formality: Informal to semi-formal
- iii. Expected Guests: Friends, women's groups, club members
- iv. Meal Types: Light refreshments including tea, coffee, scones, cupcakes, biscuits, finger sandwiches, and fruit juice
- v. Service Style: Tea table or self-service with decorated serving trays

e. Weddings

Weddings are highly significant cultural and social events. The meals served at weddings often reflect the cultural backgrounds of the couple.

- i. Time of Day: Morning to evening
- ii. Formality: Highly formal
- iii. Expected Guests: Family, friends, community members, invited dignitaries
- iv. Meal Types: A mix of traditional and continental dishes such as fried rice, waakye, palava sauce with ampesi, light soup with fufu, cakes, and local drinks like sobolo, abadu drink, millet drink or fruit punch
- v. Service Style: Buffet or plated depending on the size and style of the wedding

f. Birthdays

Birthday parties may be organised for children or adults, and the meals should be appropriate to the age group and type of celebration.

- i. Time of Day: Varies – morning, afternoon, or evening
- ii. Formality: Informal or semi-formal
- iii. Expected Guests: Friends, family, classmates, colleagues
- iv. Meal Types: For children – jollof rice, fried chicken, ice cream, biscuits, drink; for adults – more varied dishes like grilled meat, salads, assorted pastries, and soft drinks
- v. Service Style: Self-service or assisted service

g. Funeral Receptions

These events are often large community gatherings where food is served after burial or memorial services. The choice of food often depends on the customs of the family.

- i. Time of Day: Morning to afternoon
- ii. Formality: Formal
- iii. Expected Guests: Extended family, friends, and community members
- iv. Meal Types: Traditional dishes such as okro stew with banku, kontomire stew with yam, beef stew with rice, and drinks like soft drinks or local beverages
- v. Service Style: Mostly buffet, take away service

h. Baby/Bridal Showers

These are pre-event celebrations held in honour of an expectant mother or a bride-to-be. They are light-hearted and intimate events.

- i. Time of Day: Afternoon or early evening
- ii. Formality: Informal or semi-formal
- iii. Expected Guests: Close friends, female family members, colleagues
- iv. Meal Types: Finger foods, pastries, light salads, mocktails (non – alcoholic cocktail), cakes, and fruit bowls
- v. Service Style: Buffet or self-service

Learning Tasks

1. Share experiences on the various festive/festival dishes and how they are prepared for various occasions or events.
2. Plan suitable meals for various occasions or events for a presentation.
3. Discuss the importance of planning suitable festive and festival dishes for specific events.

Pedagogical Exemplars

1. **Problem based learning:** In mixed groups, share experiences on the various festive/festival dishes and how they are prepared for various occasions or events.
2. **Group work/ Collaborative learning:** In mixed groups, use concept maps to plan suitable meals for various occasions or events for a presentation.
3. **Group Work:** In mixed groups, discuss the following functions and indicate when they are used.

E.g.,

- Dinners
- Cocktails
- Luncheon
- Tea parties

Key Assessment Level 3: Homework

Task 1 (25 Marks)

Research a traditional festival from your region in Ghana and design a two-course menu (Main course + Dessert) that represents its cultural significance and relevance.

Your menu should be well presented. Your festival selection and rationale for menu choices should be clearly explained.

Task 2 (20 Marks)

Create a detailed meal plan for a naming ceremony in your community that includes **four** traditional dishes.

Explain how you would modify these dishes to accommodate both elderly attendees and young children while maintaining cultural authenticity.

Your meal plan should demonstrate critical thinking and justification for your choices

PLC Session 5

45 minutes

Planning & Reviewing the Learning Plan

1. Begin the session by recapping lessons from the previous year/session/week, focusing on how learning was applied.
2. Use your subject specific application to explore the content before planning. Ask the application to
 - a. explain the week's concepts in a practical way that will make it easier for learners to understand
 - b. identify two or three common misconceptions learners may have on the week's content and how to address them using contexts familiar to Ghanaian learners. (NTS 3a, 3g and 3m).
3. Use your subject specific application to plan your lesson. Ask the application to
 - a. suggest the most effective method for teaching the week's concepts to learners with diverse backgrounds.

- b. suggest learning activities, differentiation and essential questions based on the method of teaching (NTS 3a-3q)
- c. review your prepared learning plan and address any challenging issues you may have identified in your subject area (NTS 3a-3c).



Note

- Take note of the recap topics linked to Years 1 and 2 while preparing for your lesson.
- Refer to the Values Learning Community Handbook and link the values for the week in your lesson to ensure that learners are applying what they learn.

4. Plan the week's key assessment with your application

- a. The key assessment for the week is **homework**. Chat with your application to plan this assessment, indicating what you and your learners will do before, during and after the homework (NTS 3k-3q).

10 minutes

Content Exploration

5. As a subject group, select one problem or idea/term in the week's content that is challenging (not a routine procedural question, but one that requires conceptual understanding) and then
 - a. use the application, ask it to solve the problem step by step and explain the reasoning behind each step (you may be assisted by a teacher who is strong in the content area)
 - b. all teachers in the group work through a similar problem individually for 3–4 minutes
 - c. the group then works through the problem together step by step
 - d. highlight the most common errors made at each step and discuss (NTS 1c, 1e, 2c, 2e, 3e-3j).



Note

- This part is not just about 'How do I teach this?' but how do I teach it for learners to understand?
- If the group still shares the same content gap, use the application: ask it to solve the problem step by step and explain the reasoning behind each step.
- Problems/ideas discussed should be sourced from the Teacher Manual content, not invented separately. This keeps the content exploration directly connected to what teachers will deliver.

30 minutes

Enactment

6. Enact a teaching activity based on your learning plan (NTS 1a-1b, 1e-1g, 2c, 2e, 2f, 3c-3j and 3o).
 - a. Colleagues observe with specific attention to clarity of concept explanation, use of familiar Ghanaian examples and how misconceptions are handled if they arise.

- b. After the enactment, ask for structured feedback from the group
 - i. was the concept explained in a way that a learner with no prior knowledge could follow?
 - ii. were the examples grounded in contexts familiar to Ghanaian learners?
 - iii. did any misconceptions surface and if so, how were they addressed?

5 minutes**Reflection**

7. Reflect and share your views on the session. One thing that worked well, what did not work well and what you will do differently. (NTS 1a, 1b).
8. Identify a critical friend to observe and provide feedback on your lesson in relation to the PLC Session conducted (NTS 1f, 1g).
9. Remember to
 - a. transfer your chats into your learning planner template.
 - b. read your Teacher Manual and related Learner Material in preparation for the next session. Take note of the recap weeks, which are linked to Years 1 and 2 (NTS 3a).
 - c. integrate National Values, GESI, SEL, and 21st century skills into your learning activities, assessment tasks, and rubrics/mark schemes.

WEEK 6: PREPARE AND COOK DISHES FOR FESTIVE/FESTIVALS/OCCASIONS/EVENTS

Learning Indicator: Prepare and cook dishes for festive/festivals/occasions/events (1)

Focal Area: Preparation of festive/festivals/occasions/events dishes



Figure 1.5: *kpokpoi in earthenware bowl and tuo zaafi*



Figure 1.6: *Akyeke and fried rice*

1. **Practical Cooking Schedule** (teachers can follow this or modify it to suit their setting/situation)

a. Understanding Meal Planning

- i. Introduction to meal categories: everyday meals vs. special occasions.
- ii. Identifying how Ghanaian meals fit different occasions (e.g., Fufu for family gatherings, Jollof for celebrations).
- iii. Quick brainstorming: Selecting meals for today's practical session.

b. Cooking Session 1 (Starter & Main Course)

- i. Preparing a traditional Ghanaian starter (e.g., kelewele or light soup).
- ii. Cooking a main meal (e.g., Banku with tilapia or Jollof rice).
- iii. Ensuring balance in portion and ingredient selection.

c. Cooking Session 2 (Dessert & Drinks)

- i. Preparing a traditional drink (e.g., Sobolo or Asaana).
- ii. Exploring presentation techniques for visual appeal.
- iii. Preparing Ghanaian dessert nkate cake (groundnut bristle)

d. Presentation & Reflection

- i. Students plate their dishes and arrange a complete meal setup.
- ii. Discussion: How food components fit together for different occasions.
- iii. Peer review: Suggestions for improving meal planning and execution.

2. Suggested events menus for practical activities**a. Christmas Celebration - Christmas Dinner menu****Components**

- Main Dish: chicken stew
- Accompaniment: vegetable Rice
- Side Dish: Salad, fried plantains
- Dessert: Fruit cake
- Drinks: Fruit juice, ginger drink

b. Birthday Party - Birthday Party Menu**Components**

- Starter: Salad (fruits, vegetables)
- Main Dish: Fried chicken
- Accompaniment/ one pot dish: Jollof rice
- Side dish: Coleslaw
- Dessert: Chocolate cake, Ice cream
- Drinks: Fruit drinks, carrot drinks
- Service Style: Buffet service

c. Traditional Festival (Homowo) Menu**Components**

- Main Dish: Palmnut soup with smoked fish
- Accompaniment: Kpokpoi (steamed cornmeal)
- Snacks: Roasted groundnuts, Local biscuits

- Drinks: Palm wine, Sobolo
- Service Style: Communal or family-style service

Learning Tasks

1. Prepare, cook and serve meals for various occasions or events.
2. Display cooked festive dishes for gallery walk and appraisal. Give and receive feedback.

Pedagogical Exemplars

1. **Experiential/project-based learning:** In mixed groups, prepare, cook and serve meals for various occasions or events.
2. **Talking for learning/Collaborative learning:** In mixed groups, display cooked festive dishes for gallery walk and appraisal and give and receive feedback. Groupings should be devoid of any form of discrimination with regards to the learner's disability.

Key Assessment: Mid-Semester Examination

Task: Practical Activity - Cooking session 1 (20 Marks)

- Prepare and cook a traditional Ghanaian starter and main course for a special event
- Choose two traditional festive dishes from your locality.
- Prepare and cook the dishes using authentic methods.
- Ensure balance in portion and ingredient selection.
- Serve the meal in a way that honours traditional customs.

Note: the planning can be based on meal planning (assignment planning) in year two.

Hint



Conduct **Mid-semester Examination**. It should cover contents taught from Week 1 to 5. Refer to the **Table of Specification and Structure of the Paper** to guide you. Learners' papers should be marked immediately and scores entered into the SAP.

Mid-Semester Examination

Structure

Section A: Multiple Choice Questions (10 questions; Answer all)

Section B: Essay Question (1 question to be answered)

Table of specification for item construction

Wk.	Learning Indicator	Question Type	DoK Level 1	DoK Level 2	DoK Level 3	DoK Level 4	Total
1	Ghanaian festivals and their associated traditional foods. Ghanaian festivals and their associated traditional foods.	MCQ	1	1	1	-	3
		Essay	-	-	-	1	1
2	The role of traditional foods in promoting sustainable nutrition. The role of traditional foods in promoting sustainable nutrition.	MCQ	-	1	-	-	1
		Essay	-	-	-	-	-
3	Modification of traditional festive meals to improve its health benefit. Modification of traditional festive meals to improve its health benefit.	MCQ	1	-	1	-	2
		Essay	-	-	-	-	-
4	The social and communal benefits of festive and festivals dishes. The social and communal benefits of festive and festivals dishes.	MCQ	-	1	-	-	1
		Essay	-	-	-	-	-

5	Meal planning of festive and festivals meals. Meal planning of festive and festivals meals.	MCQ	1	-	1	-	2
		Essay	-	-	-	-	-
6	Preparation of festive/festivals/ occasions/events dishes. Preparation of festive/festivals/ occasions/events dishes.	MCQ	-	1	-	-	1
		Essay	-	-	-	-	-
	Total		3	4	3	1	11

Sample Items

SECTION A: MULTIPLE CHOICE QUESTIONS (10 marks, 1 mark each)

Answer all questions in this section by circling the letter that corresponds to the correct answer.

- Which traditional festival is commonly associated with Kpokpoi?
 - Aboakyer
 - Damba
 - Homowo**
 - Kundum
- Which of the following is the **most** effective way to improve the nutritional balance of traditional festive main dishes?
 - Adding more fruits to the meal
 - Adding more vegetables**
 - Using low-fat cooking methods
 - Using whole grain ingredients
- During the Aboakyer festival, which type of animal is traditionally hunted?
 - Beaver
 - Bear
 - Bison
 - Deer**

4. Akosua is helping her grandmother prepare a dish for the Kundum festival. Which traditional food is she **most** likely making?
 - A. Akple
 - B. Eto**
 - C. Tuo Zaafi
 - D. Kpokpoi
5. Kwame is advocating for eco-friendly and nutritious eating by using locally sourced ingredients. Which of the following **best** aligns with his goal?
 - A. Bottled fruit juices
 - B. Fruits gummies
 - C. Frozen fruits
 - D. Fresh fruits**
6. Esi notices that festive meals bring people together and strengthen community bonds. What is **one** social benefit of these meals?
 - A. Brings people from a far
 - B. Cultural pride and unity**
 - C. Cultural identity and sustainability
 - D. Limits communal interaction
7. Salifu wants to prepare a nutritious festive meal for Ramadan. Which cooking method is the healthiest choice?
 - A. Boiling
 - B. Frying
 - C. Roasting**
 - D. Stewing
8. Which of the following **best** explains why traditional foods like *Tuo Zaafi* and *oto* are significant during Ghanaian festivals such as Damba and Odwira? They
 - A. Are the popular dishes in the whole country.
 - B. Are easy to prepare and require fewer ingredients
 - C. Symbolise prosperity and cultural identity**
 - D. Symbolise festival dish and only known in northern ghana.
9. A nutritionist suggests replacing palm oil with coconut oil in the preparation of mpotompoto (yam porridge) for a festive meal. What is the most likely reason for this modification? To
 - A. increase cost of meal while retaining traditional flavour
 - B. reduce preparation time and cost of the meal
 - C. replaces bad fat to increase the meal's vitamin C content
 - D. reduces bad fat while retaining traditional flavour**

10. Which Ghanaian dish is often served at special occasions and celebrations due to its rich flavour and presentation?

- A. Jollof rice & goat meat
- B. Kenkey & Tilapia
- C. Red-red & fried plantain
- D. Waakye & gizzard kebab

SECTION B: ESSAY QUESTION (10 marks)

Explain how festivals serve as platforms for promoting traditional foods and sustainable food practices in Ghana. Provide good expression.

Provide examples of festivals that support the promotion of traditional foods.

Rubric

Criteria	Excellent (3 marks)	Very Good (2.5 marks)	Satisfactory (2 marks)	Needs Improvement (1 mark)
Understanding of Festivals as Platforms	Clearly explains how festivals promote traditional foods and sustainable practices. Example: "Homowo uses Kpokpoi to teach youth about food heritage."	Good explanation of festivals and their relevance to traditional foods. May briefly mention sustainability. Example: "Festivals help promote our food and culture."	Basic understanding shown, but lacks clear linkage to sustainability. Example: "Festivals have food."	Minimal or unclear connection between festivals and food promotion.
Relevant Traditional Food Examples	Uses at least two accurate examples of Ghanaian festivals and their associated traditional foods. Example: Homowo (Kpokpoi), Aday Kesse (Eto).	Uses at least one accurate festival-food pair and references another generally. Example: Homowo (Kpokpoi), mentions Aday Kesse but no food detail.	Only one relevant festival-food example is correctly used. Example: "We eat yam during festivals."	Unclear or incorrect festival-food pairing. Example: "Fufu at Homowo" (incorrect).

Sustainable Food Practice Explanation	Demonstrates clear understanding of sustainable practices (e.g., local ingredients, low waste, shared meals). Example: "Traditional foods reduce environmental impact due to local sourcing."	Mentions sustainable practices and provides a fair explanation. Example: "Using local food saves cost and helps the environment."	Mentions sustainability but lacks clarity. Example: "The food is natural, so it is good."	No mention or vague explanation of sustainability.
Coherence and Structure	Well-organized with logical flow and examples supporting each point.	Generally well-structured with minor lapses in organization or clarity.	Some organization, but may lack clarity in parts.	Poorly structured; ideas are disjointed or hard to follow.
Expression	Clear, appropriate vocabulary; few or no errors.	Good use of vocabulary and mostly clear expression; minor errors present.	Generally clear with minor errors.	Several language issues that affect clarity.

PLC Session 6

45 minutes

Planning & Reviewing the Learning Plan

1. Begin the session by recapping lessons from the previous session, focusing on how learning was applied.
2. Use your subject specific application to explore the content before planning. Ask the application to
 - a. explain the week's concepts in a practical way that will make it easier for learners to understand.
 - b. identify three common misconceptions learners may have on the week's content and how to address them using contexts familiar to Ghanaian learners (NTS 3a, 3g and 3m).
3. Use your subject specific application to plan your lesson. Ask the application to
 - a. suggest the most effective method for teaching the week's concepts to learners with diverse backgrounds.
 - b. suggest learning activities, differentiation and essential questions based on the method of teaching (NTS 3a-3q).

- c. review your prepared learning plan and address any challenging issues you may have identified in your subject area (NTS 3a-3c).



Note

- Take note of the recap topics linked to Years 1 and 2 while preparing for your lesson.
- Refer to the Values Learning Community Handbook and link the values for the week in your lesson to ensure that learners are applying what they learn.

4. Use your application to plan and administer the mode of assessment for the Student Assessment Portal (SAP)
 - a. The key assessment for the week is **mid-semester examination**. Chat with your application to plan this assessment by reviewing or developing the assessment items/tasks and marking schemes/rubrics for the mid-semester examination (NTS 3k-3q).

10 minutes

Content Exploration

5. As a subject group, select one problem or topic/idea/term in the week's content that is challenging (not a routine procedural question, but one that requires conceptual understanding) and then
 - a. use the application, ask it to solve the problem step by step and explain the reasoning behind each step (you may be assisted by a teacher who is strong in the content area)
 - b. all teachers in the group work through the problem individually for 3–4 minutes
 - c. the group then works through it together the problem, step by step
 - d. highlight the most common errors made at each step (NTS 1c, 1e, 2c, 2e, 3e-3j).



Note

- This part is not 'How do I teach this?' but how do I teach it for learners to understand?
- If the group still shares the same content gap, use the application: ask it to solve the problem step by step and explain the reasoning behind each step.
- Problems/ideas discussed should be sourced from the Teacher Manual content, not invented separately. This keeps the content exploration directly connected to what teachers will deliver.

30 minutes

Enactment

6. Enact a teaching activity based on your learning plan (NTS 1a-1b, 1e-1g, 2c, 2e, 2f, 3c-3j and 3o).
 - a. Colleagues observe with specific attention to clarity of concept explanation, use of familiar Ghanaian examples and how misconceptions are handled if they arise.
 - b. After the enactment, ask for structured feedback from the group

- i. was the concept explained in a way that a learner with no prior knowledge could follow?
- ii. were the examples grounded in contexts familiar to Ghanaian learners?
- iii. did any misconceptions surface and if so, how were they addressed?

5 minutes**Reflection**

7. Reflect and share your views on the session. One thing that worked well, what did not work well and what you will do differently. (NTS 1a, 1b).
8. Identify a critical friend to observe and provide feedback on your lesson in relation to the PLC Session conducted (NTS 1f, 1g).
9. Remember to
 - a. transfer your chats into your learning planner template.
 - b. read your Teacher Manual and related Learner Material in preparation for the next session. Take note of the recap weeks, which are linked to Years 1 and 2 (NTS 3a).
 - c. integrate National Values, GESI, SEL, and 21st century skills into your learning activities, assessment tasks, and rubrics/mark schemes

WEEK 7: PREPARE AND COOK DISHES FOR FESTIVE/FESTIVALS/OCCASIONS/EVENTS

Learning Indicator: Prepare and cook dishes for festive/festivals/occasions/events (2)

Focal Area: Preparation of festive/festivals/occasions/events dishes

1. Suggested events menus for practical activities

a. Wedding Reception menu

- i. Starter: Stuffed egg
- ii. Main Course: Grilled fish, Chicken/fish stew
- iii. Accompaniment: Curry vegetable rice
- iv. Dessert: Baked egg custard
- v. Drinks: Millet drink
- vi. Service Style: Plated service or buffet

b. Tea Party menu

- i. Beverage: Tea (black, herbal), Coffee
- ii. Snacks: Scones with jam, Sandwiches, Cupcakes, Pastries
- iii. Dessert: Fruit plate, cut fruits
- iv. Service Style: Tray service

Note: Practice personal and environmental hygiene.

Learning Tasks

1. Prepare, cook and serve meals for various occasions or events.
2. Display cooked festive dishes for gallery walk and appraisal, give and receive feedback.

Pedagogical Exemplars

1. **Experiential/project-based learning:** In mixed groups, prepare, cook and serve meals for various occasions or events.
2. **Talking for learning/Collaborative learning:** In mixed groups, display cooked festive dishes for gallery walk and appraisal and give and receive feedback.

Key Assessment Level 4: Practical Work

Task: Practical Activity - Cooking session 2 (40 Marks)

You are the caterer for a wedding reception. Prepare a two-course meal for the reception using the following dishes:

- Main course: Gizzard Fried Rice served with Shito
- Dessert: Sponge Pudding

Steps to Follow

1. Planning (use the assignment planning format)

- Choose or write out detailed recipes for gizzard fried rice, shito, and sponge pudding.
- List ingredients and quantities needed.
- Prepare a time plan or work schedule.

2. Preparation

- Wash and prepare all ingredients.
- Season and cook the gizzard.
- Cook the rice, stir-fry with vegetables, season well, and stir in the cooked gizzard.
- Blend and simmer ingredients for shito until thick and flavourful.
- Prepare and bake sponge pudding batter using correct techniques.

3. Cooking and Presentation

- Ensure the gizzard fried rice is flavourful, served hot.
- Serve with a side dish of well-cooked shito.
- Plate the sponge pudding neatly and serve warm or chilled with sweet sauce/vanilla sauce or chocolate.
- Maintain portion control and attractive presentation.

4. Cleaning and Finishing

- Clean all tools and work surfaces.
- Dispose of waste properly.
- Present dishes on time and ensure neatness.

PLC Session 7

45 minutes

Planning & Reviewing the Learning Plan

1. Begin the session by recapping lessons from the previous year/session/week, focusing on how learning was applied.
2. Use your subject specific application to explore the content before planning. Ask the application to
 - a. explain the week's concepts in a practical way that will make it easier for learners to understand
 - b. identify two or three common misconceptions learners may have on the week's content and how to address them using contexts familiar to Ghanaian learners. (NTS 3a, 3g and 3m).

3. Use your subject specific application to plan your lesson. Ask the application to
 - a. suggest the most effective method for teaching the week's concepts to learners with diverse backgrounds.
 - b. suggest learning activities, differentiation and essential questions based on the method of teaching (NTS 3a-3q)
 - c. review your prepared learning plan and address any challenging issues you may have identified in your subject area (NTS 3a-3c).



Note

- Take note of the recap topics linked to Years 1 and 2 while preparing for your lesson.
- Refer to the Values Learning Community Handbook and link the values for the week in your lesson to ensure that learners are applying what they learn.

4. Plan the week's key assessment with your application
 - a. The key assessment for the week is **practical work**. Chat with your application to plan this assessment, indicating what you and your learners will do before, during and after the practical work (NTS 3k-3q).

10 minutes

Content Exploration

5. As a subject group, select one problem or idea/term in the week's content that is challenging (not a routine procedural question, but one that requires conceptual understanding) and then
 - a. use the application, ask it to solve the problem step by step and explain the reasoning behind each step (you may be assisted by a teacher who is strong in the content area)
 - b. all teachers in the group work through a similar problem individually for 3–4 minutes
 - c. the group then works through the problem together step by step
 - d. highlight the most common errors made at each step and discuss (NTS 1c, 1e, 2c, 2e, 3e-3j).



Note

- This part is not just about 'How do I teach this?' but how do I teach it for learners to understand?
- If the group still shares the same content gap, use the application: ask it to solve the problem step by step and explain the reasoning behind each step.
- Problems/ideas discussed should be sourced from the Teacher Manual content, not invented separately. This keeps the content exploration directly connected to what teachers will deliver.

30 minutes**Enactment**

6. Enact a teaching activity based on your learning plan (NTS 1a-1b, 1e-1g, 2c, 2e, 2f, 3c-3j and 3o).
 - a. Colleagues observe with specific attention to clarity of concept explanation, use of familiar Ghanaian examples and how misconceptions are handled if they arise.
 - b. After the enactment, ask for structured feedback from the group
 - i. was the concept explained in a way that a learner with no prior knowledge could follow?
 - ii. were the examples grounded in contexts familiar to Ghanaian learners?
 - iii. did any misconceptions surface and if so, how were they addressed?

5 minutes**Reflection**

7. Reflect and share your views on the session. One thing that worked well, what did not work well and what you will do differently. (NTS 1a, 1b).
8. Identify a critical friend to observe and provide feedback on your lesson in relation to the PLC Session conducted (NTS 1f, 1g).
9. Remember to
 - a. transfer your chats into your learning planner template.
 - b. read your Teacher Manual and related Learner Material in preparation for the next session. Take note of the recap weeks, which are linked to Years 1 and 2 (NTS 3a).
 - c. integrate National Values, GESI, SEL, and 21st century skills into your learning activities, assessment tasks, and rubrics/mark schemes.

SECTION 1 REVIEW

Ghanaian festivals are deeply rooted in tradition, with food playing a significant role in cultural celebrations. From the Homowo Festival's Kpokpoi/Kpekple to the Yam Festival's Oto/Etor, traditional meals reflect history, identity, and communal unity. These dishes contribute to sustainable nutrition, preserving biodiversity while supporting local agriculture. Health-conscious modifications, such as reducing saturated fats and using whole grains, enhance their benefits without compromising authenticity. Beyond nutrition, festive meals foster social connections, strengthening bonds through shared preparation and dining experiences. The choice of dishes varies by occasion, whether religious, cultural, or family events. Cooking techniques passed down through generations ensure authenticity, with ingredients chosen for their symbolic significance. For learners, understanding these traditions support cultural awareness, nutrition education, and sustainable food practices. Exploring festival foods enhances critical thinking and practical skills, empowering learners to apply historical and nutritional insights in daily life while appreciating Ghana's rich culinary heritage.

Teaching and Learning Material

- Pictures
- Videos
- Samples of dishes
- Computers
- Projectors
- Mobile phones (if possible)
- Note pads
- Resource person
- Manila cards
- Read text, etc.

MARKING SCHEMES FOR THE KEY ASSESSMENTS**WEEK 1****Task 1: The significance of entertainment activities to celebrations****1. Promotes Joy and Unity (2 marks)**

Entertainment activities such as music, dance, and drama bring joy to participants, creating a lively atmosphere that unites people in celebration.

Food and nutrition also promote joy and unity because families and community members prepare, share and enjoy traditional foods together. Eating together strengthens relationships, encourages cultural sharing and helps preserve traditional food practices and recipes.

2. Preserves and Showcases Cultural Heritage (2 marks)

Through traditional dances, storytelling, and performances, entertainment helps preserve cultural values and heritage, passing them on to younger generations.

Foods and nutrition also preserve cultural heritage because traditional dishes, ingredients, cooking methods and recipes are passed from one generation to another. Preparing and serving these foods during festivals helps

3. Enhances Community Participation (2 marks)

Entertainment encourages active involvement from all age groups, increasing community engagement and collective identity during festivals.

Food and nutrition also enhance community participation because community members work together to plan, prepare, serve and share traditional foods. This encourages cooperation, teamwork and a sense of belonging.

4. Offers a Platform for Talent and Creativity (2 marks)

Festivals provide opportunities for local artists and performers to display their skills, boosting morale and nurturing cultural talents.

Foods and nutrition also provide a platform for creativity through the preparation, presentation and decoration of traditional dishes. People can demonstrate their skills in cooking, food presentation, recipe development and the use of local ingredients.

5. Promotes Social Cohesion (2 marks)

Shared experiences during entertainment events help reduce social barriers, fostering a sense of belonging and togetherness.

Food and nutrition also promote social cohesion because people come together to cook, share and eat traditional foods. This encourages friendship, cooperation, togetherness and peaceful relationships within the community.

Note: Accept this and any other relevant roles of entertainment in festivals

Two ways entertainment strengthens social bonding, cultural exchange, and economic development (Total 10 marks)

Choose **two** correct answers from any **two** of the options provided below. Each option is worth 5 marks.

1. Entertainment strengthens Cultural exchange (5 marks)

- a. Traditional dances, music, and plays presented during festivals act as tools for cultural exchange, allowing people from different ethnic backgrounds or regions to learn about and appreciate each other's cultures
- b. These performances often highlight unique stories, symbols, and rituals that promote mutual respect and social bonding.
- c. Visitors, both local and international, are attracted to these performances, leading to increased tourism and economic development through spending on accommodation, food, and local crafts.

Note: Accept any other relevant answers

2. Entertainment strengthens social bonding (5 marks)

- a. These events bring people together in a shared space, helping to build new relationships and strengthen community networks.
- b. Competitions such as beauty pageants or talent shows celebrate local identity and creativity, fostering social unity.
- c. Vendors and small businesses benefit economically by selling food, souvenirs, and services, thus supporting local economies and generating income.

