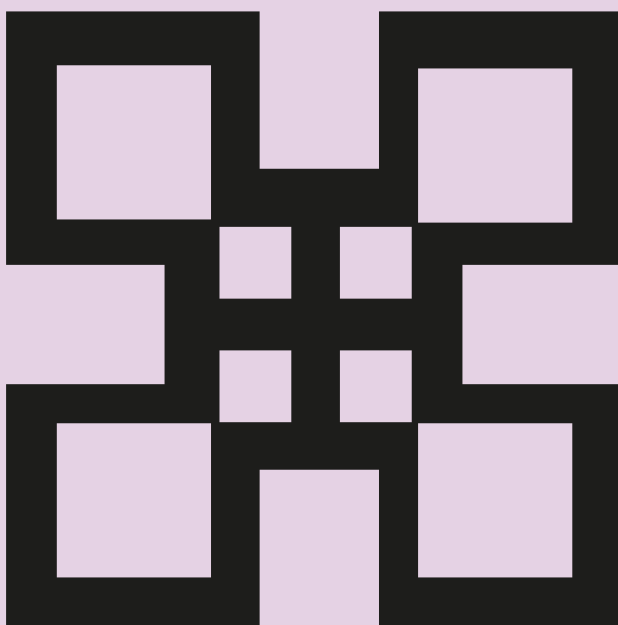


Professional Learning Community Handbook

Intervention Mathematics

Level One & Two



Ghana Education
Service (GES)



**Professional Learning
Community Handbook**

Intervention Mathematics

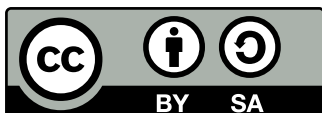
Level One & Two



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Foreword

As Minister for Education, I am delighted to introduce this handbook on Professional Learning Communities (PLCs). The handbook provides practical guidance and resources for teachers to establish and sustain effective PLCs that will drive quality pedagogy and enhance learning outcomes.

Weekly Professional Learning Community (PLC) sessions are the backbone of this Government's commitment to continuous teacher development in every Senior High School. These PLC sessions enable teachers to come together to master the pedagogy, content and assessment needed to successfully implement Ghana's SHS curriculum.

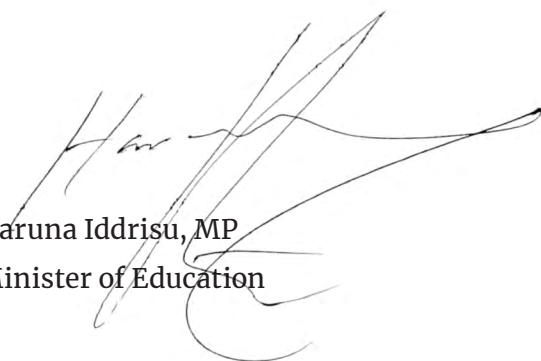
By fostering a culture of collaboration and continuous improvement through PLCs, teachers can enhance their understanding of the new SHS curriculum and effectively facilitate learning in the classroom. This will contribute to our country's resetting agenda by educating a generation of young people with the skills needed to progress to further studies, the world of work and adult life.

PLC sessions are critically important and should be treated with the utmost seriousness. Transforming our education system is a partnership between government, teachers, parents and learners. As teachers gain experience with the new curriculum and assessment regime, PLC sessions can also be tailored to discuss specific issues of concern as a group. It is important that teachers are heard and respected. We have listened to your concerns about PLCs and have factored this feedback into the new Year 2 Subject-Specific PLC Handbooks.

The Handbooks have been designed to be more flexible in structure than those for Year One. Each PLC Handbook is supported by a Subject-Specific App developed by the National Council for Curriculum and Assessment (NaCCA) linked to the revised curriculum. These Apps will help teachers to plan learning activities, assessments and differentiated learning. From our early interactions with teachers to develop and test these Apps we can see the level of excitement about their potential to save teachers time and improve their teaching and learning. These Ghanaian-owned Apps are the first of their kind at this scale anywhere in Africa, helping teachers save time and deliver lessons that truly meet the needs of every learner. I am confident that it will have a significant impact on our education system and ultimately benefit our students, teachers, and communities. All teachers are encouraged to embrace the principles and

practices outlined in this handbook and to work together to build strong, vibrant PLCs that promote enhanced learning outcomes.

I commend the authors and contributors for their tireless efforts in developing this valuable resource, which will enhance the quality of teaching and learning. Thank you to each one of you for your dedication and commitment to helping build the Ghana we want, together.



Haruna Iddrisu, MP
Minister of Education

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Link to APPs

Level One & Two



<https://www.playlab.ai/project/cmfocc5ql0hasm4ouqjmt9d9>

PLC Session 0: Introduction to the Year Two Professional Learning Community Handbook and the Subject Specific App

1.0 Introduction and Purpose of the Handbook (15 minutes)

The purpose of the Year Two Professional Learning Community (PLC) Handbook is to support teachers to effectively deliver the new Senior High School (SHS) curriculum. This Handbook is accompanied by a Subject Specific App tailored to SHS curriculum. The App is designed to assist teachers with lesson planning, delivery and assessment. The Subject Specific App uses information directly from the following materials:

1. Curriculum
2. Teacher Manual
3. Learner Materials
4. Vision and Philosophy of the SHS curriculum
5. 21st century skills and competencies
6. National Teachers' Standards
7. West African Examinations Council Scheme of Assessment and Detailed Syllabus
8. Learning Planning Template
9. Teacher Assessment Manual and Toolkit
10. Socio Emotional Learning
11. National Values
12. Gender Equality and Social Inclusion (GESI), etc.

Learning Outcome (LO): To explore how the Subject Specific App can assist teachers with lesson planning, delivery and assessment (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Use the Subject Specific App to explore the Year Two Curriculum Materials (Teacher Manual and Learner Materials)

Learning Indicator (LI) 2: Discuss the advantages and disadvantages of using the Subject Specific App to design lessons and assessment strategies.

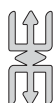
2.0 Exploring the Subject Specific App (65 minutes)

2.1 Scan the QR Code or use the link to access your Subject Specific App

2.2 Have a chat with the Subject Specific App (NTS 3j).

E.g.

- a. Select a section and the number of lessons you have in a week to start the App
- b. Provide information about your class. For instance, the number of learners in your class, etc.
- c. Select a week you are interested in and continue chatting with your App
- d. Refer to your Teacher Manual and confirm the information provided by the App or otherwise



Note

Always refer to your Teacher Manual to confirm the information the App provides.

2.3 Explore the following key areas using the App (NTS 2b, 2c, 2e and 3a-3q)

E.g.

- a. **Learning activities**
I have a 60 minute lesson in a rural farming community in Lawra without enough tables and chairs. I can have my lesson outside the classroom if possible.

b. Assessments

Based on the recommended assessments for the week how can I assess my learners at level 2 at the end of the lesson. I want to give one question during the lesson and one at the end as homework

c. Differentiation strategies

There are two learners in wheelchairs. Another one cannot hear unless you speak very loudly. Finally, 5 learners are comfortable in the local language than in English. How can they be catered for in the lesson and assessment?

Hint

Remember to ask your App to help you add 21st Century Skills, National Values, GESI and SEL to your learning activities, assessment, etc., where applicable.

2.4 Share your experience with the larger group (NTS 3j).

- a.** two things you learnt using the App and how you plan to apply them.
- b.** two advantages of using the App
- c.** two disadvantages of using the App without the appropriate curriculum materials (e.g. Teacher Manual, etc.)

3.0 Reflection**3.1** Reflect and share your views on the session (NTS1a, 1b).**3.2** Remember to read PLC Session 0.5 and bring along your laptop in preparation for next week's session.

PLC Session 0.5: Preparing for Initial Assessment

1.0 Introduction (10 minutes)

1.1 Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session

Purpose: The purpose of this session is to plan for the design and implementation of the Initial Assessment to diagnose and select learners for Intervention levels 1 and 2. This session will look at how the subject specific App can assist teachers in developing Initial assessment tool at the required DoK Levels.

Learning Outcome (LO): To strengthen teachers' skills and competencies in developing initial assessment tool (NTS 3k-3q).

Learning Indicator (LI) 1: Use the subject specific App to develop the initial assessments to diagnose newly admitted SHS 1 learners to select those that qualify for intervention levels 1 and 2.

Learning Indicator (LI) 2: Use the subject specific App to review the designed initial assessment tool to check whether they are linked to the required DoK levels.

2.0 Planning and Designing of Initial Assessment Tool using the Subject Specific App (20 minutes)

2.1 Open your App and have a chat with it.

E.g.

- a. *Select a section and the number of lessons you have in a week to start the App*
- b. *Provide information about your class. For instance, the number of learners in your class, etc.*
- c. *Select a week you are interested in and continue chatting with your App*

- 2.2** Use the subject specific App to craft the initial assessment items by having a chat with the App to provide the table of specification and craft the items based on the table of specification (NTS 3k–3q).

E.g.

The structure of Initial Assessment Tool in the Teacher Manual suggests 35 multiple-choice questions to be completed in 50 minutes. Use the Table of test specification in the Teacher Manual as reference and develop 35 multiple-choice questions with four options and a mark scheme.

3.0 Reviewing the Initial Assessment items using the Subject Specific App (50 minutes)

- 3.1.** Have a chat with your App to review the initial assessment items and discuss the review responses. Use the review to refine the items to complete the set questions (NTS 1a, 2b, 2c and 3e–3q). In doing this activity, consider:

E.g.

- i. Whether the assessment tasks generated follow the DoK distribution in the table of specification**

Do the generated assessment items for the initial assessment meet the proportions for DoK Levels 1, 2 and 3 suggested in the Table of specification? If no, revise the tasks”.

Can you justify why you assigned a particular DoK level to each item?

- ii. Mark scheme**

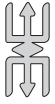
Verify if the scheme is correct for all items.

- iii. Resources needed for assessment administration**

I have 450 shading papers, 450 answer booklets, 420 printed question papers. Based on the revised assessment tasks, which other resources should learners be provided with to enable them effectively respond to the tasks? Include guidelines to be followed in administering the initial assessment to 405 learners.

- iv. How to provide feedback**

I need to provide feedback after the examination. Suggest strategies for whole-class feedback, individual feedback for different performance levels, etc.



Note

Use the responses to complete the initial assessment tool.

4.0 Reflection (10 minutes)

4.1 Reflect and share your views on the session (NTS 1a, 1b)

4.2 Remember to:

- a.** read PLC Session 1, Teacher Manual and related Learner Material (NTS 3a).
- b.** Bring along your laptop, Teacher Manual and PLC Handbook on Week 1 in preparation for the next session (NTS 3a).

MODULE 1

PLC Session 1: Modelling and Comparing Number Quantities

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 1 on Modelling and comparing number quantities with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Modelling and comparing number quantities with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on week 1 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 1 on Modelling and Comparing Number Quantities (NTS 3a–3q).

