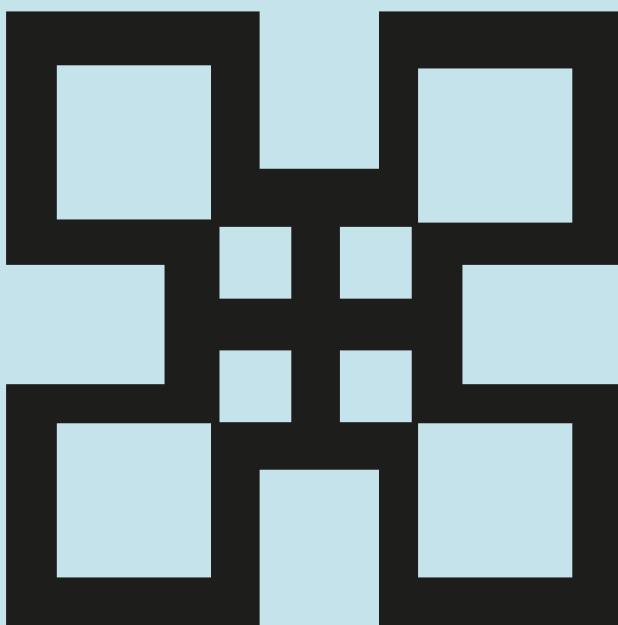


Professional Learning Community Handbook

Biology

Year Two



Ghana Education
Service (GES)



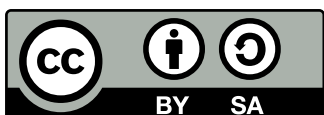
Professional Learning Community Handbook

Biology

Year Two



REPUBLIC OF GHANA



Published by the Ministry of Education, Ghana under Creative Commons Attribution 4.0 International License.

Contents

Foreword	v
Acknowledgements	vii
LINKS to APPs	xi
PLC Session 0: Introduction to the Year Two Professional Learning Community Handbook and the Subject Specific App	1
PLC SESSION 0.5: Using the Subject Specific App to deliver assessments at appropriate DoK levels	4
PLC Session 1: Distinctive Characteristics and Life Processes of Rhizopus	7
PLC Session 2: Preparing for Student Transcript Portal Assessment – Group Project	10
PLC Session 3: Distinctive Characteristics and Life Processes of Ferns	14
PLC Session 4: Preparing for Student Transcript Portal Assessment – Portfolio	18
PLC Session 5: Cell theory and Cell structures in relation to their functions	22
PLC Session 6: Preparing for Mid-Semester Examination	26
PLC Session 7: The DNA, Watson-Crick model, and the significance of DNA in eukaryotic cell	30
PLC Session 8: DNA Replication and its Relevance in Living Things	34
PLC Session 9: RNA Transcription and its Relevance in Living Things	38
PLC Session 10: Protein synthesis and its relevance in living things	42
PLC Session 11: Distinctive features, life cycle, characteristics and economic importance of grain weevil	46
PLC Session 12: Preparing for End of Semester Examination	50
PLC Session 13: Distinctive Features, Life Cycle, Characteristics and Economic Importance of the Housefly	54

PLC Session 14: Preparing for Student Transcript Portal Assessment – Individual Project	58
PLC Session 15: Characteristic features of a tropical rainforest and adaptations of organisms in tropical Rainforest	61
PLC Session 16: Characteristic features of savannah and desert habitats, and adaptations of organisms in savannah and desert habitats	65
PLC Session 17: Characteristic features and adaptations of organisms in Lagoon and Estuary habitats	69
PLC Session 18: Preparing for Mid-Semester Examination	73
PLC Session 19: Characteristic features and adaptations of organisms in the River, Pond and Lake	76
PLC Session 20: Differences and importance of immunization, vaccination and inoculation	80
PLC Session 21: Structure of the cardiovascular system of humans and how the parts relate to their functions	84
PLC Session 22: Structure of the excretory system of humans and how the parts relate to their functions in homeostasis	88
PLC Session 23: Transport of substances in flowering plants and factors affecting transport system in flowering plants	92
PLC Session 24: Preparing for End of Semester Examination	96
Appendix 1: Subject Specific App Teaching & Learning Apps – Issue Reporting Guide	99
Appendix 2: Learning Planner Template	104
Appendix 3: Teacher Lesson Observation Form	106
Appendix 4: How to check CPD Points and Training Records on Teacher Portal Ghana	112

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.

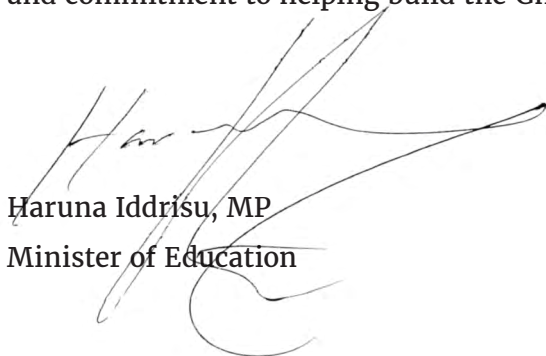
By fostering a culture of collaboration and continuous improvement through PLCs, teachers can enhance their understanding of the new SHS curriculum and effectively facilitate learning in the classroom. This will contribute to our country's resetting agenda by educating a generation of young people with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

A handwritten signature in black ink, appearing to read 'Haruna Iddrisu', is written over the printed name and title.

Haruna Iddrisu, MP
Minister of Education

Acknowledgements

Special thanks to Professor Samuel Ofori Bekoe, Director-General of the National Council for Curriculum and Assessment (NaCCA) and all who contributed to the successful writing of the Year Two Professional Learning Community Handbook.

The writing team was made up of the following members

NaCCA Team	
Name of Staff	Designation
Eric Amoah	Deputy Director-General, Technical Services
Ayuuba Sullivan	Senior Curriculum Development Officer
Stephen Acquah	Senior Curriculum Development Officer
Joseph Barwuah	Senior Instructional Resource Officer
Seth Nii Nartey	Corporate Affairs Officer
Alice Kuromah	Corporate Affairs Officer

	Subject	Name of Writer	Institution
1.	Additional Mathematics	Benedicta Ama Yekua Etuaful	Ogyeedom SHTS
2.	Agricultural Science	Issah Abubakari	Half-Assini SHS
3.	Agriculture	Prof Frederick Adzitey	University for Development Studies
4.	Arabic	Dr Mohammed Almu Mahaman	University for Development Studies
5.	Art and Design Foundation	Angela Owusu-Afryie	Opoku Ware School
6.	Art and Design Studio	Benjamin Quarshie	Mampong Technical College of Education
7.	Automotive & Metal Technology	Kunkyuuri Philip	Kumasi SHTS

	Subject	Name of Writer	Institution
8.	Aviation and Aerospace Engineering	David Kofi Oppong	Kwame Nkrumah University of Science and Technology
9.	Biology	Jo-Ann Neequaye	Nyarkrom SHS
10.	Biomedical Science	Davidson N.K. Addo	
11.	Building Construction & Woodwork Technology	Isaac Buckman	Armed Forces SHS
12.	Business Management	Ansbert Avole Baba	Bolgatanga Senior High School, Winkogo
13.	Chemistry	Michael Amissah	St. Augustine's College
14.	Clothing and Textiles	Rev. Sr. Jusinta Kwakyewaa	St. Francis Senior High Technical School
15.	Computing	Osei Amankwa Gyampo	Wesley Girls SHS, Kumasi
16.	Design and Communication Technology	Henry Angmor Mensah	Anglican Senior High School, Kumasi
17.	Economics	Salitsi Freeman Etonam	Anlo Senior High School
18.	Electrical & Electronics Technology	Gilbert S. Odjamgba	Ziavi Senior High Technical School
19.	Engineering	Daniel Agbogbo	Kwabeng Anglican Senior High School
20.	English Language	Frico Hawa Belinda	Vittin SHS, Tamale
21.	Food and Nutrition	Ama Achiaa Afriyie	St Louis Senior High School

	Subject	Name of Writer	Institution
22.	French	Sylvanus Exornam Yao Doe	Agate Senior High School
23.	General Science	Robert Arhin	SDA SHS, Akyim Sekyere
24.	Geography	Prof Ebenezer Owusu Sekyere	University for Development Studies
25.	Ghanaian Language	Ebenezer Agyemang	Opoku Ware School
26.	Government	Josephine Gbagbo	Ngleshie Amanfrom SHS
27.	History	Prince Essiaw	Enchi College of Education
28.	Information Communication Technology	Raphael Senyo Dordoe	Ziavi Senior High Technical School
29.	Islamic Religious Studies	Karibu Soumana	Nmanwora Community Senior High School
30.	Literature-in-English	Blessington Dzah	Ziavi Senior High Technical School
31.	Management in Living	Grace Annagmeng Mwini	Tumu College of Education
32.	Manufacturing Engineering	Benjamin Atribawuni Asaaga	KNUST
33.	Mathematics	Collins Kofi Annan	Mando Senior High School
34.	Music	Prof. Emmanuel Obed Acquah	University of Education Winneba
35.	Performing Arts	Christopher Ampomah Mensah	Bolgatanga SHS, Winkogo
36.	Physical Education and Health (Core)	Ebenezer Ewiah-Quarm	Nkroful Agric Senior High School

	Subject	Name of Writer	Institution
37.	Physical Education and Health (Elective)	Evans Asare Yeboah	Adisadel College
38.	Physics	Anum–Prempeh Gordon	Mfantsipim School
39.	Religious and Moral Education	Anthony Mensah	Abetifi College of Education
40.	Robotics	Isaac Nzoley	Wesley Girls High School
41.	Social Studies	Jemima Ayensu	Holy Child School
42.		Hadisa Esun Afful	Mozano College of Music
43.	Spanish	Christina Apretwum	University of Media, Art and Communication
44.	Technical Support	Eric Abban	Mt. Mary College of Education
45.		Edward Mills Dadson	
46.		Benjamin Sundeme	St. Ambrose College of Education
47.		Jennifer Fafa Narh	
48.		Perfect Quarshie	Mawuko Girls SHS
49.	Ghana Education Service	Faustina Graham	

LINKS to APPs

Year One App



[https://www.
playlab.ai/project/
cmd93v07f06h5jiouae4zk9lj](https://www.playlab.ai/project/cmd93v07f06h5jiouae4zk9lj)

Year Two App



[https://www.
playlab.ai/project/
cme6fjsskobbom50u3bk6xwpt](https://www.playlab.ai/project/cme6fjsskobbom50u3bk6xwpt)

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)

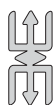
2.1 Scan the QR Code or use the link to access your Subject Specific App – <https://www.playlab.ai/project/cme6fjsskobbom5ou3bk6xwpt>



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

- i. **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.
- ii. **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

iii. 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: Using the Subject Specific App to deliver assessments at appropriate DoK levels

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 refresh our knowledge and understanding of assessment in the SHS curriculum. WAEC's visits to schools show that teachers are generally doing well with setting assessment tasks at DoK Levels 1 and 2 but there are issues with Levels 3 and 4. This session will look at how the subject specific App can assist teachers in developing assessments at all DoK Levels.