Note: Accept any other relevant answers

3. Entertainment strengthens Economic Development (5 marks)

- a. Festivals with entertaining activities attract both local and foreign tourists. This leads to increased demand for hotels, restaurants, transportation, and guided tours, thereby generating significant revenue for the hospitality industry.
- b. During festivals, entertainers, food sellers, artisans, and small business owners have the opportunity to sell goods and services. This creates seasonal employment and income opportunities for individuals and families.

- c. The influx of people during festivals often leads to temporary infrastructure development such as stages, seating areas, lighting, and sound systems, stimulating local investment and economic activity.
- d. Dancers, musicians, fashion designers, and filmmakers benefit from exposure during festivals. Their growing popularity can lead to further professional opportunities and help develop the creative economy.

Note: Accept any other relevant answers

Task 2

Factor 1: Availability of Resources (5 marks)

- **Identification:** One key factor is the availability of resources. (1 mark)
- **Explanation:** This includes funds, human resources, venues, equipment, and materials needed to organise the event. If these are inadequate, the festival may be poorly executed. (2 marks)
- **Example/Application:** For example, lack of funding can limit entertainment options, reduce publicity efforts, and affect infrastructure like stage setup and seating. (2 marks)

Factor 2: Community and Stakeholder Support (5 marks)

- **Identification:** Another vital factor is community and stakeholder support. (1 mark)
- **Explanation:** Support from local authorities, chiefs, religious leaders, and the community ensures smooth collaboration and increases attendance. It helps secure permits, security arrangements, and local volunteerism. (2 marks)
- **Example/Application:** Without the backing of community leaders, an event may face resistance, low turnout, or legal issues. (2 marks)

Note: Accept any other relevant answers

Explain how considerations affect the success of an event

Target Audience (2.5 marks)

- **Explanation:** It determines the type of content, music, food, and promotional strategies used. Knowing the age group, preferences, and cultural background influences the types of activities and ensures the event is relevant and engaging. (2.5 marks)

Budget (2.5 marks)

- **Explanation:** It affects the scale of the event, the number of performers, quality of décor, sound systems, and security arrangements. A realistic budget helps avoid overspending. An underfunded festival will lead to a poor-quality delivery. (2.5 marks)

Safety (2.5 marks)

- **Explanation:** Proper crowd control and visible signage, assigning emergency response teams e.g., medical services, fire safety, and exit plans prevent accidents and ensure a peaceful environment. Unsafe festivals may lead to injury, bad publicity, or legal action. (2.5 marks)

Sustainability (2.5 marks)

- **Explanation:** Using eco-friendly materials, providing recycling bins, minimising waste, using reusable products and materials, sourcing locally helps preserve the environment and support the local economy. (2.5 marks)

Note: Accept any other relevant answers

WEEK 2

Task 1

1. Introduction (10 marks)

- a. Clear statement of purpose (5 marks)
- b. Background information on 'dawadawa' and monosodium cubes (5 marks)

2. Nutritional Analysis (10 marks)

- a. Breakdown of nutrient composition of 'dawadawa' (5 marks)
- b. Breakdown of nutrient composition of monosodium cubes (5 marks)

3. Impact on Nutritional Sustainability & Health Outcomes (10 marks)

- a. Critical analysis of sustainability (5 marks)
- b. Discussion of health implications in the Ghanaian context (5 marks)

4. Comparative Analysis & Findings (8marks)

- a. Logical comparison of the two ingredients (4 marks)
- b. Evidence-based conclusions drawn from research (4 marks)

5. Presentation & References (2 marks)

- a. Systematic and logical flow of work (2mark)

Expected Answers for Each Section

1. Introduction

- a. The study aims to compare their nutritional content, sustainability, and health effects.
- b. 'Dawadawa' is a traditional fermented seasoning made from locust beans, widely used in West African cuisine for its nutritional benefits.
- c. Monosodium glutamate (MSG) cubes are industrially processed flavour enhancers commonly used in households for convenience.

2. Nutritional Analysis

- a. 'Dawadawa':
 - i. **Rich in protein**, dietary fibre, and essential amino acids.
 - ii. Contains **vitamin B complex, iron, calcium, and flavonoids** that support overall health.
 - iii. **Fermentation boosts probiotic properties**, improving gut health.

- b. Monosodium cubes:
 - i. **High sodium content**, which may contribute to hypertension if consumed excessively.
 - ii. Minimal protein and fibre content.
 - iii. Lack of beneficial vitamins and minerals compared to natural seasonings.

3. Impact on Nutritional Sustainability & Health Outcomes

- a. **Sustainability:** Dawadawa production supports local economies, reduces reliance on imported processed seasonings, and minimises food waste.
- b. **Health:** Fermented foods like dawadawa enhance digestion, immune support, and cardiovascular health. Excess MSG intake can contribute to metabolic syndrome, hypertension, and potential neurotoxic effects.

4. Comparative Analysis & Findings

- a. 'Dawadawa' is **nutritionally superior**, providing protein, fibre, and beneficial compounds.
- b. Monosodium cubes are primarily **flavour enhancers with high sodium content**, posing potential health risks.
- c. **Cultural and economic implications** suggest promoting the use of locally processed dawadawa for sustainable nutrition.

5. Presentation & References

- a. Well-structured report with logical argument progression.
- b. Credible sources, including scientific journals and studies on fermentation and MSG effects.

Task 2

1. Introduction (9 marks)

- a. Clear definition of the selected vegetables: kontomire (cocoyam leaves), alefu (African spinach), gboma (*Solanum macrocarpon*) (4 marks)
- b. Brief explanation of the relevance of indigenous vegetables to Ghanaian nutrition (5 marks)

2. Consumption Patterns (10 marks)

- a. Traditional use and preparation methods of the three vegetables (5 marks)
- b. Changes in consumption patterns over the years due to urbanisation, affordability, or accessibility (5 marks)

3. Nutritional Implications (10 marks)

- a. Analysis of the nutritional benefits of these vegetables, including vitamins, minerals, fibre, and antioxidants (5 marks)
- b. Evaluation of the health effects of reduced consumption (e.g., increased risk of deficiencies) (5 marks)

4. **Comparative Analysis & Findings (9 marks)**

- a. Logical comparison of past vs. present consumption trends (5marks)
- b. Evidence-based conclusions from interviews or historical data (4 marks)

5. **Presentation & References (2 marks)**

- a. Systematic and logical flow of work (2 marks)

Expected Answers for Each Section

1. **Introduction**

- a. Indigenous leafy vegetables play a critical role in Ghanaian diets, providing essential nutrients.
- b. Kontomire, alefu, and gboma are traditional staples in soups, stews, and local dishes.

2. **Consumption Patterns**

- a. Traditionally, leafy vegetables were commonly consumed in fresh and dried forms, often incorporated into soups and stews.
- b. Over time, consumption declined due to urbanisation, reliance on convenience foods, and reduced home gardening.
- c. Increased preference for processed foods has reduced intake of fibre-rich indigenous vegetables.

3. **Nutritional Implications**

- a. **Traditional consumption:** High intake of vitamins A, C, iron, and fibre, supporting overall health and digestion.
- b. **Modern trends:** Reduced consumption associated with deficiencies in micronutrients and increased prevalence of diet-related conditions like hypertension and diabetes.

4. **Comparative Analysis & Findings**

- a. Past generations consumed indigenous vegetables daily, whereas modern diets incorporate them less frequently.
- b. Interviews reveal that availability and cooking convenience shape current consumption habits.
- c. Conclusion: Reviving indigenous vegetable consumption could improve nutrition and reduce health risks in urban communities.

5. **Presentation & References (2 marks)**

- a. Systematic and logical flow of work

WEEK 3**Task 1**

Criteria	Description	Marks
Selection of Festival Dish	Choice of a culturally significant dish with background details. Example: Tuo Zaafi from Northern Regions of Ghana, Akple from Volta Region, FuFu / Oto from Ashanti, Bono, Bono East Region.	3
Three Nutritional Modifications	Logical, practical modifications that improve balance while maintaining cultural essence. Example: Reducing oil in Jollof rice, using whole grains for Nsihoo, Nkyekyeraa, millet mixed with soyabean powder/ blended carrot for Tuo Zaafi or increasing vegetable content in Jollof, Plain rice, Akyeke.	6
Health Benefits of Modifications	Explanation of how changes improve health, supported by nutritional reasoning. Example: Using brown rice instead of white rice in Jollof enhances fibre and heart health, millet mixed with soyabean powder/ blended carrot for Tuo Zaafi to increase the protein and fibre in Tuo Zaafi.	5
Cultural Preservation	Ensuring the dish remains authentic and respected in tradition while modifying. Example: Using traditional spices like dawadawa in Tuo Zaafi green (ayoyo soup).	4
Report	Introduction, content, logical flow of work, recommendations and conclusion.	2

Task 2

Criteria	Description	Marks
Selection of Festive Dish	Clearly identifies a culturally significant dish traditionally prepared for celebrations. Example: Ghanaian Jollof Rice.	3
Comparison of Cooking Methods	Compares traditional preparation with energy-efficient alternatives, highlighting key differences. Example: Charcoal-based steaming vs. modern insulated pot.	6
Impact on Nutrition	Evaluates how energy-efficient methods affect nutrient retention and food quality. Example: Less heat exposure preserving vitamins in vegetables.	5
Impact on Sustainability	Assesses environmental impact, considering energy consumption, waste reduction, and resource efficiency. Example: Using solar, ethanol, bio-gel as fuel for cooking instead of firewood.	4
Cultural Authenticity	Ensures modifications respect traditional flavours, cooking techniques, and communal values. Example: Preserving fermentation in kenkey production.	2

WEEK 4**Task 1**

Criteria	Excellent (5 marks)	Very Good (4 marks)	Satisfactory (3 marks)	Needs Improvement (2–1 marks)
Community Program Design	Detailed plan with clear objectives, age group, timeline, and roles (elders, chefs, youth). Activities are creative and community-rooted. Example: “Festival Kitchen Camp” with cooking demos, storytelling, and recipe book creation.	Mostly clear plan with relevant activities (e.g., cooking, discussions) but lacks full clarity in structure or roles. Example: Classroom-based cooking lessons on festival meals.	General idea shared but lacks detail. Example: Youth “cook Homowo food”, but no details on how it’s organized.	Unclear or vague concept with little structure. Example: Just says “youth will cook traditional food” without further context.
Integration of Traditional Festival Cooking	Strong link between specific festivals and traditional meals; explains cultural significance. Example: Youth prepare Eto during Adae Kese and learn about ancestral rites.	Shows cultural relevance but with limited explanation. Example: Fufu made during festivals, but no symbolic meaning explained.	Mentions traditional food without strong festival connection. Example: “We will cook local food like banku” with no festival link.	No mention or unclear use of traditional or festival foods.
Measurement of Program Success	Specific, realistic tools to measure impact: surveys, quizzes, attendance logs, feedback interviews. Example: Pre/post cultural knowledge tests and youth reflection journals.	Mentions success indicators like attendance or enjoyment but lacks clear tools. Example: “We will ask students what they learned.”	General success idea mentioned. Example: “We will know it worked if many people join.”	No measurement tools provided or success unclear.

Use of Supporting Evidence & Examples	Strong use of data, quotes, or cultural studies to support design. Example: Quotes from elders about Kpokpoi traditions and references to cultural identity research.	Some evidence used (e.g., festival names, elder quotes) but lacking in depth. Example: Mentions Aboakyer but doesn't link to food.	Few or general references without depth. Example: "Ghana has many festivals with food."	No evidence used; generic or unsupported claims.
Critical Thinking & Depth of Analysis	Deep analysis of cultural, social, and intergenerational benefits; considers sustainability and youth relevance. Example: Cooking builds pride and supports small business ideas.	Identifies key benefits like pride or learning, but analysis is not fully developed. Example: "Youth learn culture through food."	Recognizes basic importance of tradition, but weak connections to broader goals. Example: "It is good to cook traditional food."	Minimal or superficial reasoning. Example: "Cooking is fun."

Task 2

Criteria	Excellent (5 marks)	Very Good (4 marks)	Satisfactory (3 marks)	Needs improvement (2–1 marks)
Selection and Description of Festive Dish	Rich, detailed description of the dish, ingredients, preparation, and setting. Example: "During Damba Festival, 'T.Z.' (Tuo Zaafi) is prepared with ayoyo soup, showcasing local grains and wild greens."	Gives a clear but less detailed description; a few ingredients or steps missing. Example: "Kundum Yam Dish is served during the festival, often boiled or pounded."	Names a dish with minimal description; missing preparation or festival setting. Example: "We eat yam dishes during Kundum" with no context.	Mentions a dish vaguely or incorrectly. Example: States a dish like "fufu" but unrelated to a specific cultural event.

Connection to Cultural Celebration	Strong link to a specific festival with accurate details about how and why the dish is used. Example: “During Hogbetsotso, ‘Aboboi and Kenkey’ are served after traditional rites, symbolising peace and unity.”	Reasonable connection to a known celebration, though some details may be brief. Example: “T.Z. is eaten during Damba but doesn’t say when or how it’s shared.”	Vague reference to a festival or traditional event without depth. Example: “The food is for festival times” without naming or explaining.	Dish is not clearly connected to any festival or celebration.
Symbolic and Cultural Significance	Deep explanation of the dish’s symbolism and role in spiritual or social life. Example: “T.Z. reflects Dagomba values of hospitality and spiritual cleansing during Damba rituals.”	Identifies symbolic meanings but with less insight. Example: “Kenkey shows unity when shared after Hogbetsotso dances.”	Touches on cultural value but with general or unclear ideas. Example: “The food is part of tradition” with no elaboration.	No discussion of symbolic meaning or misrepresents the cultural context.
Cultural Identity and Values	Clearly explains how the dish represents cultural beliefs, family bonds, or heritage. Example: “The sharing of yam dishes during Kundum reflects Nzema respect for ancestors and the harvest.”	Discusses cultural identity or values in general terms. Example: “It’s a family tradition during Hogbetsotso.”	Mentions culture or tradition vaguely without connection to values. Example: “This food shows culture” without explaining how.	No connection made between the dish and cultural identity.
Organisation and Clarity of Expression	Well-organised, engaging writing with clear transitions and appropriate vocabulary. Example: Flows from dish description to cultural insight with logical structure.	Mostly clear with few grammatical or structural issues. Ideas are easy to follow.	Some disorganisation or awkward wording; ideas are understandable but not smooth.	Unclear, disjointed, or full of grammatical errors; difficult to follow.

WEEK 5**Task 1**

Criteria	Excellent (5 marks)	Good (4 marks)	Satisfactory (3 marks)	Needs improvement (2–1 marks)
Festival Selection and Description	Provides a clear, well-researched explanation of the festival's history, region, customs, and cultural importance. Example: "The Bugum Festival (Fire Festival) of the Dagbon marks the search for a lost prince, celebrated with fire torches and communal meals."	Gives general background about the festival with some detail but may lack depth. Example: lacks the background of Bugum festival	Mentions the festival and a few customs but lacks coherence or accuracy. Example: lacks clear connections in the customs of the Bugum festival	Vague, incorrect, or incomplete festival description. Example: wrong choice of festival and description.
Main Course Composition (Protein + Carbohydrate)	Main dish includes a culturally appropriate protein and a carbohydrate-rich accompaniment with clear description and explanation. Example: "Grilled guinea fowl (protein) served with roasted yam (carbohydrate) to reflect strength and harvest themes during Bugum."	Includes protein and carbohydrate, but explanation or cultural relevance is brief.	Includes only one of the required components (either protein or carbohydrate), or limited explanation.	Main dish is incomplete or inappropriate; lacks clear ingredients or relevance.

Dessert Composition (Sweet Component)	Dessert includes a traditional sweet element with thoughtful description and cultural explanation. Example: “Millet cake with honey, symbolising celebration and blessing during Bugum.”	Dessert includes a sweet element with some cultural connection.	Dessert is described but lacks traditional or cultural relevance.	Dessert is missing, vague, or not culturally appropriate.
Cultural Symbolism and Relevance	Strong insight into how each dish represents cultural identity, social values, or traditional practices. Example: “The guinea fowl is symbolic of resilience, and yam shows abundance from the land.”	Some explanation of symbolic meaning but lacks depth.	Symbolism mentioned but vague or underdeveloped.	No meaningful symbolism or incorrect interpretation.
Presentation and Clarity	Well-organised, easy to follow, with correct grammar and logical flow.	Mostly clear with few grammatical or structural issues.	Some disorganisation or errors that slightly affect clarity.	Disorganised, hard to follow, frequent grammar errors.

Task 2

Criteria	Excellent (4 marks)	Very Good (3 marks)	Satisfactory (2 marks)	Needs Improvement (1 mark)
Selection of Traditional Dishes	Presents four well-chosen traditional dishes with strong connections to cultural significance and the naming ceremony. Example: “Omo tuo with groundnut soup, fried plantain, waakye, and rice water — all tied to communal feasting and blessings.”	Includes four dishes with some cultural relevance but lacks depth in explanation. Example: “Fufu, rice, soup, yam.”	Lists dishes but provides minimal connection to traditions. Example: “Jollof rice, chicken, bread, kelewele.”	Weak or unclear selection without cultural justification.

Detailed Meal Plan & Recipes	Provides a thorough meal plan with complete recipes, including ingredients, preparation, and serving details. Example: “Waakye made with millet leaves, black-eyed beans, rice; served with shito, boiled eggs, and gari.”	Recipes provided with some detail but lacks depth in techniques.	Basic plan with limited detail or unclear prep steps.	Minimal or vague meal plan with no clear recipes.
Modifications for Elderly & Children	Clearly explains thoughtful modifications while preserving authenticity. Example: “Reduce spice in soup for children, use soft meats for elderly, blend rice water for infants.”	Modifications are relevant but lack full explanation of authenticity.	Mentions some changes but lacks strong reasoning.	Little or no attempt to adjust meals for age groups.
Cultural Authenticity & Significance	Shows deep understanding of food’s traditional meaning in the ceremony while applying modifications. Example: “Though less spicy, the groundnut soup keeps its ceremonial value using dawadawa and smoked fish.”	Demonstrates cultural awareness but lacks full explanation.	Mentions cultural meaning but with weak connection.	Minimal or incorrect reference to authenticity.
Critical Thinking & Justification	Integrates tradition, nutrition, and practicality in a cohesive way. Example: “Meals balance protein and carbs, remain soft for easy chewing, yet maintain traditional cooking methods.”	Shows some analytical thinking but lacks integration.	Justification is basic or lacks depth.	Superficial response with little reflection or thought.

WEEK 6

Criteria	Description	Example	Marks
Selection of Dishes (Cultural Significance)	Justifies choice of one traditional starter and one main course, based on historical, social, or traditional importance in Ghana.	The student selects Akotonshi (stuffed crabs) as a starter for outdoor family celebrations and Apapransa as the main meal for a traditional engagement ceremony, both representing cultural pride and unity.	___/4
Ingredient Selection & Availability	Uses locally sourced ingredients, considering seasonality, authenticity, and accessibility. Explains relevance.	Ingredients include roasted corn flour (cornmeal), smoked fish and palm oil. The student explains that all are locally available and in season, promoting local economy and food sustainability.	___/3
Preparation & Cooking Methods	Demonstrates traditional cooking techniques, ensuring authenticity. Adapts cooking methods responsibly to ensure healthy options if needed.	The student boils crab and stuff with vegetables, prepares Apapransa with cornmeal and combining it with palm oil stew. They reduce salt and oil for health reasons without compromising cultural taste.	___/4
Balance in Portion & Ingredient Selection	Ensures balance in flavours, textures, and portion sizes. Meals are appropriately sized and suitable for guests.	The student ensures the spicy starter contrasts with the rich main course. Portion sizes suit 5 guests, avoiding food waste.	___/3
Presentation & Serving Customs	Reflects traditional Ghanaian serving practices. Uses appropriate dishes, utensils, and settings.	Starter served on banana leaves, and main meal in asanka. Guests sit together, and meals are shared, honouring traditional family-style eating. Garnished with sliced onions and fresh herbs.	___/2
Critical Analysis & Reflection	Evaluates how the starter and main dish reflect the chosen event. Considers traditional vs. modern influences and justifies any adaptations.	The student explains how Apapransa is symbolic at engagement ceremonies. They compare firewood and gas methods, reflecting on maintaining tradition while using modern tools.	___/2
Community Engagement & Feedback	Gathers insights from community or family. Shares meal concept and receives feedback on authenticity.	The student discusses festive meals with a grandmother/ any elderly person, prepares the meal, and shares it with family and friends. Feedback about taste and cultural accuracy is recorded and analysed.	___/2

WEEK 7

Component	Marks
1. Planning and preparation	
- Ingredient list and recipe selection	2
- Logical time plan/work schedule	2
- Hygiene and safety practices	4
Subtotal	8
2. Cooking Techniques and Skills	
- Preparing gizzard (tender, well-seasoned)	4
- Fried rice (texture, seasoning, combination)	4
- Shito (consistency, taste, spice balance)	4
- Sponge pudding (light, fluffy, properly steamed)/sauce	4
Subtotal	16
3. Presentation and Serving	
- Attractive plating and portion control	4
- Logical flow between main course and dessert	2
- Overall neatness and appeal	2
Subtotal	8
4. Cleanliness and Time Management	
- Clean workstation and proper waste disposal	4
- Task completed within allotted time	4
Subtotal	8
Total	40 Marks

SECTION 2: Food Packaging, Labelling, and Business Opportunities

STRAND 1: **NUTRITION AND HEALTH**

Sub–Strand 2: **Food Security**

Weeks 8 & 9

Learning Outcome: Apply suitable packaging methods to preserve the nutritional value and safety of food products.

Content Standard: *Demonstrate knowledge and skills in appropriate packaging techniques to maintain the nutritional quality and safety of food products.*

Weeks 10 & 11

Learning Outcome: Apply entrepreneurial skills in food production to promote healthy eating and sustainable nutrition practices.

Content Standard: *Develop entrepreneurial skills in creating and marketing nutritious food products that promote healthy living practices.*

INTRODUCTION AND SECTION SUMMARY

This section seeks to equip learners with knowledge, skills and understanding related to food packaging and business opportunities. Food packaging is essential for maintaining food quality, safety, and sustainability. It preserves freshness, prevents contamination, and safeguards nutritional value. Proper packaging ensures hygiene and compliance with food safety regulations and reduces risks of spoilage and foodborne illnesses. This section helps learners to develop, package and market nutritional food products that align with consumer health needs and industry standards. As environmental concerns grow, eco-friendly packaging methods such as biodegradable, recyclable, and reusable materials help minimise waste and pollution. Sustainable food production also opens business opportunities, from organic products to innovative packaging solutions. Learners can explore catering, food processing, and retail businesses, meeting consumer demands while promoting responsible practices.

The weeks and the indicators covered by the section are:

Week 8: Explain the role of food packaging in maintaining nutritional quality, hygiene and food safety

Week 9: Apply appropriate eco-friendly packaging methods to enhance food preservation and minimise waste.

Week 10: Identify business opportunities in food production that support healthy eating habits and sustainable nutrition.

Week 11: Develop, package and market a nutritious food product that aligns with consumer health needs and industry standards.

SUMMARY OF PEDAGOGICAL EXEMPLARS

The teacher should use varied pedagogical strategies relevant to the lesson to make it more learner centred. The use of group work (considering ability, mixed-ability, mixed-gender, mixed-cultural and friendship groupings), structured talk for learning and problem-based learning approaches, which consider the use of samples of food packaging, charts, videos, posters etc., on suitable packaging methods and marketing nutritious food products.

The learner is required to understand suitable packaging methods and entrepreneurial skills. The adoption of experiential learning approaches, where students are assigned to watch videos, could also be considered. The teacher should ensure that learners with special educational needs (SEN) are actively involved in the lesson by using oral, visual, tactile and other forms of presenting information to suit the needs of the learners. The teacher should also incorporate GESI (Gender Equality and Social Inclusion), SEL (Social and Emotional Learning), 21st Century skills, Core National Values and ICT (Information, Communication and Technology) in the lesson delivery and differentiation strategies to address the varied learning requirements of all learners, being mindful that learners cannot always accomplish the same task. Particular attention should be paid to learners with special educational needs, making relevant accommodation to ensure their full participation in all activities.

ASSESSMENT SUMMARY

Learners progress from recalling food packaging functions and hygiene standards to analysing sustainable materials and food safety risks. They apply their knowledge by comparing conventional vs. eco-friendly packaging, evaluating market trends, and selecting suitable packaging for food preservation. Learners develop strategic business models that promote healthy eating and sustainability while designing and marketing nutritious food products. Through extended thinking, learners integrate industry standards and consumer needs into a comprehensive project. This progression ensures a deep understanding, from basic recall to critical analysis and practical application, fostering innovation and responsible decision-making in food production and packaging.

To evaluate learners' achievement levels in relation to Depth of Knowledge (DoK), teachers should utilise diverse assessment strategies and tasks. Aligning assessment activities with learning indicators and pedagogical exemplars is crucial, creating a cohesive link between: Learning indicators, Pedagogical exemplars and Assessment strategies of the content in this section.

Indicators	DOK Level	Assessment Strategy and/or Mode
Explain the role of food packaging in maintaining nutritional quality, hygiene and food safety	3	<i>Group discussion</i>
Apply appropriate eco–friendly packaging methods to enhance food preservation and minimise waste.	3	<i>Design prototype packaging</i>

Identify business opportunities in food production that support healthy eating habits and sustainable nutrition.	4	<i>Group project</i>
Develop, package and market a nutritious food product that aligns with consumer health needs and industry standards.	4	<i>Practical – product development</i>

WEEK 8: EXPLAIN THE ROLE OF FOOD PACKAGING IN MAINTAINING NUTRITIONAL QUALITY, HYGIENE AND FOOD SAFETY

Learning Indicator: Explain the role of food packaging in maintaining nutritional quality, hygiene and food safety

Focal Area: The role of food packaging in maintaining nutritional quality, hygiene and food safety



Figure 2.1: Packaging materials of glass bottles, pink plastic bottles, bread in rubber bag, boxes, can bottles and tin



Figure 2.2: Metal packaging showing tin cans



Figure 2.3: Paper packaging showing items like cups, plates, cutlery, bags

1. Food packaging

Packaging plays a vital role not only in storing and transporting food but also in ensuring that the food remains safe, hygienic, and nutritious until it reaches the consumer. Two key areas where packaging is especially important are in maintaining nutritional quality and ensuring hygiene and safety.

Food packaging is the process of covering, enclosing or placing food in suitable containers or materials to protect it and make it easier to store, transport, sell and use.

Examples: bottles, cans, cartons, plastic containers, paper bags and sachets.

Purpose of Food Packaging

- i. Protects food – It protects food from dust, insects, germs, moisture, light and physical damage.
- ii. Prevents contamination – It keeps harmful substances and microorganisms away from the food.
- iii. Extends shelf life – Proper packaging helps food remain fresh and safe for a longer period.
- iv. Makes transportation easier – Packaged food can be handled and transported more easily without spilling or getting damaged.
- v. Provides information – Labels provide information such as ingredients, nutritional value, expiry date, preparation instructions and storage conditions.
- vi. Attracts consumers – Attractive packaging can make a food product appealing and encourage people to buy it.
- vii. Facilitates storage – Packaging makes it easier to arrange and store food safely.
- viii. Promotes convenience – It makes food easier to open, carry, serve and use.

a. Maintaining Nutritional Quality

Food packaging helps preserve the nutritional value of food by

- i. Protecting against environmental factors such as oxygen, light, and moisture, which can degrade essential nutrients like vitamins A, C, and E.
- ii. Preventing oxidation and spoilage, especially in fats and oils, which can result in rancidity and loss of nutritional benefit.
- iii. Enabling the use of modified atmosphere packaging (MAP) and vacuum-sealing techniques that extend shelf life while retaining food's original taste, texture, and nutrient content.
- iv. Reducing exposure to contaminants and pests that might otherwise consume or destroy nutrients in stored food.

b. Types of Food Packaging Materials

Food packaging materials are selected based on their properties, specific applications, and their effectiveness in preserving the safety, quality, and shelf life of food products. The most common materials include plastic, metal, and paper or cardboard, each with unique characteristics.

i. Plastic Packaging

Plastic is one of the most widely used packaging materials due to its versatility and affordability.

● Household Use

Common forms include plastic wraps for covering leftovers, resealable zipper bags for storing snacks, and plastic bottles for drinks.

- **Food Industry Use**

Used in vacuum-sealed meat packs, disposable food containers, beverage bottles, and pre-packaged snacks.

- **Advantages**

- Lightweight and easy to transport
- Flexible and can be moulded into different shapes
- Moisture-resistant, helping to keep food dry and fresh
- Cost-effective and suitable for both hot and cold foods

- **Disadvantages**

- Can cause environmental pollution if not recycled or disposed of properly
- Some plastics may leach harmful chemicals if used improperly
- Not biodegradable (unless made from biodegradable materials)

ii. Metal Packaging

Metals like aluminium and tinplate are commonly used for food preservation due to their durability and protective properties.