E.g.

i. Essential Questions

I am planning a 1-hour lesson for 55 learners on Week 1 indicators under “Modelling and Comparing Number Quantities.” Craft 3 essential questions that will guide the teaching of this lesson.

ii. Differentiation

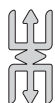
Based on the demands of Week 1 content in the Teacher Manual and activities in the Learner Material, how will I differentiate instruction to support 30 learners who struggle with number sense and 10 learners who are a little advanced and need extension activities?

iii. Learning Activities

I have bottle tops, number cards, and a place value chart. Suggest 4 learning activities (2 from the Learner Material) that can be used to teach modelling and comparing number quantities to 55 learners in a 1-hour period.

iv. Assessment Tasks

Suggest 3 assessment tasks on “Modelling and Comparing Number Quantities” that can be given as individual class exercises to be completed in 15 minutes. Provide one question each at DoK Levels 1, 2, and 3. Include a clear mark scheme with step-by-step solutions.

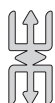
**Note**

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii. Transfer the information from your SS App into your learning planner template to complete your plans. Click the link or scan the QR code to download the template.
<https://curriculumresources.edu.gh/wp-content/uploads/2025/09/Year-Two-Lesson-Planner-Template-20.docx>

- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1** Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c-3j).
- 3.2** Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3** Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).

**Note**

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 1 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 2, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 2: Approximations & Odd and Even Numbers

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 2 on Approximations & odd and even numbers with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Approximations & odd and even numbers with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on Week 2 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 2 on Approximations & odd and even numbers (NTS 3a-3q).

E.g.

i. Essential Questions

Think of the big ideas learners should leave the lesson with. Write 3 essential questions that will push them to connect approximation to everyday decision-making and recognise patterns in odd and even numbers.

ii. Differentiation

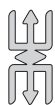
Looking at the Week 2 content and activities, outline specific strategies you would use to support 25 learners who find rounding difficult and, at the same time, provide challenging extensions for 12 learners who are quick to grasp number patterns.

iii. Learning Activities

With the resources available (number lines, dice, counters, manila cards), design 4 learning activities—2 directly from the Learner Material and 2 you create—that will (a) strengthen skills in approximation and (b) help learners discover properties of odd and even numbers.

iv. Assessment Tasks

Plan 3 short assessment tasks on “Approximations & Odd and Even Numbers” that learners can attempt in 15 minutes. Ensure the set includes one DoK Level 1, one DoK Level 2, and one DoK Level 3 question. Provide a marking scheme showing step-by-step solutions.

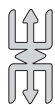


Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1** Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).
- 3.2** Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3** Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 2 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 3, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 3: Factors and Multiples

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 3 on Factors and multiples with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Factors and multiples with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on Week 3 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 3 on Factors and multiples (NTS 3a-3q).

E.g.

i. Essential Questions

Frame 3 essential questions that will guide learners to see the importance of factors and multiples in real-life situations (e.g., sharing items equally, arranging objects in rows, working with time intervals).

ii. Differentiation

Reflect on the Week 3 content and activities. How would you adapt your lesson so that 18 learners who struggle with multiplication

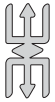
tables can still participate meaningfully, while also stretching 10 learners who are able to work with larger numbers and abstract reasoning?

iii. Learning Activities

Using bottle tops, number cards, and a multiplication chart, design 4 interactive activities (2 from the Learner Material and 2 teacher-created) that will help learners practise finding factors, identifying multiples, and exploring the relationship between the two.

iv. Assessment Tasks

Create 3 assessment tasks on “Factors and Multiples” that learners can complete in 20 minutes. Set one at DoK Level 1 (recall/basic procedure), one at DoK Level 2 (application/understanding), and one at DoK Level 3 (reasoning/problem-solving). Provide a clear mark scheme for each task.

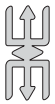


Note

- i. *Chatting once may not be enough for the App to provide all that you may need for the tasks.*
- ii. *Transfer the information from your SS App into your learning planner template to complete your plans.*
- iii. *Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.*

3.0 Enactment (20 minutes)

- 3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).
- 3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).

4.2 Identify a critical friend to observe your lesson in relation to PLC Session 3 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a.** Read PLC Session 4, Teacher Manual and related Learner Material (NTS 3a).
- b.** Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- c.** Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 4: Mental Mathematics Strategies

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 4 on Mental mathematics strategies with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Mental mathematics strategies with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on Week 4 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 4 on Mental mathematics strategies (NTS 3a-3q).

E.g.

i. Essential Questions

Draft 3 essential questions that would help learners think about why mental strategies are useful in everyday life, and how they can choose efficient strategies (e.g., estimating, breaking numbers apart, using known facts).

ii. Differentiation

Considering the content for this week, describe how you will support 20 learners who still rely heavily on finger counting, while also challenging 15 quick thinkers who can already manipulate numbers mentally with ease.

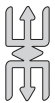
iii. Learning Activities

With only chalkboard space, flash cards, and counters available, outline 4 engaging activities (2 from the Learner Material and 2 designed by you) that encourage learners to practise mental strategies such as doubling/halving, compensation, partitioning, or using number bonds.

iv. Assessment Tasks

Prepare 3 short mental mathematics tasks that can be attempted individually within 10 minutes. Ensure each task aligns to a different DoK level:

- DoK 1 → straightforward recall (e.g., mental addition/subtraction)
- DoK 2 → applying a chosen strategy to solve a problem, etc.

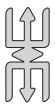


Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii. Transfer the information from your SS App into your learning planner template to complete your plans.
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).
- 3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 4 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 5, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 5: Positive and Negative Whole Numbers

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 5 on Positive and negative whole numbers with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Positive and negative whole numbers with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on week 5 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 5 on Positive and negative whole numbers (NTS 3a-3q).

E.g.

i. Essential Questions

Propose 3 essential questions that will guide learners to connect positive and negative whole numbers with real-life situations such as temperature changes, banking (deposits/withdrawals), and elevations above or below sea level.

i. Differentiation

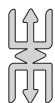
Review the Week 5 content and activities. How will you plan your lesson so that 20 learners who confuse the signs (+/–) are supported with visual models, while 10 confident learners are stretched with real-world problem-solving tasks involving positive and negative numbers?

ii. Learning Activities

With number lines, counters, and flash cards at your disposal, design 4 learner-centered activities (2 from the Learner Material and 2 teacher-created) that will help learners explore addition and subtraction of positive and negative whole numbers in context.

iii. Assessment Tasks

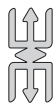
Develop 3 assessment questions on “Positive and Negative Whole Numbers” that learners can finish in 25 minutes. Make sure one question is at DoK Level 1 (recall/use of number line), one at DoK Level 2 (contextual application, e.g., temperature changes), and one at DoK Level 3 (multi-step reasoning, e.g., financial transactions). Provide a step-by-step mark scheme for each.

**Note**

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1** Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).
- 3.2** Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3** Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).

**Note**

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 5 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 6, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 6: Extending Patterns Visually

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 6 on Extending patterns visually with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Extending patterns visually with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on Week 6 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 6 on Extending patterns visually (NTS 3a-3q).

E.g.

i. Essential Questions

Write 3 essential questions that will help learners explore how patterns are built, extended, and applied in real life (e.g., designs in fabrics, tiling, weaving, or sequences in nature).

i. Differentiation

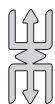
Looking at the Week X content and the suggested activities, how will you adapt your lesson for 15 learners who struggle to see relationships between shapes/numbers, while also extending the thinking of 10 learners who can already predict complex visual patterns?

ii. Learning Activities

Using square grids, coloured counters, and manila cards, plan 3 engaging activities that encourage learners to represent patterns with objects or drawings, extend patterns step-by-step, explain the “rule” behind a pattern and translate a visual pattern into a number sequence.

iii. Assessment Tasks

Design 3 assessment questions on “Extending Patterns Visually” for a 15-minute exercise. Ensure there is simple continuation of a visual pattern, describing the rule behind a pattern and applying pattern reasoning to solve a real-life task



Note

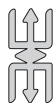
- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c-3j).

3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).

3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 6 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 7, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 7: Using Pattern Rules to Solve Problems

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 7 on Using pattern rules to solve problems with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Using pattern rules to solve problems with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on Week 7 using the subject specific App.

Learning Indicator (LI) 2: Model an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 7 on Using pattern rules to solve problems (NTS 3a–3q).

E.g.

i. Essential Questions

I am planning a 1-hour lesson for 60 learners on Week 7 indicators under “Using Pattern Rules to Solve Problems.” Craft 3 essential questions that will guide learners to recognise that patterns follow rules, extend and generalise those rules, and apply them to solve real-life problems such as predicting savings, arranging seats, or extending tile designs.

ii. Differentiation

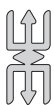
Based on the demands of Week 7 content in the Teacher Manual and activities in the Learner Material, how will I support 18 learners who are able to extend patterns but struggle to state the underlying rule, while also extending the thinking of 12 learners who can already work with abstract reasoning and express the rule algebraically?

iii. Learning Activities

I have square grids, counters, and number cards. Suggest 3 learning activities that can be used to help learners discover the rule behind visual or numerical patterns, practise extending patterns step by step, use the rule to predict later terms, and apply the rule to solve real-life problems in a 1-hour period.

iv. Assessment Tasks

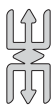
Suggest 3 assessment tasks on “Using Pattern Rules to Solve Problems” that can be given as individual exercises to be completed in 20 minutes. Provide one question each at DoK Levels 1, 2, and 3, and include a detailed mark scheme with step-by-step solutions.

**Note**

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii. Transfer the information from your SS App into your learning planner template to complete your plans.
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1** Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).
- 3.2** Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3** Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).

**Note**

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 7 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 8, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 8: Operations on Algebraic Expressions

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 8 on Operations on algebraic expressions with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Operations on algebraic expressions with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on Week 8 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 8 on Operations on algebraic expressions (NTS 3a-3q).

E.g.

i. Essential Questions

I am preparing a 1-hour lesson for 65 learners on Week 8 indicators under "Operations on Algebraic Expressions." Craft 3 essential questions that will guide the teaching of this lesson so that learners can understand how to add, subtract, and multiply algebraic expressions and connect these operations to patterns and real-life contexts.

ii. Differentiation

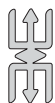
Based on the Week 8 content in the Teacher Manual and the activities in the Learner Material, how will I structure the lesson to provide support for 20 learners who struggle with simplifying algebraic expressions while at the same time offering challenging extension activities for 15 learners who are able to work fluently with variables and apply operations in problem-solving situations?

iii. Learning Activities

I have algebra tiles, manila cards, and markers. Suggest 2 learning activities that can be used to teach the addition, subtraction, and multiplication of algebraic expressions to 65 learners in a 1-hour lesson.

iv. Assessment Tasks

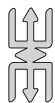
Suggest 3 assessment tasks on “Operations on Algebraic Expressions” that can be given as individual class exercises to be completed in 20 minutes. Provide one question each at DoK Levels 1, 2, and 3, and include a clear mark scheme with step-by-step solutions.

**Note**

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1** Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).
- 3.2** Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3** Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).