Learning Outcome (LO): To strengthen teachers' skills and competencies in developing assessment tasks and items to reflect all the DoK Levels (NTS 3k, 3o-3p).

Learning Indicator (LI) 1: Use the subject specific App to develop assessments linked to the learning indicators and the required DoK levels.

Learning Indicator (LI) 2: Use the subject specific App to review existing assessments to check whether they are linked to the required Learning Indicators and DoK levels.

2.0 Planning and Delivering of Assessment using the Subject Specific App (65 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.*

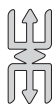
- c. *Select a week you are interested in and continue chatting with your App*
- d. *Refer to your Teacher Manual and confirm the information provided by the App or otherwise.*

2.2 Explore assessment using the App (NTS 3h, 3j and 3o–3q)

E.g.

Select Assessment

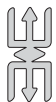
- a. *Look at the LIs for the week and select the appropriate DoK Level or Levels required for the week's lesson. For instance, 'the LI requires modelling, I would like to assess at level 3'*
- b. *Review the responses on the formats from your App, select any that meets your needs or continue chatting with your App to provide other assessment formats.*
- c. *Continue chatting with your App, for instance*
 - i. *'suggest 10 scenario based MCQs'*
 - ii. *'suggest level 3 task taking into consideration the learning activities and differentiation'*
 - iii. *Generate marking scheme for the task and add an explanation why an option is the right answer*



Note

Check that the MCQs are arranged alphabetically, vertically and the options are of similar length

- d. *Now repeat the process for different assessment strategies, for instance*
 - i. *Essay questions at level 3*
 - ii. *Case study questions at level 4*
 - iii. *3 week project task at level 4, etc.*



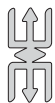
Note

You may select a different section or week for Activity 2.2d

2.3 Use the subject specific App to review the task or items you developed by having a chat with the App to provide justifications as to why the task is at DoK level 3 or 4 (NTS 3j, 3k, 3m 3o and 3p–3q).

E.g.

Explain why the tasks or items are at DoK level 3.

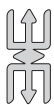


Note

You may repeat this for DoK levels 1, 2 or 4.

3.0 Using your subject specific App to explore one of the key assessment modes

- 3.1** Identify and select an assessment mode you found challenging in the last academic year and explore with your subject specific App how to use this assessment strategy effectively in your lesson delivery (NTS 3k).



Note

- i. *Chatting once may not be enough for the App to provide all that you may need for the tasks.*
- ii. *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.*

- 3.2** Share your experience with the larger group (NTS 3j).
- a. two things you learnt using the App in developing assessments
 - b. how you plan to apply the experiences
 - c. any challenges you faced in using the App to develop assessments and how you addressed them

4.0 Reflection (15 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).

PLC Session 1: Distinctive Characteristics and Life Processes of Rhizopus

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 1 on *Distinctive Characteristics and Life Processes of Rhizopus* 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 *Distinctive Characteristics and Life Processes of Rhizopus* 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 for week 1 on *Distinctive Characteristics and Life Processes of Rhizopus* 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 *Distinctive Characteristics and Life Processes of Rhizopus* (NTS 3a–3q).

E.g.

i. Learning activities

I am teaching Week 1: Distinctive Characteristics, Life Processes and Economic Importance of Rhizopus. I have 50 learners. 5 are highly

proficient. 15 are approaching proficiency. Learners have access to a laboratory, internet and charts. Provide recommendations of learning activities from the Teacher Manual and Learner Materials that I can use to support the attainment of the learning indicator. Break lessons into introduction, main lesson and closure activities.

ii. Assessment tasks

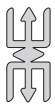
The assessment mode for this week is observation. The duration for the observation is 30 minutes. Suggest one formative assessment task each at DoK level 1,3 and 4 with rubrics.

iii. Differentiation

I have 50 learners, 5 are proficient and 15 are approaching proficiency. They can use educational apps and charts. How can I effectively teach my Week 1 lesson to cater for all learners?

iv. Essential questions

To achieve Week 1 learning indicators from the Teacher Manual, suggest 3 essential questions (with the teacher and the learners in mind) that would help direct the progress of the lesson.



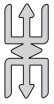
Note

- 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: Preparing for Student Transcript Portal Assessment – Group Project

1.0 Introduction (10 minutes)

- 1.1 Share one thing on assessment in PLC Session 1 that you
 - a. applied in your lesson delivery
 - b. found challenging and how you addressed it.
- 1.2 Share one challenge you encountered while populating your learning plan for Week 2 on *Distinctive Characteristics, Life Processes and Economic Importance of Mosses* before the session that you would like to discuss during this PLC session.
- 1.3 Read and discuss the Purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to use the subject-specific App to

- 1. review the completed learning plan for Week 2 on *Distinctive Characteristics, Life Processes and Economic Importance of Mosses*
- 2. prepare assessment tasks and rubrics for group project work.

Learning Outcome (LO): To review the learning plan for Week 2 on *Distinctive Characteristics, Life Processes and Economic Importance of Mosses* and address any challenges in planning and developing assessment tasks for the group project work (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicator (LI) 1: Review the learning plan and address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Discuss, develop and review assessment tasks with rubrics for the group project work.

2.0 Reviewing the Learning Plan (20 minutes)

- 2.1** Upload your completed learning plan into the subject-specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Learning activities

The uploaded learning plan for Week 2, is for a class of 60 with 25 approaching proficiency with no access to laboratory resources. Assess if the learning activities in my plan are in line with the learning tasks for the week. Create activities to make the necessary amendments.



Hint

Continue chatting with your App to verify the following and use the responses to complete your plan

- a) essential questions
- b) differentiation
- c) assessment tasks, etc.

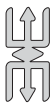
3.0 Prepare to Assign, Assess and Record for the Student Transcript Portal (50 minutes)

- 3.1** Refer to your Teacher Manual for the key assessment to be recorded in the Student Transcript Portal and have a chat with the subject-specific App to review or develop your assessment tasks and mark schemes/rubrics (NTS 2a-2c, 2e-2h and 3j-3q).

E.g.

Group Project work

Refer to appendix A in the Teacher Manual and review the project and recommend ways of making it achievable by the 8th week. Include suggestions on safety precautions and the use of low-cost materials suitable for the conduct of tasks.



Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks

- ii. *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.*

3.2 Have a chat with your App to verify the suggested assessment tasks and discuss the suitability of the responses from activity 3.1. Use the suggestions to refine the assessment tasks (NTS 1a, 2b, 2c and 3e–3q). In doing this activity, consider:

E.g.

i. Task

Is the redesigned project tasks flexible within the suggested timelines? If not, recommend a flexible option and apply to the project task.

ii. Mark scheme and score distribution

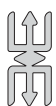
Provide a complete list of deliverables and scoring rubrics for the improved project work.

iii. Resources needed for assessment administration

Provide a list of resources with alternatives (no cost) for both the teacher and the groups for administering the assessment.

iv. How to provide feedback

Suggest a plan for effective feedback implementation to support the learners.



Note

Use the responses to complete your plan

4.0 Reflection (10 minutes)

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

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

4.3 Remember to:

- a. Mark, record and upload your learners' assessment scores in the Student Transcript Portal (NTS 3j, 3n).
- b. Read PLC Session 3, Teacher Manual and related Learner Material (NTS 3a).

- c. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- d. Identify areas you found challenging in your teaching and administering of the assessment for discussion during the next session.

PLC Session 3: Distinctive Characteristics and Life Processes of Ferns

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 2
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for Week 3?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A



HINT

You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for Week 3 on *Distinctive Characteristics and Life Processes of Ferns* using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and 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 using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 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 *Distinctive Characteristics and Life Processes of Ferns* (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

Suggest 3 essential questions (for the teacher and the learners) that promote critical thinking and can be considered to support the planning of a lesson for a class with 6 advanced learners and 14 struggling learners?

ii. Differentiation

I have 49 learners in my class. There are 6 advanced students, 14 who need more help, and 1 who is partially blind in one eye. Suggest ways of planning week 3 lesson to accommodate these learners.

iii. Learning activities

For Week 3, I have 49 learners in my class of whom 6 are advanced students and 14 need special attention. Using less expensive local resources from a rural community, provide experiential learning activities for a 2-hour lesson, structured into introduction, main lesson, and closure.

iv. Assessment tasks

The assessment mode for this week is class exercise. The learners have no access to a lab and educational videos. Create four assessment items, 1 at Dok level 1, 2 at Dok level 2 and 1 at Dok level 3 to be done in 25 minutes. Provide a mark scheme or rubrics for this assessment.



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.



HINT

Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing challenges in planning, delivering and assessing lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Learning activities

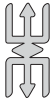
Based on the uploaded learning plan for Week 3, refer to the Teacher Manual and appraise the learning activities to conform to the key notes on differentiation. Suggest alternative ways of improving the activities to meet the learners' needs and promote national values.



