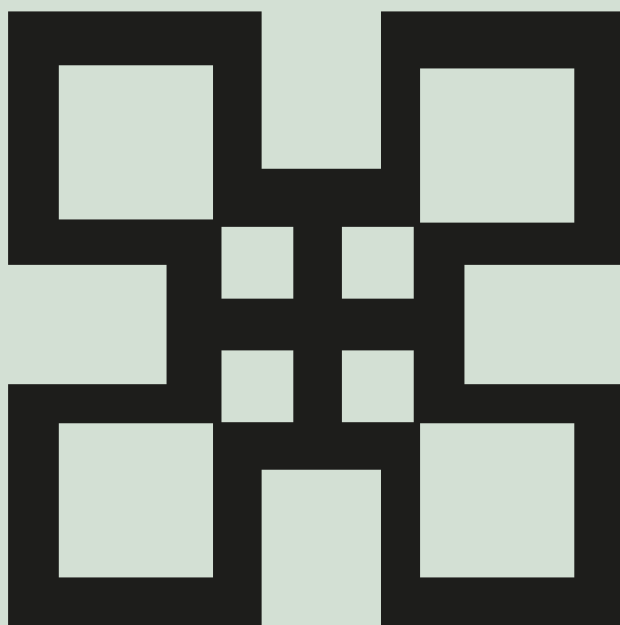


Professional Learning Community Handbook

Mathematics

Year Two



Ghana Education
Service (GES)



**Professional Learning
Community Handbook**

Mathematics

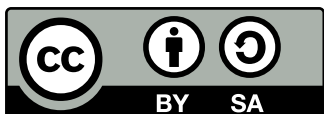
Year Two



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Foreword

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

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

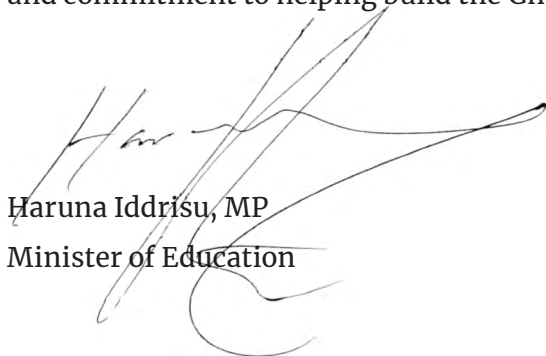
By fostering a culture of collaboration and continuous improvement through PLCs, teachers can enhance their understanding of the new SHS curriculum and effectively facilitate learning in the classroom. This will contribute to our country's resetting agenda by educating a generation of young people with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

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

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

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

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

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

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Links to APPs

Year One App



<https://www.playlab.ai/project/cmd959ml706q6k60u7e-66i89u>

Year Two App



<https://www.playlab.ai/project/cmekho6gb0coekrou8d-flebla>

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)

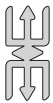
- 2.1** Scan the QR Code or use the link to access your Subject Specific App – <https://www.playlab.ai/project/cmekh06gb0c0ekr0u8dflebla>



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

E.g.

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



Note

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

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

E.g.

a. Learning activities

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

b. Assessments

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

c. Differentiation strategies

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

Hint



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

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

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

3.0 Reflection

3.1 Reflect and share your views on the session (NTS1a, 1b).

3.2 Remember to read PLC Session 0.5 and bring along your laptop in preparation for next week's session.

PLC SESSION 0.5: 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.*

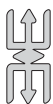
- c. *Select a week you are interested in and continue chatting with your App*
- d. *Refer to your Teacher Manual and confirm the information provided by the App or otherwise.*

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

E.g.

Select Assessment

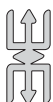
- a. *Look at the LIs for the week and select the appropriate DoK Level or Levels required for the week's lesson. For instance, 'the LI requires modelling, I would like to assess at level 3'*
- b. *Review the responses on the formats from your App, select any that meets your needs or continue chatting 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.

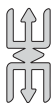


Note

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: Surds

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

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

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

2.0 Planning and Reviewing of Learning Plan (50 minutes)

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

E.g.

i. Essential questions

Suggest 3 essential questions on surds which will direct learning of the content and reflect diverse perspectives or promote social-emotional growth, etc.

ii. Differentiation

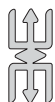
Recommend 3 differentiation notes to include peer pairing for learners with lower numeracy and how to strengthen this strategy using visuals or scaffoldings, etc.

iii. Learning activities

Suggest 4 learning activities that incorporate digital tools and enhance Think–Pair–Share strategy on rationalisation of surds while ensuring equal gender participation, etc.

iv. Assessment tasks

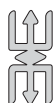
Some learners struggle with written mathematics explanations. Suggest 3 ways on how I can assess learners' understanding of surd through multiple formats, etc.