**Note**

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 8 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 9, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 9: 2D and 3D Shapes

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 9 on 2D and 3D Shapes with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on 2D and 3D Shapes with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on week 9 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 9 on 2D and 3D Shapes (NTS 3a–3q).

E.g.

i. Learning Activities

Suggest learner-centered activities for completing my learning plan for a lesson on “2D and 3D Shapes” for Week 9, Focal Areas 1 and 2 using initiating talk for learning, think-pair-share, collaborative learning, and problem-based learning strategies for a class size of 65 learners, 29 boys and 36 girls, for a 60-minute lesson. Consider GESI and practical real-life applications in planning the activities.

ii. Assessment Tasks

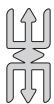
The recommended assessment mode for Week 9 is problem-based assessment. Develop an assessment task for this mode and suggest appropriate ways for its administration to learners for effective learning, ensuring that the task allows learners to demonstrate understanding of the properties, similarities, and differences of 2D and 3D shapes.

iii. Differentiation

There are five learners who have difficulty with spatial reasoning and two learners with mild hearing challenges. Suggest differentiation strategies outlining how these learners and the rest of the 58 learners can actively take part in the lesson while building their confidence in identifying, describing, and constructing 2D and 3D shapes.

iv. Essential Questions

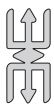
Create 3 appropriate essential questions for Week 9, Focal Areas 1 and 2 on “2D and 3D Shapes” that will initiate critical thinking and encourage learners to connect geometry with real-life situations such as construction, packaging, art, and environmental design.

**Note**

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii.** *Transfer the information from your SS App into your learning planner template to complete your plans.*
- iii.** *Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.*

3.0 Enactment (20 minutes)

- 3.1** Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).
- 3.2** Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3** Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).

**Note**

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 9 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 10, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 10: Measurement of Perimeter I

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 10 on Measurement of Perimeter I with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Measurement of Perimeter I with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on week 10 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 10 on Measurement of Perimeter I (NTS 3a–3q).

E.g.

i. Learning activities

Suggest learner-centered activities for completing my learning plan for a lesson on the meaning of perimeter and how to measure the perimeter of regular shapes such as squares, rectangles, and triangles for Week 10. Use strategies such as collaborative group work, and managing talk for learning for a class of 65 learners, in a 60-minute lesson. Take into account GESI principles and link

activities to real-life applications such as measuring the edges of classroom objects, fields, or gardens.

ii. Assessment tasks

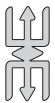
The recommended assessment mode for Week 10 is performance-based assessment. Develop an assessment task that requires learners to measure the perimeter of selected classroom objects or drawn figures. Suggest effective ways of administering and recording learners' responses to ensure fairness, accuracy, and effective feedback.

iii. Differentiation

There are four learners with mild numeracy difficulties and one learner who is physically challenged. Suggest differentiation strategies that will enable all learners, including these five, to actively take part in the lesson. Indicate how visual aids, peer support, and the use of concrete objects can support inclusivity.

iv. Essential questions

Create 3 appropriate essential questions for Week 10, focal areas 1 and 2 on perimeter that will stimulate critical thinking and link mathematics to everyday life. Ensure the questions promote reasoning and a sense of relevance of mathematics to national development.

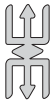


Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1** Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).
- 3.2** Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3** Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).

**Note**

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 10 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 11, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 11: Measurement of Perimeter II

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 11 on Measurement of Perimeter II with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Measurement of Perimeter II with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on week 11 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 11 on Measurement of Perimeter II (NTS 3a-3q).

E.g.

i. Learning activities

Design learner-centered activities for completing my lesson plan for Week 11 focal areas and for a 60-minute lesson with 65 learners (30 boys and 35 girls). Use strategies such as think-pair-share, group construction tasks with rulers and grid paper, and managing whole-class discussions. Ensure activities connect with real-life applications

such as fencing school gardens, framing pictures, or marking out play areas, while observing GESI principles.

ii. Assessment tasks

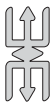
The assessment mode for Week 11 is performance-based. Propose a task where learners must apply formulas to calculate perimeters in both cm and m, and then construct multiple rectangles with the same perimeter to demonstrate variety. Suggest effective methods for observing, recording, and giving feedback on learners' work, including peer assessment and teacher checklists.

iii. Differentiation

In my class, four learners struggle with applying formulas while one learner has a hearing impairment. Suggest differentiation strategies that allow all learners to participate actively, including using concrete aids (string, metre rule), peer tutoring, visual step-by-step guides, and group collaboration so that both weaker learners and those with impairments are fully included.

iv. Essential questions

Frame 3 essential questions that will help learners think critically about the usefulness of perimeter in daily life, why formulas make calculations easier, and how different shapes can share the same perimeter but look different. Ensure the questions encourage reasoning and highlight the relevance of perimeter knowledge to national development and real-world problem solving.

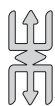


Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii. Transfer the information from your SS App into your learning planner template to complete your plans.
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c-3j).
- 3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 11 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 12, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 12: Organising and Presenting Quantitative and Qualitative Data

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 12 on Organising and Presenting Quantitative and Qualitative Data with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Organising and Presenting Quantitative and Qualitative Data with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on week 12 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 12 on Organising and Presenting Quantitative and Qualitative Data (NTS 3a-3q).

E.g.

i. Differentiation

Considering the Week 12 indicators in the Teacher Manual, how can I scaffold learning for learners who may be struggling to sort raw data into categories or make sense of numerical information, while

also providing enrichment for learners by challenging them to select the most suitable methods of organising and presenting both quantitative and qualitative data in real-life contexts such as class attendance records, market surveys, or rainfall charts?

ii. Learning Activities

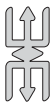
Using resources such as tally sheets, frequency tables, pictograms, bar charts, and sample written responses, propose interactive activities where learners collect a small set of class data (e.g., favourite fruits, ages, shoe sizes), then practise organising it into appropriate tables or categories, and finally present it through a suitable chart or diagram. Encourage collaborative group work, think-pair-share, and gallery walks so that learners can compare different ways of representing the same information and discuss which presentation best suits qualitative or quantitative data.

iii. Assessment Tasks

Suggest assessment questions on “Organising and Presenting Quantitative and Qualitative Data” for learners to attempt within 20 minutes. At DoK Level 1, they should organise a small set of raw data into a tally chart or frequency table. At DoK Level 2, they should present a given set of data as a bar chart, pictogram, or other simple visual representation. At DoK Level 3, they should analyse a dataset by justifying why a particular method of organisation or presentation (e.g., bar chart versus pictogram, table versus text summary) is more effective in conveying the information. Provide a marking scheme with sample solutions for each level.

iv. Essential Questions

Frame 3 essential questions on “Organising and Presenting Quantitative and Qualitative Data” that guide learners to reflect on why raw data must be organised before analysis, how different methods of presentation can make data easier to interpret, and how these processes are applied in real-life situations such as in trade, health surveys, sports results, or class attendance records.



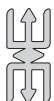
Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii. Transfer the information from your SS App into your learning planner template to complete your plans.

- iii. *Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.*

3.0 Enactment (20 minutes)

- 3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).
- 3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 12 to provide feedback on your lesson (NTS 1f, 1g).

MODULE 2

PLC Session 1: Real Number and Numeration System

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 1 on Real Number and Numeration System with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Real Number and Numeration System with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on week 1 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 1 on Real Number and Numeration System (NTS 3a-3q).

E.g.

i. Essential Questions

I am planning a 1-hour lesson for 55 learners on Week 1 indicators under “Real Numbers and Numeration System.” Craft 3 essential questions that will guide learners to understand the different subsets of the real number system, how numeration systems are used in representing numbers, and why these concepts are important for everyday problem-solving.

ii. Differentiation

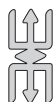
Based on the demands of Week 1 content in the Teacher Manual and activities in the Learner Material, how will I differentiate instruction to support 25 learners who find it difficult to classify numbers into the correct subsets (whole numbers, integers, fractions, decimals, etc.) and 15 learners who are advanced and can be challenged with activities such as converting numbers between bases or applying properties of real numbers in solving problems?

iii. Learning Activities

I have number charts, counters, and base-ten blocks. Suggest 4 learning activities (2 from the Learner Material) that can be used to teach real numbers and numeration systems to 55 learners in a 1-hour period. The activities should enable learners to classify numbers into subsets of real numbers, use visual aids to represent numbers, practise conversions between numeration systems, and connect these concepts to real-life contexts.

iv. Assessment Tasks

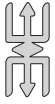
Suggest 3 assessment tasks on “Real Numbers and Numeration System” that can be given as individual class exercises to be completed in 15 minutes. Provide one question each at DoK Levels 1, 2, and 3, ensuring that learners are assessed on basic classification, representation, and problem-solving using real numbers. Include a clear mark scheme with step-by-step solutions.

**Note**

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1** Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c-3j).
- 3.2** Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3** Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).

**Note**

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 1 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 2, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 2: Integers and Operations on Integers [Revision]

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 2 on Integers and Operations on Integers with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Integers and Operations on Integers with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on Week 2 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 2 on Integers and Operations on Integers (NTS 3a-3q).

E.g.

i. Essential Questions

I am planning a 1-hour lesson for 55 learners on Week 2 indicators under “Integers and Operations on Integers.” Craft 3 essential questions that will guide learners to understand what integers are, how to perform operations with them, and why integers are useful in representing real-life situations such as temperature, elevation, profit and loss.

ii. Differentiation

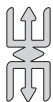
Based on the demands of Week 2 content in the Teacher Manual and activities in the Learner Material, how will I differentiate instruction to support 20 learners who find it difficult to apply rules of signs in addition and subtraction of integers, while also providing extension activities for 15 advanced learners who can be challenged with multi-step problems involving multiplication and division of integers in real-life contexts?

iii. Learning Activities

I have number lines, coloured counters, and flashcards. Suggest 4 learning activities that can be used to teach integers and operations on integers to 55 learners in a 1-hour period. The activities should help learners to explore integers on the number line, use counters to model positive and negative numbers, practise addition and subtraction with rules of signs, and apply multiplication and division of integers in practical contexts.

iv. Assessment Tasks

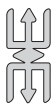
Suggest 3 assessment tasks on “Integers and Operations on Integers” that can be given as individual class exercises to be completed in 15 minutes. Provide one question each at DoK Levels 1, 2, and 3, ensuring that learners demonstrate basic knowledge of integers, apply rules of operations, and solve real-life problems involving integers. Include a clear mark scheme with step-by-step solutions.

**Note**

- iv.** Chatting once may not be enough for the App to provide all that you may need for the tasks.
- v.** Transfer the information from your SS App into your learning planner template to complete your plans.
- vi.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1** Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).
- 3.2** Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3** Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 2 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 3, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 3: Fractions and Its Applications

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 3 on Fractions and Its Applications with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Fractions and Its Applications with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on Week 3 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 3 on Fractions and Its Applications (NTS 3a-3q).