Hint

Continue chatting with your App to verify the following and use the responses to complete your plan

- a) essential questions
- b) differentiation
- c) assessment tasks, 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.*

2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

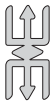
2.3 Share your experience with the group.

3.0 Enactment (25 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 colleague 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: Preparing for Student Transcript Portal Assessment – Portfolio

1.0 Introduction (10 minutes)

- 1.1 Share one thing on assessment in PLC Session 3 that you
 - a. applied in your lesson delivery
 - b. found challenging and how you addressed it.
- 1.2 Share one challenge you encountered while populating your learning plan for Week 4 on *Basic Concepts in Biology and How These Can Be Used to Improve Crop and Animal Production* before the session that you would like to discuss during this PLC session.
- 1.3 Read and discuss the Purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to use the subject-specific App to

- 1. review the completed learning plan for Week 4
- 2. prepare assessment tasks and rubrics for individual artifact portfolio.

Learning Outcome (LO): To review the learning plan for Week 4 on *Basic Concepts in Biology and How These Can Be Used to Improve Crop and Animal Production* and address any challenges in planning and developing assessment tasks for the individual artifact portfolio (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicator (LI) 1: Review the learning plan and address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Discuss, develop and review assessment tasks with rubrics for the individual artifact portfolio.

2.0 Reviewing the Learning Plan (20 minutes)

- 2.1** Upload your completed learning plan into the subject-specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e–3q).

E.g.

Essential questions

I have uploaded my learning plan for this week for 70 learners among whom are 22 proficient and 48 approaching proficient learners. Will the essential questions direct the learners to critically access the application of biological concepts to crop and animal production? Make the necessary amendment if need be.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a) Learning activities
- b) differentiation
- c) assessment tasks, etc.

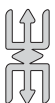
3.0 Prepare to Assign, Assess and Record for the Student Transcript Portal (50 minutes)

- 3.1** Refer to your Teacher Manual for the key assessment to be recorded in the Student Transcript Portal and have a chat with the subject-specific App to review or develop your assessment tasks and mark schemes/rubrics (NTS 2a–2c, 2e–2h and 3j–3q).

E.g.

Individual Artifact Portfolio

Based on Appendix B on portfolio in the Teacher Manual, recommend assessment tasks on the creation of individual artifacts into a portfolio. The assessment tasks should cover weeks 2 to 23 and to be submitted at the end of week 23.



Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks

- ii. *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.*

3.2 Have a chat with your App to verify the suggested assessment tasks and discuss the suitability of the responses from activity 3.1. Use the suggestions to refine the assessment tasks (NTS 1a, 2b, 2c and 3e–3q). In doing this activity, consider:

E.g.

i. Task

Are the requirements for the individual artifact portfolio generated suitable for the proficient and approaching proficient learners?

Incorporate suggestions in the generated artifacts portfolio to accommodate the learners.

ii. Mark scheme and score distribution

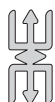
Per the revisions made in the artifacts portfolio make changes to the deliverables, scores and marks scheme.

iii. Resources needed for assessment administration

What resources will my learners need to execute this artifacts portfolio task? Suggest low/no cost resources for my learners.

iv. How to provide feedback

What targeted feedback can you provide for learners during the progress of the assessment and after scoring the individual portfolio.



Note

Use the responses to complete your plan

4.0 Reflection (10 minutes)

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

4.2 Identify a colleague to observe your lesson in relation to PLC Session 4 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a. Mark, record and upload your learners' assessment scores in the Student Transcript Portal (NTS 3j, 3n).
- b. Read PLC Session 5, Teacher Manual and related Learner Material (NTS 3a).

- c. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- d. Identify areas you found challenging in your teaching and administration of the assessment for discussion during the next session.

PLC Session 5: Cell theory and Cell structures in relation to their functions

1.0 Introduction (5 minutes)

- 1.1** Share one thing you applied in your classroom based on PLC Session 4
- a. the challenges you faced
 - b. how you addressed them
- 1.2** Have you developed your learning plan for week 5?
- a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

HINT



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for Week 5 on *Cell theory and Cell structures in relation to their functions* using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and 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 using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 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 Cell theory and Cell structures in relation to their functions* (NTS 1a, 2b, 2c, 2e-2h and 3a-3q).

E.g.

i. Essential questions

For a class of 75 learners to achieve the learning outcome for Week 5, suggest 2 essential questions for the teacher and the learners that would encourage learners to reflect on how they can apply their knowledge in the real world.

ii. Differentiation

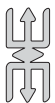
Out of 75 learners in the class, 1 is partially blind in one eye, 70 are approaching proficiency and 5 are proficient and with access to a laboratory but no internet. Recommend ways to plan for Week 5 lesson to accommodate these learners.

iii. Learning activities

Suggest 4 well-sequenced learning activities that would be most appropriate for Week 5 and for a class of 70 learners where 1 is partially blind in one eye, 70 are approaching proficiency and 5 are proficient.

iv. Assessment tasks

With concept map as the assessment mode, recommend for summative assessment tasks for Week 5 and suggest ways of assigning the tasks during lesson delivery. Include the rubrics for the assessment tasks.



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.

HINT



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing challenges in planning, delivering and assessing lessons (50 minutes)

Purpose: To support teachers, address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Differentiation

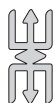
Assess if the notes on differentiation in the uploaded learning plan, are considered in the learning activities and suggest areas to differentiate in the lesson to suit all learners.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a) essential questions
- b) Learning activities
- c) assessment tasks, 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.*

2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

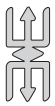
2.3 Share your experience with the group.

3.0 Enactment (25 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 colleague 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: Preparing for Mid-Semester Examination

1.0 Introduction (10 minutes)

- 1.1 Share one thing on assessment in PLC Session 5 that you
 - a. applied in your lesson delivery
 - b. found challenging and how you addressed it.
- 1.2 Share one challenge you encountered while populating your learning plan for Week 6 before the session that you would like to discuss during this PLC session.
- 1.3 Read and discuss the Purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to use the subject-specific App to

1. review the completed learning plan for Week 6 on *Apply the knowledge of cell structure and functions to the movement of substances in and out of cells*.
2. prepare assessment tasks and rubrics for mid-semester examination

Learning Outcome (LO): To review the learning plan for Week 6 and address any challenges in planning and developing assessment tasks for the mid-semester examination (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Review the learning plan and address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Discuss, develop and review assessment tasks with rubrics for the mid-semester examination.

2.0 Reviewing the Learning Plan (20 minutes)

- 2.1 Upload your learning plan into the subject-specific App. Have a chat with your App to verify the following and discuss their suitability to

reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e–3q).

E.g.

Assessment tasks

Based on the uploaded learning plan for week 6, appraise the formative assessments and let it match with the learning indicators at the appropriate DoK levels for the week. Suggest ways to factor the revised formative assessment tasks in the learning activities within the required time frame.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a) essential questions
- b) differentiation
- c) learning activities, etc.

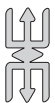
3.0 Prepare for Mid-Semester Examination (50 minutes)

- 3.1** Refer to your Teacher Manual for the format of the mid-semester examination and use the subject-specific App to review or develop your assessment tasks, mark schemes/rubrics, etc. (NTS 2a–2c, 2e–2h and 3j–3q).

E.g.

The structure and table of specification for setting the mid-semester examination as in the Teacher Manual recommends that the mid-semester examination should have 30 multiple-choice questions across DoK levels 1, 2 and 3 for a duration of 45 minutes. Recommend 30 multiple-choice questions and Marks scheme.

Match up the assessment tasks with the learning indicators in weeks 1 to 5 and ensure indicators are fairly assessed.



Note

- i. *In preparing for mid-semester or end of semester examination, one prompt may not be enough for the App to provide all you need (DoK levels, structure, distribution across DoK levels, etc.)*

ii. Use the responses to complete your plan

- 3.2** Have a chat with your App to review the suggested assessment tasks and discuss the suitability of the responses from activity 3.1. Use the review to refine the responses 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 30%, 40%, 30% DoK distribution**

Check if the MCQs have 30% of the items at DoK level 1, 40% at DoK level 2, and 30% at DoK level 3, covering weeks 1 to 5. Suggest corrective action(s) and apply to the test items.

Follow up prompt

Ensure that the options for each stem is arranged alphabetically. Arrange options as A. B. C. D. vertically below each question. Each option starts on a new line.

- ii. Mark scheme and score distribution**

Per the reviewed mid-semester MCQs make changes to the marks scheme and scoring.

- iii. Resources needed for assessment administration**

Based on the reviewed MCQs for mid-semester exams, what resources would be needed to successfully administer the exams?

- iv. How to provide feedback**

Provide an effective feedback plan that supports the varied learners in the class of 45, suggesting how to handle commendations and areas for improving the performance of 20 struggling learners.

4.0 Reflection (10 minutes)

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

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

- 4.3** Remember to:

- a.** Mark, record and upload your learners' assessment scores in the Student Transcript Portal (NTS 3j, 3n)
- b.** Read PLC Session 7, Teacher Manual and related Learner Material (NTS 3a).

- c. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- d. Identify areas you found challenging in your planning and administering of the assessment for discussion during the next session.

PLC Session 7: The DNA, Watson-Crick model, and the significance of DNA in eukaryotic cell

1.0 Introduction (5 minutes)

- 1.1** Share one thing you applied in your classroom based on PLC Session 6
- a. the challenges you faced
 - b. how you addressed them
- 1.2** Have you developed your learning plan for Week 7?
- a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

HINT



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 7 on *the DNA, Watson-Crick model, and the significance of DNA in eukaryotic cell* using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and 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 using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 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 DNA, Watson–Crick model, and the significance of DNA in eukaryotic cell* (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

Refer to Week 7 and propose 3 essential questions (for the teacher and the learners) that will support a class of 35 learners with access to localised resources?

ii. Differentiation

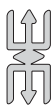
Suggest differentiation strategies for 35 learners, of which 8 are highly proficient and 17 are approaching proficiency. The class has access to a lab and DNA models.

iii. Learning activities

Based on the learning tasks and pedagogies in Week recommend teaching and learning activities for teaching 35 learners, of which 8 are highly proficient and 17 are working towards proficiency and have access to a lab and DNA models.

iv. Assessment tasks

For 35 learners with 8 highly proficient and 17 working towards proficiency with access to a lab and DNA models, suggest a summative assessment task to be done within 25 minutes and rubrics at DoK level 3 that is based on the learning tasks in the Teacher Manual for Week 7.