- **Household Use**

Aluminium foil for wrapping and grilling food, and reusable metal food tins for storage.

- **Food Industry Use**

Used in canned foods (e.g., tomatoes, beans, sardines), soft drink cans, and foil-laminated packages.

- **Advantages**

- Excellent barrier against light, oxygen, moisture, and microbes
- Strong and durable, helping to prevent physical damage
- Extends the shelf life of both dry and liquid foods

- **Disadvantages**

- Prone to corrosion if not properly coated
- May react with acidic foods, affecting taste and safety
- Heavier and more expensive than some alternatives

iii. Paper and Cardboard Packaging

Paper-based packaging is commonly used for dry food products and takeaway foods due to its eco-friendly properties.

- **Household Use**

Includes paper bags for groceries, baking parchment for oven use, and cardboard containers for takeaway meals.

- **Food Industry Use**

Used for packaging dry foods like cereals and flour, fast food containers, and milk cartons (usually coated with wax or plastic for moisture resistance).

- **Advantages**

- Biodegradable and recyclable
- Lightweight and easy to handle
- Environmentally friendly compared to plastic and metal

- **Disadvantages**

- Not moisture-resistant unless specially coated
- Less durable and can tear or collapse under pressure
- Not suitable for long-term storage of perishable items

8. Food Labelling

It refers to the information displayed on packaged food products. This information provides essential details about the food's contents, nutritional value, ingredients, safety instructions, and how the product should be stored or consumed. Food labels play a crucial role in helping consumers make informed decisions, especially those with dietary restrictions, allergies, or specific nutritional needs.

Clear and accurate food labelling also promotes transparency and accountability within the food industry. It helps to build consumer trust, prevents food fraud, and supports public health by guiding consumers towards healthier food choices.



Figure 2.4: *Labelled item*

a. Key Components of a Food Label

- Product Name – Clearly identifies the type of food product.
- Ingredients List – Shows all the ingredients used in the product, typically in descending order by weight.
- Nutritional Information – Provides data on calories, fat, carbohydrates, protein, vitamins, and minerals.
- Allergen Information – Highlights any common allergens present, such as nuts, dairy, gluten, or soy.
- Expiration or Best-Before Date – Indicates the date until which the product is safe to consume.
- Storage Instructions – Advises on how to store the product to maintain freshness and safety.

- vii. **Manufacturer Details** – Includes the name and contact information of the producer or distributor.
- viii. **Food Additives and Preservatives** – Lists any chemical or natural substances added to enhance shelf life, taste, or appearance.

b. Importance of Food Labelling

Food labelling plays a vital role in ensuring that packaged food products are safe, transparent, and trustworthy. The benefits of proper labelling go beyond just listing ingredients, it is an essential tool for public health, consumer protection, and regulatory compliance. Below are the key reasons why food labelling is important:

i. Ensures Food Safety

Labels provide critical information such as expiry dates, storage conditions, and allergen warnings, helping consumers avoid spoiled or harmful food.

ii. Aids in Nutritional Awareness

Nutritional labelling helps consumers understand what they are eating, including calorie content and amounts of fat, sugar, protein, and other nutrients.

iii. Prevents Allergic Reactions

Clear allergen information allows individuals with food allergies or intolerances to avoid products that may cause serious health issues.

iv. Supports Informed Consumer Choices

With information about ingredients, origin, and additives, consumers can compare products and select those that align with their health goals or dietary beliefs.

v. Helps in Weight and Health Management

Calorie counts, and nutrient breakdowns assist individuals in managing their weight, preventing lifestyle-related diseases, and following medical dietary recommendations.

vi. Provides Legal Compliance

Proper labelling ensures that food manufacturers and sellers meet national and international food safety regulations and standards.

vii. Enhances Market Confidence

Accurate and honest labelling builds trust between producers and consumers, encouraging loyalty and improving the reputation of food brands.

Learning Tasks

1. Brainstorm the concept of food packaging and its purpose in food production.
2. Explain the role of food packaging in maintaining nutritional quality, hygiene and food safety with the aid of posters, pictures and sample food packaging.

3. Identify the types of food packaging materials used in households and the food industry.
4. Discuss food labelling and its importance.

Pedagogical Exemplars

1. Talk for Learning/Collaborative Learning

In mixed groups, brainstorm the concept of food packaging and its purpose in food production:

2. Experiential Learning

In pairs brain-write to explain the role of food packaging in maintaining nutritional quality, hygiene and food safety with the aid of posters, pictures and sample food packaging.

3. Experiential Learning/Talk for Learning

In your groups watch audio-descriptive videos/or use real-life scenarios to identify the types of food packaging materials used in households and the food industry.

4. Managing Talk for Learning approaches

In pairs, share your experiences to discuss food labelling and its importance.

Key Assessment Level 3: Group Discussion

Task 1(16 marks)

Produce an essay to analyse how the choice of food packaging material (plastic, metal, or paper/cardboard) affects both the nutritional quality and safety of food products with examples to support your rationale.

Task 2 (28 Marks)

Produce an essay that evaluates how food labelling influences consumer health and decision-making. Describe key labelling components and provide examples of their use.

The essay should be well organised and structured, demonstrating clarity of thought and critical thinking.

PLC Session 8

45 minutes

Planning & Reviewing the Learning Plan

1. Begin the session by recapping lessons from the previous year/session/week, focusing on how learning was applied.
2. Use your subject specific application to explore the content before planning. Ask the application to
 - a. explain the week's concepts in a practical way that will make it easier for learners to understand
 - b. identify two or three common misconceptions learners may have on the week's content and how to address them using contexts familiar to Ghanaian learners. (NTS 3a, 3g and 3m).

3. Use your subject specific application to plan your lesson. Ask the application to
 - a. suggest the most effective method for teaching the week's concepts to learners with diverse backgrounds.
 - b. suggest learning activities, differentiation and essential questions based on the method of teaching (NTS 3a-3q)
 - c. review your prepared learning plan and address any challenging issues you may have identified in your subject area (NTS 3a-3c).



Note

- Take note of the recap topics linked to Years 1 and 2 while preparing for your lesson.
- Refer to the Values Learning Community Handbook and link the values for the week in your lesson to ensure that learners are applying what they learn.

4. Plan the week's key assessment with your application
 - a. The key assessment for the week is **group discussion**. Chat with your application to plan this assessment, indicating what you and your learners will do before, during and after the discussion (NTS 3k-3q).

10 minutes

Content Exploration

5. As a subject group, select one problem or idea/term in the week's content that is challenging (not a routine procedural question, but one that requires conceptual understanding) and then
 - a. use the application, ask it to solve the problem step by step and explain the reasoning behind each step (you may be assisted by a teacher who is strong in the content area)
 - b. all teachers in the group work through a similar problem individually for 3–4 minutes
 - c. the group then works through the problem together step by step
 - d. highlight the most common errors made at each step and discuss (NTS 1c, 1e, 2c, 2e, 3e-3j).



Note

- This part is not just about 'How do I teach this?' but how do I teach it for learners to understand?
- If the group still shares the same content gap, use the application: ask it to solve the problem step by step and explain the reasoning behind each step.
- Problems/ideas discussed should be sourced from the Teacher Manual content, not invented separately. This keeps the content exploration directly connected to what teachers will deliver.

30 minutes**Enactment**

6. Enact a teaching activity based on your learning plan (NTS 1a-1b, 1e-1g, 2c, 2e, 2f, 3c-3j and 3o).
 - a. Colleagues observe with specific attention to clarity of concept explanation, use of familiar Ghanaian examples and how misconceptions are handled if they arise.
 - b. After the enactment, ask for structured feedback from the group
 - i. was the concept explained in a way that a learner with no prior knowledge could follow?
 - ii. were the examples grounded in contexts familiar to Ghanaian learners?
 - iii. did any misconceptions surface and if so, how were they addressed?

5 minutes**Reflection**

7. Reflect and share your views on the session. One thing that worked well, what did not work well and what you will do differently. (NTS 1a, 1b).
8. Identify a critical friend to observe and provide feedback on your lesson in relation to the PLC Session conducted (NTS 1f, 1g).
9. Remember to
 - a. transfer your chats into your learning planner template.
 - b. read your Teacher Manual and related Learner Material in preparation for the next session. Take note of the recap weeks, which are linked to Years 1 and 2 (NTS 3a).
 - c. integrate National Values, GESI, SEL, and 21st century skills into your learning activities, assessment tasks, and rubrics/mark schemes.

WEEK 9: APPLY APPROPRIATE ECO-FRIENDLY PACKAGING METHODS TO ENHANCE FOOD PRESERVATION AND MINIMISE WASTE

Learning Indicator: Apply appropriate eco-friendly packaging methods to enhance food preservation and minimise waste

Focal Area 1: Eco-friendly packaging methods



Figure 2.5: Eco-friendly brown bags with green recycling symbol

1. Eco-Friendly Packaging Methods

Eco-friendly food packaging aims to preserve food effectively while reducing environmental impact. These sustainable alternatives help minimise waste, reduce pollution, and support the move toward a greener planet. Below are some common eco-friendly packaging methods:

a. Biodegradable and Compostable Packaging

Made from natural materials such as cornstarch, sugarcane, or bamboo, these packages break down easily in the environment without leaving harmful residues.

b. Edible Packaging

These are made from food-grade materials like seaweed, rice paper, or starch that can be safely consumed along with the food, reducing packaging waste.

c. Minimalist Packaging

This approach uses the least amount of material necessary to protect the food, helping reduce resource use and environmental footprint. It is made from recycled paper, biodegradable fibres, or agro-waste-based pulp.

d. Beeswax Wraps

A natural alternative to plastic wrap, beeswax wraps are reusable and made from cotton infused with beeswax, resin, and oil, ideal for wrapping fruits, vegetables, and baked goods.

e. Glass Containers and Jars

Durable, non-toxic, and fully recyclable, glass containers are excellent for food storage and can be reused multiple times without degrading in quality.

f. Recyclable and Reusable Packaging

Materials such as cardboard, metal tins, and certain plastics can be recycled or reused, promoting a circular economy and reducing landfill waste.

g. Plant-Based Bioplastics

Derived from renewable resources like corn starch or cassava, these plastics mimic the function of conventional plastic but are biodegradable under industrial conditions.

2. Importance of Eco-Friendly Packaging

Eco-friendly packaging plays a significant role in protecting the environment while also offering practical benefits in food preservation and consumer safety. Below are key reasons why eco-friendly packaging is important:

a. Reduces Plastic Pollution

By minimising the use of single-use plastics, eco-friendly packaging helps decrease environmental degradation, especially in oceans and landfills where plastic waste accumulates for decades.

b. Enhances Food Shelf Life

Certain sustainable materials, such as beeswax wraps and glass jars, are effective at preserving food freshness and quality, reducing spoilage and food waste.

c. Supports Sustainable Practices

Using eco-friendly packaging encourages both producers and consumers to adopt environmentally responsible behaviours, such as reducing waste, conserving resources, and choosing reusable alternatives.

d. Promotes Consumer Health

Many traditional packaging materials contain chemicals that can leach into food. Eco-friendly alternatives are often non-toxic and free from harmful substances, making them safer for food contact.

e. Encourages Recycling and Reusability

Sustainable packaging materials are often designed to be recycled or reused, reducing the demand for virgin raw materials and lowering energy consumption in production processes.

Learning Tasks

1. Identify eco-friendly packaging methods that are used to enhance food preservation and minimise waste.
2. Discuss the importance of eco-friendly packaging materials.

Pedagogical Exemplars

1. **Experiential Learning Approach:** In mixed groups, observe videos/ visit a food production industry or listen to a talk by food experts on food packaging to identify eco-friendly packaging methods that are used to enhance food preservation and minimise waste.

E.g.,

Eco-Friendly Packaging Methods

- a. Biodegradable and compostable packaging
- b. Edible packaging
- c. Beeswax wraps
- d. Glass containers and jars
- e. Recyclable and reusable packaging
- f. Plant-based bioplastics

In your groups, use the diamond nine strategy to discuss the importance of eco-friendly packaging materials

Key Assessment Level 3: Design Prototype Packaging

Task (25 Marks)

Produce an essay to analyse how the adoption of eco-friendly packaging influences both environmental sustainability and consumer health. Using specific examples, propose **three** innovative packaging solutions.

The essay should be well organised and structured, demonstrating critical thinking and analysis

Focal Area 2: Designing, developing and using suitable packaging



Figure 2.6: Developed paper packages

1. How to Test the Durability and Functionality of Food Packaging

a. Drop Test

Drop the package from a specific height to see if it can withstand impact without breaking or spilling its contents.

b. Moisture Resistance

Expose the package to a small amount of water or humid conditions to assess how well it prevents moisture from seeping in.

c. Stacking Ability

Stack multiple packages on top of each other to check if the packaging can bear weight without collapsing or damaging the food inside.

Evaluation Criteria

- i. Protection – Does the package effectively shield the food from physical damage?
- ii. Freshness – Is the food still fresh and unchanged after testing?
- iii. Seal Strength – Does the packaging remain properly sealed after handling?
- iv. Material Performance – Did the material hold up under pressure, moisture, or impact?
- v. Suitability – Is the packaging appropriate for the type of food it contains?

2. Achievements and Challenges in Designing Eco-Friendly Food Packaging**a. Achievements****i. Innovation in Sustainable Materials**

Researchers and manufacturers have developed biodegradable and compostable packaging materials from natural sources such as cornstarch, sugarcane, banana leaves, and seaweed.

ii. Reduction in Plastic Usage

Many companies have successfully reduced or eliminated the use of single-use plastics by switching to recyclable paper, glass, or plant-based alternatives.

iii. Improved Consumer Awareness

There is growing public awareness and demand for environmentally friendly packaging, encouraging more businesses to adopt green solutions.

iv. Development of Edible Packaging

Some packaging can now be safely consumed with the food, reducing waste entirely. This innovation is especially popular in snack and dessert packaging.

v. Reusable and Recyclable Designs

Packaging designs that encourage reuse and recycling, such as sturdy glass containers and recyclable cardboard boxes, are increasingly available and accepted.

b. Challenges**i. Cost of Production**

Eco-friendly materials are often more expensive to produce than traditional plastic, making them less affordable for small businesses and consumers.

ii. Limited Durability and Barrier Properties

Some sustainable packaging materials may not provide the same level of protection against moisture, air, or physical damage as plastic does.

iii. Inconsistent Recycling Systems

In many regions, proper recycling facilities are lacking or not accessible, limiting the effectiveness of recyclable packaging solutions.

iv. Short Shelf Life

Certain biodegradable materials degrade too quickly, making them unsuitable for packaging food that requires long-term storage.

v. Consumer Behaviour

Not all consumers understand how to dispose of eco-friendly packaging correctly, leading to contamination in recycling streams or unintended environmental harm.

Learning Tasks

1. Explore creative ways of designing, developing and using suitable packaging for a food product for exhibition and marketing.
2. In your groups, conduct a test for durability of the packaging.
3. Reflect on feedback information to modify designs based on test results.
4. Present your packaging designs and branding strategies for peer and teacher assessment.

Pedagogical Exemplars

1. Project-Based Learning/Collaborative Learning

Organise an activity to engage learners in a demonstration of activities to explore creative ways of designing, developing and using suitable packaging for their food product for exhibition and marketing.

Designing Eco-Friendly Food Packaging:

- a. Materials Needed: Recycled cardboard, biodegradable wraps cloth bags, beeswax wraps, twine, glue, scissors and markers.
- b. Procedure:
- c. Assign groups a food product to be packaged
- d. Ask groups to design a prototype package using eco-friendly materials.
- e. Ensure the design includes labelling elements such as product name, expiration date, storage instructions, etc.
- f. Groups present their designs and justify their material choices.

2. Problem-Based Learning/Group Work

In your groups, conduct a test for durability of the packaging. E.g.,

- a. Drop test
- b. Moisture resistance
- c. Stacking ability, etc.

Evaluate functionality of the package to protect the food and maintain freshness

3. Project-Based Learning

In panel discussion, groups reflect on feedback information to modify their designs based on test results.

- a. Guide groups to design creative labels for their food packages.
- b. Discuss how colours, fonts and images influence consumer choices.
- c. Present your packaging designs and branding strategies for peer and teacher assessment.

4. Experiential/Collaborative Learning

In your groups organise and set up a classroom exhibition to display your packaging.

- a. Invite your peers, teachers and/or industry experts to evaluate designs.
- b. Explain your choices of materials and design features.

Note: Provide an award scheme to recognise and award the most sustainable, innovative and practical packaging to motivate learners.

5. Talk for Learning Approaches

In mixed ability/gender groups, think-pair-square-share your experience, achievement and challenge in designing and developing eco-friendly food packaging materials.

Key Assessment Level 3: Design Prototype Packaging

Task (20 marks)

In groups, produce a design proposal and design a prototype package using eco-friendly materials for shito (pepper sauce) that extends shelf life without refrigeration.

Develop a detailed plan of implementation strategies for local producers taking into consideration the economic and environmental impact of the packaging.

PLC Session 9

45 minutes

Planning & Reviewing the Learning Plan

1. Begin the session by recapping lessons from the previous year/session/week, focusing on how learning was applied.
2. Use your subject specific application to explore the content before planning. Ask the application to
 - a. explain the week's concepts in a practical way that will make it easier for learners to understand
 - b. identify two or three common misconceptions learners may have on the week's content and how to address them using contexts familiar to Ghanaian learners. (NTS 3a, 3g and 3m).
3. Use your subject specific application to plan your lesson. Ask the application to
 - a. suggest the most effective method for teaching the week's concepts to learners with diverse backgrounds.

- b. suggest learning activities, differentiation and essential questions based on the method of teaching (NTS 3a-3q)
- c. review your prepared learning plan and address any challenging issues you may have identified in your subject area (NTS 3a-3c).



Note

- Take note of the recap topics linked to Years 1 and 2 while preparing for your lesson.
- Refer to the Values Learning Community Handbook and link the values for the week in your lesson to ensure that learners are applying what they learn.

4. Plan the week's key assessment with your app

- a. The key assessment for the week is **design prototype packaging**. Chat with your application to plan this assessment, indicating what you and your learners will do before, during and after the packaging (NTS 3k-3q).

10 minutes

Content Exploration

5. As a subject group, select one problem or idea/term in the week's content that is challenging (not a routine procedural question, but one that requires conceptual understanding) and then
 - a. use the app, ask it to solve the problem step by step and explain the reasoning behind each step (you may be assisted by a teacher who is strong in the content area)
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- Problems/ideas discussed should be sourced from the Teacher Manual content, not invented separately. This keeps the content exploration directly connected to what teachers will deliver.

30 minutes

Enactment

6. Enact a teaching activity based on your learning plan (NTS 1a-1b, 1e-1g, 2c, 2e, 2f, 3c-3j and 3o).
 - a. Colleagues observe with specific attention to clarity of concept explanation, use of familiar Ghanaian examples and how misconceptions are handled if they arise.

- b. After the enactment, ask for structured feedback from the group
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 - a. transfer your chats into your learning planner template.
 - b. read your Teacher Manual and related Learner Material in preparation for the next session. Take note of the recap weeks, which are linked to Years 1 and 2 (NTS 3a).
 - c. integrate National Values, GESI, SEL, and 21st century skills into your learning activities, assessment tasks, and rubrics/mark schemes.

WEEK 10: IDENTIFY BUSINESS OPPORTUNITIES IN FOOD PRODUCTION THAT SUPPORT HEALTHY EATING HABITS AND SUSTAINABLE NUTRITION

Learning Indicator: Identify business opportunities in food production that support healthy eating habits and sustainable nutrition

Focal Area 1: Concept of food and Nutrition businesses



Figure 2.7: Illustration of an assortment of fresh fruit, vegetables and ingredients

1. Concept of Food and Nutrition Business

A business is an organised activity or enterprise that involves producing and providing goods or services with the aim of earning profit or delivering value. In the context of food and nutrition, a business refers to any venture that deals with the production, processing, distribution, or sale of food products that meet quality, health, safety, and nutritional standards.

A Food and Nutrition business is any enterprise that focuses on ensuring food products are not only safe and appealing but also meet dietary and health needs. These businesses can take various forms, such as:

- a. Agricultural food production – farming and harvesting food crops and livestock.
- b. Food processing industries – transforming raw materials into packaged food.
- c. Food retail and distribution – supermarkets, online stores, and delivery services.
- d. Catering and hospitality services – restaurants, school feeding programmes, and event catering.
- e. Nutrition consulting and dietetics – offering health advice, meal plans, and wellness solutions

2. Importance of Food and Nutrition Businesses to Sustainable Development:

a. Social Importance

- i. Improved Food Security and Access

Reduces food waste. Efficient processing, storage, and distribution help minimise food loss and waste. Enhances Food Security: Increases the availability and accessibility of food all year round.

ii. Better Public Health Outcomes

Encourages the consumption of safe and nutritious food, thereby reducing the prevalence of food-borne illnesses and lifestyle-related diseases.

iii. Nutrition Education and Consumer Awareness

Provides vital information on healthy eating, enabling consumers to make informed dietary choices.

iv. Promotes Health and Well-being. Provides access to safe, nutritious, and balanced meals that improve public health and reduce diet-related diseases.

v. Empowerment of Women and Youth

Enhances capacity-building, income generation, and leadership opportunities for most women and the youth.

b. Environmental Importance

i. Promotion of Sustainable Agriculture

Supports eco-friendly farming methods and efficient use of natural resources. Supports local Agriculture and Industry. Encourages the use of local raw materials and boosts agro-industrial growth.

ii. Reduction in Food Waste

Encourages improved food storage, preservation, and redistribution systems.

iii. Support for Climate Action

Adopts environmentally responsible packaging, transportation, and energy practices. Encourages Sustainable Practices - Encourages environmentally friendly methods in food production and packaging.

c. Economic Importance

i. Job Creation and Economic Development

The food industry offers employment across production, processing, logistics, marketing, and service delivery. Generates jobs across the food supply chain—from farming to retail.

ii. Promotion of Entrepreneurship

These businesses create opportunities for individuals to start small or large food ventures, boosting local economies.

iii. Revenue Generation

The sector contributes significantly to national income through taxes, trade, and exports. Promotes Economic Growth: Drives innovation, entrepreneurship, and income generation in communities and the nation at large.

iv. Expansion of International Trade

It opens global markets for local food products, increasing foreign exchange earnings.

3. The Role of Food and Nutrition Businesses in Sustainable Development

Food and nutrition businesses significantly contribute to sustainable development by addressing key global challenges, creating economic opportunities, improving public health, and promoting environmental sustainability. These businesses operate across sectors such as agriculture, food processing, catering, retail, and nutrition services.

Alignment with the UN Sustainable Development Goals (SDGs)

i. SDG 2: Zero Hunger

- Food businesses help increase the availability and accessibility of food, reducing hunger and malnutrition.
- They support improved food distribution and promote the development of nutrient-rich products.

ii. SDG 3: Good Health and Well-being

- By offering safe, wholesome, and nutritious foods, these businesses contribute to the prevention of diet-related illnesses and enhance overall health outcomes.

iii. SDG 8: Decent Work and Economic Growth

- The sector provides diverse employment opportunities and supports entrepreneurship, especially among women and youth.
- It plays a key role in driving local and national economic growth.

iv. SDG 12: Responsible Consumption and Production

- Food and nutrition businesses encourage sustainable practices such as responsible sourcing, eco-friendly packaging, and waste reduction.

Learning Tasks

1. Explain the concept of business.
2. Explain the meaning of business and its importance.

Pedagogical Exemplars

1. Talk for Learning

In a whole class discussion mingle to find someone and explain the concept of business.

In mixed groups think-pair-square-share to reflect on ideas received in the mingling activity to explain the meaning of business and its importance.

Key Assessment Level 4: Group Project

Task (16 Marks)

Describe how food and nutrition businesses support the health of people, the environment, and the country. Give examples to show how they support at least two Sustainable Development Goals (SDGs).

Focal Area 2: Business opportunities in food production

As global awareness of health, wellness, and environmental sustainability increases, the demand for nutritious and eco-friendly food options continues to rise. This trend presents numerous business opportunities within the food production sector that not only meet consumer needs but also promote long-term sustainability.

1. Key Business Opportunities

i. Organic and Natural Food Production

Businesses can focus on cultivating and producing food free from synthetic chemicals, pesticides, and additives. These products appeal to health-conscious consumers and promote environmentally friendly farming practices.

ii. Plant-Based and Alternative Protein Foods

The growing popularity of vegetarian, vegan, and flexitarian diets create opportunities for producing plant-based meat substitutes, legumes, tofu, and insect-based proteins, offering sustainable and nutritious options.

iii. Functional and Fortified Foods

Entrepreneurs can develop food enhanced with vitamins, minerals, probiotics, and other health-boosting ingredients. These products help prevent nutrient deficiencies and support overall well-being.

iv. Eco-Friendly Food Packaging Solutions

Innovations in biodegradable, recyclable, and reusable packaging provide business avenues that align with sustainable nutrition by reducing environmental impact.

v. Healthy Snack Production

There is increasing demand for snacks made from whole grains, fruits, vegetables, and nuts. Businesses can create low-sugar, low-fat, and high-fibre options to support healthy eating.

vi. Food Waste Reduction Initiatives

Ventures can focus on repurposing surplus food into new products, offering composting services, or creating platforms that connect surplus food sources with consumers or charities.

vii. Sustainable Beverage Production

Producing drinks with natural ingredients, minimal additives, and sustainable sourcing methods such as organic juices, herbal teas, or plant-based milk offers growing market potential.

viii. Educational Services on Healthy Eating and Food Sustainability

Businesses can provide nutrition workshops, consultancy, digital platforms, or mobile apps to educate the public on healthy diets and sustainable food choices.

Example of a Business Plan

1. Business Idea/Concept

- a. Business Name: Rich Foods
- b. Nature of Business:
Rich Foods focuses on the production and sale of healthy, affordable, and eco-friendly packaged snacks made from locally sourced, nutrient-rich ingredients such as oats, groundnuts, coconut, dried fruits, moringa, and millet.
- c. Vision:
To become a leading provider of nutritious, locally sourced snacks that promote health and sustainability in Ghana and beyond.
- d. Mission:
To offer natural and wholesome snack options that support healthy lifestyles, empower local farmers, and reduce environmental impact through sustainable packaging.
- e. Product Name: NutriBite Snacks
- f. Unique Selling Point (USP):
Nutri-rich, all-natural snacks with no added sugar, attractively packaged in biodegradable wrappers.

2. Target Market

- a. Health-conscious individuals
- b. Students and young professionals
- c. Fitness enthusiasts
- d. Parents seeking healthier snacks for children
- e. Urban and peri-urban dwellers

3. Product Line

- a. NutriBite Coconut-Oat Bars
- b. Moringa Millet Energy Balls
- c. Dried Fruit and Nut Mixes
- d. Groundnut-Coconut Crunch

4. Marketing Strategy

- a. Branding through eco-conscious and health-focused campaigns
- b. Distribution in local health stores, school canteens, gyms, and online platforms
- c. Social media promotions and sampling in fitness events

5. Financial Plan (Overview)

- a. Initial capital: GH¢15,000 (equipment, raw materials, branding, licensing)
- b. Pricing: Competitive and affordable (GH¢5–GH¢10 per unit)

- c. Revenue target (Year 1): GH¢60,000
- d. Break-even point expected in 10 months

6. Sustainability Focus:

- a. Use of biodegradable packaging
- b. Zero food waste policy (repurposing scraps, donations)
- c. Promotion of local agriculture and employment

7. Business Plan Outline

- a. Executive Summary
Brief overview of Nutri Bite Snacks, mission, vision, and the value it brings to healthy living and sustainability.
- b. Market Analysis
 - i. Demand for healthy snacks is rising due to lifestyle diseases and consumer health awareness.
 - ii. Competitor analysis: Existing brands focus on imported or expensive products; Nutri Bite offers local, affordable alternatives.
- c. Product Description
 - i. Range of products: Energy bars, roasted groundnut-millet bites, fruit-and-oat cookies, and moringa-coconut balls.
 - ii. Packed in eco-friendly materials (plant-based wraps or paper boxes).
- d. Marketing Strategy
 - i. Social media promotion, in-school and campus sampling.
 - ii. Partnerships with gyms, schools, and wellness centres.
 - iii. Simple, clean branding with clear nutritional information.

8. Operations Plan

- a. Ingredient sourcing from local farmers and women's cooperatives
- b. Small-scale production facility (can start with a home-based kitchen).
- c. Production at a small-scale facility near the University of Education, Winneba
- d. Hiring 2–3 assistants for production and sales.
- e. Monthly production targets and distribution channels.
- f. Manual and semi-automated packaging processes using eco-materials

9. Financial Plan

- a. Start-up capital estimate: GHS 10,000 (for equipment, packaging, ingredients, and initial promotion).
- b. Expected revenue per month: GHS 4,000–6,000
- c. Break-even expected within 5–7 months.

10. Sustainability Plan

- a. Zero food waste: unsold snacks donated or turned into animal feed.
- b. Use of compostable packaging and local sourcing to reduce carbon footprint.

Learning Tasks

1. Identify business opportunities in food production that support healthy eating habits and sustainable nutrition.
2. Develop a business concept and a business plan.