E.g.

i. Learning Activities

With access to fraction strips, bottle tops, and grid paper, suggest 3 interactive activities to help the class investigate fractions. The activities should engage learners in representing and comparing fractions, adding and subtracting fractions with like and unlike denominators, and applying fractions in real-life contexts such as recipes or dividing resources fairly.

ii. Essential Questions

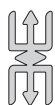
For a 1-hour lesson with 55 learners on Week 3 indicators, design 3 guiding questions that will lead learners to explore the meaning of fractions, practise operations on fractions, and appreciate how fractions are applied in everyday situations such as sharing, measuring, and comparing quantities.

iii. Differentiation

Considering the requirements of Week 3 content from the Teacher Manual and tasks in the Learner Material, how can I adjust my teaching to support learners who struggle with finding common denominators and equivalent fractions, while also offering enrichment to learners who are ready to handle word problems involving mixed operations with fractions?

iv. Assessment Tasks

Propose 3 classwork exercises on “Fractions and Its Applications” that can be completed individually in 15–20 minutes. These should include one DoK Level 1 task that checks recall of fraction concepts, one DoK Level 2 task that involves applying operations to solve a problem, and one DoK Level 3 task that challenges learners to model or interpret a real-life scenario involving fractions. Provide a marking guide with clear steps for each solution.

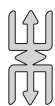


Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii. Transfer the information from your SS App into your learning planner template to complete your plans.
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).
- 3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).

**Note**

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 3 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 4, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 4: Operations on Fractions

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 4 on Operations on Fractions with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Operations on Fractions with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on Week 4 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 4 on Operations on Fractions (NTS 3a-3q).

E.g.

i. Differentiation

Taking into account the Week 4 indicators from the Teacher Manual and the activities outlined in the Learner Material, how can I support learners who continue to struggle with the rules of dividing fractions and converting mixed numbers, while also stretching advanced learners to solve multi-step word problems that combine more than one operation on fractions?

ii. Learning Activities

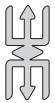
Suppose I have fraction strips, number lines, and coloured counters. Suggest 3 practical activities that will help the whole class to explore the addition and subtraction of fractions with unlike denominators, practise multiplication and division of fractions using visual models, and apply these skills to solve real-life problems such as adjusting recipes, calculating areas, or sharing resources fairly.

iii. Assessment Tasks

Design 3 exercises on “Operations on Fractions” that learners can attempt individually within 20 minutes. One should be a DoK Level 1 item testing straightforward operations, another a DoK Level 2 item requiring learners to apply two different fraction operations in one question, and the last a DoK Level 3 item that involves solving a real-world problem using fraction operations. Provide a marking scheme with step-by-step worked solutions.

iv. Essential Questions

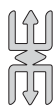
In planning a 1-hour lesson for 55 learners on the topic “Operations on Fractions,” frame 3 essential questions that will guide learners to think about how fractions are added, subtracted, multiplied, and divided, why it is important to use common denominators or reciprocals, and how these operations appear in day-to-day contexts like sharing food, measuring materials, or comparing costs.

**Note**

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1** Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).
- 3.2** Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3** Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 4 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 5, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 5: Algebraic Expressions

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 5 on Algebraic Expressions with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Algebraic Expressions with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on week 5 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 5 on Algebraic Expressions (NTS 3a-3q).

E.g.

i. Learning Activities

I have algebra tiles, manila cards, and markers available, suggest 3 interactive activities (with 1 adapted from the Learner Material) that will allow learners to model expressions with manipulatives, practise simplifying expressions by grouping like terms, perform operations of given expressions, and apply algebraic operations to solve practical problems such as working out discounts or calculating total costs.

ii. Assessment Tasks

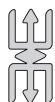
Propose 3 assessment questions on “Algebraic Expressions” that can be completed in groups in 20 minutes. The first should be a DoK Level 1 task that checks learners’ ability to simplify expressions, the second a DoK Level 2 task that combines simplification with operations, and the third a DoK Level 3 task that situates algebraic expressions in a real-life problem-solving context. Provide a clear mark scheme with step-by-step solutions.

iii. Essential Questions

In a 1-hour lesson for 55 learners on “Algebraic Expressions,” formulate 3 essential questions that will guide learners to understand what algebraic expressions are, why we use letters to represent numbers, and how simplifying, evaluating, and operating on expressions connects to real-life situations such as calculating costs, predicting patterns, or planning budgets.

iv. Differentiation

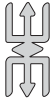
Drawing on the Week 5 indicators in the Teacher Manual and activities in the Learner Material, how will I adapt my teaching to support 20 learners who struggle with identifying like terms and correctly combining them, while also extending learning for 10 advanced learners by challenging them with multi-step problems that involve substitution of values or application of distributive property in real contexts?

**Note**

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1** Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).
- 3.2** Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3** Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).

**Note**

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 5 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 6, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 6: Simplification of Algebraic Expressions

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 6 on Simplification of Algebraic Expressions with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Simplification of Algebraic Expressions with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on Week 6 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 6 on Simplification of Algebraic Expressions (NTS 3a–3q).

E.g.

i. Assessment Tasks

Design 3 assessment questions on “Simplification of Algebraic Expressions” that learners can complete individually in 20 minutes. The first should be a DoK Level 1 task that focuses on straightforward simplification of like terms, the second a DoK Level 2 task that requires using distributive property and combining like terms, and the third a DoK Level 3 task that applies simplification in a real-life

word problem. Provide a detailed mark scheme with worked-out solutions.

ii. Essential Questions

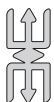
In a 1-hour lesson for 55 learners on “Simplification of Algebraic Expressions,” develop 3 essential questions that help learners explore what it means to simplify an algebraic expression, why combining like terms and applying distributive property is important, and how simplification makes problem-solving in real-life contexts such as budgeting, construction, or calculating profits easier and more efficient.

iii. Differentiation

Looking at the Week 6 indicators in the Teacher Manual and related activities in the Learner Material, how can I support learners who find it difficult to recognise and combine like terms correctly while also challenging advanced learners to simplify longer multi-step expressions that involve brackets and distributive property, connecting their work to real-life examples?

iv. Learning Activities

Using available resources such as algebra tiles, number cards, and manila sheets, suggest 4 engaging activities that will allow learners to practise grouping like terms, apply distributive property in breaking down brackets, compare simplified and unsimplified expressions to see efficiency, and solve contextual problems that require simplifying expressions before arriving at answers.



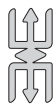
Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii. Transfer the information from your SS App into your learning planner template to complete your plans.
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c-3j).
- 3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).

3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

4.1 Reflect and share your views on the session (NTS 1a, 1b).

4.2 Identify a critical friend to observe your lesson in relation to PLC Session 6 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a.** Read PLC Session 7, Teacher Manual and related Learner Material (NTS 3a).
- b.** Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- c.** Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 7: Algebraic Equations

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 7 on Algebraic Equations with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Algebraic Equations with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on Week 7 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 7 on Algebraic Equations (NTS 3a–3q).

E.g.

i. Differentiation

Looking at the Week 7 indicators in the Teacher Manual, how can I provide support for below average learners who struggle to isolate the unknown and often make sign errors while also extending learning for above average learners by engaging them with multi-step equations or equations that connect directly to word problems involving money, distance, or age?

ii. Learning Activities

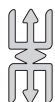
With available resources such as balance models, number cards, algebra tiles, and manila sheets, suggest interactive activities that will help learners model equations concretely, practise solving simple one-step and two-step equations, use substitution to check their answers, and apply equations to solve contextual problems from everyday life. These activities should be feasible within 60 minutes.

iii. Assessment Tasks

Design assessment questions on “Algebraic Equations” that learners can complete in groups. There should be a DoK Level 1 task focusing on solving a straightforward one-step equation, DoK Level 2 tasks requiring solving a two-step equation with integers or fractions, and DoK Level 3 tasks applying equations to a real-life situation. Provide a clear mark scheme with step-by-step solutions for each question.

iv. Essential Questions

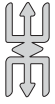
Develop 3 essential questions on Algebraic Equations that encourage learners to think about what an equation is, how solving equations is similar to balancing a scale, and why being able to form and solve equations is important for handling real-life problems such as calculating unknown costs, sharing items equally, or planning budgets.

**Note**

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1** Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c-3j).
- 3.2** Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3** Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).

**Note**

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 7 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 8, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 8: The Concept of Lines and Its Applications

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 8 on The concept of lines and its applications with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on The concept of lines and its applications with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on Week 8 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 8 on The concept of lines and its applications (NTS 3a-3q).

E.g.

i. Learning Activities

Suggest learner-centered activities for completing my learning plan for a lesson on “The Concept of Lines and Its Applications” for Week 8 using collaborative learning and problem-based learning strategies for a class of 55 learners, 30 boys and 25 girls, for a 60-minute lesson. Ensure that the activities promote inclusivity through GESI considerations and make practical connections to

real-life contexts such as road markings, classroom arrangements, architectural designs, and sports fields.

ii. **Assessment Tasks**

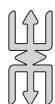
Develop an assessment task for this week's content and suggest appropriate ways for its administration so that learners can practically demonstrate their ability to identify, draw, and classify different types of lines and explain their applications in real-life settings. Ensure that the task encourages observation, creativity, and explanation in both individual and group tasks.

iii. **Differentiation**

There are seven learners who struggle with fine motor skills and drawing straight lines, and three learners with mild visual difficulties. Suggest differentiation strategies outlining how these learners and the remaining 45 learners can actively participate in the lesson while gaining confidence in identifying, describing, and applying the concept of lines. Your strategies should include peer support, use of concrete aids like rulers and coloured strings, and opportunities for verbal explanation to complement visual tasks.

iv. **Essential Questions**

Create 3 appropriate essential questions for Week 8, on "The Concept of Lines and Its Applications" that will initiate critical thinking and encourage learners to make connections between geometry and real-life situations such as road networks, building construction, interior design, clothing patterns, and sports layout.



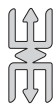
Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii. Transfer the information from your SS App into your learning planner template to complete your plans.
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1** Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c-3j).
- 3.2** Reflect on the activity enacted to improve lesson delivery (NTS 1a).

3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

4.1 Reflect and share your views on the session (NTS 1a, 1b).

4.2 Identify a critical friend to observe your lesson in relation to PLC Session 8 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a.** Read PLC Session 9, Teacher Manual and related Learner Material (NTS 3a).
- b.** Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- c.** Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 9: Measurement of Area

1.0 Introduction (10 minutes)

Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 9 on Measurement of Area with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Measurement of Area with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on week 9 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 9 on Measurement of Area (NTS 3a-3q).