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.

HINT



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing challenges in planning, delivering and assessing lessons (50 minutes)

Purpose: To support teachers, address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Assessment tasks

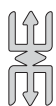
For a class of 55 learners, 6 are proficient and 49 are working towards proficiency with access to a lab and no DNA models, review the summative assessment task and rubrics in my attached learning plan to achieve the learning tasks in the Teacher Manual and suggest areas for improvement.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a) essential questions
- b) differentiation
- c) Learning activities, 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.*

2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

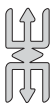
2.3 Share your experience with the group.

3.0 Enactment (25 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 colleague 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: DNA Replication and its Relevance in Living Things

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 7
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for Week 8?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

HINT



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for Week 8 on *DNA Replication and its Relevance in Living Things* using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and 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 using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 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 *DNA Replication and its Relevance in Living Things* (NTS 1a, 2b, 2c, 2e-2h and 3a-3q).

E.g.

i. Essential questions

For Week 8 lesson, the class is 53 learners of which 9 are advanced and 14 are struggling. Suggest essential questions that will promote truthful application of the knowledge from the lesson.

ii. Differentiation

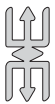
For Week 8 lesson, the class is 53 learners: 9 are advanced and 14 are struggling. They have access to the internet and charts. Suggest 2 notes on differentiation that can effectively support this lesson?

iii. Learning activities

This week's lesson to 53 learners with diverse needs is on DNA Replication and its Relevance in Living Things. They can use online resources. Recommend a well-structured experiential learning activities for a lesson to be taught in 4.

iv. Assessment tasks

The class can use online resources and visual aids. Recommend 2 assessment items for DoK level 1, one for DoK level 3, and one for DoK level 4 for a 35-minute case study assessment, along with rubrics.



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.

HINT



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing challenges in planning, delivering and assessing lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Essential questions

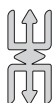
For a class of 53 learners: 9 are advanced and 14 are struggling with access to online resources, review the essential questions in the attached learning plan to ensure they promote truthful application of the knowledge for Week 8 in the Teacher Manual and suggest areas for improvement.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a) Learning activities
- b) differentiation
- c) assessment tasks, etc.



Note

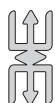
- i. *Chatting once may not be enough for the App to provide all that you may need for the tasks*
- ii. *Transfer the information from your SS App into your learning planner template to complete your plans*

- 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.*

- 2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).
- 2.3 Share your experience with the group.

3.0 Enactment (25 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 colleague 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: RNA Transcription and its Relevance in Living Things

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 8
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for Week 9?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

HINT



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for Week 9 on *RNA Transcription and its relevance in living things* using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and 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 using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 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 RNA Transcription and its relevance in living things* (NTS 1a, 2b, 2c, 2e-2h and 3a-3q).

E.g.

i. Essential questions

To meet the learning outcomes set for Week 9 in the Teacher Manual, what 3 overarching questions for both the teacher and learners to promote effective learning?

ii. Differentiation

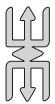
For a class with 6 auditory learners and 5 tactile learners with access to locally sources materials, suggest 3 differentiation strategies to be factored in my learning plan for Week 9?

iii. Learning activities

I have a class of 69 learners with 6 auditory learners and 5 tactile learners, provide step-by-step experiential learning activities to be implemented for a 2-hour lesson in line with Week 9 in the Teacher Manual.

iv. Assessment tasks

What formative assessment tasks can be set for infographics in Week 9 for a class of 69 with different learning needs? The learners have access to locally sourced materials.



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.

HINT

Move to Activity 3.0



2.0B Reviewing the Learning Plan and Addressing challenges in planning, delivering and assessing lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Learning activities

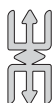
Review the experiential learning activities in the attached learning plan for Week 9 and relate them to the content of the Teacher Manual to ensure they are appropriate for the attainment of the LO and LI of the lesson. Suggest corrections if any.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a) essential questions
- b) differentiation
- c) assessment tasks, etc.



Note

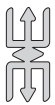
- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. Transfer the information from your SS App into your learning planner template to complete your plans

- 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.*

- 2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).
- 2.3 Share your experience with the group.

3.0 Enactment (25 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 colleague 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: Protein synthesis and its relevance in living things

1.0 Introduction (5 minutes)

- 1.1** Share one thing you applied in your classroom based on PLC Session 9
- a.** the challenges you faced
 - b.** how you addressed them
- 1.2** Have you developed your learning plan for week 10?
- a.** If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b.** If you answered **no**, conduct your PLC Session from Activity 2.0A

HINT



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for Week 10 on *Protein synthesis and its relevance in living things* using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and 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 using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 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 *Protein synthesis and its relevance in living things* (NTS 1a, 2b, 2c, 2e-2h and 3a-3q).

E.g.

i. Essential questions

Generate 3 essential questions for Week 10 for both teachers and learners. The questions should encourage critical thinking and discussions.

ii. Differentiation

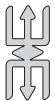
Differentiate learning for Week 10 for a class of 75 learners: 1 partially blind, 45 approaching proficiency learners. No lab access but other local resources are available. Suggest 3 points to consider in incorporating all learner in line with the Teacher Annual.

iii. Learning activities

Create a well-sequenced set of learning activities that specifically caters for the needs of 1 partially blind and 45 approaching proficient learners in a class. The activities must suit the pedagogical exemplars suggested for teaching Week 10.

iv. Assessment tasks

What summative group assessment tasks can be assigned to the learners for the learning of the concepts in week 10? Attach the rubrics for the assessment tasks.



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.

HINT



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing challenges in planning, delivering and assessing lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.2** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Differentiation

For a class of 75 learners: 1 partially blind, 45 approaching proficiency learners with no lab access but local resources available, review the differentiation strategies used in the attached learning plan for its effectiveness throughout lesson delivery. Suggest areas for improvement.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a) essential questions
- b) Learning activities
- c) assessment tasks, etc.



Note

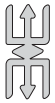
- i. *Chatting once may not be enough for the App to provide all that you may need for the tasks*
- ii. *Transfer the information from your SS App into your learning planner template to complete your plans*

- 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.*

- 2.3 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).
- 2.4 Share your experience with the group.

3.0 Enactment (25 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 colleague 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: Distinctive features, life cycle, characteristics and economic importance of grain weevil

1.0 Introduction (5 minutes)

- 1.1** Share one thing you applied in your classroom based on PLC Session 10
- a. the challenges you faced
 - b. how you addressed them
- 1.2** Have you developed your learning plan for Week 11?
- a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

HINT



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 11 on *Distinctive features, life cycle, characteristics and economic importance of grain weevil* using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and 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 using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 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 *Distinctive features, life cycle, characteristics and economic importance of grain weevil* (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

Provide 4 essential questions related to the real-world implications of Distinctive features, life cycle, characteristics and economic importance of grain weevil, that will provoke critical thinking and honesty in classroom discussions.

ii. Differentiation

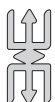
Suggest strategies for differentiating learning in Week 11 for 60 learners: 6 high proficient, 20 proficient and the remaining are approaching proficiency. There is internet access and laboratory resources.

iii. Learning activities

Develop specific learning activities based on suggested strategies in the Teacher Manual for teaching “Distinctive features, life cycle, characteristics and economic importance of grain weevil”.

iv. Assessment tasks

The recommended assessment mode is discussion. Develop formative assessment tasks based on the learning tasks and Dok levels for Week 11 in the Teacher Manual. Provide the rubrics for the tasks.



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.

HINT



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing challenges in planning, delivering and assessing lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Assessment tasks

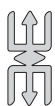
Review the formative assessment test items throughout the lessons in my attached learning plan and recommend alternatives for inappropriate assessment items for achieving the learning tasks. Suggest how to incorporate the alternatives in the lessons for effective delivery.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a) essential questions
- b) differentiation
- c) Learning activities, 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.*

2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

2.3 Share your experience with the group.

3.0 Enactment (25 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 colleague 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: Preparing for End of Semester Examination

1.0 Introduction (10 minutes)

- 1.1 Share one thing on assessment in PLC Session 11 that you
 - a. applied in your lesson delivery
 - b. found challenging and how you addressed it.
- 1.2 Share one challenge you encountered while pre-populating your learning plan for Week 12 before the session that you would like to discuss during this PLC session.
- 1.3 Read and discuss the Purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to use the subject-specific App to

1. review the completed learning plan for Week 12 on *Distinctive features, life cycle, characteristics and economic importance of butterfly*.
2. prepare assessment tasks and rubrics for end of semester examination

Learning Outcome (LO): To review the learning plan for week 12 on *Distinctive features, life cycle, characteristics and economic importance of butterfly* and address any challenges in planning and developing assessment tasks for the end of semester examination (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Review the learning plan and address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Discuss, develop and review assessment tasks with rubrics for the end of semester examination.

2.0 Reviewing the Learning Plan (20 minutes)

- 2.1 Upload your learning plan into the subject-specific App. Have a chat with your App to verify the following and discuss their suitability to

reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e–3q).

E.g.

Essential questions

Attached is a learning plan for Week 12 on “Distinctive features, life cycle, characteristics and economic importance of butterfly”. Review the essential questions for its appropriateness to the learning indicator and recommend samples to replace the inappropriate ones.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a) learning activities
- b) differentiation
- c) assessment tasks, etc.

3.0 Prepare for End of Semester Examination (50 minutes)

- 3.1** Refer to your Teacher Manual for the format of the end of semester examination and use the subject-specific App to review or develop your assessment tasks, mark schemes/rubrics, etc. (NTS 2a–2c, 2e–2h and 3j–3q).