Pedagogical Assessment

1. Experiential/Collaborative Learning

In mixed groups, surf the internet and other sources to identify business opportunities in food production that support healthy eating habits and sustainable nutrition. The growing demand for healthy and sustainable food options presents numerous business opportunities in food production.

2. Experiential Learning/Project-Based Learning

Guide learners to individually, identify a business idea to develop a business concept and develop a business plan. In a whole class discussion, use the panel discussion strategy to share their business feedback. Reflect on information received from the feedback to modify your business if necessary. Present your business for peer and teacher assessment.

Values: Discuss the value of love, honesty, truthfulness in the use of additives. Do not use unwholesome ingredients to prepare preserves for sale or consumption.

Key Assessment Level 4: Group Project

Task (40 marks)

In groups of 4-5, create a business plan that promotes healthy eating and sustainable food production in Ghana.

Research nutrient-rich traditional Ghanaian foods like dawadawa or baobab that are not widely used commercially. Create a business plan to turn these into products for urban consumers.

Include information on the following:

- i. What makes these foods nutritious
- ii. How you will source ingredients sustainably
- iii. How you will convince people to buy your products
- iv. Sample packaging and marketing with the emphasis on teaching people about health benefits.

PLC Session 10

45 minutes

Planning & Reviewing the Learning Plan

1. Begin the session by recapping lessons from the previous year/session/week, focusing on how learning was applied.
2. Use your subject specific application to explore the content before planning. Ask the application to
 - a. explain the week's concepts in a practical way that will make it easier for learners to understand
 - b. identify two or three common misconceptions learners may have on the week's content and how to address them using contexts familiar to Ghanaian learners. (NTS 3a, 3g and 3m).
3. Use your subject specific application to plan your lesson. Ask the application to
 - a. suggest the most effective method for teaching the week's concepts to learners with diverse backgrounds.
 - b. suggest learning activities, differentiation and essential questions based on the method of teaching (NTS 3a-3q)
 - c. review your prepared learning plan and address any challenging issues you may have identified in your subject area (NTS 3a-3c).



Note

- Take note of the recap topics linked to Years 1 and 2 while preparing for your lesson.
- Refer to the Values Learning Community Handbook and link the values for the week in your lesson to ensure that learners are applying what they learn.

4. Plan the week's key assessment with your app
 - a. The key assessment for the week is **group project**. Chat with your application to plan this assessment, indicating what you and your learners will do before, during and after the project (NTS 3k-3q).

10 minutes

Content Exploration

5. As a subject group, select one problem or idea/term in the week's content that is challenging (not a routine procedural question, but one that requires conceptual understanding) and then
 - a. use the app, ask it to solve the problem step by step and explain the reasoning behind each step (you may be assisted by a teacher who is strong in the content area)
 - b. all teachers in the group work through a similar problem individually for 3–4 minutes
 - c. the group then works through the problem together step by step
 - d. highlight the most common errors made at each step and discuss (NTS 1c, 1e, 2c, 2e, 3e-3j).



Note

- This part is not just about ‘How do I teach this?’ but how do I teach it for learners to understand?
- If the group still shares the same content gap, use the app: ask it to solve the problem step by step and explain the reasoning behind each step.
- Problems/ideas discussed should be sourced from the Teacher Manual content, not invented separately. This keeps the content exploration directly connected to what teachers will deliver.

30 minutes

Enactment

6. Enact a teaching activity based on your learning plan (NTS 1a-1b, 1e-1g, 2c, 2e, 2f, 3c-3j and 3o).
 - a. Colleagues observe with specific attention to clarity of concept explanation, use of familiar Ghanaian examples and how misconceptions are handled if they arise.
 - b. After the enactment, ask for structured feedback from the group
 - i. was the concept explained in a way that a learner with no prior knowledge could follow?
 - ii. were the examples grounded in contexts familiar to Ghanaian learners?
 - iii. did any misconceptions surface and if so, how were they addressed?

5 minutes

Reflection

7. Reflect and share your views on the session. One thing that worked well, what did not work well and what you will do differently. (NTS 1a, 1b).
8. Identify a critical friend to observe and provide feedback on your lesson in relation to the PLC Session conducted (NTS 1f, 1g).
9. Remember to
 - a. transfer your chats into your learning planner template.
 - b. read your Teacher Manual and related Learner Material in preparation for the next session. Take note of the recap weeks, which are linked to Years 1 and 2 (NTS 3a).
 - c. integrate National Values, GESI, SEL, and 21st century skills into your learning activities, assessment tasks, and rubrics/mark schemes.

WEEK 11: DEVELOP, PACKAGE AND MARKET A NUTRITIOUS FOOD PRODUCT THAT ALIGNS WITH CONSUMER HEALTH NEEDS AND INDUSTRY STANDARDS

Learning Indicator: Develop, package and market a nutritious food product that aligns with consumer health needs and industry standards

Focal Area: Develop, package and market a nutritious food product

1. Product Development

- a. Formulate a recipe using healthy, local ingredients (e.g., oats, moringa, millet).
- b. Ensure the product is high in nutrients and free from artificial additives.
- c. Conduct taste tests with peers and nutritional evaluations (if possible).

2. Packaging

- a. Select eco-friendly and safe packaging materials (e.g., biodegradable wrappers, reusable containers).
- b. Design the packaging to be attractive, informative, and compliant with labelling regulations (e.g., include nutrition facts, expiry date, ingredients).
- c. Ensure the packaging protects the food from contamination and preserves freshness.

3. Marketing

- a. Identify your target customers (e.g., students, health-conscious individuals).
- b. Develop promotional strategies (e.g., social media ads, school sampling, word-of-mouth).
- c. Communicate your product's benefits clearly: natural, nutritious, affordable, and eco-friendly.
- d. Create brand identity and promotional materials like posters, flyers or social media posts.

4. Follow Food Safety and Industry Standards

- a. Maintain hygiene during preparation and packaging.
- b. Ensure compliance with local food laws and Ghana Food and Drugs Authority (FDA) standards.
- c. Keep records for traceability (batch numbers, production dates, etc.).

5. Break-even Analysis

Break-even analysis is a financial tool used to determine the point at which a business's total revenue equals its total costs. At this point, the business is not making a profit or a loss.

Understanding the break-even point helps in setting sales targets, pricing strategies, and making informed decisions. Key Components of break-even analysis:

i. Identifying Cost Components

Costs are generally divided into two main types:

- **Fixed Costs:** These are costs that do not change with the level of production or sales. *Examples:* Rent, equipment, license, salaries of permanent staff.
- **Variable Costs:** These costs change depending on the quantity of products made or sold. *Examples:* Cost of raw materials (like oats, moringa), packaging, labour for production, transport, fuel.

ii. Break-even Point Calculation

Example: A small-scale kenkey producer in Accra, Madam Naa Adjeley, who wants to understand how many balls of kenkey she needs to sell to cover her costs.

Breakdown of costs

Fixed Costs (per month): These costs remain the same regardless of how much kenkey she produces.

Rent for her small production space: GH¢500

Electricity (average): GH¢200

Business registration and licenses (monthly equivalent): GH¢50

Her own basic salary: GH¢800

Total Fixed Costs = GH¢1550

Variable Costs (per ball of kenkey): These costs increase with each ball of kenkey she makes.

Maize: GH¢0.80

Corn husks: GH¢0.10

Labour (for wrapping): GH¢0.20

Stirring: GH¢0.05

Transportation to market (per ball equivalent): GH¢0.15

Total Variable Cost per ball = GH¢1.30

Selling Price: Madam Naa Adjeley sells each ball of kenkey for **GH¢3.00**.

Now, let's calculate the break-even point in units (number of kenkey balls)

The formula for break-even point in units is:

Break-Even Point (Units) = $\frac{\text{Total Fixed Costs}}{\text{Selling Price} - \text{Variable Cost per Unit}}$

Working in Madam Naa Adjeley figures:

Break-Even Point (Units) = $\frac{\text{GH¢1550}}{\text{GH¢3.00} - \text{GH¢1.30}}$

Break-Even Point (Units) = $\frac{\text{GH¢1550}}{\text{GH¢1.70}}$

Break-Even Point (Units) ≈ 911.7 Units

Since Madam Naa Adjeley cannot sell fractions of kenkey balls, she needs to sell **approximately 912 balls of kenkey per month** to cover all her fixed and variable costs. At this point, she will neither make a profit nor a loss.

We can also calculate the break-even point in sales revenue

The formula for break-even point in sales revenue is:

Break-Even Point (Revenue)=Break-Even Point (Units)×Selling Price

Break-Even Point (Revenue)=912×GH¢3.00

Break-Even Point (Revenue)=GH¢2736

Therefore, Madam Naa needs to generate **GH¢ 2736 in revenue per month** to break even.

• Understanding the Analysis

If Madam Naa sells fewer than 912 balls of kenkey, she will make a loss.

If she sells more than 912 balls, she will start making a profit. For each additional ball sold above the break-even point, she will make a profit of GH¢ 1.70 (Selling Price - Variable Cost per Unit), which is her **contribution margin per unit**.

• How this helps Madam Naa

- **Pricing Decisions:** If her break-even point seems too high, she might consider slightly increasing her selling price (if the market allows) to lower the number of units she needs to sell to break even.
- **Cost Management:** She can analyse her costs to see if there are any areas where she can reduce fixed costs (e.g., negotiating rent) or variable costs (e.g., sourcing cheaper maize without compromising quality).
- **Sales Targets:** This analysis helps her set realistic sales targets to achieve profitability. She now knows the minimum number of kenkey balls she needs to sell just to cover her expenses.
- **Business Viability:** If the break-even point is significantly higher than her current or expected sales, it might indicate that her business model needs adjustments to become viable in the Ghanaian market.

6. Evaluating Business Performance

Once the business starts operating, evaluate performance by comparing:

a. Actual units vs. break even units

If units produced exceed break-even unit, the business is making profit

b. Actual sales vs. break-even sales

If sales exceed the break-even point, the business is making a profit.

c. Profit margins

Check if the profits are growing and sustainable.

d. Cost control

Assess whether variable and fixed costs are being managed efficiently.

e. Customer feedback and repeat sales

High customer satisfaction and return buyers indicate good product performance.

7. Recommendations for Improvement

Based on the analysis, the following actions may be recommended:

- a. Adjust pricing or reduce costs to lower the break-even point.
- b. Improve marketing strategies to boost sales.
- c. Innovate packaging or expand product lines to increase value and appeal.
- d. Streamline operations to enhance productivity and profit margins.

Learning Tasks

1. Based on your personal business plan, develop, package and market your food product following quality and safety principles and standards.
2. Conduct the breakeven analysis and evaluate the performance of your businesses.

Pedagogical Exemplars

1. **Experiential Learning/Project-Based Learning:** Practical Activities: Based on your personal business plan, develop, package and market your food product following quality and safety principles and standards.
2. **Experiential/collaborative learning:** In mixed groups, surf the internet and other sources to conduct the breakeven analysis and evaluate the performance of your businesses.

Key Assessment Level 4: Practical

Task 1: Children's Nutrition Solution (50 Marks)

Develop a nutritious snack product targeting school-age children (6-12 years) that addresses specific micronutrient deficiencies common in Ghanaian children. Create child-appealing packaging and a comprehensive marketing campaign that includes parental education. Your submission must include:

- Formulation with nutritional justification
- Child-friendly sensory testing results
- Packaging design meeting both child appeal and parental information needs
- School implementation strategy
- Affordability analysis for different socioeconomic segments

Task 2: (10 Marks)

Madam Afua runs a Kenkey business. She wishes to know if her business is profitable. Using break-even analysis, explain how Madam Afua can tell if her kenkey business is doing well or not.

PLC Session 11

45 minutes

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10 minutes

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SECTION 2 REVIEW

Food packaging plays a vital role in preserving nutritional quality, ensuring hygiene, and maintaining safety. It protects food from contamination, extends shelf life, and helps consumers make informed dietary choices through clear labelling. Sustainable packaging methods, such as biodegradable materials and recyclable containers, reduce waste while enhancing preservation. As global demand for nutritious and eco-friendly food grows, businesses can explore opportunities in organic products, ethical sourcing, and innovative food solutions. Entrepreneurs can tap into plant-based alternatives and zero-waste food businesses to align with consumer health needs. Successful food product development requires careful planning, functional packaging, and strategic marketing. For learners, this knowledge supports effective assessment strategies by encouraging critical thinking, problem-solving, and hands-on application. They can assess packaging methods through product development tasks, and sustainability analyses. Through project-based learning and market research, learners develop the ability to evaluate business opportunities while refining innovative solutions for sustainable nutrition and food preservation.

Teaching and Learning Material

- Print and digital materials
- Visual and interactive tools
- Practical materials and equipment
- Financial calculator / spreadsheet software (Excel, Google Sheets) for real-time calculations
- Whiteboard and markers for drawing cost-volume-profit graphs
- Business simulation software to practice cost analysis in a virtual setup
- Case study scenarios
- Guest Speakers and Industry Visits
- Internet services
- Computers
- Projector
- Videos
- Pictures
- Charts and realia (sample packaged foods)
- Sample food commodities
- Charts
- Posters on food products
- Product labels. etc.

MARKING SCHEMES FOR KEY ASSESSMENTS

WEEK 8

Task 1

Criteria	Excellent (4 marks)	Very Good (3 marks)	Satisfactory (2 marks)	Needs Improvement (1 mark)
Understanding of Packaging Roles	Clearly explains how packaging helps preserve nutrients and prevent contamination, e.g., how metal cans protect tomatoes from light or how vacuum-sealed plastic reduces oxygen exposure.	Shows general understanding, e.g., mentions plastic keeps food fresh but may not explain how it affects nutrients or safety in depth.	States that packaging “protects food” without clear connection to nutrients or safety, e.g., “paper is good for food” without detail.	Shows confusion or vague ideas, e.g., “plastic is bad” without reasoning or reference to safety/nutrition.
Analysis of Packaging Types	Analyzes all three materials: e.g., plastic may leach chemicals into fatty foods, cans prevent spoilage but may cause metallic taste, paper is eco-friendly but less protective.	Discusses two types clearly, e.g., compares plastic and metal but omits or barely mentions paper/cardboard.	Focuses mostly on one type, e.g., Limited to references about plastic only and its effect on food.	Gives very minimal or incorrect info, e.g., says “paper is healthiest” with no context.
Explanation of Impact on Nutrition and Safety	Clearly links packaging material to nutrient quality and safety, e.g., explains how cardboard may allow moisture in, affecting cereal texture, or how BPA in cans can be harmful.	Some link made, e.g., explains that cans help preserve food longer but doesn’t mention nutrients, or plastic may be unsafe but lacks nutrient focus.	Mentions effects but vaguely, e.g., says “plastic spoils food” without linking to specific nutrients or pathogens.	No real explanation may say “metal is safe” without reasoning.
Use of Relevant Examples	Gives accurate and specific examples, e.g., milk in paper cartons, beans in cans, salads in plastic containers.	Gives relevant but less varied examples, e.g., mentions canned tomatoes and plastic water bottles.	Gives one or two broad or partially relevant examples, e.g., “meat in plastic” without clarity.	No examples or completely off-topic, e.g., talks about “fast food wrappers” without analysis.

Task 2

Criteria	Excellent (4 marks)	Very Good (3 marks)	Satisfactory (2 marks)	Needs Improvement (1 mark)
Understanding of Food Labelling	Demonstrates thorough understanding of food labelling and its purpose, e.g., explains that it informs consumers about ingredients, allergens, and nutrient content.	Shows clear understanding with minor omissions, e.g., identifies purpose of labels but may overlook specific components like daily value percentages.	Basic understanding, e.g., mentions labels are for “knowing what is in the food” but lacks detail or accuracy.	Limited or unclear understanding, e.g., believes food labelling is only for branding or decoration.
Evaluation of Influence on Consumer Health	Provides deep and insightful evaluation, e.g., discusses how allergy information can prevent severe reactions or how fat/sugar content helps manage chronic conditions like diabetes.	Adequate evaluation, e.g., mentions that labels help with “eating healthy” or “avoiding too much sugar.”	Limited evaluation, e.g., says “labels are good for health” without clear explanation.	Little or no evaluation, e.g., does not mention health impacts or gives unrelated ideas.
Evaluation of Influence on Decision-Making	Clearly analyses how food labels guide informed choices, e.g., explains how calorie counts or ingredient lists affect product comparisons and purchases.	Makes some clear points, e.g., says “people use labels to choose healthy food” but lacks detail.	Superficial explanation, e.g., “labels help in buying” without clarification.	Poor or no explanation of influence on decision-making.
Use of Key Label Components	Effectively integrates and explains multiple label components, e.g., nutrition facts, expiry date, allergen warnings, and ingredient lists.	Refers to several components, e.g., mentions nutrition info and expiry date, with some explanation.	Mentions components without detail, e.g., “ingredients” or “date.”	Minimal or incorrect reference, e.g., refers to brand or logo as key content.

Use of Examples	Provides specific and relevant examples, e.g., explains how a person with lactose intolerance checks for milk in ingredient list.	Gives some examples, e.g., reading sugar content before buying a drink.	Examples are vague or limited, e.g., “checking labels on food.”	No examples or off-topic ones, e.g., advertising slogans.
Organization and Clarity	Well-structured essay, e.g., logical flow from label explanation to impact, with clear transitions.	Clear structure with minor lapses, e.g., small repetition or unclear link between health and decision-making.	Some organization, ideas may be jumbled or loosely connected.	Poor structure; lacks coherence or clear language.
Critical Thinking & Insight	Shows strong reasoning and original thought, e.g., explores how misleading labels may confuse consumers or influence poor decisions.	Some analysis, e.g., discusses pros and cons of relying on labels.	Basic reasoning, mostly descriptive, e.g., describes what labels do without deeper analysis.	Lacks analysis or insight; simply states facts without interpretation.

WEEK 9 (Focal Area 1)

Criteria	Excellent (5 marks)	Good (4 marks)	Satisfactory (3 marks)	Fair (2–1 marks)
Analysis of Environmental Impact	Thorough evaluation of how eco-friendly packaging reduces waste, pollution, and conserves resources, e.g., explains how biodegradable plastics reduce landfill buildup and ocean pollution.	Clear discussion with supporting details, e.g., mentions biodegradable material (compostable packaging) reducing waste, but may miss broader implications.	Some mention made of sustainability, e.g., identifies paper as better than plastic but lacks reasons.	Weak or vague explanation, e.g., simply states “eco-friendly is better for nature without citing examples.”
Impact on Consumer Health	Strong discussion on health benefits, e.g., discusses how chemical free packaging avoids hormone disruption,	Provides relevant analysis, e.g., mentions health benefits of non-toxic materials but lacks deeper explanation.	Basic mention, e.g., says “safe for health” without specifics.	Minimal or incorrect, e.g., believes eco-packaging is only about the environment.

	or how natural materials prevent food contamination.			
Innovative Packaging Solutions	Proposes three well-justified solutions, e.g., seaweed-based edible wrappers, mushroom-based containers, and recycled banana leaves for dry goods.	Suggests three ideas, e.g., biodegradable bags, plant-based bottles, recycled cardboard, with limited explanation.	Limited examples, e.g., reused plastic and paper, without justification.	Minimal or vague ideas, e.g., “use better packaging.”
Logical flow	Well-structured essay, e.g., clear intro, organised body with transitions, and conclusion linking eco-packaging to long-term benefits.	Mostly organised, e.g., points are clear but transitions may be weak.	Some structure, e.g., ideas appear disconnected.	Disorganised, e.g., jumps between ideas without coherence.
Critical Thinking & Depth of Analysis	Strong analytical thinking, e.g., connects reduced microplastic use to improved ecosystem health and lower human consumption of toxins.	Some analysis, e.g., identifies links between packaging and health/environment but lacks depth.	Basic analysis, e.g., descriptive statements about packaging.	Superficial, e.g., restates facts with no reflection or connections.

Focal Area 2

Criteria	Excellent (4 marks)	Very Good (3 marks)	Satisfactory (2 marks)	Needs Improvement (1 mark)
Material Selection & Analysis	Identifies biodegradable material available in Ghana, providing a strong evaluation of their suitability for packaging shito. E.g., Calabash shell for outer packaging, beeswax as internal liner, banana fibre lid; explains heat resistance, sealability, and non-reactivity with oil-based sauces.	Identifies biodegradable materials with reasonable justification for their use as packaging. E.g., Calabash and beeswax mentioned, with general comment on biodegradability.	Lists biodegradable material with a basic analysis of their use as packaging which lacks depth. E.g., Just lists calabash or leaves without explanation.	Limited or unclear identification of biodegradable material. E.g., Mentions “natural container” without specifying type or properties.

Preservation & Shelf-Life Extension	Provides a detailed scientific analysis of how packaging improves shelf life without refrigeration, using scientific reasoning and examples. E.g., Beeswax lining acts as moisture and oxygen barrier, reducing oxidation and microbial growth; explains how cool, dark calabash environment mimics natural refrigeration.	Explains preservation benefits and discusses shelf-life extension with relevant points but lacks depth in explanation. E.g., Mentions that beeswax helps preserve freshness but doesn't explain how.	Mentions preservation factors but with minimal scientific explanation, evidence or clarity. E.g., just states that "it keeps shito fresh" without explaining how materials achieve this.	Minimal or no discussion on preservation mechanisms and how packaging maintains shito's freshness. E.g., No mention of preservation beyond "package helps store shito."
Implementation Strategies for Local Producers	Develops a detailed plan for how local producers can adopt the packaging, addressing cost, accessibility, and ease of use. E.g., Farmers and artisans can source calabash and banana fibre locally; beeswax from bee farms; recommends simple lining and sealing process suitable for home-based shito makers.	Presents a reasonable strategy but lacks in-depth analysis of feasibility for producers. E.g., Mentions "materials are local" but doesn't outline access or production methods.	Mentions implementation ideas but with limited real-world application. E.g., Says "shito sellers can use it" without cost or sourcing considerations.	Minimal or no discussion on how producers can use the packaging solution. E.g., Vague idea like "people can try it."
Environmental & Economic Impact	Evaluates how the package reduces environmental harm while remaining cost-effective for vendors and consumers. E.g., All materials are biodegradable;	Discusses environmental and economic impact but lacks detailed analysis. E.g., Says "eco-friendly and cheap" without elaborating	Shows a basic understanding but without deeper evaluation of benefits. E.g., Mentions "good for environment" without	Minimal or no connection between packaging, environmental sustainability, and cost-effectiveness. E.g., Statement

	avoids plastics; materials are low-cost and reusable, reducing long-term expenses for small-scale producers.	on long-term benefits.	connecting to cost or vendor benefit.	like “eco-friendly is better” with no details.
Design Proposal	Well-organised, visually appealing design proposal with clear illustrations and structured content explaining key points effectively. E.g., Labeled sketch of calabash container, beeswax layer, banana fibre lid; neatly formatted write-up with bullet points.	Design proposal is well-presented but lacks depth in visual clarity or organisation. E.g., Basic diagram provided but not labeled or clearly explained.	Design proposal presents basic ideas but with unclear visuals or limited structure. E.g., Text-only description or rough sketch without labels.	Design proposal lacks clarity, organisation, or meaningful representation. E.g., Unstructured or incomplete work with no visuals.

WEEK 10 (Focal Area 1)

Criteria	Excellent (4 points)	Good (3 points)	Satisfactory (2 points)	Needs Improvement (1 point)
Health Impact	Strong evidence of promoting balanced diets and nutritional benefits (e.g., fortification, feeding programs)	Some initiatives for improving health but limited scope	Minimal contribution to health and nutrition	No clear health benefits identified
Environmental Responsibility	Actively reduces waste, promotes sustainability, and uses eco-friendly production methods (e.g., biodegradable packaging, ethical sourcing)	Some sustainability efforts but lacks comprehensive strategies	Limited focus on environmental impact	No clear sustainability measures identified

Economic Contribution	Generates substantial employment and boosts national revenue (e.g., food exports, processing businesses)	Provides jobs and contributes to the economy at a moderate level	Limited job creation and minimal national impact	No significant contribution to economic growth
Alignment with SDGs	Strong, well-documented support for SDG 2 and SDG 12 through impactful projects	Alignment with SDG goals mentioned with some initiatives listed	Limited support for SDGs with few practical examples	Mentions SDGs briefly with no clear or practical examples.

Focal Area 2

Criteria	Description of Expectations	Marks
Nutritional Value Analysis	– Identification of traditional Ghanaian foods (e.g., dawadawa, baobab) (2 marks) – Accurate explanation of nutritional components and why they are healthy (6 marks)	8
Sustainable Sourcing Plan	– Identification of sustainable sourcing methods (4 marks) – Explanation of how sourcing minimises environmental/social impact (4 marks)	8
Consumer Appeal & Persuasion Strategy	– Understanding urban consumer needs/preferences (2 marks) – Creative, realistic methods to attract consumers (6 marks)	8
Packaging and Health-Focused Marketing Plan	– Sample packaging idea (3 marks) – Educational marketing content (5 marks)	8
Overall Structure, Feasibility, and Team Collaboration	– Logical business plan structure (2 marks) – Feasibility and realism of the plan (3 marks) – Evidence of teamwork and shared contribution (3 marks)	8

WEEK 11

Task 1

Criteria	Description of Expectations	Marks
Formulation with Nutritional Justification	– Clear identification of at least one key micronutrient deficiency (e.g., iron, vitamin A, iodine) (2 marks) – Selection of appropriate ingredients to address deficiencies (4 marks) – Scientific and culturally relevant justification of nutritional benefits (4 marks)	10

Child-Friendly Sensory Testing Results	- Description of method used for sensory testing with children (2 marks) - Inclusion of results or feedback showing product acceptability (taste, texture, etc.) (4 marks) - Integration of feedback into product refinement (4 marks)	10
Packaging Design (Child Appeal & Parental Info)	- Visually appealing to children (colors, characters, fun layout) (4 marks) - Includes clear, accurate, and persuasive information for parents (e.g., health benefits, ingredients) (6 marks)	10
School Implementation Strategy	- Practical plan for distribution through schools (e.g., school feeding programs, School canteens/ snack bar) (5 marks) - Consideration of logistical aspects and stakeholder engagement (5 marks)	10
Affordability Analysis	- Cost breakdown of production and pricing strategy (4 marks) - Consideration of accessibility across different income levels (6 marks)	10

Task 2

Criteria	Description of Expectations (with Examples)	Marks
Understanding of Break-even Analysis	- Correctly defines the break-even point as the stage where total revenue equals total cost. Example: "Break-even is when Madam Afua's sales equal the amount she spent to make the kenkey."	2
Application to Madam Afua's Business	- Shows how Madam Naa Adjeley can calculate or identify her break-even point. - Mentions relevant fixed and variable costs in the kenkey business. Example: "If her daily cost is GHS 80 and she sells kenkey at GHS 4 each, she must sell 20 to break even."	3
Assessment of Business Performance	- Explains how performance above break-even means profit. - Explains how performance below break-even means loss. Example: "If she sells 30 kenkey balls, she is making a profit; if only 15, she is losing money."	3
Logical Explanation and Clarity	- Provides logical reasoning that clearly links break-even analysis to assessing if the business is doing well. Example: "By comparing her sales to the break-even point, Madam Naa Adjeley can know if she's running a profitable business or not."	2

SECTION 3: CONFECTIONERY PRODUCTS

STRAND 2: **FOOD PRODUCTION**

Sub – Strand 1: **Food Production Technology.**

Weeks 12,13 &14

Learning Outcome: Apply creative and innovative principles and skills in sugar craft to decorate a variety of confectionery products.

Content Standard: *Demonstrate knowledge and understanding of sugars and apply creative and innovative sugar craft techniques to enhance the appearance and quality of confectionery products.*

Weeks 15,16 & 17

Learning Outcome: Apply scientific principles to develop and modify recipes that enhance nutritional value, sensory appeal and overall food quality.

Content Standard: *Demonstrate knowledge, understanding and skills in the application of scientific principles in developing recipes.*

INTRODUCTION AND SECTION SUMMARY

This section begins with sub strand two - Food technology in year three. Learners are expected to exhibit a combination of creativity, technical skills, and scientific understanding in food production and sugar craft. They should demonstrate innovative thinking in confectionery decoration, applying artistic techniques to enhance visual appeal. Additionally, they must showcase problem-solving abilities by modifying recipes to improve nutritional value, sensory appeal, and food quality. A strong grasp of scientific principles will enable learners to analyse ingredients, experiment with formulation, and adapt recipes based on health standards. Learners should also exhibit practical skills in product development, packaging, and marketing, ensuring that food products align with consumer needs and industry expectations. Beyond technical competencies, learners are to exhibit teamwork, critical thinking, and attention to detail, all of which contribute to successful food creation and presentation. By integrating these abilities, they can contribute to sustainable food solutions and innovative culinary practices that promote healthier eating habits.

The weeks and the indicators covered by the section are:

Week 12: Discuss the types, properties and functions of sugars/sweetener in food production and sugar craft.

Week 13-14: Demonstrate the application of creative and innovative sugar craft techniques to design and decorate confectionery products.

Week 15: Explain the scientific principles involved in recipe development.