E.g.

i. **Learning Activities**

Suggest learner-centered activities for completing my learning plan for a lesson on “Measurement of Area” for Week 9, using think-pair-share, experiential learning, and problem-based learning strategies for a class of 55 learners, for a 60-minute lesson. Ensure the activities incorporate GESI considerations and practical real-life applications such as measuring the area of farmland, classroom walls, floor tiles, exercise books, or sports fields.

ii. Differentiation

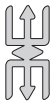
Considering that there are five learners who struggle with multiplication facts and area formulas, and two learners with mild physical challenges that limit movement. Suggest differentiation strategies outlining how these learners and the rest of the 48 learners can actively participate in the lesson. Strategies should include peer tutoring, use of manipulatives such as square grids and cut-outs, guided practice with scaffolding, and assigning supportive classroom roles to physically challenged learners.

iii. Assessment Tasks

I am interested in using performance-based assessment strategy for Week 9. Develop an assessment task and suggest appropriate ways for its administration so that learners can demonstrate their ability to calculate the area of regular shapes such as rectangles, squares, and triangles, as well as irregular shapes using grid methods or decomposition strategies. Ensure the task allows learners to connect area measurement to practical real-life examples.

iv. Essential Questions

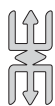
Create 3 appropriate essential questions for Week 9 on “Measurement of Area” that will initiate critical thinking and encourage learners to link the concept of area to real-life contexts such as agriculture, construction, art, tailoring, and sports.

**Note**

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1** Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).
- 3.2** Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3** Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).

**Note**

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 9 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 10, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 10: Measurement of Volume

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 10 on Measurement of Volume with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Measurement of Volume with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on week 10 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 10 on Measurement of Volume (NTS 3a-3q).

E.g.

i. Assessment Tasks

I recommend a problem-based assessment mode for Week 10. Develop an assessment task for this mode and suggest ways for its fair administration so that learners can demonstrate their ability to calculate the volume of cubes, cuboids, and cylinders, as well as estimate the volume of irregular objects through displacement.

Ensure the task connects with real-life examples where volume knowledge is applied, such as in cooking, construction, or storage.

ii. **Learning Activities**

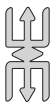
Suggest learner-centered activities for completing my learning plan for a lesson on “Measurement of Volume” for Week 10 using collaborative learning, and problem-based learning strategies for a class of 55 learners for a 60-minute lesson. Ensure the activities reflect GESI considerations and link to practical real-life contexts such as measuring water in a bucket, filling containers, packing boxes, or calculating the capacity of tanks used at home or in school.

iii. **Differentiation**

There are four learners who struggle with applying volume formulas, and three learners with mild visual difficulties. Suggest differentiation strategies showing how these learners and the remaining 48 learners can actively participate in the lesson while building confidence in finding volumes. Strategies should include the use of concrete objects such as boxes, tins, and water containers, tactile models or enlarged diagrams for learners with visual challenges, guided group work, and peer support during formula application.

iv. **Essential Questions**

Create 3 appropriate essential questions for Week 10 on “Measurement of Volume” that will promote critical thinking and help learners connect the concept of volume to real-life areas such as farming, trading, building, packaging, and household activities.



Note

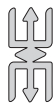
- i. Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii. Transfer the information from your SS App into your learning planner template to complete your plans.
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- ### 3.1
- Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).

3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).

3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

4.1 Reflect and share your views on the session (NTS 1a, 1b).

4.2 Identify a critical friend to observe your lesson in relation to PLC Session 10 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a.** Read PLC Session 11, Teacher Manual and related Learner Material (NTS 3a).
- b.** Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- c.** Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 11: Measuring Time in Everyday Life

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 11 on Measuring time in everyday life with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Measuring time in everyday life with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on week 11 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 11 on Measuring time in everyday life (NTS 3a-3q).

E.g.

i. Differentiation

Looking at the Week 11 indicators in the Teacher Manual, how can I provide support for below-average learners who struggle with reading time accurately on analogue clocks and often confuse units such as hours and minutes, while also extending learning for above-average learners by engaging them in tasks that involve calculating time intervals across days, converting between 12-hour and 24-

hour formats, and solving real-life word problems such as travel schedules, television timetables, or school routines?

ii. **Learning Activities**

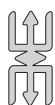
With available resources such as wall clocks, wristwatches, number lines, calendars, and timetables, suggest interactive activities that will help learners practise reading time on analogue and digital clocks, convert between units of time, calculate elapsed time for real-life scenarios like school start and closing times, and solve contextual problems involving schedules and timetables.

iii. **Assessment Tasks**

Design assessment questions on “Measuring Time in Everyday Life” that learners can complete in pairs or small groups. There should be a task focusing on identifying and writing the correct time from a clock face, a task requiring calculation of elapsed time within a single day, and a task applying knowledge of time to a real-life situation such as planning a journey, interpreting a TV or school timetable, or solving a word problem involving starting and finishing times across days. Provide a clear mark scheme with step-by-step solutions for each question.

iv. **Essential Questions**

Develop 3 essential questions on “Measuring Time in Everyday Life” that encourage learners to think about what time is, how the ability to read and calculate time helps in organising daily activities, and why measuring time accurately is important in real-life contexts such as travelling, farming, schooling, cooking, and trading.



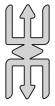
Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii. Transfer the information from your SS App into your learning planner template to complete your plans.
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).

- 3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).

**Note**

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 11 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 12, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 12: Data Collection Methods and Their Uses

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 12 on Data Collection Methods and Their Uses with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Data Collection Methods and Their Uses with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on week 12 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 12 on Data Collection Methods and Their Uses (NTS 3a-3q).

E.g.

i. Differentiation

Look at the Week 12 indicators in the Teacher Manual. How can I provide support for below-average learners who find it difficult to distinguish between qualitative and quantitative data and often confuse methods like interview and questionnaire, while also extending learning for above-average learners by engaging them with tasks that require selecting the most suitable method for a

given research situation and justifying its use in real-life contexts such as market surveys, school attendance studies, or opinion polls?

ii. **Learning Activities**

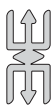
I have resources such as sample questionnaires, tally charts, interview guides, observation checklists, and simple surveys. Suggest interactive activities that will help learners identify different data collection methods, match these methods to suitable contexts, practise organising simple data, and discuss advantages and limitations of each method. These activities should be feasible within 60 minutes and should encourage collaborative learning and group discussions that link data collection to learners' everyday experiences.

iii. **Assessment Tasks**

Provide assessment questions on “Data Collection Methods and Their Uses” that learners can complete in small groups. There should be DoK Level 1 tasks focusing on defining and identifying different methods of data collection, DoK Level 2 tasks requiring learners to classify a set of scenarios under observation, interview, questionnaire, or experiment, and DoK Level 3 tasks applying knowledge of data collection to real-life situations.

iv. **Essential Questions**

Write 3 essential questions on “Data Collection Methods and Their Uses” that encourage learners to think about what data collection is, how different methods suit different situations, and why choosing an appropriate method is important for making decisions in everyday life, such as in farming, trading, schooling, or healthcare.

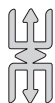


Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii. Transfer the information from your SS App into your learning planner template to complete your plans.
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).
- 3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 12 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 1 of Module 3, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

MODULE 3

PLC Session 1: Sets and Its Operations

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 1 on Sets and Its Operations with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Sets and Its Operations with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on week 1 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 1 on Sets and Its Operations (NTS 3a-3q).

E.g.

i. Differentiation

Look at the Week 1 indicators in the Teacher Manual. How can I provide support for below-average learners who find it difficult to identify sets from everyday collections and often confuse the symbols for union and intersection, while also extending learning for above-average learners by engaging them with tasks that require solving real-life problems using set operations such as surveys on sports, classroom activities, or market preferences, and justifying their answers with the help of Venn diagrams?

ii. Learning Activities

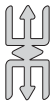
Suggest interactive activities that will help learners identify and form sets from everyday objects, practise representing sets in roster and set-builder form, and use Venn diagrams to explore union and intersection of sets. These activities should also encourage learners to solve simple group survey problems (for example, students who like football, basketball, or both) and present their findings in Venn diagrams.

iii. Assessment Tasks

Provide assessment questions on “Sets and Their Operations” that learners can complete in small groups. There should be tasks focusing on defining and identifying sets, and writing them in different forms; tasks requiring learners to carry out union, intersection, and difference of two sets and represent them in Venn diagrams, and tasks applying knowledge of sets and Venn diagrams to real-life problems such as survey data from a class or market.

iv. Essential Questions

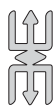
Write 3 essential questions on “Sets and Their Operations” that encourage learners to think about what sets are, how set operations show relationships between groups, and why Venn diagrams are useful for making sense of everyday information in contexts like school, sports, and trading.

**Note**

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1** Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).
- 3.2** Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3** Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 1 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 2, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 2: Fractions and Decimals

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 2 on Fractions and Decimals with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Fractions and Decimals with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on Week 2 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 2 on Fractions and Decimals (NTS 3a-3q).

E.g.

i. Essential Questions

I am planning a 1-hour lesson for 45 learners on Week 2 indicators under "Fractions and Decimals." Craft 3 essential questions that will guide the teaching of this lesson.

ii. Differentiation

Based on the demands of Week 2 content in the Teacher Manual and activities in the Learner Material, how will I differentiate instruction to support 20 learners who find it difficult to convert between

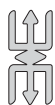
fractions and decimals and 8 learners who are more advanced and need extension activities involving operations of fractions and decimals in real-life contexts such as money, measurement, or data representation?

iii. Learning Activities

I have fraction strips, decimal place value charts, number lines, and bottle tops. Suggest 3 learning activities (1 from the Learner Material) that can be used to teach conversion between fractions and decimals, perform simple operations and round off decimal fractions with them to 45 learners in a 1-hour period.

iv. Assessment Tasks

Suggest 3 assessment tasks on “Fractions and Decimals” that can be given as individual class exercises to be completed in 15 minutes. Provide one question each at DoK Levels 1, 2, and 3. Include a clear mark scheme with step-by-step solutions.

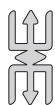


Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii. Transfer the information from your SS App into your learning planner template to complete your plans.
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).
- 3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).

4.2 Identify a critical friend to observe your lesson in relation to PLC Session 2 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a.** Read PLC Session 3, Teacher Manual and related Learner Material (NTS 3a).
- b.** Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- c.** Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 3: Ratios and Its Applications

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 3 on Ratios and Its Applications with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Ratios and Its Applications with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on Week 3 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 3 on Ratios and Its Applications (NTS 3a-3q).

E.g.

i. Assessment Tasks

I recommend a real-life problem-based assessment mode for Week 3. Develop an assessment task for this mode and suggest ways for its fair administration so that learners can demonstrate their ability to form and simplify ratios, compare quantities using ratios, and apply ratios to solve real-life problems such as sharing money, mixing ingredients, or comparing distances. Ensure the task connects with

familiar contexts learners encounter daily, such as cooking, trading, or sports.

ii. Learning Activities

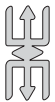
Suggest learner-centered activities for completing my learning plan for a lesson on “Ratios and Its Applications” for Week 3 using collaborative learning and problem-based learning strategies for a class of 55 learners in a 60-minute lesson. Ensure the activities reflect GESI considerations and link to practical real-life contexts.

iii. Differentiation

There are six learners who struggle with simplifying ratios and four learners with mild numeracy difficulties. Suggest differentiation strategies showing how these learners and the remaining 45 learners can actively participate in the lesson while building confidence in applying ratios.

iv. Essential Questions

Create 3 appropriate essential questions for Week 3 on “Ratios and Its Applications” that will promote critical thinking and help learners connect the concept of ratios to real-life areas such as cooking, sharing resources, comparing prices in markets, and managing time in daily activities.