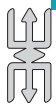
E.g.

Review the structure, guidelines and table of specifications for setting the end of semester examination and amend the table of specification if appropriate to cover weeks 1 to 12.

Based on the revised table of specification, suggest

1. 40 multiple-choice with options for each stem arranged alphabetically
2. 3 detailed essay type questions
3. 3 practical test items.
4. Rubric

The examination duration is 3 hours.

Note

- i. *In preparing for mid-semester or end of semester examination, one prompt may not be enough for the App to provide all you need (DoK levels, structure, distribution across DoK levels, etc.)*
- ii. *Use the responses to complete your plan*

3.2 Have a chat with your App to review the suggested assessment tasks and discuss the suitability of the responses from activity 3.1. Use the review to refine the responses 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 30%, 40%, 30% DoK distribution**
Check if the end of semester assessment tasks has 30% of the items at DoK level 1, 40% at DoK level 2, and 30% at DoK level 3 and 4. If not, suggest corrective action and apply it in the test items(s).
- ii. **Mark scheme and score distribution**
Per the reviewed end of semester assessment tasks, make changes to the mark scheme and rubrics to conform to the requirements of the examination.
- iii. **Resources needed for assessment administration**
What resources would be needed before and during the administration of the examination to promote honesty and to cater for hyperactive needs of the 2 of the learners.
- iv. **How to provide feedback**
Suggest effective feedback statements and implementation plan that supports the varied learners for improvement in their performance.

4.0 Reflection (10 minutes)

- 4.1 Reflect and share your views on the session (NTS 1a, 1b).
- 4.2 Identify a colleague to observe your lesson in relation to PLC Session 12 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Mark, record and upload your learners' assessment scores in the Student Transcript Portal.
 - b. Read PLC Session 13, Teacher Manual and related Learner Material (NTS 3a).
 - c. Bring along your laptop, Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - d. Identify areas you found challenging in your planning and administering of the assessment for discussion during the next session.

PLC Session 13: Distinctive Features, Life Cycle, Characteristics and Economic Importance of the Housefly

1.0 Introduction (5 minutes)

- 1.1** Share one thing you applied in your classroom based on PLC Session 12
- a. the challenges you faced
 - b. how you addressed them
- 1.2** Have you developed your learning plan for Week 13?
- a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

HINT



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for Week 13 on Distinctive features, life cycle, characteristics and economic importance of the housefly using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and 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 using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 13 on Distinctive features, life cycle, characteristics and economic importance of the housefly (NTS 1a, 2b, 2c, 2e-2h and 3a-3q).

E.g.

i. Essential questions

Suggest 3 essential questions that will help learners evaluate their understanding and encourage reflection on their learning process for Week 13.

ii. Differentiation

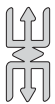
To complete my learning plan with key notes on differentiation, suggest roles that can be assigned to visual, dyslexic or tactile learners with laboratory resources, in the learning process to encourage active participation in lessons on Distinctive features, life cycle, characteristics and economic importance of the housefly.

iii. Learning activities

Week 13 focuses on Distinctive features, life cycle, characteristics and economic importance of the housefly. I have 52 learners with 6 advanced learners and 15 who are struggling. Provide recommendations for learning activities based on the learning tasks for the week in the Teacher Manual.

iv. Assessment tasks

Recommend 2 assessment items for DoK level 1, 1 for DoK level 3, and 1 for DoK level 4 for a 30-minute practical assessment, along with rubrics. Suggest how to assign the assessment task in the lesson.



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.

HINT

Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing Challenges in Planning, Delivering and Assessing Lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

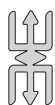
Essential questions

Are the essential questions appropriate for the activities in the learning plan? If not, suggest alternatives.

Hint

Continue chatting with your App to verify the following and use the responses to complete your plan

- a) differentiation
- b) Learning activities
- c) assessment tasks, 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.*

- 2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).
- 2.3 Share your experience with the group.

3.0 Enactment (25 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 colleague to observe your lesson in relation to PLC Session 13 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 14, 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 14: Preparing for Student Transcript Portal Assessment – Individual Project

1.0 Introduction (10 minutes)

- 1.1 Share one thing on assessment in PLC Session 13 that you
 - a. applied in your lesson delivery
 - b. found challenging and how you addressed it.
- 1.2 Share one challenge you encountered while populating your learning plan for Week 14 on *Distinctive Features, Life Cycle, Characteristics and Economic Importance of The Honeybee* before the session that you would like to discuss during this PLC session.
- 1.3 Read and discuss the Purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to use the subject-specific App to

- 1. review the completed learning plan for Week 14 on *Distinctive Features, Life Cycle, Characteristics and Economic Importance of The Honeybee*.
- 2. prepare assessment tasks and rubrics for individual project work.

Learning Outcome (LO): To review the learning plan for Week 14 on *Distinctive Features, Life Cycle, Characteristics and Economic Importance of The Honeybee* and address any challenges in planning and developing assessment tasks for the individual project work (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g–3k and 3o).

Learning Indicator (LI) 1: Review the learning plan and address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Discuss, develop and review assessment tasks with rubrics for the individual project work.

2.0 Reviewing the Learning Plan (20 minutes)

- 2.1** Upload your completed learning plan into the subject-specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Learning activities

Considering the learning plan for week 14 attached, do the activities match with the pedagogies for week 14 as proposed in the teacher manual and learning activities in the learner material?

Hint

Continue chatting with your App to verify the following and use the responses to complete your plan

- a) essential questions
- b) differentiation
- c) assessment tasks, etc.

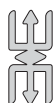
3.0 Prepare to Assign, Assess and Record for the Student Transcript Portal (50 minutes)

- 3.1** Refer to your Teacher Manual for the key assessment to be recorded in the Student Transcript Portal and have a chat with the subject-specific App to review or develop your assessment tasks and mark schemes/rubrics (NTS 2a-2c, 2e-2h and 3j-3q).

E.g.

Individual Project work

Review the individual project work in the teacher manual at week 14. Based on this review, develop an individual project task to suit the needs of my approaching proficient learners. Suggest scoring rubric to score the assessment, etc.



Note

- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. 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.

- 3.2** Have a chat with your App to verify the suggested assessment tasks and discuss the suitability of the responses from activity 3.1. Use the suggestions to refine the assessment tasks (NTS 1a, 2b, 2c and 3e–3q). In doing this activity, consider:

E.g.

i. Task

Does the individual project task crafted meet the diverse needs of all learners? If not suggest the necessary modification to it.

ii. Mark scheme and score distribution

Suggest scoring rubrics for the modified individual project task.

iii. Resources needed for assessment administration

What low-cost resources from a rural community would the learners need to successfully complete the individual project?

iv. How to provide feedback

Recommend clear and targeted feedback to all the learners during and after the project task.

Hint



Use the responses to complete your plan

4.0 Reflection (10 minutes)

- 4.1** Reflect and share your views on the session (NTS 1a, 1b).
- 4.2** Identify a colleague to observe your lesson in relation to PLC Session 14 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3** Remember to:
- a.** Mark, record and upload your learners' assessment scores in the Student Transcript Portal (NTS 3j, 3n).
 - b.** Read PLC Session 15, Teacher Manual and related Learner Material (NTS 3a).
 - c.** Bring along your Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
 - d.** Identify areas you found challenging in your teaching and administration of the assessment for discussion during the next session.

PLC Session 15: Characteristic features of a tropical rainforest and adaptations of organisms in tropical Rainforest

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 14
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for week 15?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

HINT



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 15 on *Characteristic features of a tropical rainforest and adaptations of organisms in tropical Rainforest* using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and 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 using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 15 on *Characteristic features of a tropical rainforest and adaptations of organisms in tropical Rainforest* (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

In teaching the characteristic features of a tropical rainforest and adaptations of organisms in tropical Rainforest to a class of 50 learners with 45 of them approaching proficiency, suggest 3 essential questions that will target meeting effective learning.

ii. Differentiation

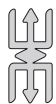
50 learners in a class, of them 45 are approaching proficiency, 3 have auditory issues and 1 seems to be struggling with family issues. There is no laboratory. Suggest differentiated approaches to teaching Week 15.

iii. Learning activities

Develop specific learning activities using differentiation strategies for a 2hour class for 2 sessions in week 15 on Characteristic features of a tropical rainforest and adaptations of organisms in tropical Rainforest.

iv. Assessment tasks

Assist with formative assessment tasks during the learning activities for the final lesson in Week 15 on Characteristic features of a tropical rainforest and adaptations of organisms in tropical Rainforest. Add rubrics and durations for completing the tasks.



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.

HINT

Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing challenges in planning, delivering and assessing lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

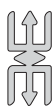
Learning activities

Review the learning activities in the attached plan for Week 15 and recommend suggestions conforming to the strategies in the teacher manual. Show how to modify the learning plan to suit the learners based on the suggestions.

Hint

Continue chatting with your App to verify the following and use the responses to complete your plan

- a) essential questions
- b) differentiation
- c) assessment tasks, 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.*

2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

2.3 Share your experience with the group.

3.0 Enactment (25 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 colleague to observe your lesson in relation to PLC Session 15 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a. Read PLC Session 16, 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 16: Characteristic features of savannah and desert habitats, and adaptations of organisms in savannah and desert habitats

1.0 Introduction (5 minutes)

- 1.1** Share one thing you applied in your classroom based on PLC Session 15
- a.** the challenges you faced
 - b.** how you addressed them
- 1.2** Have you developed your learning plan for week 16?
- a.** If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b.** If you answered **no**, conduct your PLC Session from Activity 2.0A

HINT



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 16 on Characteristic features of savannah and desert habitats, and adaptations of organisms in savannah and desert habitats using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and 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 using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 16 on Characteristic features of savannah and desert habitats, and adaptations of organisms in savannah and desert habitats (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

To effectively implement the learning indicators for Week 16: Characteristic features of savannah and desert habitats, and adaptations of organisms in savannah and desert habitats outlined in the teacher manual, what essential questions (for the teacher and learners) should guide the planning and delivery of lessons for 7 auditory learners, 4 tactile learners, and the remaining 39 learners in the class?

ii. Differentiation

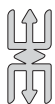
For Week 16 in the teacher manual, there are 7 auditory learners, 4 tactile learners, and other 39 learners in the class. With access to interactive charts and online resources, how can I differentiate this lesson effectively?

iii. Learning activities

In teaching Week 16, the class has 7 auditory learners, 4 tactile learners, and other 39 learners. They have access to a lab and educational videos. Recommend 4 steps of learning activities for a 2-hour lesson for 2 sessions?

iv. Assessment tasks

What presentation assessment tasks can be assigned to groups during the lesson delivery for week 16 as formative assessment? Provide rubrics for the assessment tasks.