Week 16-17: Develop and modify recipes using scientific principles to improve taste, texture, nutritional content and presentation.

SUMMARY OF PEDAGOGICAL EXEMPLARS

The teacher should use varied pedagogical strategies important to the lesson to make it more learner centred. The use of group work (considering ability, mixed-ability, mixed-gender, mixed-cultural and friendship groupings), structured talk for learning and problem-based learning approaches, which consider the use of samples food packaging, charts, videos, posters etc., on suitable packaging methods and marketing nutritious food products. The learner is required to understand suitable packaging methods and entrepreneurial skills. The adoption of experiential learning approaches, where students are assigned to watch audio-descriptive videos, could also be considered. The teacher should ensure active participation of learners with special education needs (SEN) in the delivery of the lesson to promote an inclusive education classroom environment. The teacher should also incorporate GESI (Gender Equality and Social Inclusion), SEL (Social and Emotional Learning), 21st Century skills, Core National Values and ICT (Information, Communication and Technology) in the lesson delivery and differentiation strategies to address the varied learning requirements of all learners, being mindful that learners cannot always accomplish the same task. Particular attention should be paid to learners with special educational needs, making relevant accommodation to ensure their full participation in all activities. To support teachers with their approach to differentiation, this manual sometimes refers to learners as Approaching Proficiency (AP), Proficient (P) and those working at a High level of Proficiency (HP).

ASSESSMENT SUMMARY

To create a learner-centred approach to sugar craft and food production, teachers should employ varied pedagogical strategies that encourage collaboration, creativity, and critical thinking. Group work should be structured to include mixed-ability, mixed-gender, and diverse cultural backgrounds, promoting inclusivity and peer learning. Problem-based learning can be integrated through demonstrations, and structured discussions, using samples of sugars, sweeteners, charts, videos, and posters to illustrate sugar craft techniques and recipe modification. Experiential learning, such as video analysis and hands-on recipe development, enhances understanding of scientific principles in food production. The teacher should ensure active participation of learners with special education needs (SEN) in the delivery of the lesson to promote an inclusive education classroom environment. The teacher should incorporate GESI, SEL, 21st-century skills, Core National Values, and ICT in lesson delivery, ensuring differentiated instruction that accommodates varied learning needs. Special attention should be given to learners with unique requirements, adapting tasks accordingly. Differentiation strategies may classify learners as Approaching Proficiency (AP), Proficient (P), or High Proficiency (HP), ensuring equitable participation in all activities.

Indicators	DOK Level	Assessment Strategy and/or Mode
Discuss the types, properties and functions of sugars/sweetener in food production and sugar craft.	4	Semester Examination
Demonstrate the application of creative and innovative sugar craft techniques to design and decorate confectionery products.	4	Practical work
Explain the scientific principles involved in recipe development.	4	Individual project
Develop and modify recipes using scientific principles to improve taste, texture, nutritional content and presentation.	4	Practical

WEEK 12: DISCUSS THE TYPES, PROPERTIES AND FUNCTIONS OF SUGARS/SWEETENER IN FOOD PRODUCTION AND SUGAR CRAFT

Learning Indicator: Discuss the types, properties and functions of sugars/sweetener in food production and sugar craft

Focal Area: The types, properties and functions of sugars/sweetener in food production and sugar craft



Figure 3.1: *Icing sugar*



Figure 3.2: *granulated sugar*



Figure 3.3: *Cube sugar*



Figure 3.4: *liquid sugar(honey)*



Figure 3.5: *Liquid sugar (mollases) in a glass bowl*

1. Concept of Sugars and Sweeteners

Sugars and sweeteners are substances used to add sweetness to food and drinks. They may be naturally occurring or artificial, and are used widely in food production, preservation, and culinary practices to enhance flavour, texture, and shelf life.

Sugars

Sugars are a type of carbohydrate that provides energy for the body. They occur naturally in foods like fruits, vegetables, and milk, but are also added to many processed foods.

Types of Sugars

i. Natural Sugars

- Glucose: Found in carbohydrates, fruits and some vegetables.
- Fructose: Found in honey and fruits.
- Lactose: Found in milk.
- Sucrose: Common table sugar, derived from sugarcane or sugar beets.

ii. Refined Sugars

- Granulated sugar (white or brown)
- Castor sugar (fine-textured)
- Icing sugar (powdered form)
- Molasses and treacle (by-products of sugar refining)

2. Sweeteners

Sweeteners are alternatives to sugar used to sweeten foods and beverages. They can be natural or artificial, and many offer sweetness without the calories of sugar.

Types of Sweeteners

i. Natural Sweeteners

- Honey
- Maple syrup
- Agave nectar
- Dates syrup or powder
- Stevia (plant-based, calorie-free)

ii. Artificial/Low-Calorie Sweeteners

- Aspartame
- Saccharin
- Sucralose
- Acesulfame potassium (Ace-K)

3. Functions of Sugars and Sweeteners in Food

- a. Provide sweetness and improve taste
- b. Add bulk and contribute to texture (especially in baked goods)
- c. Act as preservatives in jams and jellies
- d. Support fermentation in bread-making
- e. Supports browning and caramelisation
- f. Offer low-calorie options for people managing weight or diabetes (in the case of sweeteners)

4. Types, Properties, and Functions of Sugars/Sweeteners in Food Production and Sugar Craft

a. Types of Sugars

Sugars and sweeteners are classified based on their physical form and source. They are used in various food products and sugar craft techniques such as icing, moulding, glazing, and decorating.

i. Granulated Sugars

- Castor Sugar (White): Fine texture; dissolves quickly.
- Demerara Sugar (Brown): Coarse, golden crystals; adds texture and flavour.
- Stevia (natural sweetener): Plant-based, zero-calorie alternative.

ii. Cube Sugars

- White Cube Sugar: Compressed granulated sugar, used for tea and coffee.
- Brown Cube Sugar: Similar to demerara, with molasses content for flavour.

iii. Liquid Sugars

- Honey: Natural, aromatic sweetener with antibacterial properties.
- Molasses: Thick, dark syrup; rich in iron and minerals.
- Maple Syrup: Made from maple tree sap; commonly used for glazing.
- Agave Nectar: Sweeter than sugar, with a low chance of increasing blood glucose levels.
- Dates Syrup: Natural alternative with high potassium and fibre.
- Glucose Syrup: Common in sugar craft for elasticity and shine.

iv. Powdered Sugars

- Icing Sugar: Finely ground, ideal for dusting, icing, and royal icing.
- Date Powder: Ground dried dates; natural and nutrient-rich.
- Powdered Glucose: Used in professional sugar art for structure.

b. Properties of Sugars/Sweeteners

- Solubility: Easily dissolves in water and other liquids.
- Sweetness Intensity: Varies—stevia is much sweeter than granulated sugar.
- Caramelisation: Sugars brown on heating, adding colour and flavour.
- Hygroscopicity: Ability to absorb moisture; important for baked goods.
- Crystallisation: Affects texture in sweets and confectionery.
- Preservative Ability: High sugar concentrations inhibit microbial growth.

c. Functions in Food Production and Sugar Craft

- Sweetening: Enhances the palatability of foods and drinks.
- Texture Improvement: Adds crispness, chewiness or smoothness (e.g., in cakes or candies).
- Colour Development: Through caramelisation or Maillard reactions in baking and roasting.
- Fermentation Aid: Provides food for yeast in bread-making.
- Preservation: Extends shelf life in jams and syrups.
- Decoration and Aesthetic Appeal: In sugar flowers, pastillage, pulled sugar, and fondant.
- Moisture Retention: Maintains softness in cakes and muffins.

d. Exploring the Effects of Heat on Sugar

When sugar is exposed to heat, it undergoes a series of physical and chemical changes. These changes depend on the type of heat applied—moist heat or dry heat—and they influence the texture, flavour, colour, and function of sugar in food preparation and sugar craft.

i. Effects of Moist Heat on Sugar

Moist heat involves heating sugar in the presence of water or steam. This process leads to the formation of syrups and various sugar-based products.

- **Syrup Formation:** When sugar is dissolved in water and heated, it forms a syrup. The thickness or consistency of the syrup depends on the sugar-to-water ratio and cooking time. Syrups are used in jams, candies, glazes, and desserts.
- **Golden Syrup:** Continuous heating of sugar syrup with acid or enzymes results in the breakdown of sucrose into glucose and fructose, forming golden syrup. It is smooth, amber-coloured, and used in baking and confectionery.
- **Caramelisation (with moisture):** As syrup continues to heat and water evaporates, sugar darkens and thickens, developing a rich caramel flavour and colour.
- **Treacle (Molasses):** Further heating and concentration of sugar syrup produce dark treacle or molasses, which has a strong, slightly bitter taste and is used in baking and sauces.

ii. Effects of Dry Heat on Sugar

Dry heat involves heating sugar without water. This method leads to direct caramelisation, a process where sugar melts and breaks down into new compounds.

- **Melting:** At around 160°C, dry sugar melts into a clear liquid.
- **Caramel Formation:** As the temperature increases (above 170°C), the melted sugar darkens and thickens, forming caramel. Caramel is used in desserts, sauces, and decorations.
- **Treacle/Molasses:** If heating continues, caramel becomes even darker and bitter, eventually turning into a thick, dark liquid like treacle. Overheating may burn the sugar, producing a bitter taste and blackened mass.

Learning Tasks

1. Identify different types of sugars/sweeteners commonly used in your households or community. Share ideas on:

- a. What forms the sugars come in (granulated, cube, liquid, powdered)
- b. Their uses in daily cooking and special food crafts
- c. Which sweeteners are healthier alternatives and why

Guiding Questions

- Which sugars are best for baking, icing, or preserving?
- What are the health benefits and risks associated with each type?
- How do different sugars affect the texture and taste of food?

Pedagogical Exemplars

1. **Problem based learning:** In mixed groups, brainstorm on the various types of sugars/ sweeteners used in everyday life.

E.g.,

- a. Granulated: Castor (white), demerara (brown), stevia.
- b. Cubes: Castor (white), demerara (brown),
- c. Liquid: Honey, molasses, maple syrup, agave nectar, dates syrup, glucose syrup,
- d. Powder: Icing sugar, date powder, glucose

2. **Experiential/project-based learning:** In mixed groups, explore the effects of heat on sugar.

E.g.,

- a. Moist heat – syrup – golden syrup – caramel – treacle.
- b. Dry heat – caramel – treacle.

3. **Group work/ Collaborative learning:** In mixed groups:

- a. Discuss the uses of sugars and sweeteners.
- b. Describe the effects of heat on sugar.

Note: Stress the values of honesty, love, truthfulness by not using saccharin instead of sugar in making bread.

Key Assessment: Practice Paper 1

Hint



Conduct **Practice Paper 1**. It should cover contents taught from Year 1 to 3. Refer to the **Table of Specification and Structure of the Paper** at the end of this section to guide you. Learners' papers should be marked immediately and scores entered into the SAP.

PRACTICE PAPER ONE

ITEM OF SPECIFICATION

				D O K LEVELS				
S/N	SUB-STRAND	LEARNING INDICATORS	Types of questions	1	2	3	4	Total
1.	Sub-Strand: Food for Healthy Living	Explain basic concepts in food and nutrition and their implication to healthy living.	MCQs	1				1
			ESSAY					
2.	Sub-Strand: Food for Healthy Living	Classify food commodities under the various food groups to enhance food selection and utilisation.	MCQs		1			1
			ESSAY					
3.	Sub-Strand: Food for Healthy Living	Analyse ways convenience foods can be processed and used to promote healthy nutritional practice in households.	MCQs	1				1
			ESSAY					
4.	Sub-Strand: Food for Healthy Living	Analyse the effect of heat on the nutritional values of the various food commodities.	MCQs			1		1
			ESSAY					
5.	Sub-Strand: Food for Healthy Living	Identify food nutrients and their effects on growth and development in the body.	MCQs		1			1
			ESSAY					
6.	Sub-Strand: Food for Healthy Living	Discuss the effects of nutrients deficiencies on growth and development of the individual, family and society. Discuss food habits/ lifestyles and their implications on nutritional status of individual's families and societies.	MCQs					
			ESSAY			1		1
7.	Sub-Strand: Food for Healthy Living	Analyse factors that influence food habits/ lifestyles practices in daily nutrition.	MCQs		1			1
			ESSAY					

8.	Sub-Strand: Food Security	Explain the concepts of food security and the implications of its components in everyday living.	MCQs			1		1
			ESSAY					
9.	Sub-Strand: Food Security	Analyse the factors influencing food security at the household and national levels.	MCQs					
			ESSAY			1		1
10.	Strand: Nutrition and Health Sub-Strand: Food Security	Discuss the causes of food spoilage and their implications to food safety.	MCQs		1			1
			ESSAY					
11.	Sub-Strand: Food Security	Evaluate the factors that affect the planning and layout of food laboratories.	MCQ'S			1		1
			ESSAY					
12.	Sub-Strand: Food Security	Discuss ways of ensuring hygiene in the food laboratory.	MCQ'S		1			1
			ESSAY					
13.	Sub – Strand 1: Food Production Technology	Discuss the types of beverages and their uses.	MCQ'S	1				1
			ESSAY					
14.	Sub – Strand 1: Food Production Technology	Conduct experiments to produce non-alcoholic beverages using local food commodities to promote healthy living.	MCQ'S			1		1
			ESSAY					
15.	Sub – Strand 1: Food Production Technology	Explain the importance of consuming a balanced diet for maintaining good health.	MCQ'S		1			1
			ESSAY					
16.	Sub – Strand 1: Food Production Technology	Explain basic concepts of food and nutritional interventions. Examine household and community-based food and nutritional interventions supporting individuals, families and societies.	MCQ'S	1				1
			ESSAY					

17.	Sub – Strand 1: Food Production Technology	Apply basic research skills to assess the impact and challenges of household-based and community-based food and nutritional interventions.	MCQ'S					
			ESSAY			1		1
18.	SUB – STRAND 2: FOOD PROCESSING TECHNIQUES	Demonstrate appropriate cooking methods that help retain nutrients in food to promote healthy living.	MCQ'S		1			1
			ESSAY					
19.	SUB – STRAND 2: FOOD PROCESSING TECHNIQUES	Prepare and serve balanced meals that meet the dietary needs of individuals and special groups in the family.	MCQ'S	1				1
			ESSAY					
20.	SUB – STRAND 2: FOOD PROCESSING TECHNIQUES	Apply proper serving techniques and table-setting skills suitable for different individuals and special groups, ensuring meal presentation is hygienic and appealing.	MCQ'S					
			ESSAY		1			1
21.	SUB – STRAND 2: FOOD PROCESSING TECHNIQUES	Describe the principles of food preservation and how they help maintain food quality and safety	MCQ'S		1			1
			ESSAY					
22.	SUB – STRAND 2: FOOD PROCESSING TECHNIQUES	Describe the various food preservation methods and their effectiveness in extending food shelf life	MCQ'S			1		1
			ESSAY					
23.	SUB – STRAND 2: FOOD PROCESSING TECHNIQUES	Differentiate between various food preservation methods such as drying, freezing, fermentation and canning.	MCQ'S	1				1
			ESSAY					
24.	SUB – STRAND 2: FOOD PROCESSING TECHNIQUES	Demonstrate the application of appropriate food preservation methods to support sustainable food security at the household and community levels.	MCQ'S			1		1
			ESSAY					

25.	SUB-STRAND 1: FOOD FOR HEALTHY LIVING	Store preserved food under suitable conditions to maintain quality and safety.	MCQ'S		1			1
			ESSAY					
26.	Strand 2.1 NUTRITION AND HEALTH Sub-Strand 1: Food Production Technology	Discuss the various methods of food preparation and processing that apply principles of heat transfer.	MCQ'S			1		1
			ESSAY					
27.	STRAND 2: FOOD PRODUCTION Sub-Strand 1: Food Production Technology	Relate the various principles of heat transfer to different methods of food preparation and processing.	MCQ'S	1				1
			ESSAY					
28.	STRAND 2: FOOD PRODUCTION Sub-Strand 1: Food Production Technology	Analyse the challenges of applying the various heat transfer principles in food preparation and processing.	MCQ'S			1		1
			ESSAY					
29.	STRAND2: Food Production Sub Strand2: Food Processing techniques	Conduct experiments to develop natural colours from natural food sources.	MCQ'S		1			1
			ESSAY					
30.	STRAND2: Food Production Sub Strand2: Food Processing techniques	Discuss the basic ingredients used in flour cookery.	MCQ'S		1			1
			ESSAY					
31.	STRAND2: Food Production Sub Strand2: Food Processing techniques	Apply appropriate techniques to improve the texture and nutritional value of flour-based products. through enrichment and modification.	MCQ'S		1			1
			ESSAY					

32.	Strand: Nutrition and Health Sub-Strand: Food for Healthy Living	Describe major Ghanaian festivals and their associated traditional foods.	MCQ'S		1			1
			ESSAY					
33.	Strand: Nutrition and Health Sub-Strand: Food for Healthy Living	Analyse the role of traditional foods in promoting sustainable nutrition and their impact on healthy living.	MCQ'S	1				1
			ESSAY					
34.	Strand: Nutrition and Health Sub-Strand: Food for Healthy Living	Analyse how traditional festive meals can be modified for improved health benefits and sustainability.	MCQ'S			1		1
			ESSAY					
35.	Strand: Nutrition and Health Sub-Strand: Food for Healthy Living	Examine the social and communal benefits of festive and festivals dishes in strengthening relationships and enhancing overall well-being.	MCQ'S		1			1
			ESSAY					
36.	Strand: Nutrition and Health Sub-Strand: Food for Healthy Living	Plan festive and festivals meals suitable for various occasions / events.	MCQ'S					
			ESSAY		1			1
37.	Strand: Nutrition and Health Sub-Strand: Food for Healthy Living	Apply appropriate eco-friendly packaging methods to enhance food preservation and minimize waste.	MCQ'S	1				1
			ESSAY					
38.	Strand: Nutrition and Health Sub-Strand: Food for Healthy Living	Identify business opportunities in food production that support healthy eating habits and sustainable nutrition.	MCQ'S		1			1
			ESSAY					

39.	Strand 1: Nutrition and Health Sub–Strand 2: Food Security	Develop, package and market a nutritious food product that aligns with consumer health needs and industry standards.	MCQ'S					
			ESSAY		1			1
40.	Strand 2: Food Production Sub – Strand 1: Food production Technology	Discuss the types, properties and functions of sugars/sweetener in food production and sugar craft	MCQ'S			1		1
			ESSAY					
41.	Strand 2: Food Production	Demonstrate the application of creative and innovative sugar craft techniques to design and decorate confectionery products.	MCQ'S	1				1
	Sub – Strand 1: Food production Technology		ESSAY					
42.	Strand 2: Food Production Sub – Strand 1: Food production Technology		MCQ'S		1			1
	Strand 2: Food Production Sub – Strand 1: Food production Technology		ESSAY					
43.	Strand 2: Food Production Sub – Strand 1: Food production Technology	Explain the scientific principles involved in recipe development.	MCQ'S					
			ESSAY					
			PRACTICAL				1	1
44.	Strand 2: Food Production Sub – Strand 2: Food processing Techniques	Plan and organise a food exhibition or bazaar to showcase newly developed food products to target consumers.	MCQ'S			1		1
			ESSAY					
45.	Strand 2: Food Production Sub – Strand 2: Food processing Techniques	Apply marketing and promotional strategies to attract consumers and enhance the visibility of food products.	MCQ'S		1			1
			ESSAY					

46.	Strand 2: Food Production Sub – Strand 2: Food processing Techniques	Explore to identify career opportunities in the food industry.	MCQ'S	1				1
			ESSAY					
		TOTAL		12	20	14	1	47

PLC Session 12**45 minutes****Planning & Reviewing the Learning Plan**

1. Begin the session by recapping lessons from the previous session, focusing on how learning was applied.
2. Use your subject specific application to explore the content before planning. Ask the application to
 - a. explain the week's concepts in a practical way that will make it easier for learners to understand.
 - b. identify three common misconceptions learners may have on the week's content and how to address them using contexts familiar to Ghanaian learners (NTS 3a, 3g and 3m).
3. Use your subject specific application to plan your lesson. Ask the application to
 - a. suggest the most effective method for teaching the week's concepts to learners with diverse backgrounds.
 - b. suggest learning activities, differentiation and essential questions based on the method of teaching (NTS 3a-3q).
 - c. review your prepared learning plan and address any challenging issues you may have identified in your subject area (NTS 3a-3c).

**Note**

- Take note of the recap topics linked to Years 1 and 2 while preparing for your lesson.
- Refer to the Values Learning Community Handbook and link the values for the week in your lesson to ensure that learners are applying what they learn.

4. Use your application to plan and administer the mode of assessment for the Student Assessment Portal (SAP)
 - a. The key assessment for the week is ***practice paper 1***. Chat with your application to plan this assessment by reviewing or developing the assessment items/tasks and marking schemes/rubrics for the practice paper (NTS 3k-3q).

10 minutes**Content Exploration**

5. As a subject group, select one problem or topic/idea/term in the week's content that is challenging (not a routine procedural question, but one that requires conceptual understanding) and then
 - a. use the app, ask it to solve the problem step by step and explain the reasoning behind each step (you may be assisted by a teacher who is strong in the content area)
 - b. all teachers in the group work through the problem individually for 3–4 minutes
 - c. the group then works through it together the problem, step by step
 - d. highlight the most common errors made at each step (NTS 1c, 1e, 2c, 2e, 3e-3j).

**Note**

- This part is not 'How do I teach this?' but how do I teach it for learners to understand?
- If the group still shares the same content gap, use the app: ask it to solve the problem step by step and explain the reasoning behind each step.
- Problems/ideas discussed should be sourced from the Teacher Manual content, not invented separately. This keeps the content exploration directly connected to what teachers will deliver.

30 minutes**Enactment**

6. Enact a teaching activity based on your learning plan (NTS 1a-1b, 1e-1g, 2c, 2e, 2f, 3c-3j and 3o).
 - a. Colleagues observe with specific attention to clarity of concept explanation, use of familiar Ghanaian examples and how misconceptions are handled if they arise.
 - b. After the enactment, ask for structured feedback from the group
 - i. was the concept explained in a way that a learner with no prior knowledge could follow?
 - ii. were the examples grounded in contexts familiar to Ghanaian learners?
 - iii. did any misconceptions surface and if so, how were they addressed?

5 minutes**Reflection**

7. Reflect and share your views on the session. One thing that worked well, what did not work well and what you will do differently. (NTS 1a, 1b).
8. Identify a critical friend to observe and provide feedback on your lesson in relation to the PLC Session conducted (NTS 1f, 1g).

9. Remember to

- a. transfer your chats into your learning planner template.
- b. read your Teacher Manual and related Learner Material in preparation for the next session. Take note of the recap weeks, which are linked to Years 1 and 2 (NTS 3a).
- c. integrate National Values, GESI, SEL, and 21st century skills into your learning activities, assessment tasks, and rubrics/mark schemes.

WEEK 13: DEMONSTRATE THE APPLICATION OF CREATIVE AND INNOVATIVE SUGAR CRAFT TECHNIQUES

Learning Indicator: Demonstrate the application of creative and innovative sugar craft techniques to design and decorate confectionery products

Focal Area: Innovative Sugar Craft for Artistic Confectionery Design

Sugar craft is a vital pastry skill that enables bakers and artists to create beautifully designed, edible masterpieces. By applying creative and innovative techniques, confectionery products achieve both artistic excellence and functional quality. Icing plays an important role in decorating and enhancing the appearance, texture, and flavour of cakes, pastries, and other confectionery items. Each type of icing has unique properties suitable for different purposes in sugar craft.



Figure 3.1: *A decorated cake*



Figure 3.2: *artistic confectionery design*

1. Types of Icing and Their Uses

a. Sugar Paste (Fondant)



Figure 3.3: *fondant icing*

i. Description: A smooth, pliable icing made from sugar, glucose, and gelatin. It can be rolled out and draped over cakes.

ii. Uses

- Ideal for covering wedding and celebration cakes for a polished, professional look.
- Used in modelling to create edible decorations like flowers, bows, and figures.
- Provides a firm surface that is easy to decorate with edible paints and dusts.

b. Butter Icing (Buttercream)



Figure 3.4: *butter icing on cake*

i. Description: Made by creaming butter with icing sugar. Flavours and colours can be added.

ii. Uses

- Popular for filling and covering cakes and cupcakes.
- Easily piped into different shapes and patterns for borders, flowers, and swirls.
- Soft and creamy texture, suitable for children's cakes and casual events.

c. Royal Icing



Figure 3.5 royal icing on cake

i. Description: A hard-drying icing made from egg whites (or meringue powder) and icing sugar.

ii. Uses:

- Used for intricate piping work such as lace patterns, writing, and borders.
- Ideal for creating 3D decorations, such as flowers and runout (flooded) designs.

- Commonly used to decorate Christmas cakes and biscuits.
- Excellent for building structures like gingerbread houses due to its stiffness when dry.

d. Glacé Icing



Figure 3.6: *glace icing on cake*

- Description:** A simple mixture of icing sugar and a small amount of water or fruit juice.
- Uses**
 - Commonly used to glaze buns, cookies, and simple cakes.
 - Provides a smooth, shiny surface that can be coloured or flavoured.
 - Dries quickly and is ideal for basic decorating needs.

e. Whipped Cream Icing



Figure 3.7: *whipping cream on cake*

- Description:** Light and airy icing made by whipping cream with sugar and stabilisers.
- Uses:**
 - Perfect for fresh cream cakes and desserts like trifles and eclairs.
 - Adds a soft and light texture to cakes and pastries.
 - Needs refrigeration and is best used for short-term decorations.

2. Step-by-Step Process for decorating a flour baked product

- a. Formation of Groups & Theme Selection
 - i. Assign students to groups ensuring diversity.
 - ii. Each group selects an occasion (e.g., weddings, birthdays, festivals).
 - iii. Research decoration trends related to the selected occasion.
- b. Preparation of Different Types of Icing
 - i. Groups prepare buttercream, royal icing, fondant, and glaze icing.
 - ii. Discuss the properties and best uses of each type.
- c. Applying Creative Decorating Skills
 - i. Demonstrate piping techniques, hand-painting, sugar flower modeling, and edible glitter applications.
 - ii. Experiment with color combinations and textures.
 - iii. Encourage innovation by integrating cultural motifs.
- d. Sugar Craft Techniques Demonstration
 - i. Groups practice sugar pulling, gum paste modeling, and 3D sculpting.
 - ii. Explore structured designs like tiered cakes and advanced detailing.
- e. Appraisal & Presentation
 - i. Groups present their decorated products, explaining techniques used.
 - ii. Evaluation based on creativity, craftsmanship, occasion relevance, and teamwork.

Learning Tasks

1. Discuss the various types of icing and their uses in sugar craft.
2. Explore the various ways of creatively decorating flour products and report during class discussion.
3. Prepare different types of icing and apply creative skills to decorate flour products for different occasions/functions for appraisal.

NOTE: *The practical work for this should be on decorating flour products with fondant, butter icing and royal icing.*

Pedagogical Exemplars

1. **Problem based learning:** In mixed groups, discuss the various types of icing and their uses in sugar craft.

E.g.,

- a. Sugar paste (fondant)
- b. Butter

- c. Royal
 - d. Glace
 - e. Whipped cream
2. **Experiential learning:** In mixed groups, visit cake decorating shops/surf the internet/watch videos/view pictures to explore the various ways of creatively decorating flour products and report during class discussion.
 3. **Group work/ Collaborative learning:** In mixed groups, prepare different types of icing and apply creative skills to decorate flour products for different occasions/functions for appraisal.

Key Assessment Level 4: Practical Work

Task (50 Marks)

You have been invited to participate in a national cake decorating competition in Ghana, where the theme is “Celebrating Our Culture.” Choose one Ghanaian festival (e.g., Odwira, Damba, Hogbetsotso) and design a confectionery product (e.g., cake or cupcake set) that reflects the cultural elements of that festival.

PLC Session 13

45 minutes

Planning & Reviewing the Learning Plan

1. Begin the session by recapping lessons from the previous year/session/week, focusing on how learning was applied.
2. Use your subject specific application to explore the content before planning. Ask the application to
 - a. explain the week’s concepts in a practical way that will make it easier for learners to understand
 - b. identify two or three common misconceptions learners may have on the week’s content and how to address them using contexts familiar to Ghanaian learners. (NTS 3a, 3g and 3m).
3. Use your subject specific application to plan your lesson. Ask the application to
 - a. suggest the most effective method for teaching the week’s concepts to learners with diverse backgrounds.
 - b. suggest learning activities, differentiation and essential questions based on the method of teaching (NTS 3a-3q)
 - c. review your prepared learning plan and address any challenging issues you may have identified in your subject area (NTS 3a-3c).



Note

- Take note of the recap topics linked to Years 1 and 2 while preparing for your lesson.
- Refer to the Values Learning Community Handbook and link the values for the week in your lesson to ensure that learners are applying what they learn.

4. Plan the week's key assessment with your app

- a. The key assessment for the week is **practical work**. Chat with your application to plan this assessment, indicating what you and your learners will do before, during and after the practical work (NTS 3k-3q).