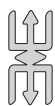


Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1** Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).
- 3.2** Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3** Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 3 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 4, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 4: Working with Percentages

1.0 Introduction (10 minutes)

Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 4 on Working with Percentages with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Working with Percentages with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on Week 4 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

2.1 Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 4 on Working with Percentages (NTS 3a-3q).

E.g.

i. Assessment Tasks

I recommend a problem-based assessment mode for Week 4. Develop an assessment task for this mode so that learners can demonstrate their ability to calculate percentages of quantities, convert between percentages and decimals, etc.

ii. **Learning Activities**

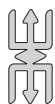
Suggest learner-centered activities for completing my learning plan for a lesson on “Working with Percentages” for Week 4 for a class of 55 learners in a 60-minute lesson. Ensure the activities reflect GESI considerations and link to practical real-life contexts.

iii. **Differentiation**

There are five learners who struggle with converting between fractions, decimals, and percentages, and three learners with mild numeracy challenges. Suggest differentiation strategies showing how these learners and the remaining 47 learners can actively participate in the lesson while building confidence in applying percentages.

iv. **Essential Questions**

Create 3 appropriate essential questions for Week 4 on “Working with Percentages” that will promote critical thinking and help learners connect the concept of percentages to real-life areas.



Note

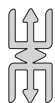
- i. Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii. Transfer the information from your SS App into your learning planner template to complete your plans.
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 **Enactment (20 minutes)**

3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c-3j).

3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).

3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 4 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 5, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 5: Application of Percentages

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 5 on Application of Percentages with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Application of Percentages with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on week 5 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 5 on Application of Percentages (NTS 3a-3q).

E.g.

i. Learning Activities

Suggest learner-centered activities for completing my learning plan for a lesson on “Application of Percentages” for Week 5, using think-pair-share, experiential learning, and problem-based learning strategies for a class of 55 learners, for a 60-minute lesson. Ensure the activities incorporate GESI considerations and practical real-life applications such as calculating discounts on goods in the market,

interest on savings, percentage profit or loss in trading, school attendance percentages, and percentage scores in examinations.

ii. Differentiation

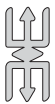
Considering that there are five learners who struggle with converting between fractions, decimals, and percentages, and three learners with mild numeracy challenges, suggest differentiation strategies outlining how these learners and the remaining 47 learners can actively participate in the lesson. Strategies should include peer tutoring, use of visual aids such as 100-grids and pie charts, guided practice with scaffolded steps, the use of concrete examples like shopping receipts or savings records, and encouraging collaborative group work where learners of different abilities contribute to solving percentage application problems.

iii. Assessment Tasks

I am interested in using a performance-based assessment strategy for Week 5. Develop an assessment task and suggest appropriate ways for its administration so that learners can demonstrate their ability to apply percentages in practical real-life contexts such as determining discount prices, calculating simple interest on savings, working out the percentage profit or loss in sales, and comparing class attendance percentages. Ensure the task allows learners to connect percentage applications to everyday decision-making in school, business, and home settings.

iv. Essential Questions

Create 3 appropriate essential questions for Week 5 on “Application of Percentages” that will initiate critical thinking and encourage learners to link the concept of percentages to real-life contexts such as trading, banking, sports, and education.

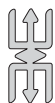


Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).
- 3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 5 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 6, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 6: Factorisation

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 6 on Factorisation with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Factorisation with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on Week 6 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 6 on Factorisation (NTS 3a–3q).

E.g.

i. Essential questions

To successfully achieve the Week 6 learning indicators in the Teacher Manual, craft 3 essential questions that should have been addressed by the end of a 1-hour lesson on Factorisation.

ii. Differentiation

For the Week 6 indicators covering common factors, factorising by taking out the highest common factor, factorising simple quadratic expressions, and factorisation by grouping, what specific differentiation strategies should I use to support learners with low

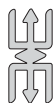
mathematical abilities and slow processing speeds during hands-on factorisation activities?

iii. Learning activities

I have algebra tiles, manila cards, scientific calculators, grid paper and markers. Provide 4 learning activities (2 from the Learner Material) that can be used to achieve the Week 6 indicators within 1 hour. Reference the exact activity from the LM by scanning the details of activities in Section 3 of the LM.

iv. Assessment tasks

Suggest 4 assessment tasks on Factorisation that can be assigned to learners as homework. Provide a question each at DoK Levels 1, 2 and 3, and one additional extension task. Include a mark scheme with step-by-step calculations and clear guidance for marking.



Note

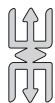
- i. Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii. Transfer the information from your SS App into your learning planner template to complete your plans.
- iii. Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

3.1 Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).

3.2 Reflect on the activity enacted to improve lesson delivery (NTS 1a).

3.3 Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

4.1 Reflect and share your views on the session (NTS 1a, 1b).

4.2 Identify a critical friend to observe your lesson in relation to PLC Session 6 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a. Read PLC Session 7, Teacher Manual and related Learner Material (NTS 3a).
- b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 7: Substitution and Change of Subject

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 7 on Substitution and Change of Subject with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Substitution and Change of Subject with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on Week 7 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 7 on Substitution and Change of Subject (NTS 3a-3q).

E.g.

i. Essential questions

To successfully achieve the Week 7 learning indicators in the Teacher Manual, craft 3 essential questions that should have been addressed by the end of a 1-hour lesson on Substitution and Change of Subject.

ii. Differentiation

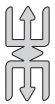
For the Week 7 indicators covering substitution of values into algebraic expressions, evaluating expressions, and changing the subject of simple formulas, what specific differentiation strategies should I use to support learners with low mathematical abilities and slow processing speeds during guided practice on substitution and rearranging equations?

iii. Learning activities

I have algebra tiles, number cards, manila cards, markers, calculators and grid paper. Provide 4 learning activities that can be used to achieve the Week 7 indicators within 1 hour. Reference the exact activity from the LM by scanning the details of activities in Section 3 of the LM.

iv. Assessment tasks

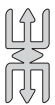
Suggest 4 assessment tasks on Substitution and Change of Subject that can be assigned to learners as homework. Provide a question each at DoK Levels 1, 2 and 3, and one additional extension task. Include a mark scheme with step-by-step calculations and clear guidance for marking.

**Note**

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1** Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).
- 3.2** Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3** Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).

**Note**

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 7 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 8, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 8: Angles & Its Applications

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 8 on Angles & Its Applications with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Angles & Its Applications with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on Week 8 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 8 on Angles & Its Applications (NTS 3a-3q).

E.g.

i. Learning Activities

Suggest learner-centered activities for completing my learning plan for a lesson on “Angles and Their Applications” for Week 8 for a class of 55 learners for a 60-minute lesson. Ensure that the activities promote inclusivity through GESI considerations and make practical connections to real-life contexts.

ii. Assessment Tasks

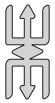
Develop an assessment task for this week's content and suggest appropriate ways for its administration so that learners can practically demonstrate their ability to identify, measure, and classify different types of angles and explain their applications in real-life settings.

iii. Differentiation

There are six learners who struggle with accurate measurement using a protractor, and three learners with mild numeracy difficulties. Suggest differentiation strategies outlining how these learners and the remaining 46 learners can actively participate in the lesson while gaining confidence in identifying, describing, measuring, and applying angles.

iv. Essential Questions

Create 3 appropriate essential questions for Week 8 that will initiate critical thinking and encourage learners to make connections between geometry and real-life situations such as road networks, architecture, interior design, time-telling, and sports strategies.

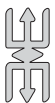


Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1** Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c-3j).
- 3.2** Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3** Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 8 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 9, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 9: Measurement of Perimeter

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 9 on Measurement of Perimeter with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Measurement of Perimeter with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on week 9 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 9 on Measurement of Perimeter (NTS 3a-3q).

E.g.

i. Learning Activities

Suggest learner-centered activities for completing my learning plan for a lesson on “Measurement of Perimeter” for Week 9 for a 60-minute lesson. Ensure that the activities promote inclusivity through GESI considerations and make practical connections to real-life contexts such as fencing a school field, framing pictures,

designing classroom notice boards, sewing clothing hems, and measuring sports fields.

ii. Assessment Tasks

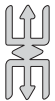
Develop an assessment task for this week's content and suggest appropriate ways for its administration so that learners can practically demonstrate their ability to measure, calculate, and apply perimeter in real-life contexts. Ensure that the task encourages observation, hands-on measurement, creativity, and explanation in both individual and group tasks.

iii. Differentiation

There are five learners who struggle with addition of measurements and three learners with mild difficulties in using rulers and tapes. Suggest differentiation strategies outlining how these learners and the remaining 47 learners can actively participate in the lesson. Your strategies should include peer support, use of concrete aids like ropes, meter rulers, and string, as well as opportunities for verbal reasoning to complement calculation tasks.

iv. Essential Questions

Create 3 appropriate essential questions for Week 9, on "Measurement of Perimeter" that will initiate critical thinking and encourage learners to make connections between mathematics and real-life situations such as farming, building, tailoring, carpentry, and sports.

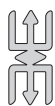


Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1** Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c-3j).
- 3.2** Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3** Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 9 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 10, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 10 & 11: Measurement of Surface Area and Volume of Prisms

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 10 & 11 on Measurement of Surface Area and Volume of Prisms with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Measurement of Surface Area and Volume of Prisms with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on week 10 & 11 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 10 & 11 on Measurement of Surface Area and Volume of Prisms (NTS 3a–3q).

E.g.

i. Learning Activities

Suggest learner-centered activities for completing my learning plan for lessons on “Measurement of Surface Area and Volume of Prisms” for Weeks 10 and 11. Use collaborative, experiential, and problem-based learning strategies for a class of 55 learners (30 boys and 25 girls) during 60-minute lessons. Ensure that activities

promote inclusivity through GESI considerations and make practical connections to real-life contexts.

ii. Assessment Tasks

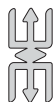
Develop performance-based assessment tasks that allow learners to measure, calculate, and apply surface area and volume of prisms. Suggest ways of administering these tasks so learners practically demonstrate their understanding.

iii. Differentiation

There are five learners struggling with multiplication and conversion between units, and three learners with mild numeracy challenges in applying formulas. Suggest strategies so these learners can actively participate and build confidence alongside the remaining 47 learners.

iv. Essential Questions

Create 3 essential questions for Weeks 10 & 11 on “Measurement of Surface Area and Volume of Prisms” that encourage critical thinking and connect mathematics to real-life applications such as farming, architecture, construction, packaging, and environmental management.

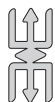


Note

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1** Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c-3j).
- 3.2** Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3** Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 10 & 11 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 12, Teacher Manual and related Learner Material (NTS 3a).
 - b. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - c. Identify areas you find challenging in your teaching for discussion during the next session.

PLC Session 12: Probability

1.0 Introduction (10 minutes)

- 1.1** Read and discuss the purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to populate a learning planner for Week 12 on Probability with the needed areas and use the subject specific App to review the completed learning plan.

Learning Outcome (LO): To populate the learning planner on Probability with essential questions, key notes on differentiation, learning activities and key assessments and to use the subject specific App to review your populated learning plan (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicator (LI) 1: Populate the learning planner on week 12 using the subject specific App.