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.

HINT



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing challenges in planning, delivering and assessing lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.2** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Differentiation

The class has 7 auditory learners, 4 tactile learners, and other 39 learners, review the differentiation strategies in the learning plan on Characteristic features of savannah and desert habitats, and adaptations of organisms in savannah and desert habitats, and suggest areas for improvement to support the learners needs.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a) essential questions
- b) Learning activities
- c) assessment tasks, 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.*

2.3 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

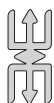
2.4 Share your experience with the group.

3.0 Enactment (25 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 colleague to observe your lesson in relation to PLC Session 16 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a. Read PLC Session 17, 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 17: Characteristic features and adaptations of organisms in Lagoon and Estuary habitats

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 16
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for Week 17?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

HINT



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 17 on *Characteristic features and adaptations of organisms in Lagoon and Estuary habitats* using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and 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 using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 17 on Characteristic features and adaptations of organisms in Lagoon and Estuary habitats (NTS 1a, 2b, 2c, 2e-2h and 3a-3q).

E.g.

i. Essential questions

Generate 4 essential questions that will direct the teaching of Characteristic features and adaptations of organisms in Lagoon and Estuary habitats and will encourage learners' critical thinking and discussion abilities in the learning process for week 17.

ii. Differentiation

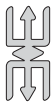
Generate notes on differentiation strategies that can be used in learning activities for 45 learners who are proficient with the use of internet resources but lacks internet access.

iii. Learning activities

Create scaffolded learning activities on Characteristic features and adaptations of organisms in Lagoon and Estuary habitats, that will differentiate learning for 45 learners who are proficient with the use of internet resources but lacks internet access.

iv. Assessment tasks

Suggest formative assessment tasks and its rubrics that can be incorporated into a learning plan for Week 17. The durations for the task should not exceed 35minutes and can span across DoK levels 1,2 and 3 as per what is in the teacher manual.



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.

HINT

Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing challenges in planning, delivering and assessing lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Assessment tasks

The formative assessment tasks for the attached learning plan are in groups presentations. Assess its suitability for 45 learners who are proficient with the use of internet resources but lacks lab access. Recommend alternatives where needed with its rubrics.

Hint

Continue chatting with your App to verify the following and use the responses to complete your plan

- a) essential questions
- b) differentiation
- c) Learning activities, 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.*

2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

2.3 Share your experience with the group.

3.0 Enactment (25 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 colleague to observe your lesson in relation to PLC Session 17 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a. Read PLC Session 18, 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 18: Preparing for Mid-Semester Examination

1.0 Introduction (10 minutes)

- 1.1 Share one thing on assessment in PLC Session 17 that you
 - a. applied in your lesson delivery
 - b. found challenging and how you addressed it.
- 1.2 Share one challenge you encountered while populating your learning plan for Week 18 before the session that you would like to discuss during this PLC session.
- 1.3 Read and discuss the Purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to use the subject-specific App to

1. review the completed learning plan for Week 18 on *Characteristic Features and Adaptations of Organisms at the Seashore*.
2. prepare assessment tasks and rubrics for end of semester examination

Learning Outcome (LO): To review the learning plan for Week 18: Characteristic Features and Adaptations of Organisms at the Seashore and address any challenges in planning and developing assessment tasks for the mid-semester examination (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Review the learning plan and address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Discuss, develop and review assessment tasks with rubrics for the mid-semester examination.

2.0 Reviewing the Learning Plan (20 minutes)

- 2.1 Upload your learning plan into the subject-specific App. Have a chat with your App to verify the following and discuss their suitability to

reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e–3q).

E.g.

Learning activities

Based on the uploaded learning plan for week 18, review the learning activities to track the pedagogical exemplars for the week and create activities to match with the learning task, not considered in the plan. Do this with 4 high proficient learners and no lab access in mind.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

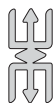
- a) essential questions
- b) differentiation
- c) assessment tasks, etc.

3.0 Prepare for Mid-Semester Examination (50 minutes)

- 3.1** Refer to your Teacher Manual for the format of the mid-semester examination and use the subject-specific App to review or develop your assessment tasks, mark schemes/rubrics, etc. (NTS 2a–2c, 2e–2h and 3j–3q).

E.g.

The structure and guidelines for setting the mid-semester examination as in the teacher manual recommends that the mid-semester examination for weeks 13 to 17 should contain 50 multiple-choice questions across DoK levels 1, 2, 3 and 4 for a duration of 1 hour. Provide 50 multiple-choice questions and Mark scheme.



Note

In preparing for mid-semester or end of semester examination, one prompt may not be enough for the App to provide all you need (DoK levels, structure, distribution across DoK levels, etc.)

- 3.2** Have a chat with your App to review the suggested assessment tasks and discuss the suitability of the responses from activity 3.1. Use the review to refine the responses 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 30%, 40%, 30% DoK distribution

Review the mid-semester MCQs to cover 30% of level 1, 40% of level 2, 30% of levels 3 and 4, indicate helpful action(s) and apply them in the task.

ii. Mark scheme and score distribution

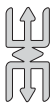
Per the reviewed mid-semester assessment tasks make changes to the scoring of the test items.

iii. Resources needed for assessment administration

Based on the reviewed assessments task for mid-semester examination, what resources would be needed before and during the administering of the examination.

iv. How to provide feedback

Provide effective feedback strategies that supports the varied learners and suggest areas for improving in the performance of the learners



Note

Use the responses to complete your plan

4.0 Reflection (10 minutes)

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

4.2 Identify a colleague to observe your lesson in relation to PLC Session 18 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a.** Mark, record and upload your learners' assessment scores in the Student Transcript Portal (NTS 3j, 3n)
- b.** Read PLC Session 19, Teacher Manual and related Learner Material (NTS 3a).
- c.** Bring along your Teacher Manual and PLC Handbook in preparation for the next session (NTS 3a).
- d.** Identify areas you found challenging in your planning and administering of the assessment for discussion during the next session.

PLC Session 19: Characteristic features and adaptations of organisms in the River, Pond and Lake

1.0 Introduction (5 minutes)

- 1.1** Share one thing you applied in your classroom based on PLC Session 18
- a.** the challenges you faced
 - b.** how you addressed them
- 1.2** Have you developed your learning plan for week 19?
- a.** If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b.** If you answered **no**, conduct your PLC Session from Activity 2.0A

HINT



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for Week 19 on *Characteristic features and adaptations of organisms in the River, Pond and Lake* using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and 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 using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 19 on Characteristic features and adaptations of organisms in the River, Pond and Lake (NTS 1a, 2b, 2c, 2e-2h and 3a-3q).

E.g.

i. Essential questions

Provide 4 essential questions (the teacher and learners) related to Characteristic features and adaptations of organisms in the River, Pond and Lake. The questions should promote learners' understanding and engagement in learning.

ii. Differentiation

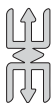
Outline three points on how to differentiate engaging lessons for 45 learners out of which 13 are proficient and 10 are approaching proficiency.

iii. Learning activities

Suggest 4 learning activities that can be planned for 45 learners out of which 13 are proficient and 10 are approaching proficiency that matches with what is suggested in the teacher manual and learner material.

iv. Assessment tasks

What summative peer assessment tasks can be done at the end of the learning of Characteristic features and adaptations of organisms in the River, Pond and Lake?



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.

HINT



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing challenges in planning, delivering and assessing lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Assessment tasks

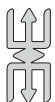
For the 45 learners out of which 13 are proficient and 10 are approaching proficiency, verify if the peer assessment in the attached learning plan promote teamwork and appreciation of natural resources in ponds, lakes and rivers? Suggest areas for improvement based on the learning tasks.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a) essential questions
- b) differentiation
- c) Learning activities, etc.



Note

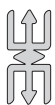
- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. Transfer the information from your SS App into your learning planner template to complete your plans

- 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.*

- 2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).
- 2.3 Share your experience with the group.

3.0 Enactment (25 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 colleague to observe your lesson in relation to PLC Session 19 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 20, 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 20: Differences and importance of immunization, vaccination and inoculation

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 19
 - a. the challenges you faced
 - b. how you addressed them
- 1.2 Have you developed your learning plan for week 20?
 - a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

HINT



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for Week 20 on Differences and importance of immunization, vaccination and inoculation using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and 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 using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 20 on Differences and importance of immunization, vaccination and inoculation (NTS 1a, 2b, 2c, 2e-2h and 3a-3q).

E.g.

i. Essential questions

Create 3 essential questions that align with the learning for Week 20 on Differences and importance of immunization, vaccination and inoculation and will enhance the learners' ability to apply the knowledge in real world situations.

ii. Differentiation

Generate 4 notes on differentiated instruction for the class including 2 learners who have partial visual impairment and others struggling from bullying for week 20 on differences and importance of immunization, vaccination and inoculation.

iii. Learning activities

Suggest 4 scaffolded collaborative learning activities that can be used to plan the learning of differences and importance of immunization, vaccination and inoculation that will conform to what is prescribed in the teacher manual for week 20?

iv. Assessment tasks

What role play assessment tasks can be assigned to groups during the lesson delivery for week 20 as summative assessment? Suggest rubrics for the tasks.