10 minutes**Content Exploration**

5. As a subject group, select one problem or idea/term in the week's content that is challenging (not a routine procedural question, but one that requires conceptual understanding) and then

- a. use the app, ask it to solve the problem step by step and explain the reasoning behind each step (you may be assisted by a teacher who is strong in the content area)
- b. all teachers in the group work through a similar problem individually for 3–4 minutes
- c. the group then works through the problem together step by step
- d. highlight the most common errors made at each step and discuss (NTS 1c, 1e, 2c, 2e, 3e-3j).

**Note**

- This part is not just about 'How do I teach this?' but how do I teach it for learners to understand?
- If the group still shares the same content gap, use the app: ask it to solve the problem step by step and explain the reasoning behind each step.
- Problems/ideas discussed should be sourced from the Teacher Manual content, not invented separately. This keeps the content exploration directly connected to what teachers will deliver.

30 minutes**Enactment**

6. Enact a teaching activity based on your learning plan (NTS 1a-1b, 1e-1g, 2c, 2e, 2f, 3c-3j and 3o).

- a. Colleagues observe with specific attention to clarity of concept explanation, use of familiar Ghanaian examples and how misconceptions are handled if they arise.
- b. After the enactment, ask for structured feedback from the group
 - i. was the concept explained in a way that a learner with no prior knowledge could follow?
 - ii. were the examples grounded in contexts familiar to Ghanaian learners?
 - iii. did any misconceptions surface and if so, how were they addressed?

5 minutes**Reflection**

7. Reflect and share your views on the session. One thing that worked well, what did not work well and what you will do differently. (NTS 1a, 1b).

8. Identify a critical friend to observe and provide feedback on your lesson in relation to the PLC Session conducted (NTS 1f, 1g).
9. Remember to
 - a. transfer your chats into your learning planner template.
 - b. read your Teacher Manual and related Learner Material in preparation for the next session. Take note of the recap weeks, which are linked to Years 1 and 2 (NTS 3a).
 - c. integrate National Values, GESI, SEL, and 21st century skills into your learning activities, assessment tasks, and rubrics/mark schemes.

WEEK 14: DEMONSTRATE THE APPLICATION OF CREATIVE AND INNOVATIVE SUGAR CRAFT TECHNIQUES TO DESIGN AND DECORATE CONFECTIONERY PRODUCTS

Learning Indicator: Demonstrate the application of creative and innovative sugar craft techniques to design and decorate confectionery products

Focal Area: Innovative Sugar Craft for Artistic Confectionery Design

Sugar craft is a vital pastry skill that enables bakers and artists to create beautifully designed, edible masterpieces. By applying creative and innovative techniques, confectionery products achieve both artistic excellence and functional quality. Icing plays an important role in decorating and enhancing the appearance, texture, and flavour of cakes, pastries, and other confectionery items. Each type of icing has unique properties suitable for different purposes in sugar craft.

1. Types of Icing and Their Uses

- a. **Sugar Paste (Fondant):** A smooth, flexible icing made from sugar, glucose, and gelatin. It can be rolled out and draped over cakes.

Uses

- Ideal for covering wedding and celebration cakes for a polished, professional look.
- Used in modelling to create edible decorations like flowers, bows, and figures.
- Provides a firm surface that is easy to decorate with edible paints and dusts.

- b. **Butter Icing (Buttercream): Description:** Made by creaming butter with icing sugar. Flavours and colours can be added.

Uses

- Popular for filling and covering cakes and cupcakes.
- Easily piped into different shapes and patterns for borders, flowers, and swirls.
- Soft and creamy texture, suitable for children's cakes and casual events.

- c. **Royal Icing:** A hard-drying icing made from egg whites (or meringue powder) and icing sugar.

Uses

- Used for intricate piping work such as lace patterns, writing, and borders.
- Ideal for creating 3D decorations, such as flowers and runout (flooded) designs.
- Commonly used to decorate Christmas cakes and biscuits.
- Excellent for building structures like gingerbread houses due to its stiffness when dry.

- d. Glacé Icing:** A simple mixture of icing sugar and a small amount of water or fruit juice.

Uses

- Commonly used to glaze buns, cookies, and simple cakes.
- Provides a smooth, shiny surface that can be coloured or flavoured.
- Dries quickly and is ideal for basic decorating needs.

- e. Whipped Cream Icing:** Light and airy icing made by whipping cream with sugar and stabilisers.

Uses

- Perfect for fresh cream cakes and desserts like trifles and eclairs.
- Adds a soft and light texture to cakes and pastries.
- Needs refrigeration and is best used for short-term decorations.

2. Step-by-Step Process to decorate confectionery products using any type of icing.

a. Formation of Groups & Theme Selection

- i. Assign students to groups ensuring diversity.
- ii. Each group selects an occasion (e.g., weddings, birthdays, festivals).
- iii. Research decoration trends related to the selected occasion.

b. Preparation of Different Types of Icing

- i. Groups prepare buttercream, royal icing, fondant, and glaze icing.
- ii. Discuss the properties and best uses of each type.

c. Applying Creative Decorating Skills

- i. Demonstrate piping techniques, hand-painting, sugar flower modeling, and edible glitter applications.
- ii. Experiment with colour combinations and textures.
- iii. Encourage innovation by integrating cultural motifs.

d. Sugar Craft Techniques Demonstration

- i. Groups practice sugar pulling, gum paste modelling, and 3D sculpting.
- ii. Explore structured designs like tiered cakes and advanced detailing.

e. Appraisal & Presentation

- i. Groups present their decorated products, explaining techniques used.
- ii. Evaluation based on creativity, craftsmanship, occasion relevance, and teamwork.

Learning Tasks

1. Discuss the various types of icing and their uses in sugar craft.
2. Explore the various ways of creatively decorating flour products and report during class discussion.
3. Prepare different types of icing and apply creative skills to decorate flour products for different occasions/functions for appraisal.

NOTE: *The practical work for this should be on decorating flour products with glacé and whipped cream.*

Pedagogical Exemplars

1. **Problem based learning:** In mixed groups, discuss the various types of icing and their uses in sugar craft.
E.g.,
a. Glacé
b. Whipped cream
2. **Experiential learning:** In mixed groups, visit cake decorating shops/surf the internet/watch videos/view pictures to explore the various ways of creatively decorating flour products and report during class discussion.
3. **Group work/ Collaborative learning:** In mixed groups, prepare different types of icing and apply creative skills to decorate flour products for different occasions/functions for appraisal.

Key Assessment Level 4: Individual Project Task

Task (50 Marks)

You have been commissioned to design a confectionery centre piece for a traditional Ghanaian engagement ceremony. Your task is to use creative and innovative sugar craft techniques to produce a cake or pastry display that reflects the values associated with Ghanaian traditional marriage customs.

PLC Session 14

45 minutes

Planning & Reviewing the Learning Plan

1. Begin the session by recapping lessons from the previous year/session/week, focusing on how learning was applied.
2. Use your subject specific application to explore the content before planning. Ask the application to
 - a. explain the week's concepts in a practical way that will make it easier for learners to understand
 - b. identify two or three common misconceptions learners may have on the week's content and how to address them using contexts familiar to Ghanaian learners. (NTS 3a, 3g and 3m).

3. Use your subject specific application to plan your lesson. Ask the application to
 - a. suggest the most effective method for teaching the week's concepts to learners with diverse backgrounds.
 - b. suggest learning activities, differentiation and essential questions based on the method of teaching (NTS 3a-3q)
 - c. review your prepared learning plan and address any challenging issues you may have identified in your subject area (NTS 3a-3c).



Note

- Take note of the recap topics linked to Years 1 and 2 while preparing for your lesson.
- Refer to the Values Learning Community Handbook and link the values for the week in your lesson to ensure that learners are applying what they learn.

4. Plan the week's key assessment with your app
 - a. The key assessment for the week is individual project task. Chat with your application to plan this assessment, indicating what you and your learners will do before, during and after the project task (NTS 3k-3q).

10 minutes

Content Exploration

5. As a subject group, select one problem or idea/term in the week's content that is challenging (not a routine procedural question, but one that requires conceptual understanding) and then
 - a. use the app, ask it to solve the problem step by step and explain the reasoning behind each step (you may be assisted by a teacher who is strong in the content area)
 - b. all teachers in the group work through a similar problem individually for 3–4 minutes
 - c. the group then works through the problem together step by step
 - d. highlight the most common errors made at each step and discuss (NTS 1c, 1e, 2c, 2e, 3e-3j).



Note

- This part is not just about 'How do I teach this?' but how do I teach it for learners to understand?
- If the group still shares the same content gap, use the app: ask it to solve the problem step by step and explain the reasoning behind each step.
- Problems/ideas discussed should be sourced from the Teacher Manual content, not invented separately. This keeps the content exploration directly connected to what teachers will deliver.

30 minutes**Enactment**

6. Enact a teaching activity based on your learning plan (NTS 1a-1b, 1e-1g, 2c, 2e, 2f, 3c-3j and 3o).
 - a. Colleagues observe with specific attention to clarity of concept explanation, use of familiar Ghanaian examples and how misconceptions are handled if they arise.
 - b. After the enactment, ask for structured feedback from the group
 - i. was the concept explained in a way that a learner with no prior knowledge could follow?
 - ii. were the examples grounded in contexts familiar to Ghanaian learners?
 - iii. did any misconceptions surface and if so, how were they addressed?

5 minutes**Reflection**

7. Reflect and share your views on the session. One thing that worked well, what did not work well and what you will do differently. (NTS 1a, 1b).
8. Identify a critical friend to observe and provide feedback on your lesson in relation to the PLC Session conducted (NTS 1f, 1g).
9. Remember to
 - a. transfer your chats into your learning planner template.
 - b. read your Teacher Manual and related Learner Material in preparation for the next session. Take note of the recap weeks, which are linked to Years 1 and 2 (NTS 3a).
 - c. integrate National Values, GESI, SEL, and 21st century skills into your learning activities, assessment tasks, and rubrics/mark schemes.

WEEK 15: SCIENTIFIC PRINCIPLES INVOLVED IN RECIPE DEVELOPMENT

Learning Indicator: Explain the scientific principles involved in recipe development

Focal Area: Scientific Principles in Recipe Development

Recipe development is the process of creating meals that are flavourful, balanced, and safe to consume. It involves food science, culinary techniques, and ingredient interactions.

1. Ingredient Interactions in Recipe Development

- a. Protein Interactions – Proteins change structure when heated, affecting texture and taste.
- b. Carbohydrate Interactions – Carbohydrates provide energy and affect texture through gelatinisation (e.g., starch in sauces).
- c. Fat Interactions – Fats enhance flavour, create tenderness, and affect moisture retention in baked goods.
- d. Acid-Base Interactions – Acids and bases influence the colour, texture, and flavour of food (e.g., baking soda in cookies).

2. Cooking Methods and Their Scientific Principles

- a. Moist Heat Cooking – Uses water or steam to cook food, helping break down tough fibres (e.g., boiling and steaming).
- b. Dry Heat Cooking – Uses air, fat, or radiation to cook food, resulting in browning and enhanced flavour (e.g., roasting and frying).
- c. Combination Cooking – Uses both moist and dry heat methods for complex textures and flavours (e.g., braising and stewing).

3. Importance of Recipes

- a. Helps to balance meals
- b. It caters for specific dietary needs of individuals.
- c. Recipes that preserve traditional cooking methods
- d. Recipes that strengthen family bonds
- e. It is for social activities through social gatherings, meals and celebrations
- f. Recipes help to reduce food waste during food preparations,

4. Ethnic recipes from different cultures

- a. Soups
 - i. Light soup : Akan (Ashanti, Fante, Akuapem, Akyem, Kwahu, etc.
 - ii. Groundnut soup : Akan, Ewe, Ga-Dangme, Northern Ghana
 - iii. Palm nut soup : Akan, Nzema, Ga-Dangme
 - iv. Ayoyo soup: Northern Ghana (Dagombas, Frafras, Gonjas), etc.

General types of soups

Type	Description
Clear soups	Made with clear stock (e.g., consommé, broth)
Thick soups	Use thickening agents like flour, cream, or pureed veg.
Cream soups	Thickened with béchamel or cream (e.g., cream of mushroom)
Pureed soups	Made by blending cooked ingredients
Bisques	Creamy soups made from shellfish
Chowders	Thick, chunky soups often with milk/cream and seafood

b. Sauces

- i. Shito (Black Pepper Sauce): Ga-Dangme, Akan, Ewe
- ii. Tomato Sauce: Akan, Ga-Dangme, Ewe, Northern Ghana, Fantes etc.
- iii. Green pepper sauce: for all ethnic groups
- iv. Palava Sauce: Akan, Ewe, etc.

General types of Sauces

Type	Description
Béchamel (white sauce)	Made with butter, flour, and milk
Tomato sauce	Made from cooked tomatoes, onions, herbs
Velouté	Stock-based sauce thickened with a roux
Espagnole (brown sauce)	Made with brown stock, tomato paste, roux
Hollandaise	Emulsion of egg yolk, butter, and lemon juice
Mayonnaise-based sauces	Cold sauces like tartar sauce or aioli
Pesto, salsa, chutney	Herb, tomato, or fruit-based condiments

c. Puddings

- i. Abolo (Steamed Corn Pudding) – Akan (Fantes), Ewe,
- ii. Rice pudding – Akan, Effutu, Ga etc.
- iii. Mashed kenkey (blended kenkey, sugar, milk/peanut) – All ethnic groups

d. Cookies

- i. Atwemo (Traditional Ghanaian Biscuits) – Akan, Ga, etc.
- ii. Ayigbe biscuit (Tapioca cookies) – Ga-Dangme, Ewe
- iii. Gari biscuit (Cassava) – Ewe, Akan, Ga, Fantes, Akuapem, etc.

Note: Puddings and cookies are not typical Ghanaian dishes but adopted. This depends mostly on the ingredients used, the texture, consistency and taste. Try to adopt and prepare local cookies and puddings base on the available ingredients in the locality.

- e. Breakfast cereals
 - i. Tom brown (Roasted Cereal Mix) – Akan, Ga-Dangme, Ewe, Northern Ghana
 - ii. Koko (Fermented Porridge) – Akan, Ewe, Ga-Dangme, Northern Ghana
 - iii. Rice water (Rice Porridge) – Akan, Ga-Dangme, Ewe, Efutu, etc.

Note: People prefer to take a heavy Ghanaian meal such as banku, tuo zaafi, kenkey, etc., as breakfast, depending on one's taste, geographical location, preference and/or nature of work,

Learning Tasks

1. Share experiences on different ethnic recipes.
2. Explain the scientific principles involved in recipe development.
3. Interview class members on ethnic recipes in their community for discussion.

Pedagogical Exemplars

1. **Talk for learning:** In mixed groups, share experiences on different ethnic recipes.
E.g.,
 - a. Soups
 - b. Sauce
 - c. Puddings
 - d. Cookies
 - e. Breakfast cereals, etc.
2. **Group work/ Collaborative learning:** In mixed groups, building on what others say strategy, explain the scientific principles involved in recipe development.
3. **Experiential Learning:** In mixed groups, interview members of the community on ethnic recipes and present reports in class for a whole class discussion about ethnic recipes in Ghanaian communities.

Key Assessment Level 4: Practical

Task 1 (20 Marks)

Design and prepare a nutritious Ghanaian rice-based dish by applying scientific principles of recipe development (e.g., nutrient retention, ingredient interaction, cooking method, and sensory appeal). Document your process and reflect on challenges and modifications that you made as part of the development process

Task 2 (20 Marks)

Select a traditional Ghanaian rice dish and modify it to meet the nutritional needs of a specific group (e.g., children, pregnant women, the elderly, or athletes). Document your process and explain the scientific principles you applied in the modification and how they affect the nutritional quality, texture, taste, and safety of the final product.

PLC Session 15

45 minutes

Planning & Reviewing the Learning Plan

1. Begin the session by recapping lessons from the previous year/session/week, focusing on how learning was applied.
2. Use your subject specific application to explore the content before planning. Ask the application to
 - a. explain the week's concepts in a practical way that will make it easier for learners to understand
 - b. identify two or three common misconceptions learners may have on the week's content and how to address them using contexts familiar to Ghanaian learners. (NTS 3a, 3g and 3m).
3. Use your subject specific application to plan your lesson. Ask the application to
 - a. suggest the most effective method for teaching the week's concepts to learners with diverse backgrounds.
 - b. suggest learning activities, differentiation and essential questions based on the method of teaching (NTS 3a-3q)
 - c. review your prepared learning plan and address any challenging issues you may have identified in your subject area (NTS 3a-3c).



Note

- Take note of the recap topics linked to Years 1 and 2 while preparing for your lesson.
- Refer to the Values Learning Community Handbook and link the values for the week in your lesson to ensure that learners are applying what they learn.

4. Plan the week's key assessment with your app
 - a. The key assessment for the week is **practical**. Chat with your application to plan this assessment, indicating what you and your learners will do before, during and after the practical (NTS 3k-3q).

10 minutes

Content Exploration

5. As a subject group, select one problem or idea/term in the week's content that is challenging (not a routine procedural question, but one that requires conceptual understanding) and then
 - a. use the app, ask it to solve the problem step by step and explain the reasoning behind each step (you may be assisted by a teacher who is strong in the content area)
 - b. all teachers in the group work through a similar problem individually for 3–4 minutes
 - c. the group then works through the problem together step by step
 - d. highlight the most common errors made at each step and discuss (NTS 1c, 1e, 2c, 2e, 3e-3j).



Note

- This part is not just about ‘How do I teach this?’ but how do I teach it for learners to understand?
- If the group still shares the same content gap, use the app: ask it to solve the problem step by step and explain the reasoning behind each step.
- Problems/ideas discussed should be sourced from the Teacher Manual content, not invented separately. This keeps the content exploration directly connected to what teachers will deliver.

30 minutes

Enactment

6. Enact a teaching activity based on your learning plan (NTS 1a-1b, 1e-1g, 2c, 2e, 2f, 3c-3j and 3o).
 - a. Colleagues observe with specific attention to clarity of concept explanation, use of familiar Ghanaian examples and how misconceptions are handled if they arise.
 - b. After the enactment, ask for structured feedback from the group
 - i. was the concept explained in a way that a learner with no prior knowledge could follow?
 - ii. were the examples grounded in contexts familiar to Ghanaian learners?
 - iii. did any misconceptions surface and if so, how were they addressed?

5 minutes

Reflection

7. Reflect and share your views on the session. One thing that worked well, what did not work well and what you will do differently. (NTS 1a, 1b).
8. Identify a critical friend to observe and provide feedback on your lesson in relation to the PLC Session conducted (NTS 1f, 1g).
9. Remember to
 - a. transfer your chats into your learning planner template.
 - b. read your Teacher Manual and related Learner Material in preparation for the next session. Take note of the recap weeks, which are linked to Years 1 and 2 (NTS 3a).
 - c. integrate National Values, GESI, SEL, and 21st century skills into your learning activities, assessment tasks, and rubrics/mark schemes.

WEEK 16 & 17: DEVELOP AND MODIFY RECIPES USING SCIENTIFIC PRINCIPLES TO IMPROVE TASTE, TEXTURE, NUTRITIONAL CONTENT AND PRESENTATION

Learning Indicator: Develop and modify recipes using scientific principles to improve taste, texture, nutritional content and presentation

Focal Area: Application of Food Science in Recipe Development and Modification

Recipe development involves applying food science and culinary techniques to enhance taste, texture, nutrition, and presentation. By understanding ingredient interactions and cooking methods, we can improve existing dishes and even revive extinct ethnic recipes.

An extinct recipe refers to a traditional dish that is no longer commonly prepared, has fallen out of everyday use, or is known only by a few people—often elders—in a community. In Ghana, modernisation, urbanisation, and changes in food preferences have led to the decline of some indigenous dishes. Reasons for Extinction – Changes in eating habits, availability of ingredients, loss of traditional cooking methods. Cultural Impact – losing these recipes affects heritage and identity.

1. Ways to Improve Recipes

- a. Methods of Preparation – Introduce Efficient Techniques While Maintaining Traditional Flavours, enhance safety, consistency, and speed of preparation, Maintain or deepen the cultural and sensory identity of the dish.

Key Strategies

- i. Use modern appliances (e.g., blenders, pressure cookers, air fryers) to reduce manual labour.
- ii. Steaming methods can be used in place of heavy boiling or frying.
- iii. Fermentation shortcuts (e.g., using starter cultures for consistent results).

Example: Instead of pounding cocoyam leaves and melon seeds manually for *Palava Sauce*, use a food processor and pre-roasted melon seed powder while keeping original ingredients intact.

- b. Nutritional Value – Modify Recipes to Meet Modern Health Needs Without Losing Taste: Make traditional dishes healthier (reduce saturated fat, sodium, sugar), use enhance dietary fibre, protein, vitamins, and minerals foods.

Key Strategies

- i. Use brown rice, millet instead of polished white rice.
- ii. Replace red meat with lean protein options (e.g., beans, turkey, tofu, fish).
- iii. Reduce oil by measuring instead of estimating and using healthier oils (e.g., canola, sunflower).

- iv. Add hidden vegetables (e.g., pureed carrots, moringa) to sauces and stews.
- v. Reduce salt by enhancing flavour with herbs and spices.

Example: Modify *Jollof rice* by using brown rice, adding finely chopped vegetables, reducing oil, and serving it with grilled chicken or beans.

- c. Time & Energy Use – Adapt Cooking Methods for Easier, Quicker Preparation: Reduce fuel usage, save time, and support sustainable cooking habits.

Key Strategies

- i. Soak legumes and grains overnight to reduce cooking time.
- ii. Use multi-functional cookware (e.g., pressure cookers, rice cookers, slow cookers).
- iii. Pre-cut or pre-cook ingredients and store them for quicker assembly during cooking.
- iv. Prepare one-pot meals to reduce clean-up and energy usage.

Example: Instead of cooking rice and stew separately, make a nutrient-dense one-pot vegetable fried rice using parboiled rice and pre-steamed vegetables.

- d. Food Presentation – Use Creative Plating Techniques to Enhance Visual Appeal: Improve appetite stimulation and perceived value, appeal to modern expectations without losing traditional identity.

Key Strategies

- v. Use colourful vegetables and garnishes for contrast (e.g., red bell peppers, green herbs).
- vi. Plate using modern plating techniques like stacking or spreading sauces artistically.
- vii. Serve traditional food in innovative containers (e.g., calabash bowls, banana leaves).
- viii. Emphasise portion balance on the plate.

Example: Instead of scooping *rice balls* onto a plate, shape them nicely.

9. Réchauffé

Réchauffé is a French culinary term meaning “reheated.” In cooking, réchauffé dishes refer to meals made from leftovers, creatively transformed into new dishes to avoid waste and add variety.

Rules for Using Réchauffé Dishes

- i. Store leftovers properly to prevent spoilage.
- ii. Reheat safely using appropriate methods.
- iii. Combine with fresh ingredients to enhance flavour and nutrition.
- iv. Adapt new cooking methods to make leftovers appealing.
- v. Avoid overheating to preserve texture and taste.
- vi. Be mindful of storage duration to ensure food safety.

10. Example of modified recipe: Turmeric Vegetable Jollof Rice with Grilled Chicken and Avocado



Figure 3.7: *modified rice dish*

Turmeric is added to the Jollof rice base for its anti-inflammatory and antioxidant properties. It also imparts a subtle earthy flavour and a vibrant golden hue, boosting both nutrition and visual appeal.

a. Ingredients (for 2 people)

- i. 1 cups parboiled or brown rice (washed)
- ii. 2 large tomatoes (blended)
- iii. 1 medium onion (blended or chopped)
- iv. 1 tbsp tomato paste
- v. 1 red bell pepper (blended)
- vi. 1 cloves garlic (minced)
- vii. 1 tsp fresh ginger (grated)
- viii. 1 tsp ground turmeric
- ix. 1 cup carrots (diced)
- x. 1 cup green beans or peas (chopped)
- xi. 1 cup green bell pepper (diced)
- xii. 1 tbsp vegetable oil
- xiii. 1 tsp curry powder
- xiv. 1 tsp thyme
- xv. ¼ black pepper
- xvi. Salt and low-sodium seasoning to taste
- xvii. 1½ cups water or low-sodium chicken broth

b. Preparation – Key Change Highlighted

- i. Heat oil in a pan. Sauté onions, garlic, and ginger until fragrant.
- ii. Add tomato paste and blended tomatoes and pepper. Cook for 10–15 minutes until reduced.

- iii. **Stir in turmeric, curry powder, thyme, salt, and other seasonings.** Let simmer for 2–3 minutes to release flavours.
- iv. Add rice, stir to coat, then pour in broth or water. Cover and simmer on low heat.
- v. When rice is half cooked, stir in carrots, peas/green beans, and bell peppers. Let cook until rice is soft and vegetables are tender.

c. Benefits of Adding Turmeric

Benefit	Explanation
i. Anti-inflammatory	Contains curcumin, known to reduce inflammation in the body
ii. Antioxidant-rich	Helps fight free radicals that cause cell damage
iii. Enhanced colour & aroma	Gives rice a golden colour and warm, earthy undertone
iv. Boosts immunity	Traditionally used in herbal remedies for immune support

Note: Practical work on this focal area should be on the 17th week

Learning Tasks

1. Discuss extinct recipes, reasons for extinction.
2. Discuss methods of improving existing and extinction ethnic recipes.
3. Experiment on how to improve existing and extinction ethnic recipes
4. Demonstrate how to use réchauffé/leftover dishes to create new recipes.
5. Discuss the rules for using réchauffé/ leftover dishes.

Pedagogical Exemplars

1. **Experiential/Problem based learning:** In mixed groups, surf the internet or interview community members to find out extinct recipes, reasons for extinction.
In a whole class discussion present your findings and share your experiences on extinction recipes.
2. **Group work/ Collaborative learning:** In mixed groups, discuss methods of improving existing and extinction ethnic recipes.
3. **Talk for learning/Project base learning:** In mixed groups, experiment on how to improve existing and extinction ethnic recipes and present dishes for appraisal.
4. **Experiential/Problem based learning:** In mixed groups, demonstrate how to use réchauffé/leftover dishes to create new recipes. In mixed groups surf the internet for information to discuss the rules for using réchauffé/ leftover dishes.

Key Assessment Level 4: Practical

Task (20 Marks)

You are tasked to modify a traditional dish of your choice using scientific principles to improve its taste, texture, nutritional content, and presentation.

PLC Session 16 & 17

45 minutes

Planning & Reviewing the Learning Plan

1. Begin the session by recapping lessons from the previous year/session/week, focusing on how learning was applied.
2. Use your subject specific application to explore the content before planning. Ask the application to
 - a. explain the week's concepts in a practical way that will make it easier for learners to understand
 - b. identify two or three common misconceptions learners may have on the week's content and how to address them using contexts familiar to Ghanaian learners. (NTS 3a, 3g and 3m).
3. Use your subject specific application to plan your lesson. Ask the application to
 - a. suggest the most effective method for teaching the week's concepts to learners with diverse backgrounds.
 - b. suggest learning activities, differentiation and essential questions based on the method of teaching (NTS 3a-3q)
 - c. review your prepared learning plan and address any challenging issues you may have identified in your subject area (NTS 3a-3c).



Note

- Take note of the recap topics linked to Years 1 and 2 while preparing for your lesson.
- Refer to the Values Learning Community Handbook and link the values for the week in your lesson to ensure that learners are applying what they learn.

4. Plan the week's key assessment with your app
 - a. The key assessment for the week is **practical**. Chat with your application to plan this assessment, indicating what you and your learners will do before, during and after the practical (NTS 3k-3q).

10 minutes

Content Exploration

5. As a subject group, select one problem or idea/term in the week's content that is challenging (not a routine procedural question, but one that requires conceptual understanding) and then
 - a. use the app, ask it to solve the problem step by step and explain the reasoning behind each step (you may be assisted by a teacher who is strong in the content area)
 - b. all teachers in the group work through a similar problem individually for 3–4 minutes
 - c. the group then works through the problem together step by step
 - d. highlight the most common errors made at each step and discuss (NTS 1c, 1e, 2c, 2e, 3e-3j).



Note

- This part is not just about ‘How do I teach this?’ but how do I teach it for learners to understand?
- If the group still shares the same content gap, use the app: ask it to solve the problem step by step and explain the reasoning behind each step.
- Problems/ideas discussed should be sourced from the Teacher Manual content, not invented separately. This keeps the content exploration directly connected to what teachers will deliver.

30 minutes

Enactment

6. Enact a teaching activity based on your learning plan (NTS 1a-1b, 1e-1g, 2c, 2e, 2f, 3c-3j and 3o).
 - a. Colleagues observe with specific attention to clarity of concept explanation, use of familiar Ghanaian examples and how misconceptions are handled if they arise.
 - b. After the enactment, ask for structured feedback from the group
 - i. was the concept explained in a way that a learner with no prior knowledge could follow?
 - ii. were the examples grounded in contexts familiar to Ghanaian learners?
 - iii. did any misconceptions surface and if so, how were they addressed?