Learning Indicator (LI) 2: Enact an activity based on your learning plan.

2.0 Planning and Reviewing of Learning Plan (50 minutes)

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 12 on Probability (NTS 3a–3q).

E.g.

i. Differentiation

Look at the Week 12 indicators in the Teacher Manual. How can I provide support for learners who have challenge with basic fraction concepts and find it difficult to calculate simple probabilities, while also extending learning for other learners by engaging them with tasks that require computing probabilities, designing simple chance experiments, and justifying their conclusions in real-life contexts such as sports predictions, weather forecasting, or market surveys?

ii. Learning Activities

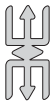
I have resources such as coins, dice, coloured counters, spinners, and bags with balls of different colours. Suggest interactive activities that will help learners carry out chance experiments, record outcomes in tally charts, calculate probabilities as fractions, decimals, ratios, and percentages. These activities should be feasible within 60 minutes and should encourage real-life connections such as predicting outcomes in games, sports, or classroom situations.

iii. Assessment Tasks

Provide assessment questions on Probability that learners can complete in small groups. There should be DoK Level 1 tasks focusing on identifying possible outcomes of simple experiments (e.g., tossing a coin or rolling a die), DoK Level 2 tasks requiring learners to calculate and represent probabilities of events as fractions, ratios, or percentages, and DoK Level 3 tasks applying knowledge of probability to real-life situations.

iv. Essential Questions

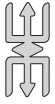
Write 3 essential questions on Probability that encourage learners to think about what probability means, how it can be represented and compared, and why understanding probability is important for making decisions in everyday life, such as in farming, trading, sports, or health.

**Note**

- i.** Chatting once may not be enough for the App to provide all that you may need for the tasks.
- ii.** Transfer the information from your SS App into your learning planner template to complete your plans.
- iii.** Chat with your App to learn how to integrate National Values, GESI, SEL and 21st century skills in your learning activities, assessment tasks and rubrics/mark scheme.

3.0 Enactment (20 minutes)

- 3.1** Enact a teaching activity in your plan (NTS 1b, 1f, 1g, 2c, 2e, 2f and 3c–3j).
- 3.2** Reflect on the activity enacted to improve lesson delivery (NTS 1a).
- 3.3** Ask for feedback on the activity enacted (NTS 1a, 1e, 2c and 3o).



Note

You may record the enacted activity.

4.0 Reflection (10 minutes)

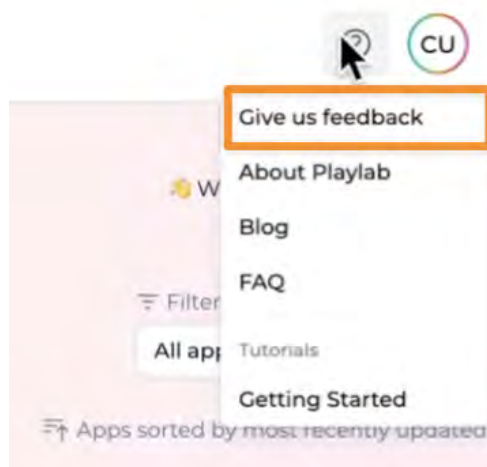
- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a critical friend to observe your lesson in relation to PLC Session 12 to provide feedback on your lesson (NTS 1f, 1g).

Appendix 1: Subject Specific App Teaching & Learning Apps – Issue Reporting Guide

How to Report Issues or Get Support

You have three ways to report issues with the subject-specific apps:

1. Email Support
 - For general issues: Send email to: support@playlab.ai
 - Include:
 - Your school name and region
 - Subject app you're using
 - Description of the issue
 - Screenshots or screen recordings (if possible)
 - Best for: School administrators reporting multiple app issues
 - Response time: Within 24 hours
 - If Urgent please include [URGENT] Message Text in your subject line.
2. Submit Feedback in Playlab
 - In the app, Click the “Give us Feedback” link in the menu and share feedback.



- Access the Feedback Form here
- Complete the form and upload any supporting documentation. (The more detailed your submission is, the more helpful support will be)



User Feedback Form

We want to hear your feedback and learn more about how we can improve Playlab for you. *Please complete this form to submit your feedback to the Playlab team.*

Full Name*

Your answer

Email*

Your answer

What is your role?*

Your answer

Please share your feedback

What challenge are you facing? What feature would you like to see?

Your answer

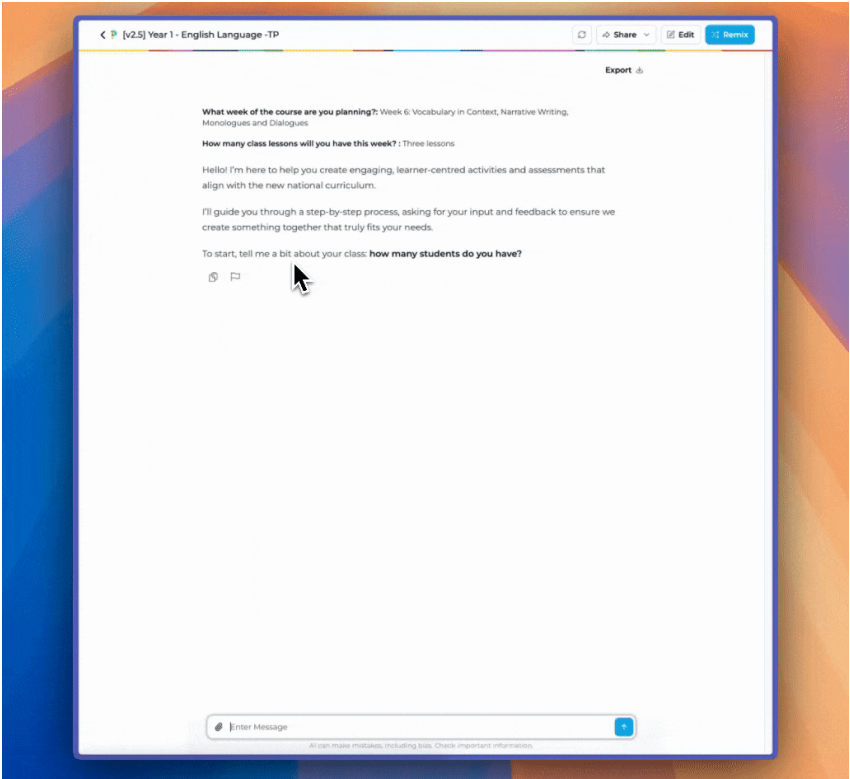
Please share any screenshots or videos that help visualize your feedback.

 **Upload** Size limit: 100 MB. File limit: 10.

Submit

Never submit sensitive personal information, like passwords, through Notion Forms.
[Report abuse](#)

- Best for: Individual teachers reporting specific issues
 - Response time: Within 24–48 hours
3. In-Chat Flagging
- Look for the flag button within your chat conversation



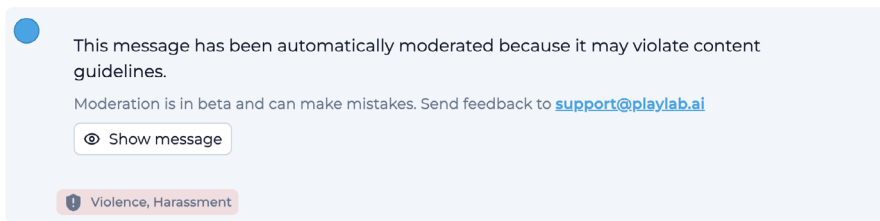
- Click to report biased, inaccurate, or inappropriate messages.
- Best for: Immediate issues with app responses
- There is also in app moderation for both user messages and AI generated responses. You can read more about it here.

What Happens After You Report?

1. The message will be flagged in your user activity. You will see indicators of messages that have been moderated or flagged.

KIPP NYC Restorative Plan Designer	8/21/2025
A3C	7 1
KIPP NYC Restorative Plan Designer	8/21/2025
A3C	5
KIPP NYC Restorative Plan Designer	8/15/2025
M	7 1

2. You can review the messages in activity. By default the message is hidden unless you click “show message”.



Thank you for sharing the details of the incident. Here's the step-by-step analysis and proposed restorative plan based on the provided situation:

3. If something is consistently being flagged, you may want to address it in your implementation, make revisions to the app, or contact support@playlab.ai for more guidance.

Tips for Effective Reporting:

- Be specific about what you were trying to do
- Note which subject app you're using
- Include your school and region information
- Describe what happened versus what you expected

Additional Support Resources

1 App Basics:

- Starting a conversation
 - Scan your QR code to use your app.
- If you encounter a problem, follow the directions for Escalating an issue.

Video Tutorials

- a Lesson Planning Walkthrough: Step-by-step guide using a real subject app with sample conversations
 - Lesson Plan Development
 - Watch a sample conversation here.
 - As you're using the apps, you can provide specifics on how you might want to differentiate for class needs
 - Assessment Development
 - Watch a sample conversation here.

- As you're using the apps, you can adjust the DOK levels as you create assessments at different complexity levels
- b For any additional questions please refer to the learn.playlab.ai page.

Key Reminders

- 1 Apps are supplemental tools to support your PLC Handbook and Teacher Manual—not replace them
- 2 Always refer to official curriculum documents as your primary resource
- 3 Use your professional judgment to adapt app suggestions for your classroom context

Appendix 2: Learning Planner Template

Name of Subject:

Learning Planner Template Year Two

Number of Learners in Class

Week

Duration

Form

Strand

Sub-Strand

Content Standard

Learning Outcome(s)

Learning Indicator(s)

Essential Question(s)

Pedagogical Strategies

Teaching & Learning Resources

Key Notes on Differentiation

Identify the different learner needs in your class and make notes on how to cater for them during the lesson

Lesson

(complete per number of lessons for the week)

Refer to the Teacher Manual and Learner Material to complete this section

Introduction

Main Lesson

Closure

Key Assessment	
1.	Formative Assessment Mode: Task: Mark Scheme:
2.	Key Assessment for Student Transcript Portal Assessment Mode: Task: Rubric/Mark Scheme:
Reflection & Remarks	

Appendix 3: Teacher Lesson Observation Form

Teacher Lesson Observation Form

Name of School

Subject being observed

Class

Year 1

Year 2

Year 3

Sex of the teacher

Male

Female

1. Is the purpose of the lesson clearly stated in the lesson plan and focused on learners achieving the lesson learning outcomes?

Yes

In Part

No

NA

b1. Please provide an explanation to your answer in Q1 above

2. Are the unique needs of female learners, male learners, and learners with special education needs adequately catered for in the lesson plan? For example, the choice of teaching methods and learning activities reflects/does not reflect the learning needs of all learners.

For example, the choice of teaching methods, and learning activities.

Yes

In Part

No

NA

2b. Please provide an explanation to your answer in Q2 above

3. Does the teacher manage behavior well, maintaining a positive and non-threatening learning environment throughout the lesson?