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.

HINT



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing challenges in planning, delivering and assessing lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.2** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Essential questions

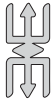
Review the essential questions in my attached learning plan on differences and importance of immunization, vaccination and inoculation for its relevance. If not, suggest alternative questions that will drive the lesson to cater for the needs of all learners.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a) Differentiation
- b) Learning activities
- c) assessment tasks, 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.*

2.3 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

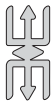
2.4 Share your experience with the group.

3.0 Enactment (25 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 colleague to observe your lesson in relation to PLC Session 20 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a. Read PLC Session 21, 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 21: Structure of the cardiovascular system of humans and how the parts relate to their functions

1.0 Introduction (5 minutes)

- 1.1** Share one thing you applied in your classroom based on PLC Session 20
- c.** the challenges you faced
 - a.** how you addressed them
- 1.2** Have you developed your learning plan for week 21?
- a.** If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b.** If you answered **no**, conduct your PLC Session from Activity 2.0A

HINT



*You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan*

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for week 21 on Structure of the cardiovascular system of humans and how the parts relate to their functions using the subject specific App

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and 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 using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 21 on Structure of the cardiovascular system of humans and how the parts relate to their functions (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

What essential questions can help connect structure of the cardiovascular system of humans and how the parts relate to their functions to real-world applications?

ii. Differentiation

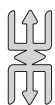
Outline differentiation strategies to be considered in my learning plan for learners who have good IT skills but are approaching proficiency in biology contents.

iii. Learning activities

What practical activities can support learners who have good IT skills but are approaching proficiency in their learning in Week 21 on structure of the cardiovascular system of humans and how the parts relate to their functions.

iv. Assessment tasks

How to plan a practical task as a summative assessment for learners who have good IT skills but are approaching proficiency in their learning in week 21.



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.

HINT



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing challenges in planning, delivering and assessing lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Differentiation

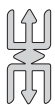
Learners have good IT skills but are approaching proficiency in the class, review the differentiation strategies in the learning plan on Structure of the cardiovascular system of humans and how the parts relate to their functions and suggest areas for improvement to support the learners.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a) essential questions
- b) Learning activities
- c) assessment tasks, 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.*

2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

2.3 Share your experience with the group.

3.0 Enactment (25 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 colleague to observe your lesson in relation to PLC Session 21 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a. Read PLC Session 22, 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 22: Structure of the excretory system of humans and how the parts relate to their functions in homeostasis

1.0 Introduction (5 minutes)

- 1.1** Share one thing you applied in your classroom based on PLC Session 21
- a. the challenges you faced
 - b. how you addressed them
- 1.2** Have you developed your learning plan for week 22?
- a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

HINT



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for Week 22 on *Structure of the excretory system of humans and how the parts relate to their functions in homeostasis* using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and 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 using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 22 on *Structure of the excretory system of humans and how the parts relate to their functions in homeostasis* (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

Suggest essential questions that will promote inquiry and exploration of structure of the excretory system of humans and how the parts relate to their functions in homeostasis for a class of 25 learners with access to a laboratory.

ii. Differentiation

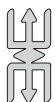
Generate notes on differentiation techniques to be applied in week 22 on structure of the excretory system of humans and how the parts relate to their functions in homeostasis for 25 learners who are highly proficient and proficient with the use of laboratory tools.

iii. Learning activities

For a class of 25 learners who are highly proficient and proficient with the use of laboratory tools, outline teaching and learning activities that follows what is in the teacher manual for week 22 and suggest ways to use them in learning planning.

iv. Assessment tasks

What formative assessment tasks will promote discussions on structure of the excretory system of humans and how the parts relate to their functions in homeostasis in the lessons. Suggest ways to apply in learning planning.



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.

HINT



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing challenges in planning, delivering and assessing lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Learning activities

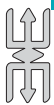
For 25 learners who are highly proficient and proficient with the use of laboratory tools, review the learning activities in the attached learning plan on Structure of the excretory system of humans and how the parts relate to their functions in homeostasis in alignment with the teacher manual and suggest areas for improving the inquiry and explorations abilities of the learners.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a) essential questions
- b) differentiation
- c) assessment tasks, 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.*

- 2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).
- 2.3 Share your experience with the group.

3.0 Enactment (25 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 colleague to observe your lesson in relation to PLC Session 22 to provide feedback on your lesson (NTS 1f, 1g).
- 4.3 Remember to:
 - a. Read PLC Session 23, 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 23: Transport of substances in flowering plants and factors affecting transport system in flowering plants

1.0 Introduction (5 minutes)

- 1.1** Share one thing you applied in your classroom based on PLC Session 22
- a. the challenges you faced
 - b. how you addressed them
- 1.2** Have you developed your learning plan for week 23?
- a. If you answered **yes**, conduct your PLC Session from Activity 2.0B
 - b. If you answered **no**, conduct your PLC Session from Activity 2.0A

HINT



You cannot conduct PLC on Activity 2.0B if you **have not** prepared your learning plan

2.0A Planning and Reviewing of Learning Plan (50 minutes)

Purpose: The purpose for this session is to populate the learning planner for Week 23 on *Transport of substances in flowering plants and factors affecting transport system in flowering plants* using the subject specific App.

Learning Outcome (LO): To populate the learning planner with the essential questions, differentiation, learning activities and key assessments and 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 using the subject specific App

Learning Indicator (LI) 2: Enact an activity from your reviewed learning plan.

- 2.1** Refer to your Teacher Manual and have a chat with your subject specific App to develop your learning plan for Week 23 on *Transport of substances in flowering plants and factors affecting transport system in flowering plants* (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

What essential questions can illustrate the connections between transport of substances in flowering plants and factors affecting transport system in flowering plants and the internal structures of plants in year 1? Let the questions promote critical thinking in learners.

ii. Differentiation

Given the Week 23 on transport of substances in flowering plants and factors affecting transport system in flowering plants, suggest 3 ways I can support learners with ADHD in exploring connections with learning from year 1 during the lesson.

iii. Learning activities

In a rural senior high school with no lab resources and models, suggest 3 learning activities that can be used to achieve the Week 23 learning indicators.

iv. Assessment tasks

Recommend assessment tasks and rubrics that will sum up the learning for week 23 in 20minutes.



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.

HINT



Move to Activity 3.0

2.0B Reviewing the Learning Plan and Addressing challenges in planning, delivering and assessing lessons (50 minutes)

Purpose: To support teachers address challenges they may have during lesson preparation and delivery.

Learning Outcome (LO): To address specific concerns of teachers in planning, teaching and assessment.

Learning Indicator (LI) 1: Address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Enact an activity in preparation to teach the lesson.

- 2.1** Upload your completed learning plan into the subject specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Assessment tasks

The assessment tasks for the attached learning plan are short quiz. Assess its suitability for 45 learners who are proficient but with no lab resources and models. Recommend alternatives where needed with its rubrics.

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a) essential questions
- b) differentiation
- c) Learning activities, 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.*

2.2 Identify a challenging area or issue and chat with your subject specific App for steps on how to address it for effective lesson delivery (NTS 3j).

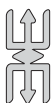
2.3 Share your experience with the group.

3.0 Enactment (25 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 colleague to observe your lesson in relation to PLC Session 23 to provide feedback on your lesson (NTS 1f, 1g).

4.3 Remember to:

- a. Read PLC Session 24, 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 24: Preparing for End of Semester Examination

1.0 Introduction (10 minutes)

- 1.1 Share one thing on assessment in PLC Session 23 that you
 - a. applied in your lesson delivery
 - b. found challenging and how you addressed it.
- 1.2 Share one challenge you encountered while pre-populating your learning plan for Week 24 before the session that you would like to discuss during this PLC session.
- 1.3 Read and discuss the Purpose, Learning Outcome (LO) and Learning Indicators (LIs) for the session.

Purpose: The purpose of this session is to use the subject-specific App to

1. review the completed learning plan for Week 24 on *Photosynthesis and Factors Affecting Photosynthesis*.
2. prepare assessment tasks and rubrics for end of semester examination

Learning Outcome (LO): To review the learning plan for Week 24 on *Photosynthesis and Factors Affecting Photosynthesis* and address any challenges in planning and developing assessment tasks for the end of semester examination (NTS 2b, 2c, 2e, 2f, 3a, 3d, 3e, 3g-3k and 3o).

Learning Indicator (LI) 1: Review the learning plan and address challenges in the preparation and delivery of a lesson.

Learning Indicator (LI) 2: Discuss, develop and review assessment tasks with rubrics for the end of semester examination.

2.0 Reviewing the Learning Plan (20 minutes)

- 2.1 Upload your learning plan into the subject-specific App. Have a chat with your App to verify the following and discuss their suitability to reflect the diverse needs of learners in your class (NTS 1a, 2b, 2c and 3e-3q).

E.g.

Differentiation

Assess if the learning plan takes care of the needs of 10 highly proficient and 20 approaching proficiency learners in a class of 45 with access to internet resources.

Suggest ways of closing the gaps in the differentiation for the highly proficient learners.”

Hint



Continue chatting with your App to verify the following and use the responses to complete your plan

- a) essential questions
- b) learning activities
- c) assessment tasks, etc.

3.0 Prepare for End of Semester Examination (50 minutes)

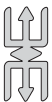
- 3.1** Refer to your Teacher Manual for the format of the end of semester examination and use the subject-specific App to review or develop your assessment tasks, mark schemes/rubrics, etc. (NTS 2a–2c, 2e–2h and 3j–3q).

E.g.

Refer to the teacher manual for the structure, guidelines and table of specifications for setting the end of semester examination. The assessment tasks developed should be based on the learning indicators in weeks 13 to 24, and suggest

1. 40 multiple-choice questions
2. 3 detailed essay type questions
3. 3 practical test items.
4. Scoring Rubrics

The examination duration is 3 hours. Ensure MCQ test items have the options for each stem arranged alphabetically.