**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. 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 of an Activity (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 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.
- 2. prepare assessment tasks and rubrics for group project

Learning Outcome (LO): To review the learning plan for week 2 and address any challenges in planning and developing assessment tasks for the group project (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.

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

My learners are from different geographic and academic background. Review my three essential questions in the learning plan and suggest three ways it can help me achieve my indicators, etc.

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.

Group Project

Refer to week 2 of the TM and generate a group project work for my learners to be submitted in Week 5. The task should cover learning indicator for Week 2. Consider the cross-cutting issues. Provide the size of the groups for the project, weekly timelines, submission requirements and detailed scoring rubric, etc.



Note

One prompt may not be enough for the App to provide all that you may need for the tasks

- 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

The current task you proposed for the group project is too complex for my learners aged 14–19, simplify the task for my rural school context, etc.

ii. Mark scheme and score distribution

The marking rubric you provided has 100 marks across 5 categories with a 5–point scale. This seems too detailed. Create a simpler mark scheme that has fewer total marks (maybe 20–30 marks) and a simpler scoring scale (maybe 3–point instead of 5–point), etc.

iii. Resources needed for assessment administration

Given my rural school limitations, the resource list you provided for assessment administration is quite extensive. Provide alternative resources I can use if certain items aren't available, etc.

iv. How to provide feedback

The feedback system you outlined has multiple stages and detailed components. Design a feedback system that is manageable with my time constraints and provides meaningful feedback to learners, etc.

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 administration of the assessment for discussion during the next session.

PLC Session 3: Indices and Logarithms Applications

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 2?
 - 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 2 on Connections between indices and logarithms 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 Connections between indices and logarithms (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

Craft essential questions that should guide the delivery of the lesson and promote collaborative inquiry using digital platforms while ensuring equal participation across gender and ability lines, etc.

ii. Differentiation

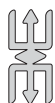
I want suggestions on key notes on differentiation to cater for different learning styles and connect to various Ghanaian cultural examples while keeping the mathematics challenging, etc.

iii. Learning activities

Provide 4 scaffolding learning activities that integrate ICT into the learning of exponential enactment activities that promote problem-solving skills, etc.

iv. Assessment tasks

Design three assessment tasks that reduce mathematics anxiety while challenging learners to apply indices and logarithms to real social problems, 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.

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

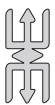
Out of the 45 learners in my class, about two-thirds struggle with understanding of concepts. Review my attached learning plan in line with Week 3 in the Teacher Manual and revise my three learning activities to include examples and contexts that all learners can relate to. Consider SEN and the mixed-cultural background of the learners, etc.

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

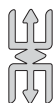
- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. Transfer the information from your SS App into your learning planner template to complete your plans

- 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 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 portfolio.

Learning Outcome (LO): To review the learning plan for week 3 and address any challenges in planning and developing assessment tasks for the group project (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.

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.

Assessment tasks

Here is my completed learning plan for week 4. Review the formative assessment tasks if it can help me achieve my aim for the lesson and make suggestions for improvement, etc.

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.

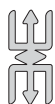
3.0 Prepare to Assign, Assess and Record for the Student Transcript Portal (50 minutes)

- 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.

Portfolio

There are 54 learners of different mathematics proficiency in my class. Review Appendix A in the Teacher Manual and give me suggestions on how I can carry out portfolio assessment for my learners at Mando SHTS, etc.



Note

One chat may not be enough for the App to provide all that you may need for the tasks

- 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

The portfolio system suggested seems overwhelming for 54 learners. Simplify it to focus on 3–4 core components that can be managed realistically in a rural school setting, etc.

ii. Mark scheme and score distribution

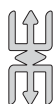
How can I use technology or simple systems to make scoring of the portfolio more manageable, etc.

iii. Resources needed for assessment administration

My classroom has limited storage space. Reconsider the suggested resources and recommend alternative ones which are more compact and efficient ways to organize 54 portfolios, etc.

iv. How to provide feedback

Review the feedback system and suggest one that helps learners to become more self-reflective and independent, etc.