5 minutes

Reflection

7. Reflect and share your views on the session. One thing that worked well, what did not work well and what you will do differently. (NTS 1a, 1b).
8. Identify a critical friend to observe and provide feedback on your lesson in relation to the PLC Session conducted (NTS 1f, 1g).
9. Remember to
 - a. transfer your chats into your learning planner template.
 - b. read your Teacher Manual and related Learner Material in preparation for the next session. Take note of the recap weeks, which are linked to Years 1 and 2 (NTS 3a).
 - c. integrate National Values, GESI, SEL, and 21st century skills into your learning activities, assessment tasks, and rubrics/mark schemes.

SECTION 3 REVIEW

Mastering sugar science, craft techniques, and recipe development provides learners with a strong foundation in culinary innovation. By understanding the properties and functions of sugars and sweeteners, students develop essential knowledge for creating high-quality confections. Creative sugar craft techniques enhance artistic expression and precision, fostering practical skills applicable in professional baking and pastry arts.

Scientific principles in recipe formulation equip learners with analytical thinking and problem-solving abilities, allowing them to optimize taste, texture, and nutritional balance. The ability to modify recipes using science encourages experimentation and adaptability, preparing students for industry demands.

Ultimately, these skills empower learners to blend creativity with technical expertise, enhancing their ability to produce visually stunning, flavourful, and health-conscious confectionery products. This knowledge is invaluable for aspiring chefs, food scientists, and entrepreneurs looking to excel in the culinary field.

Teaching and Learning Materials

- Recipe books, Resource people, Food production units in the community, Pictures, Videos, Computers, Projectors, Mobile phones (if possible), Note pads, etc.

MARKING SCHEMES FOR KEY ASSESSMENTS

WEEK 12 – Practice Paper

WEEK 13

Criteria	Description	Marks
Planning & Organisation (Process)	The learner creates a clear design plan or sketch before decorating. The workflow is logical, with effective time management. The student adapts the plan if needed (problem-solving during execution).	7
Hygiene & Safety (Process)	The learner maintains a clean workspace and follows sanitary practices (clean hands, utensils, and surfaces). Equipment and ingredients are handled safely throughout.	4
Tools & Materials (Process)	The learner selects and uses appropriate tools (e.g. piping bags, cutters, brushes, spatulas) and materials (fondant, gum paste, chocolate, etc.) correctly. Tools are used efficiently and carefully, with minimal waste.	4
Creativity & Innovation	Design is original and inventive. The student applies sugarcraft techniques in novel ways (unique shapes, textures, color schemes) and shows creative problem-solving. For example, the work might feature elaborate sugar flowers.	10
Cultural Relevance	The design incorporates Ghanaian cultural elements meaningfully (e.g. Adinkra symbols, Kente cloth patterns, national colors, festival motifs). The theme and decorations clearly reflect Ghanaian heritage.	8
Technical Skill & Execution	Sugarcraft techniques are applied skillfully: fondant/icing is smooth, piping and modeling are precise, and any sculpted parts are stable. The final product is neat, detailed, and shows high craftsmanship.	10

Final Presentation	The finished confectionery is attractively presented. The overall design is balanced and cohesive, with careful finishing touches (e.g. clean edges, symmetry). The theme is clear and the product would be appealing to an audience.	7
Total		50

WEEK 14

Assessment Criteria	What to Look For	Marks
1. Planning & Concept Development (Process)	– The learner sketches or explains a clear design concept before starting. – Concept aligns with traditional engagement themes (e.g., unity, family, attire). – The workflow is logical, with effective time management. – The learner adapts the plan if needed	7
2. Hygiene and Safety Practices (Process)	– Maintains a clean workspace and follows sanitary practices (clean hands, utensils, and surfaces). – Wears apron/hair covering, washes hands regularly. – Equipment and ingredients are handled safely throughout.	4
3. Appropriate Use of Tools & Materials (Process)	– Selects and uses suitable sugar craft tools/materials (e.g., cutters, molders, piping bags). – Uses tools efficiently and avoids wastage.	4
4. Creativity and Innovation	– Unique interpretation of traditional symbols or attire (e.g., Kente-inspired fondant, bead-like icing details). – Combines techniques creatively. – Adds artistic flair.	10
5. Cultural Relevance	– Design clearly reflects Ghanaian engagement themes (e.g., ring exchange, dowry, traditional wear). – Use of culturally meaningful colors, symbols, or motifs.	8
6. Technical Skill and Execution	– Sugar craft work is precise and neat (e.g., clean piping, smooth fondant, well-formed figures). – Structures (if any) are stable and well-constructed.	10
7. Final Presentation and Display	– Visually appealing and well-finished final product. – Cohesive and balanced design. – Suitable for display at a traditional engagement setting.	7
Total		50

WEEK 15**Task 1**

Assessment Criteria	Description	Marks
Recipe Design & Nutrition	Selection of a culturally appropriate rice dish and effective adaptation for nutritional value (e.g., use of brown rice, vegetables, lean protein, healthy fats).	4
Application of Scientific Principles	Explanation of key food science concepts applied in the recipe (e.g., starch gelatinisation, protein coagulation, effect of heat on nutrients).	5
Step-by-Step Process Documentation	Clear, logical and accurate documentation of preparation and cooking steps. Includes ingredients, method, cooking time, and portioning.	4
Sensory & Functional Analysis	Describes appearance, flavor, aroma, texture and how the scientific methods contributed to these qualities.	3
Structure & Presentation	Well-organised, coherent writing with correct grammar and technical vocabulary. Includes title, headings/subheadings, and proper formatting.	2
Reflection on Challenges & Learning	Includes a thoughtful reflection on challenges faced, adjustments made, and what was learned about food science through the project.	2

Task 2

Assessment Area	Criteria Description	Marks
Relevance of Dish & Target Group	Appropriateness of the chosen rice dish and nutritional relevance to the selected target group (e.g., high iron for pregnant women, high protein for athletes).	4
Scientific Explanation	Demonstrates understanding of food science concepts (e.g., nutrient retention, ingredient functionality, digestion, cooking reactions).	5
Nutritional Modifications	Quality and effectiveness of modifications to improve the dish's nutritional value (e.g., adding legumes, using healthy oils, reducing salt).	4
Impact on Sensory Qualities	Explanation of how the modifications affect taste, texture, aroma, and appearance of the final product.	3
Structure & Clarity of Writing	Project is well-organised, clearly presented with appropriate headings, grammar, and correct use of culinary and scientific terms.	2
Reflection on Process	Includes a personal reflection on challenges, lessons learned, and potential improvements.	2

WEEK 16 & 17

Criteria	Description	Marks Allocation
Scientific Basis (Research & Application)	Evidence of applying scientific principles (e.g., Maillard reaction, emulsification, fermentation) to enhance the dish	4
Taste Improvement	Modification enhances flavour profiles (balance of sweet, sour, salty, bitter); appropriateness of seasoning	4
Texture Enhancement	Demonstrates improved mouthfeel, consistency, and structural integrity of the dish	4
Nutritional Content Enhancement	Shows consideration for balanced nutrients (e.g., reduced unhealthy fats, increased fibre, protein enrichment)	4
Presentation & Creativity	Aesthetic appeal, plating techniques, cultural appropriateness, and overall innovation in dish modification	4

SECTION 4: EXHIBITION AND CAREER OPPORTUNITIES

STRAND 2: **FOOD PRODUCTION**

Sub – Strand 2: **Food processing Techniques**

Learning outcome: Plan, organise and manage food exhibitions and bazaars to be used as marketing strategies to showcase food products. Create entrepreneurial opportunities for engaging consumers and promoting food innovations.

Content Standard: *Demonstrate the ability to plan, organise and manage food exhibitions and bazaars to promote food products and develop entrepreneurial and career opportunities.*

INTRODUCTION AND SECTION SUMMARY

This section equips learners with the skills to plan, organise, and manage food exhibitions or bazaars as effective marketing strategies to showcase innovative food products. Learners will apply promotional techniques to attract target consumers and enhance product visibility while exploring entrepreneurial and career opportunities in the food industry. The unit also emphasises the importance of professionalism and ethical behaviour in food-related workplaces. Through hands-on planning and presentation, learners will develop confidence, creativity, and business acumen needed to succeed in a competitive food market. By the end of the unit, learners are expected to effectively plan food marketing events, apply marketing strategies, identify career paths, and demonstrate strong work ethics. These activities support the development of responsible, entrepreneurial individuals who can contribute to the growth of the food industry and society at large. The focus is on practical application, innovation, and ethical awareness in promoting food products to real consumers.

The weeks and the indicators covered by the section are:

Week 18: Plan and organise a food exhibition or bazaar to showcase newly developed food products to target consumers.

Week 19: Apply marketing and promotional strategies to attract consumers and enhance the visibility of food products.

Week 20: Explore career opportunities in the food industry & discuss work ethics in the food industry.

SUMMARY OF PEDAGOGICAL EXEMPLARS

To make the lesson more learner- centred, teachers should adopt varied pedagogical strategies that actively engage all learners. These include group work based on mixed ability, gender, culture, and friendships to promote inclusion and peer learning. Structured talk for learning, problem-based learning, and experiential strategies—such as watching videos, using charts,

posters and mounting exhibitions—foster critical thinking and hands-on experience in food marketing, packaging, and career awareness. Teachers should integrate visual aids like posters, charts, and product samples to enhance understanding. The teacher should ensure active participation of learners with special education needs (SEN) in the delivery of the lesson to promote an inclusive education classroom environment. The lesson must also incorporate GESI, SEN, SEL, 21st Century Skills, Core National Values, and ICT to ensure all learners, including those with special needs, are fully engaged. Differentiated instruction should address learners' individual needs by recognising them as Approaching Proficiency (AP), Proficient (P), or High Proficiency (HP), offering suitable tasks and support accordingly. This inclusive and flexible approach ensures equitable participation and promotes entrepreneurial, ethical, and professional competencies in the food industry.

ASSESSMENT SUMMARY

Assessment should be varied, continuous, and inclusive to reflect learners' understanding, skills, and participation in planning and managing food exhibitions, exploring food industry careers, and applying ethical and marketing strategies. Teachers should use formative assessments such as observations, group presentations, role plays, peer reviews, and reflective discussions to gauge learner progress. Practical tasks, including mounting food exhibitions and creating promotional materials, provide authentic assessments of applied knowledge and entrepreneurial skills. Concept mapping, report writing, and oral presentations support the assessment of research and critical thinking skills. The teacher should ensure active participation of learners with special education needs (SEN). Assessment methods must be differentiated to cater to learners at different proficiency levels—Approaching Proficiency (AP), Proficient (P), and High Proficiency (HP)—ensuring tasks are suitable and inclusive. Feedback should promote growth, highlight achievements, and guide improvement. Emphasis should be placed on collaboration, innovation, ethics, and the application of 21st-century skills.

Indicators	DOK Level	Assessment Strategy and/or Mode
Plan and organise a food exhibition or bazaar to showcase newly developed food products to target consumers.	4	Practice Paper 2
Apply marketing and promotional strategies to attract consumers and enhance the visibility of food products.	4	Display and exhibition
Explore career opportunities in the food industry & discuss work ethics in the food industry.	4	Group discussion/ MOCK

WEEK 18: PLAN AND ORGANISE A FOOD EXHIBITION OR BAZAAR TO SHOWCASE NEWLY DEVELOPED FOOD PRODUCTS TO TARGET CONSUMERS

Learning Indicator: Plan and organise a food exhibition or bazaar to showcase newly developed food products to target consumers

Focal Area: Food Exhibition and Bazaar Planning



Figure 4.1: Food bazaar

Exhibitions: A food exhibition is an organised event where food businesses, manufacturers, chefs and entrepreneurs showcase their products, innovations and culinary skills to the public. These events provide a platform for networking, brand promotion, product testing and consumer feedback.

Food Bazaar: A food bazaar is a market-like event where various food vendors set up stalls to sell diverse food products, including traditional and modern cuisines, baked goods and beverages. It is a community-centred event designed to encourage entrepreneurship, cultural exchange and food appreciation.

A food exhibition or bazaar serves as a unique platform for businesses, entrepreneurs and consumers to interact, showcasing new food products, culinary innovations, and cultural cuisines. To ensure a successful event, the following steps should be considered:

1. Factors Influencing Exhibition and Bazaar Planning

- a. **Establish Objectives and Purpose:** Before planning, define the event's goals:

- i. Introducing new food products to consumers
- ii. Promoting food businesses and startups
- iii. Encouraging cultural exchange through food
- iv. Providing a space for networking between vendors and consumers
- b. Identify the Target Audience
 - Identify the target audience for the event, including consumers, businesses, chefs, and food industry professionals.
 - Consider specific demographics such as dietary preferences, age groups, and consumer interests when planning the exhibition.
- c. Select a Suitable Venue
 - i. Indoor or outdoor venue based on event type
 - ii. Accessibility, parking, and transportation considerations
 - iii. Availability of necessary facilities (electricity, water, sanitation)
- d. Budgeting and Funding
 - i. Estimating costs for logistics, promotion, permits, and equipment
 - ii. Seeking sponsorships or partnerships to offset expenses
 - iii. Ticketing options (free entry, paid tickets, VIP sections)
- e. Licensing and Permits
 - i. Food safety regulations and health permits
 - ii. Vendor registration and licensing requirements
 - iii. Compliance with local laws regarding food handling and sales
- f. Marketing and Promotion
 - i. Social media campaigns, posters, and flyers
 - ii. Partnerships with influencers, local businesses, and media houses
 - iii. Pre-event promotions through tastings and collaborations
- g. Event Execution and Management
 - i. Setting up the venue with necessary infrastructure
 - ii. Managing crowd flow and ensuring security
 - iii. Coordinating interactive activities like cooking demonstrations, product sampling, and competitions
- h. Post-Event Evaluation
 - i. Gathering feedback from attendees and vendors
 - ii. Analysing sales and engagement statistics
 - iii. Planning future improvements based on lessons learned

2. Types of Exhibitions in the Food Industry

- a. Trade Exhibitions
 - i. Connects suppliers, distributors, and food industry professionals
 - ii. Focused on business networking and B2B interactions
- b. Consumer Food Exhibitions
 - i. Targets the general public
 - ii. Allows consumers to experience new food products firsthand
- c. Product-Specific Exhibitions
 - i. Specialises in particular food sectors, such as organic foods, dairy, or vegan cuisine
- d. Cultural and Ethnic Food Exhibitions
 - i. Highlights traditional and regional cuisines
 - ii. Encourages cultural exchange through food
- e. Culinary Competitions and Food Shows
 - i. Features live cooking competitions and chef showcases
 - ii. Allows food innovators to display their skills

3. Types of Food Bazaars

- a. Street Food Bazaars
 - i. Showcases diverse street food cultures
 - ii. Often held in public spaces with casual seating arrangements
- b. Seasonal and Holiday Food Bazaars
 - i. Organised around festive seasons like Christmas, Easter, or local cultural celebrations
- c. Charity and Fundraising Food Bazaars
 - i. Proceeds go toward social causes and charitable organisations
- d. Themed Food Bazaars
 - i. Focused on specific cuisines, trends, or dietary preferences (e.g., vegan food bazaar)
- e. Health and Wellness Food Bazaars
 - i. Promotes nutritious and wellness-focused food products

4. Importance of Food Exhibitions and Bazaars

Promotes Business Growth and Market Expansion – Helps small businesses gain visibility/connections and grow within the industry.

Encourages Entrepreneurship and Innovation – Provides a platform for new food entrepreneurs to showcase their ideas for customers to be aware.

Enhances Food Safety and Quality Standards – Educates vendors and consumers about industry regulations.

Creates Awareness of Local and Traditional Foods – Preserves cultural heritage by promoting indigenous cuisines.

Boosts Consumer Engagement and Education – Allows attendees to learn about food trends and make informed choices.

Learning Tasks

1. Discuss the concept of exhibitions and food bazaars and their functions in the food industry.
2. Discuss Factors that influence the planning of exhibitions and food bazaars in the food industry.

Pedagogical Exemplars

Problem based learning: In mixed groups, discuss the concept of exhibitions and food bazaars and their functions in the food industry.

Experiential Learning/Group work/ Collaborative learning: In mixed groups observe videos or listen to a guest speaker to:

- Identify the types of exhibitions and food bazaars.
- Discuss factors that influence the planning of exhibitions and food bazaars in the food industry.
- Discuss the importance of exhibitions and food bazaars in the market space.

Key Assessment: Practice Paper II

Hint



Conduct **Practice Paper 2**. It should cover contents taught from Year 1 to 3. Refer to the **Table of Specification and Structure of the Paper** at the end of this section to guide you. Learners' papers should be marked immediately and scores entered into the SAP.

PRACTICE PAPER 2 TABLE OF SPECIFICATION

				DOK LEVELS				
S/N	SUB-STRAND	LEARNING INDICATORS	Types of questions	1	2	3	4	Total
1.	Sub-Strand: Food security	Explain the concept and principles of food storage and their role in preventing food spoilage.	MCQs	1		1		2
			ESSAY					

2.	Sub-Strand: Food security	Demonstrate appropriate food handling, storage and hygiene practices to minimise contamination and ensure food safety.	MCQs		1	1		2
			ESSAY					
3.	Sub-Strand: Food Production Technology	Discuss the concept of food laboratories and their functions in food production.	MCQs	1				1
			ESSAY					
4.	Sub-Strand: Food Production Technology	Discuss the types of kitchen laboratories layout and their implication in food production.	MCQs			1		1
			ESSAY					
5.	Sub-Strand: Food Production Technology	Suggest ways of re-designing/ renovation/ refurbishment of a food laboratory to enhance the functions of various areas within the laboratory.	MCQs		1			1
			ESSAY					
6.	Sub-Strand: Food production Technique	Explain the scientific principles involved in the selection, processing, and preservation of beverages	MCQs	1				1
			ESSAY		1		1	
7.	Sub-Strand: Food production Technique	Analyse how to enrich or fortify beverages to meet the food, nutrition and social needs of individuals, families and society.	MCQs		1			1
			ESSAY					
8.	Sub-Strand: Food production Technique	Evaluate how scientific principles influence alcoholic beverage production using local food commodities.	MCQs			1		1
			ESSAY					
9.	Sub-Strand: Food for healthy living	Identify dietary-related diseases and their causes among individuals, families and the community.	MCQs			1		1
			ESSAY		1		1	
10.	Sub-Strand: Food for healthy living	Analyse the effects of excessive consumption of processed foods and sugary drinks on health.	MCQs		1			1
			ESSAY					

11.	Sub-Strand: Food for healthy living	Develop a meal plan that meets the nutritional needs of different individuals and families.	MCQ'S			1		1
			ESSAY					
12.	Sub-Strand: Food for healthy living	Plan special meals to support groups of individuals suffering from dietary related diseases in the family.	MCQ'S		1			1
			ESSAY					
13.	Sub – Strand 1: Food security	Discuss the different methods of food preparation and processing to promote sustainable food safety practices.	MCQ'S	1				1
			ESSAY					
14.	Sub – Strand 1: Food Production Technique	Distinguish between food additives and condiments used in food production.	MCQ'S			1		1
			ESSAY					
15.	Sub – Strand 1: Food Production Technique	Prepare and package food additives and condiments for food production.	MCQ'S		1			1
			ESSAY					
16.	Sub – Strand 1: Food Production Technique	Explain the scientific principles underlying flour cookery, including gluten formation, gelatinization and leavening.	MCQ'S	1				1
			ESSAY					
17.	Sub – Strand 1: Food Production Technique	Evaluate the quality of different flour products based on texture, appearance and nutritional composition	MCQ'S	1				1
			ESSAY		1		1	
18.	Sub- Strand 2: Food Production Technology	Prepare and cook dishes for festive/festivals/ occasions/events.	MCQ'S		1			1
			ESSAY					
			PRACTICAL			1	1	
19.	Sub- Strand 2: Food Security	Explain the role of food packaging in maintaining nutritional quality, hygiene and food safety. ESSAY	MCQ'S	1				1
			ESSAY					

20.	Sub- Strand 2: Food Production Technology	Develop and modify recipes using scientific principles to improve taste, texture, nutritional content and presentation.	MCQ'S					
			ESSAY	1			1	
21.	Sub- Strand 2: Food Processing Techniques	Discuss work ethics in the food industry	MCQ'S		1			1
			ESSAY					
22.	Sub- Strand 2: Food Security	Describe the various food preservation methods and their effectiveness in extending food shelf life	MCQ'S	1				1
			ESSAY					
23.	Sub- Strand 2: Food Security	Differentiate between various food preservation methods such as drying, freezing, fermentation and canning.	MCQ'S	1				1
			ESSAY					
24.	Sub- Strand 2: Food Security	Demonstrate the application of appropriate food preservation methods to support sustainable food security at the household and community levels.	MCQ'S			1		1
			ESSAY					
25.	Sub- Strand 2: Food Security	Store preserved food under suitable conditions to maintain quality and safety.	MCQ'S		1			1
			ESSAY					
26.	Sub-Strand 1: Food Production Technology	Discuss the various methods of food preparation and processing that apply principles of heat transfer.	MCQ'S			1		1
			ESSAY					
27.	Sub-Strand 1: Food Production Technology	Relate the various principles of heat transfer to different methods of food preparation and processing.	MCQ'S	1				1
			ESSAY					
28.	Sub-Strand 1: Food Production Technology	Analyse the challenges of applying the various heat transfer principles in food preparation and processing.	MCQ'S			1		1
			ESSAY					

29.	STRAND2: Food Production Sub Strand2: Food Processing techniques	Conduct experiments to develop natural colours from natural food sources.	MCQ'S		1			1
			ESSAY					
30.	Sub Strand2: Food Processing techniques	Discuss the basic ingredients used in flour cookery.	MCQ'S		1			1
			ESSAY					
31.	Sub Strand2: Food Processing techniques	Apply appropriate techniques to improve the texture and nutritional value of flour-based products. through enrichment and modification.	MCQ'S		1			1
			ESSAY					
32.	Sub-Strand: Food for Healthy Living	Describe major Ghanaian festivals and their associated traditional foods.	MCQ'S		1			1
			ESSAY					
33.	Sub-Strand: Food for Healthy Living	Analyse the role of traditional foods in promoting sustainable nutrition and their impact on healthy living.	MCQ'S	1				1
			ESSAY					
34.	Sub-Strand: Food for Healthy Living	Analyse how traditional festive meals can be modified for improved health benefits and sustainability.	MCQ'S			1		1
			ESSAY					
35.	Sub-Strand: Food for Healthy Living	Examine the social and communal benefits of festive and festivals dishes in strengthening relationships and enhancing overall well-being.	MCQ'S		1			1
			ESSAY					
36.	Sub-Strand: Food for Healthy Living	Plan festive and festivals meals suitable for various occasions /events.	MCQ'S					
			ESSAY	1			1	

37.	Sub-Strand: Food for Healthy Living	Apply appropriate eco-friendly packaging methods to enhance food preservation and minimize waste.	MCQ'S	1				1
			ESSAY					
38.	Sub-Strand: Food for Healthy Living	Identify business opportunities in food production that support healthy eating habits and sustainable nutrition.	MCQ'S		1			1
			ESSAY					
39.	Sub-Strand 2: Food Security	Develop, package and market a nutritious food product that aligns with consumer health needs and industry standards.	MCQ'S					
			ESSAY	1			1	
40.	Sub – Strand 1: Food production Technology	Discuss the types, properties and functions of sugars/sweetener in food production and sugar craft	MCQ'S		1	1		2
			ESSAY					
		TOTAL		12	19	15	1	47

PLC Session 18**45 minutes****Planning & Reviewing the Learning Plan**

1. Begin the session by recapping lessons from the previous session, focusing on how learning was applied.
2. Use your subject specific application to explore the content before planning. Ask the application to
 - a. explain the week's concepts in a practical way that will make it easier for learners to understand.
 - b. identify three common misconceptions learners may have on the week's content and how to address them using contexts familiar to Ghanaian learners (NTS 3a, 3g and 3m).
3. Use your subject specific application to plan your lesson. Ask the application to
 - a. suggest the most effective method for teaching the week's concepts to learners with diverse backgrounds.
 - b. suggest learning activities, differentiation and essential questions based on the method of teaching (NTS 3a-3q).
 - c. review your prepared learning plan and address any challenging issues you may have identified in your subject area (NTS 3a-3c).



Note

- Take note of the recap topics linked to Years 1 and 2 while preparing for your lesson.
- Refer to the Values Learning Community Handbook and link the values for the week in your lesson to ensure that learners are applying what they learn.

4. Use your application to plan and administer the mode of assessment for the Student Assessment Portal (SAP)
 - a. The key assessment for the week is **practice paper 2**. Chat with your application to plan this assessment by reviewing or developing the assessment items/tasks and marking schemes/rubrics for the practice paper (NTS 3k-3q).

10 minutes

Content Exploration

5. As a subject group, select one problem or topic/idea/term in the week's content that is challenging (not a routine procedural question, but one that requires conceptual understanding) and then
 - a. use the app, ask it to solve the problem step by step and explain the reasoning behind each step (you may be assisted by a teacher who is strong in the content area)
 - b. all teachers in the group work through the problem individually for 3–4 minutes
 - c. the group then works through it together the problem, step by step
 - d. highlight the most common errors made at each step (NTS 1c, 1e, 2c, 2e, 3e-3j).



Note

- This part is not 'How do I teach this?' but how do I teach it for learners to understand?
- If the group still shares the same content gap, use the app: ask it to solve the problem step by step and explain the reasoning behind each step.
- Problems/ideas discussed should be sourced from the Teacher Manual content, not invented separately. This keeps the content exploration directly connected to what teachers will deliver.

30 minutes

Enactment

6. Enact a teaching activity based on your learning plan (NTS 1a-1b, 1e-1g, 2c, 2e, 2f, 3c-3j and 3o).
 - a. Colleagues observe with specific attention to clarity of concept explanation, use of familiar Ghanaian examples and how misconceptions are handled if they arise.
 - b. After the enactment, ask for structured feedback from the group
 - i. was the concept explained in a way that a learner with no prior knowledge could follow?

- ii. were the examples grounded in contexts familiar to Ghanaian learners?
- iii. did any misconceptions surface and if so, how were they addressed?

5 minutes**Reflection**

7. Reflect and share your views on the session. One thing that worked well, what did not work well and what you will do differently. (NTS 1a, 1b).
8. Identify a critical friend to observe and provide feedback on your lesson in relation to the PLC Session conducted (NTS 1f, 1g).
9. Remember to
 - a. transfer your chats into your learning planner template.
 - b. read your Teacher Manual and related Learner Material in preparation for the next session. Take note of the recap weeks, which are linked to Years 1 and 2 (NTS 3a).
 - c. integrate National Values, GESI, SEL, and 21st century skills into your learning activities, assessment tasks, and rubrics/mark schemes.

WEEK 19: APPLY MARKETING AND PROMOTIONAL STRATEGIES TO ATTRACT CONSUMERS AND ENHANCE THE VISIBILITY OF FOOD PRODUCTS

Learning Indicator: Apply marketing and promotional strategies to attract consumers and enhance the visibility of food products

Focal Area: **Marketing and promotion strategies**

Attracting consumers and enhancing the visibility of food products in exhibitions and bazaars requires well-planned marketing and promotional strategies. A combination of digital, in-person, and experiential tactics can create a dynamic and engaging event that maximises consumer interaction and product awareness.

Key Marketing and Promotional Strategies

1. Pre-Event Promotion and Publicity

Before the exhibition or bazaar, it's essential to create excitement and anticipation among potential attendees. Strategies include:

- a. **Social Media Marketing:** Engaging potential consumers through platforms like Facebook, Instagram, and TikTok with teaser posts, countdowns, and behind-the-scenes content.
- b. **Influencer Collaborations:** Partnering with food bloggers or social media influencers to promote the event and food products.
- c. **Press Releases and Local Media:** Publishing articles and advertisements in newspapers, magazines, and radio stations.
- d. **Community Engagement:** Informing local businesses, schools, and organisations through flyers and posters.
- e. **Pre-Event Sampling:** Offering small samples at popular locations to generate interest.

2. Attractive Booth Design and Product Display

A well-designed exhibition booth captures attention and makes consumers eager to engage. Consider:

- a. **Eye-Catching Decorations:** Bright, clear signage, thematic decorations, and branded banners.
- b. **Organised Product Placement:** Displaying food items creatively with accessible labels and descriptions.
- c. **Interactive Features:** Incorporating digital screens with product videos or live cooking demonstrations.
- d. **Customer Engagement Areas:** Designing spaces where attendees can comfortably explore, taste, and purchase products.

3. Sampling and Free Tastings

Nothing attracts consumers like the opportunity to taste products before purchasing. Implement:

- a. **Taste Stations:** Allowing visitors to sample new products.
- b. **Interactive Cooking Demonstrations:** Showcasing ways to prepare and enjoy the food.
- c. **Recipe Cards and Takeaways:** Providing consumers with ideas on how to use the food products in their meals.
- d. **Discount Coupons for Tasted Products:** Encouraging immediate purchases after sampling.

4. Pricing and Discounts

Strategic pricing boosts sales and encourages impulse buying. Consider:

- a. **Exclusive Event Discounts:** Offering special rates only available during the exhibition.
- b. **Bundle Deals:** Packaging multiple products at a reduced price.
- c. **Limited-Time Offers:** Creating urgency with “buy now” promotions.
- d. **Loyalty Incentives:** Offering discounts or coupons for future purchases.