Note

In preparing for mid-semester or end of semester examination, one prompt may not be enough for the App to provide all you need (DoK levels, structure, distribution across DoK levels, etc.)

3.2 Have a chat with your App to review the suggested assessment tasks and discuss the suitability of the responses from activity 3.1. Use the review to refine the responses 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 30%, 40%, 30% DoK distribution

Check if the end of semester assessment tasks has 30% of the items at DoK level 1, 40% at DoK level 2, and 30% at DoK level 3 and 4. If not, suggest corrective action(s) and amend the test items.

ii. Mark scheme and score distribution

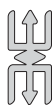
Per the reviewed assessment tasks, make changes to the mark scheme and scores to conform to the requirements of the examination.

iii. Resources needed for assessment administration

What resources would be needed before and during the administration of the examination to promote sincerity and to cater for socio-emotional needs of the learners.

iv. How to provide feedback

Provide constructive and effective feedback that supports the varied learners for improvement in learning. Suggest ways for carrying out the feedback strategies to support the struggling learners.



Note

Use the responses to complete your plan

4.0 Reflection (10 minutes)

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

4.2 Identify a colleague to observe your lesson in relation to PLC Session 24 to provide feedback on your lesson (NTS 1f, 1g).

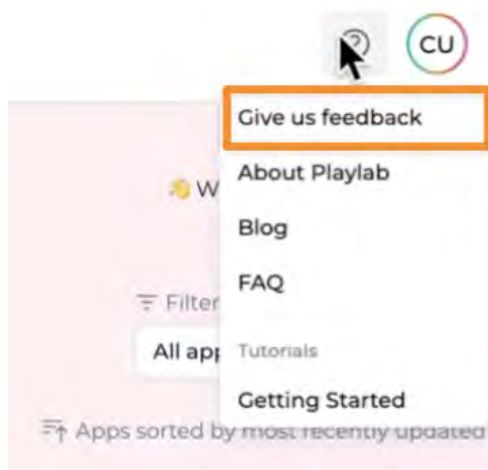
4.3 Remember to mark, record and upload your learners' assessment scores in the Student Transcript Portal (NTS 3j, 3n).

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 the App
 - 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.

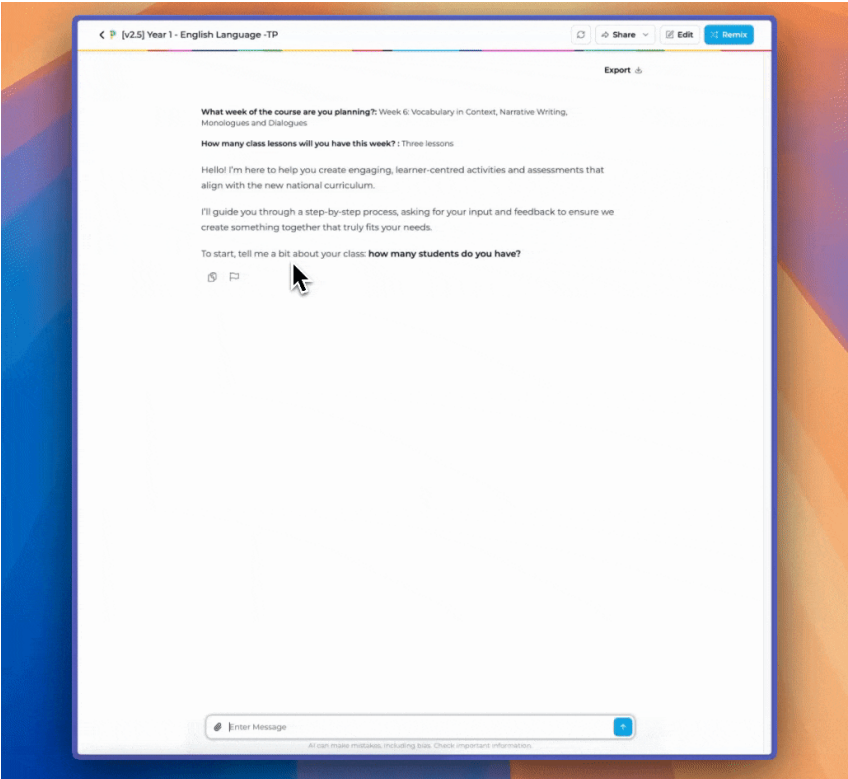
 **Upload** Size limit: 100 MB. File limit: 10.

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



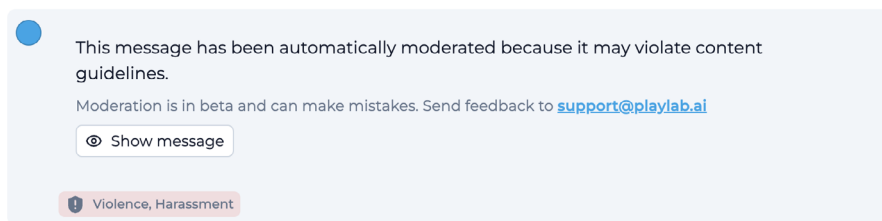
- Click to report biased, inaccurate, or inappropriate messages.
- Best for: Immediate issues with app responses
- There is also in app moderation for both user messages and AI generated responses. You can read more about it here.

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

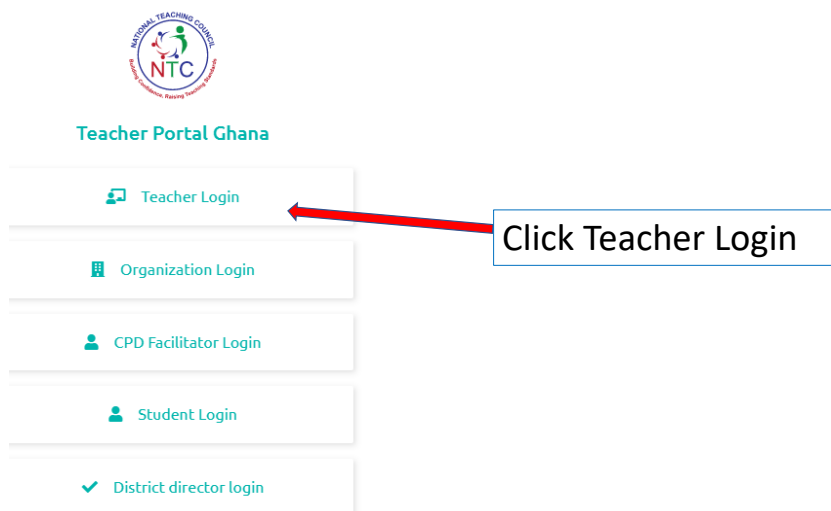
Additional Notes (on teacher's actions, the flow of activities, etc.)

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

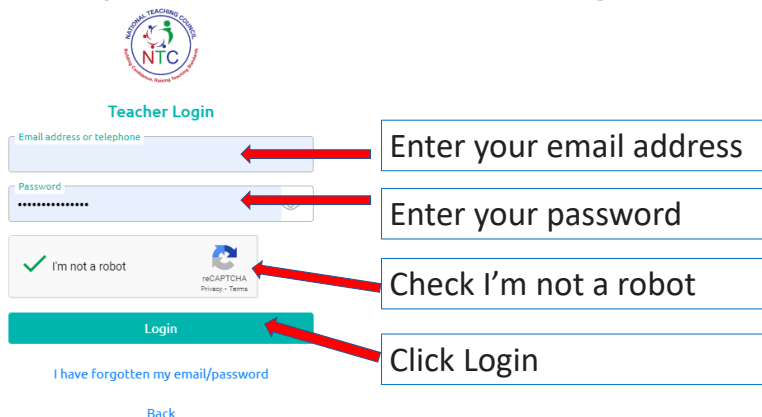
1. Visit *tpg.ntc.gov.gh* and click Login



2. On the Login page, click Teacher Login



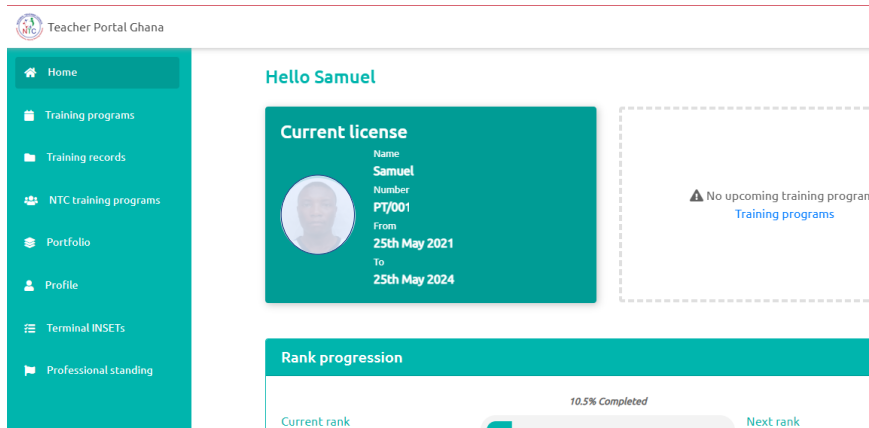
3. On the **Teacher Login** page enter your email address and password and then click **Login**



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

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

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 a sidebar menu, a greeting, a current license card, a rank progression bar, and a notification about upcoming training programs.

Teacher Portal Ghana

Home

- Training programs
- Training records
- NTC training programs
- Portfolio
- Profile
- Terminal INSETs
- Professional standing

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
[Training programs](#)

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 screenshot shows the 'Teacher Portal Ghana' interface. The side menu on the left has 'Training records' highlighted. The main content area shows 'Training records' with a subtitle 'Records for training programs registered and/or attended'. It lists three programs: 'Sensitization on Education Policies' (Marked as absent), 'Differentiated Learning' (Processed, Credits: 1.32), and 'Advanced Mobile Learning with Multimedia (AMLW)' (Processed, Credits: 0.5788). A red arrow points from the 'Training records' menu item to a label below. A red bracket on the right groups the training records list with a label.

Click to view training records

List of training programs

THANK YOU