Yes In Part No NA

3b. Please provide an explanation to your answer in Q3 above

4. Are appropriate teaching and learning materials and other resources (including ICT, books, desks) available, accessible and being used to support learning of all females, males and learners with special education needs?

Yes In Part No NA

4b. Please provide an explanation to your answer in Q4 above

5. Are learners engaged on tasks that challenge them in line with the content standards?

Does the teacher take into consideration the uniqueness of learners?

Yes In Part No NA

5b. Please provide an explanation to your answer in Q5 above

6. Is there evidence that students are learning?

Yes In Part No NA

6b. Please provide an explanation to your answer in Q6 above

7. Is teaching differentiated to cater for the varied needs of all learners (i.e., male learners, female learners, learners with special education needs) and those with poor literacy and/ or numeracy proficiency?

Yes In Part No NA

7b. Please provide an explanation to your answer in Q7 above

8. Does the teacher use real life examples which are familiar to learners to explain concepts?

Yes In Part No NA

8b. Please provide an explanation to your answer in Q8 above

9. Does the teacher point out or question traditional gender roles when they come up during the lessons as appropriate?

Yes In Part No NA

9b. Please provide an explanation to your answer in Q9 above

10. Does the lesson include appropriate interactive and creative approaches e.g., group work, role play, storytelling to support learners achieving the learning outcomes?

If yes, give examples of the issues and skills that have been so integrated.

Yes In Part No NA

10b. Please provide an explanation to your answer in Q10 above

11. Have cross-cutting issues and /or 21st century skills been integrated into the lesson to support learners in achieving the learning outcomes e.g., problem-solving, critical thinking, communication? If yes, give examples of the issues and skills that have been so integrated.

Yes In Part No NA

11b. If yes, give examples of the issues and skills that have been so integrated.

12. Does the teacher incorporate ICT into their practice to support learning?

Yes In Part No NA

12b. Please provide an explanation to your answer in Q12 above

13. Does the teacher encourage all female male and male learners (including those who may be shy or afraid to speak) to ask questions, answer questions, participate in group work, etc. during the lesson?

Yes In Part No NA

13b. Please provide an explanation to your answer in Q13 above

14. Is assessment evident in the lesson? If yes, does it include assessment as, for or of learning and go beyond recall?

If yes, did it include assessment of, for or as learning and go beyond recall?

Yes In Part No NA

14b. Please provide an explanation to your answer in Q14 above

15. Do learners make use of feedback from teacher and peers?

Yes

In Part

No

NA

15b. Please provide an explanation to your answer in Q15 above

16. Does the teacher sum up the lesson and evaluate the lesson against the learning outcomes with the learners?

Yes

In Part

No

NA

16b. Please provide an explanation to your answer in Q16 above

17. Does the teachers' planning of lessons taught before the one observed show how they plan for learning over time, considering individual and group needs?

Yes

In Part

No

NA

17b. Please provide an explanation to your answer in Q17 above

18. Does the teacher pay attention to the composition of females and males during group work and assigns females leadership roles.

Yes

In Part

No

NA

18b. Please provide an explanation to your answer in Q18 above

19. Does the teacher provide constructive verbal feedback to both females and males and learners with special education needs?

Yes

In Part

No

NA

19b. Please provide an explanation to your answer in Q19 above

20. Does the teacher provide constructive written feedback to both females and males and learners with special education needs in their exercise book?

Yes

In Part

No

NA

20b. Please provide an explanation to your answer in Q20 above

21. Key strengths in the lesson

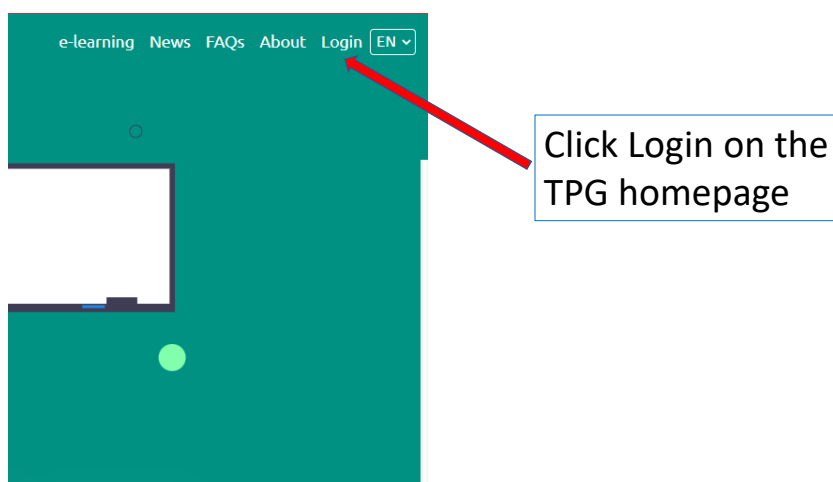
22. Areas for development

23. Next steps for teacher

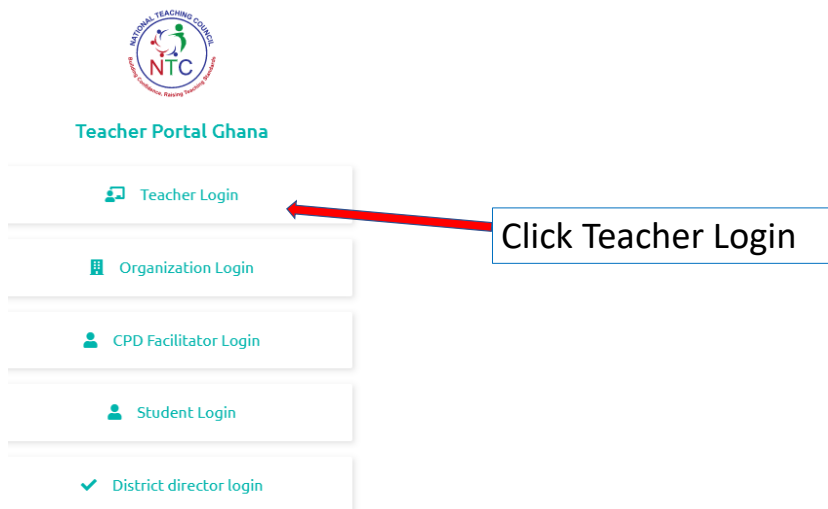
Additional Notes (on teacher's actions, the flow of activities, etc.)

Appendix 4: How to check CPD Points and Training Records on Teacher Portal Ghana

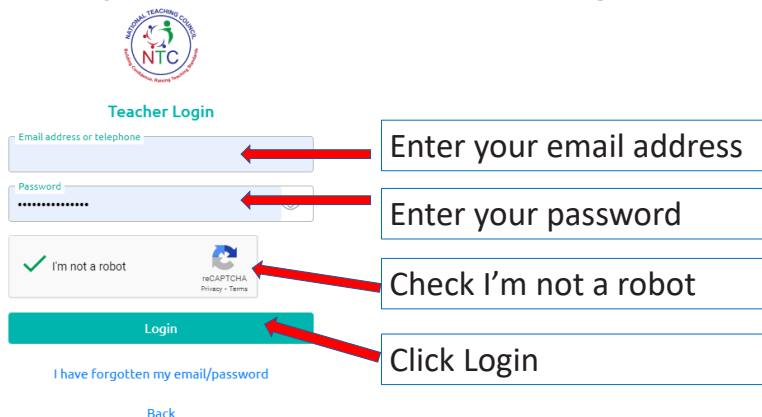
1. Visit tpg.ntc.gov.gh and click Login



2. On the Login page, click Teacher Login



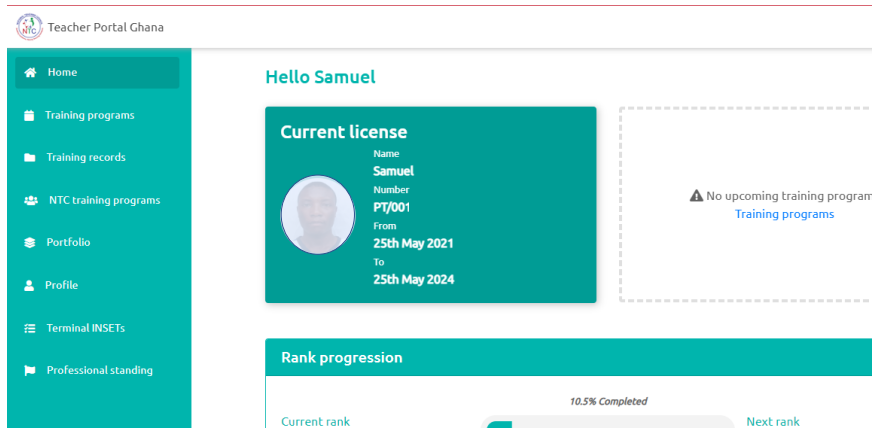
3. On the **Teacher Login** page enter your email address and password and then click **Login**



The image shows the Teacher Login page with the following elements and annotations:

- Teacher Login** (Page Title)
- Email address or telephone** (Input field) - Annotated with: **Enter your email address**
- Password** (Input field) - Annotated with: **Enter your password**
- I'm not a robot** (Captcha) - Annotated with: **Check I'm not a robot**
- Login** (Button) - Annotated with: **Click Login**
- [I have forgotten my email/password](#) (Link)
- [Back](#) (Link)

4. After a successful login you will get access to your **TPG account** (Check image below)



The image shows the Teacher Portal Ghana dashboard for a user named Samuel. The dashboard includes the following sections:

- Header:** Teacher Portal Ghana
- Left Sidebar:**
 - Home
 - Training programs
 - Training records
 - NTC training programs
 - Portfolio
 - Profile
 - Terminal INSETs
 - Professional standing
- Main Content Area:**
 - Hello Samuel**
 - Current license**
 - Name: Samuel
 - Number: PT/001
 - From: 25th May 2021
 - To: 25th May 2024
 - Rank progression**
 - Current rank
 - 10.5% Completed
 - Next rank
 - No upcoming training program** (Message with [Training programs](#) link)

5. To check CPD points, scroll down to **Rank progression**. You will see the CPD points progress bar and actual points accrued (Check image below)



6. To view training records, from the side menu tap on **Training records** (Check image below)

The image shows the 'Teacher Portal Ghana' interface. On the left is a teal side menu with options: Home, Training programs, Training records, NTC training programs, Portfolio, Profile, Terminal INSETs, and Professional standing. A red arrow points from the 'Training records' option to a text box. The main content area is titled 'Training records' with the subtitle 'Records for training programs registered and/or attended'. It shows 'Total points: 1.8988'. Below this is a list of training programs with their status and credits. A red bracket on the right groups the list of programs, with an arrow pointing to a text box. A red arrow points from the 'Training records' option in the side menu to a text box.

Teacher Portal Ghana

Training records
Records for training programs registered and/or attended

Total points: 1.8988

Training Program	Status	Credits
Sensitization on Education Policies	Marked as absent	
Differentiated Learning	Processed	1.32
Advanced Mobile Learning with Multimedia (AMLW)	Processed	0.5788

Click to view training records

List of training programs

THANK YOU