5. Branding and Packaging

Strong branding helps consumers remember the product even after the event. Strategies include:

- a. **Distinctive Packaging:** Designing appealing, eco-friendly packaging that stands out.
- b. **Consistent Brand Messaging:** Using catchy slogans or themes that reinforce the product’s identity.
- c. **Branded Merchandise:** Providing branded dawadawa, prekese, turkey berry etc
- d. **Product Storytelling:** Sharing the history, ingredients, or ethical sourcing of the food products.

Note: learners are to plan and mount a school-based exhibition for their finished food products.

Learning Tasks

1. Write marketing and promotional strategies that can be employed to attract consumers and enhance the visibility of food products in an exhibition or bazaar.
2. Discuss the factors to consider when planning to mount an exhibition of food products.
3. Plan and mount finished food products for exhibition to market and for appraisal.

Pedagogical Exemplars

1. **Group work/ Collaborative learning:** Engage learners to plan and mount a school-based exhibition for their finished food products. Invite the school management, staff and students to the exhibition to provide feedback on learner’s food products and services.
2. **Organise reflection for learners to share their experiences, achievements, challenges and recommendations for the use of exhibitions as a marketing strategy.**

3. **Talk for learning:** In mixed ability/gender/friendly /random groups, think-pair-square-share to discuss the factors to consider when planning to mount an exhibition of food products.
4. **Problem based learning:** In mixed groups, brainstorm/brain write marketing and promotional strategies that can be employed to attract consumers and enhance the visibility of food products in an exhibition or bazaar.
5. **Experiential/Project based learning:** In mixed groups, plan and mount finished food products for exhibition to market and for appraisal.

Key Assessment Level 4: Display and Exhibition

Task (20 marks)

Plan and mount finished food products for exhibition and for appraisal. Develop a marketing strategy to market the food products.

PLC Session 19

45 minutes

Planning & Reviewing the Learning Plan

1. Begin the session by recapping lessons from the previous year/session/week, focusing on how learning was applied.
2. Use your subject specific application to explore the content before planning. Ask the application to
 - a. explain the week's concepts in a practical way that will make it easier for learners to understand
 - b. identify two or three common misconceptions learners may have on the week's content and how to address them using contexts familiar to Ghanaian learners. (NTS 3a, 3g and 3m).
3. Use your subject specific application to plan your lesson. Ask the application to
 - a. suggest the most effective method for teaching the week's concepts to learners with diverse backgrounds.
 - b. suggest learning activities, differentiation and essential questions based on the method of teaching (NTS 3a-3q)
 - c. review your prepared learning plan and address any challenging issues you may have identified in your subject area (NTS 3a-3c).



Note

- Take note of the recap topics linked to Years 1 and 2 while preparing for your lesson.
- Refer to the Values Learning Community Handbook and link the values for the week in your lesson to ensure that learners are applying what they learn.

4. Plan the week's key assessment with your app

- a. The key assessment for the week is **display and exhibition**. Chat with your application to plan this assessment, indicating what you and your learners will do before, during and after the exhibition (NTS 3k-3q).

10 minutes**Content Exploration**

5. As a subject group, select one problem or idea/term in the week's content that is challenging (not a routine procedural question, but one that requires conceptual understanding) and then

- a. use the app, ask it to solve the problem step by step and explain the reasoning behind each step (you may be assisted by a teacher who is strong in the content area)
- b. all teachers in the group work through a similar problem individually for 3–4 minutes
- c. the group then works through the problem together step by step
- d. highlight the most common errors made at each step and discuss (NTS 1c, 1e, 2c, 2e, 3e-3j).

**Note**

- This part is not just about 'How do I teach this?' but how do I teach it for learners to understand?
- If the group still shares the same content gap, use the app: ask it to solve the problem step by step and explain the reasoning behind each step.
- Problems/ideas discussed should be sourced from the Teacher Manual content, not invented separately. This keeps the content exploration directly connected to what teachers will deliver.

30 minutes**Enactment**

6. Enact a teaching activity based on your learning plan (NTS 1a-1b, 1e-1g, 2c, 2e, 2f, 3c-3j and 3o).

- a. Colleagues observe with specific attention to clarity of concept explanation, use of familiar Ghanaian examples and how misconceptions are handled if they arise.
- b. After the enactment, ask for structured feedback from the group
 - i. was the concept explained in a way that a learner with no prior knowledge could follow?
 - ii. were the examples grounded in contexts familiar to Ghanaian learners?
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5 minutes**Reflection**

7. Reflect and share your views on the session. One thing that worked well, what did not work well and what you will do differently. (NTS 1a, 1b).

8. Identify a critical friend to observe and provide feedback on your lesson in relation to the PLC Session conducted (NTS 1f, 1g).
9. Remember to
 - a. transfer your chats into your learning planner template.
 - b. read your Teacher Manual and related Learner Material in preparation for the next session. Take note of the recap weeks, which are linked to Years 1 and 2 (NTS 3a).
 - c. integrate National Values, GESI, SEL, and 21st century skills into your learning activities, assessment tasks, and rubrics/mark schemes.

WEEK 20: EXPLORE CAREER OPPORTUNITIES AND WORK ETHICS IN THE FOOD INDUSTRY

Learning Indicators

1. *Explore career opportunities in the food industry*
2. *Discuss work ethics in the food industry*

Focal Area 1: Career opportunities in the food industry

The food industry offers a wide range of career paths that encompass science, business, entrepreneurship, health, and culinary arts. Exploring these career opportunities helps individuals align their interests and skills with suitable professional roles.

A career is the long-term professional journey of an individual, including education, work experience, and personal development in a specific field.

1. Major Aspects of a Career

- a. Education and Training: Acquiring formal knowledge and skills relevant to the profession.
- b. Work Experience: Practical application of skills in a professional setting.
- c. Career Progression: Advancing within a field through promotions, skill development, and specialization.
- d. Job Satisfaction and Fulfilment: Enjoyment and personal motivation in work-related activities.
- e. Work-Life Balance: Managing work responsibilities alongside personal life.

2. Importance of a Career

A career provides various benefits that contribute to both personal and societal development:

- a. Financial Stability – Earning a consistent income to sustain one's lifestyle.
- b. Personal Growth – Gaining skills, knowledge, and confidence.
- c. Professional Identity – Building a reputation in the industry.
- d. Social Contribution – Positively impacting communities through food innovation, production, and sustainability.
- e. Networking and Opportunities – Creating meaningful connections with industry professionals.

3. Career Development Strategies

To excel in the food industry, individuals should adopt effective career-building approaches:

- a. Setting Clear Career Goals – Establishing short-term and long-term objectives.
- b. Engaging in Lifelong Learning and Skill Development – Continuous education and skill improvement.

- c. Seeking Mentorship and Professional Networking – Learning from experienced professionals.
- d. Adapting to Industry Changes and Technological Advancements – Staying updated on trends and innovations.
- e. Pursuing Leadership Roles and Entrepreneurial Opportunities – Managing teams or launching businesses in food services.

4. **Careers within Food and Nutrition Industry**

a. Education and Training Careers

i. Home Economics teacher

Educates students on practical life skills such as cooking, nutrition, budgeting, and family care.

- Roles: Teach life skills, organize practical sessions, assess student performance.
- Settings: Junior/senior high schools, vocational schools, community programs.
- Skills: Instructional skills, practical teaching, creativity, classroom management.
- Qualifications: Degree in Home Economics or Education; teaching license or certification

ii. Nutrition Educator

Promotes healthy eating and nutrition awareness through education and community outreach.

- Roles: Teach nutrition, conduct workshops, develop materials, support wellness programs.
- Settings: Schools, clinics, NGOs, public health agencies.
- Skills: Nutrition knowledge, communication, cultural sensitivity, teaching.
- Qualifications: Degree in Nutrition or Public Health; experience in education or outreach.

iii. University Professor in Food Science

Teaches food science at the tertiary level and conducts research to advance knowledge in food safety, nutrition, and technology.

- Roles: Deliver lectures, supervise research, publish academic work.
- Settings: Universities, research institutions.
- Skills: Food science expertise, research, academic writing, mentoring.
- Qualifications: Master's or PhD in Food Science; teaching and research experience.

iv. Culinary Instructor

Teaches cooking skills, kitchen safety, and food presentation to students in culinary or vocational settings.

- Roles: Conduct cooking classes, assess students, develop lesson plans.
- Settings: Culinary schools, hospitality institutes, training centres.
- Skills: Culinary expertise, teaching, communication, kitchen management.
- Qualifications: Culinary Arts diploma/degree and teaching certification.



Figure 4.8: *Food and Nutrition teacher*

b. Nutrition and Dietetics Careers

- Dietitian** - A Dietitian is a qualified health professional who uses evidence-based nutrition practices to assess, diagnose, and manage dietary problems. They create personalised meal plans, support patients with diet-related health conditions like hypertension, Cancers, diabetes and promote healthy eating.

Roles: Nutritional planning, dietary management of health conditions, education, and teamwork in clinical settings.

Work Settings: Hospitals, schools, private practices, and the food industry.

Key Skills: Communication, analytical thinking, food science knowledge, and empathy.

Qualification: Bachelor's degree in Dietetics or Nutrition, supervised practice, and professional registration.

- Clinical Nutritionist**- A Clinical Nutritionist focuses on how food affects individual health, especially in managing chronic or acute illnesses. They assess patients, design nutrition care plans, and collaborate with medical professionals to promote recovery and wellness.

Roles: Assess health and nutrition needs, create and monitor dietary plans, and support medical treatment.

Work Settings: Hospitals, rehab centres, wellness clinics, and academic institutions.

Key Skills: Deep knowledge of human metabolism, data interpretation, counselling, and current nutrition science.

Qualification: Degree in Clinical Nutrition/Dietetics, clinical internship, and certification/licensure where needed

- iii. **Public Health Nutritionist** - - A Public Health Nutritionist works to improve community health by designing nutrition programs, conducting assessments, and promoting healthy lifestyles through public education and policy.

Roles: Develop programs, assess nutrition status, collaborate with agencies, and educate communities.

Settings: Government bodies, NGOs, community organizations, and universities.

Skills: Program planning, communication, cultural sensitivity, and research.

Qualifications: Bachelor's or Master's in Public Health Nutrition, field experience, and training in health promotion.

- iv. **Food Safety Auditor**- A Food Safety Auditor ensures food production facilities meet safety standards by conducting inspections, reviewing documentation, identifying hazards, and reporting compliance status.

Roles: Inspect facilities, assess safety systems (e.g., HACCP), recommend improvements, and document findings.

Settings: Food companies, regulatory agencies, certification bodies, and consultancy firms.

Skills: Knowledge of food safety standards, attention to detail, report writing, and integrity.

Qualifications: Degree in Food Science or related field, certified food safety auditor training, and industry experience.



Figure: 4.2: *Nutritionist / Dietitian*

c. Food Science and Technology Careers

i. Food Scientist

A Food Scientist applies science to study food composition and improve processing, preservation, and safety.

- **Roles:** Analyse food, develop new products, ensure quality and safety.
- **Settings:** Labs, manufacturing companies, research institutes.

- Skills: Scientific analysis, innovation, food chemistry.
- Qualification: Degree in Food Science; research/lab experience.

ii. Quality Assurance Analyst

Analyst ensures food products meet safety and quality standards through inspections and testing.

- Roles: Monitor production, test products, maintain records, ensure compliance.
- Settings: Manufacturing facilities, QA labs, regulatory bodies.
- Skills: Attention to detail, food safety knowledge, data analysis.
- Qualification: Degree in Food Science or Microbiology; food safety training.

iii. Product Development Specialist

A Product Development Specialist creates or improves food products based on market needs and nutrition standards.

- Roles: Develop recipes, test ingredients, manage product trials.
- Settings: R&D labs, food companies, start-ups.
- Skills: Creativity, food formulation, project management.
- Qualification: Degree in Food Science or Culinary Science.

iv. Food Technologist

A Food Technologist applies technology to ensure safe and efficient food production with consistent quality.

- Roles: Improve processing, monitor production, troubleshoot issues.
- Settings: Manufacturing plants, processing facilities.
- Skills: Technical knowledge, problem-solving, food law awareness.
- Qualification: Degree in Food Technology or Food Engineering; industrial training.



Figure: 4.3: *Food Scientist*

d. Culinary and Food Service Careers

i. Chef

A Chef prepares meals and manages kitchen operations in restaurants or catering settings.

- Roles: Cook dishes, create menus, lead kitchen staff, maintain hygiene.
- Settings: Restaurants, hotels, catering services.
- Skills: Culinary creativity, time management, leadership.
- Qualifications: Culinary school training or apprenticeship.

ii. Catering Manager

A Catering Manager organizes food service for events, ensuring quality, service, and efficiency.

- Roles: Plan events, manage staff, coordinate menus and logistics.
- Settings: Hotels, catering companies, corporate events.
- Skills: Planning, communication, budgeting, leadership.
- Qualifications: Degree/diploma in Hospitality or Catering; experience in the field.

iii. Restaurant Owner

A Restaurant Owner runs and manages a food business, combining culinary operations with entrepreneurship.

- Roles: Oversee operations, manage staff, handle marketing and finances.
- Settings: Owned or franchised restaurants and cafés.
- Skills: Business management, customer service, marketing.
- Qualifications: Business or hospitality background (optional); experience and capital.

iv. Food Stylist

A Food Stylist arranges food to look appealing for photography, advertisements, or media.

- Roles: Style food, work with photographers and creative teams, select props.
- Settings: Advertising agencies, media, freelance projects.
- Skills: Creativity, attention to detail, visual storytelling.
- Qualifications: Culinary or art background; styling experience and portfolio.



Figure 4.4: *Chef*

e. Research and Development Careers



Figure 4.5: *Food Research Scientist*

i. Food Research Scientist

Conducts scientific studies to improve food quality, safety, and processing methods.

- Roles: Investigate food composition, develop new technologies, enhance food safety.
- Settings: Research institutions, universities, food labs.
- Skills: Scientific research, lab techniques, data analysis.
- Qualifications: Degree in Food Science or related field; research experience or advanced study.

ii. Flavour Chemist

- Designs and develops flavour compounds for food and beverages using chemistry and sensory analysis.
- Roles: Create flavour formulations, test taste and aroma, support product development.
- Settings: Flavour labs, food companies, ingredient manufacturers.
- Skills: Chemistry, creativity, sensory evaluation.
- Qualifications: Degree in Chemistry or Food Science; specialized flavour training.

iii. Consumer Insights Analyst

Analyses consumer behaviour and preferences to guide food product development and marketing.

- Roles: Conduct surveys, interpret market data, advise development teams.
- Settings: Food companies, market research firms, brand teams.
- Skills: Data analysis, communication, market research.
- Qualifications: Degree in Marketing, Data Analytics, or Consumer Behaviour.

f. Food Marketing and Entrepreneurship Careers

i. Food Brand Manager

Develops and manages the identity, promotion, and market presence of food products to attract and retain consumers.

- Roles: Create brand strategies, run marketing campaigns, analyse trends.
- Settings: Food companies, branding agencies, FMCGs.
- Skills: Marketing, strategic thinking, consumer analysis.
- Qualifications: Degree in Marketing or Business; experience in branding or product management.

ii. Culinary Content Creator

Creates engaging food content—like recipes, videos, and blogs—for online platforms to entertain, educate or promote food brands.

- Roles: Produce food videos/posts, share recipes, grow online presence.
- Settings: Social media, blogs, freelance, brand partnerships.
- Skills: Cooking, media production, creativity, digital marketing.
- Qualifications: Culinary or media background (optional); strong online content creation skills.

iii. Food Business Owner



Figure: 4.6: *Food business owner*

A Food Business Owner is an entrepreneur who creates and manages a food-related venture such as a restaurant, catering service, food truck, or packaged food brand.

- Roles: Start and run the business, manage operations, ensure food quality and compliance, handle marketing and finances.
- Settings: Restaurants, cafés, food trucks, online food businesses, catering services.
- Skills: Business management, leadership, customer service, food safety, marketing.
- Qualifications: Experience in the food industry; education in Business, Hospitality, or Culinary Arts is helpful; food safety certification and business registration required.

g. Government and Regulatory Careers



Figure 4.7: *Food safety inspector*

i. Food Policy Advisor

A Food Policy Advisor develops and recommends policies that promote food security, safety, and nutrition at national or organizational levels.

- Roles: Analyse food systems, draft policies, advise government and NGOs, and evaluate program impacts.
- Settings: Government ministries, international agencies (e.g., FAO, WHO), research institutes.
- Skills: Policy analysis, research, communication, understanding of food systems.
- Qualifications: Degree in Public Policy, Nutrition, Agriculture, or Public Health; experience in policy development or advocacy.

ii. Food Safety Inspector

A Food Safety Inspector ensures food establishments comply with hygiene and safety regulations to protect public health.

- Roles: Inspect food facilities, enforce safety standards, investigate complaints, and write reports.
- Settings: Government regulatory bodies, health departments, food companies.
- Skills: Attention to detail, knowledge of food laws (e.g., HACCP), investigation, and documentation.
- Qualifications: Degree or diploma in Food Safety, Environmental Health, or related field; certification as a safety officer.

iii. Health and Agriculture Regulatory Specialist

A Health and Agriculture Regulatory Specialist ensures compliance with regulations governing agricultural products, food safety, and public health standards.

- Roles: Interpret laws, review applications (e.g., for food imports or pesticides), and liaise with producers and agencies.
- Settings: Government ministries, regulatory authorities, food and agricultural agencies.
- Skills: Regulatory knowledge, compliance auditing, policy interpretation, stakeholder communication.
- Qualifications: Degree in Agriculture, Public Health, or Law; training in regulatory affairs or compliance.

5. Essential Competencies for Careers in Food Production and Service

- a. Attention to Detail – Ensuring accuracy in food preparation and quality control.
- b. Sense of Hygiene and Cleanliness – Maintaining strict sanitary standards in food handling.
- c. Pleasant and Friendly Personality – Building positive relationships with customers and colleagues.
- d. Initiative and Problem-Solving – Tackling challenges with creativity and efficiency.

- e. Creativity and Innovation – Developing new food products or recipes.
- f. Interest in the Career Path – Passion for food-related work.
- g. Ability to Work Well with Others – Strong teamwork and collaboration skills.

Learning Tasks

1. Discuss the term career, importance of a career and career development strategies.
2. Discuss the various career opportunities in the Food and Nutrition industry.
3. Identify the competencies required for careers in the food production and service industry.

Pedagogical Exemplars

1. **Talk for learning:** In mixed groups, use concept maps/cartoons to discuss the various career opportunities in the Food and Nutrition industry
2. **Group work/ Collaborative learning:** In mixed groups, identify the competencies required for careers in the food production and service industry.
3. **Experiential/project-based Learning:** In mixed groups, visit food and nutrition related careers, businesses/industries in the community and explore the requirements needed for the job opportunity and investigate and report on different careers in the food industries. Present a report for class discussion.
4. **Problem based learning:** In mixed groups review the term career. Meaning of career, importance of a career, career development strategies

Key Assessment Level 4: Group Discussion

Task (20 Marks)

In groups, discuss how three food industry careers support innovation, sustainability, and consumer needs. In your groups present your discussion using examples.

Focal Area 2: Discuss work ethics in the food industry

Work ethics refer to a set of moral principles and professional standards that guide an individual's behaviour in the workplace. It includes honesty, discipline, responsibility, and commitment to maintaining high performance and ethical conduct.

1. Importance of Work Ethics in the Food Industry

- a. Ensures Food Safety and Hygiene – Ethical practices help maintain cleanliness and prevent contamination.

- b. Builds Consumer Trust and Satisfaction – Customers rely on businesses that uphold integrity and transparency.
- c. Improves Efficiency and Productivity – Ethical workers contribute positively to business operations.
- d. Enhances Professional Reputation – Ethical behaviour attracts job opportunities and business growth.
- e. Promotes Workplace Harmony – Strong ethical values encourage teamwork and respect among employees.

2. Key Ethical Qualities

- a. Punctuality at Work – Arriving on time ensures smooth operations and enhances reliability.
- b. Honesty – Being truthful in all aspects of work, including food handling and customer interactions.
- c. Reliability and Responsibility – Demonstrating accountability in job tasks and commitments.
- d. Respect for Colleagues and Customers – Showing courtesy and professionalism in interactions.
- e. Commitment to Quality Standards – Adhering to food safety guidelines and best practices.
- f. Adaptability and Continuous Learning – Staying updated with industry trends and improving skills.
- g. Teamwork and Cooperation – Working efficiently with others to achieve common goals.

3. Ethical Behaviour in Food Service and Production.

- a. Food Safety Compliance
Apply hygiene regulations in all food production areas by wearing proper attire and maintaining cleanliness in food preparation.
- b. Customer Service Ethics
Interactions between a food service worker and a dissatisfied customer, through professional communication and problem resolution skills is very important.
- c. Honesty in Food Business
Proper labelling of ingredients and be transparent about food quality and pricing are good ethical behaviour in the food industry.
- d. Teamwork in Food Service
Staff work together efficiently during a busy service period by emphasising communication and cooperation.

Learning Tasks

1. Explain the term work ethics and its importance in the food industry.
2. Discuss qualities that promote good work ethics.
3. Role plays to depict work ethics at a food production or service establishment.

Pedagogical Exemplars

1. **Problem based learning:** In mixed groups, employ think-pair-share to explain the term work ethics and its importance in the food industry.
2. **Group work/ Collaborative learning:** In mixed groups, discuss qualities that promote good work ethics.
3. **Experiential learning:** In mixed groups' role play to depict some ethics at a food production or service establishment.

Key Assessment Level 4: Group Discussion

In groups, analyse how ethical behaviour affects food safety, consumer trust, and business success. Support your discussion with examples.

PLC Session 20

45 minutes

Planning & Reviewing the Learning Plan

1. Begin the session by recapping lessons from the previous year/session/week, focusing on how learning was applied.
2. Use your subject specific application to explore the content before planning. Ask the application to
 - a. explain the week's concepts in a practical way that will make it easier for learners to understand
 - b. identify two or three common misconceptions learners may have on the week's content and how to address them using contexts familiar to Ghanaian learners. (NTS 3a, 3g and 3m).
3. Use your subject specific application to plan your lesson. Ask the application to
 - a. suggest the most effective method for teaching the week's concepts to learners with diverse backgrounds.
 - b. suggest learning activities, differentiation and essential questions based on the method of teaching (NTS 3a-3q)
 - c. review your prepared learning plan and address any challenging issues you may have identified in your subject area (NTS 3a-3c).



Note

- Take note of the recap topics linked to Years 1 and 2 while preparing for your lesson.
- Refer to the Values Learning Community Handbook and link the values for the week in your lesson to ensure that learners are applying what they learn.

4. Plan the week's key assessment with your app

- The key assessment for the week is group discussion. Chat with your application to plan this assessment, indicating what you and your learners will do before, during and after the discussion (NTS 3k-3q).

10 minutes

Content Exploration

5. As a subject group, select one problem or idea/term in the week's content that is challenging (not a routine procedural question, but one that requires conceptual understanding) and then

- use the app, ask it to solve the problem step by step and explain the reasoning behind each step (you may be assisted by a teacher who is strong in the content area)
- all teachers in the group work through a similar problem individually for 3–4 minutes
- the group then works through the problem together step by step
- highlight the most common errors made at each step and discuss (NTS 1c, 1e, 2c, 2e, 3e-3j).



Note

- This part is not just about 'How do I teach this?' but how do I teach it for learners to understand?
- If the group still shares the same content gap, use the app: ask it to solve the problem step by step and explain the reasoning behind each step.
- Problems/ideas discussed should be sourced from the Teacher Manual content, not invented separately. This keeps the content exploration directly connected to what teachers will deliver.

30 minutes

Enactment

6. Enact a teaching activity based on your learning plan (NTS 1a-1b, 1e-1g, 2c, 2e, 2f, 3c-3j and 3o).

- Colleagues observe with specific attention to clarity of concept explanation, use of familiar Ghanaian examples and how misconceptions are handled if they arise.
- After the enactment, ask for structured feedback from the group
 - was the concept explained in a way that a learner with no prior knowledge could follow?
 - were the examples grounded in contexts familiar to Ghanaian learners?
 - did any misconceptions surface and if so, how were they addressed?

5 minutes**Reflection**

7. Reflect and share your views on the session. One thing that worked well, what did not work well and what you will do differently. (NTS 1a, 1b).
8. Identify a critical friend to observe and provide feedback on your lesson in relation to the PLC Session conducted (NTS 1f, 1g).
9. Remember to
 - a. transfer your chats into your learning planner template.
 - b. read your Teacher Manual and related Learner Material in preparation for the next session. Take note of the recap weeks, which are linked to Years 1 and 2 (NTS 3a).
 - c. integrate National Values, GESI, SEL, and 21st century skills into your learning activities, assessment tasks, and rubrics/mark schemes.

SECTION 4 REVIEW

Learners are equipped with practical skills in event planning, budgeting, marketing, and communication through participation in food exhibitions and bazaars. They gain career awareness by exploring diverse opportunities in the food industry and understanding the skills needed for success. Engagement in marketing activities fosters an entrepreneurial mindset, while learning about work ethics builds integrity, reliability, and professionalism. Through role-play, discussions, and exhibitions, learners apply knowledge in real-life settings, enhancing their confidence, teamwork, and critical thinking – all essential for personal growth and future careers.

Teaching and learning material

- Sample of packaged foods
- Manila cards
- Colour pencils/pastels/ pictures
- Videos,
- Internet
- Note pads
- Computers
- Projectors
- Mobile phones (if possible)
- Food production units in the community for observation
- Pictures
- Pastels/ markers/ Pictures or videos previous exhibition
- Pictures/ videos of food and nutrition jobs or workplaces, etc.

MARKING SCHEMES FOR KEY ASSESSMENTS

WEEK 18 – Practice Paper 2

WEEK 19

Criteria	Description	Examples of Expectation	Marks
Concept & Theme	Clarity and relevance of the theme/concept aligning with the exhibition's purpose.	Healthy Ghanaian Street Foods Festive Local Dishes for Children Concept reflects cultural, health, or sustainability values.	3
Planning and Organisation	Evidence of advance planning, ingredient preparation, task allocation, and time management.	Clear timeline and checklist Pre – measured ingredients and team roles defined Sourcing materials sustainably	4
Quality and Presentation of Food Products	Visual appeal, creativity, neatness, and finish of food items.	Attractive garnishing Consistent portion sizes Clean plating and vibrant colour combinations	4
Creativity and Innovation	Originality in recipe selection, use of local ingredients, or fusion ideas.	Using moringa in pastries Baobab juice in dessert Modern twist on traditional waakye presentation	3
Marketing Strategy and Display Setup	How well the setup attracts interest and promotes the product.	Use of posters or menus Clear labelling of dishes Samples offered with simple promotional messages	3
Hygiene and Safety Practices	Cleanliness of the workspace, utensils, and observance of food safety practices.	Hairnets, gloves, covered food Separate utensils for raw/cooked foods Regular cleaning during exhibition	3

WEEK 20

Focal Area 1

Criteria	Description	Examples	Marks
Identification of Careers	Accurately identifies three relevant food industry careers	E.g., Food technologist, Nutritionist, Caterer.	3 marks
Explanation of Innovation	Clearly explains how each career supports innovation in the food industry	E.g., Food technologist develops plant-based snacks; Caterer creates new recipes using local ingredients	4 marks
Support for Sustainability	Describes how each career promotes sustainable practices	E.g., Nutritionist encourages use of seasonal foods; Caterer reduces waste through portion control	4 marks

Addressing Consumer Needs	Shows how each career meets consumer demands or solves problems	E.g., Nutritionist tailors diets for diabetics; Food safety officer ensures food is safe for consumption	4 marks
Use of Relevant Examples	Provides at least one real or realistic example per career to support points	E.g., A packaging designer who uses biodegradable wrappers for snacks in Ghana	3 marks
Group Presentation (Clarity & Teamwork)	Ideas are well organized, clearly presented, and show collaboration	Group members share tasks; information is clearly explained in the presentation	2 marks

Focal Area 2

Criteria	Description	Examples Under Description	Marks
Understanding of Ethical Behaviour	Clearly explains what ethical behaviour means in the food industry	E.g., Honesty in labeling, following hygiene practices, fair pricing	3 marks
Impact on Food Safety	Explains how ethical behaviour promotes or protects food safety	E.g., Using safe ingredients, not selling expired or contaminated food	4 marks
Impact on Consumer Trust	Describes how ethical behaviour builds or affects consumer trust	E.g., Providing accurate product information, responding to complaints honestly	4 marks
Impact on Business Success	Explains how ethical practices influence long-term business performance	E.g., Customer loyalty, strong reputation, avoiding fines or closures	4 marks
Use of Realistic Examples	Supports points with relevant, real or realistic examples	E.g., A local bakery known for quality and honesty; a food company losing customers due to a scandal	3 marks
Presentation (Clarity & Teamwork)	Group communicates ideas clearly and works together effectively	E.g., Balanced participation, clear explanations, good flow of ideas	2 marks

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