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: Simultaneous Equations

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 Simultaneous Equations 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 Simultaneous Equations (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

Refer to Week 5 of the Teacher Manual and create three essential questions that lead learners to investigate how elimination and substitution methods work to solve systems of linear equations with two unknown variables, etc.

ii. Differentiation

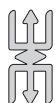
Recommend three differentiated learning activities for analysing and solving linear equations in two variables using elimination and substitution with mixed-ability groups, etc.

iii. Learning activities

The focal area for Week 5 of the Teacher Manual is Simultaneous equations. Help me with three experiential learning activities that strengthen simultaneous equation skills using cooperative learning and guided practice methodologies. The activities should be for 90 minutes, etc.

iv. Assessment tasks

Create three collaborative tasks focusing on analysing linear equation pairs using elimination and substitution methods with limited ICT tools. There are 19 learners in my class, 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.

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

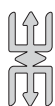
Go through my Week 5 learning plan thoroughly and recommend three different ways to assess simultaneous equations that work for different learning styles. Include peer feedback that support learners with disabilities, etc.

Hint



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

- essential questions
- differentiation
- learning activities, etc.



Note

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

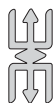
2.3 Share your experience with the group.

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.
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.

Essential questions

Find attached my prepared learning plan for Week 6. Review the essential questions and share any recommendations to help strengthen the lesson delivery and learner outcomes. Consider GESI and SEN in your review, etc.

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.

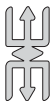
3.0 Prepare for Mid-Semester Examination (50 minutes)

- 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.

As per the assessment framework, the mid-semester examination should feature 30 MCQ's covering DoK levels 1 to 3 to be completed in 1 hour 30 minutes. But I was only able to teach the learning indicators from weeks 1–4 of the TM.

Develop a Table of specification in line with the demands of the Teacher Manual for weeks 1 to 4 and hence construct 20 MCQ questions (20 marks) for DoK levels 1(6 questions), level 2 (8 questions) and level 3 (6 questions), and four essay-type questions (40 marks) (2 each for levels 2 and 3 respectively) with detailed rubrics, etc.



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

I noticed that you've created 6 DoK level 1 questions, 10 DoK level 2 questions, and 4 DoK level 3 questions. That means DoK level 2 is overrepresented, and DoK level 3 is underrepresented.

Review your DoK level 2 questions and identify two that could be restructured to a DoK level 3 to shift the task toward higher-order thinking, etc.

ii. Mark scheme and score distribution

For Essay Question 2, you awarded 3 marks for an incomplete graph and 2 marks for interpretation even though the scale used was incorrect. Consider revising the scale accuracy to be worth 1 mark, and shift the extra mark to interpretation to better reflect the cognitive demand of the question, etc.

iii. Resources needed for assessment administration

Consider the material support that can be given to Kojo, a slow writer in the class who often understands the concepts but struggles to finish on time. What material can be given to Mansa, who is very active and tends to lose focus during longer tasks, especially those requiring careful plotting, etc.

iv. How to provide feedback

Craft a shorter personalised feedback comment than the one given earlier for one of my students using the 3-part structure (affirmation – correction – direction), etc.

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: Translation and Reflection

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 Translation and Reflection 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 Translation and Reflection (NTS 1a, 2b, 2c, 2e-2h and 3a-3q).

E.g.

i. Essential questions

Refer to the learning indicators on “Translation and Reflection” for Week 7 in the Teacher Manual and give me three essential questions (2 for learners and 1 for teacher). Integrate SEN, 21st century skills and teaching resources for rural area, etc.

ii. Differentiation

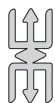
I am teaching “Translation and Reflection” this week. I have a mixed ability class of 35 learners. Provide four inclusive teaching and learning resources and how they can be incorporated into my learning activities to cater for the learner’s individual abilities. Consider GESI and SEL, etc.

iii. Learning activities

Consider the pedagogical strategies for Week 7 in the Teacher Manual and suggest three ways I can integrate them into my learning activities for my 35 learners from different social and cultural background, etc.

iv. Assessment tasks

Provide three real-life situation questions for my learners to solve in class. The tasks should cover DoK level 3. Add a detailed scoring rubric for the computation skills, 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.

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.

Assessments tasks

Review the formative assessment tasks in my learning plan on translation and reflection meant for 44 learners in alignment with the Teacher Manual and give me three strategies I can use to accommodate my 12 learners who frequently miss instruction. Consider GESI and SEL, etc.

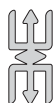
Hint



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).

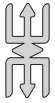
2.3 Share your experience with the group.

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: Rotation and Enlargement

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 Rotation and Enlargement 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 Rotation and Enlargement (NTS 1a, 2b, 2c, 2e-2h and 3a-3q).

E.g.

i. Essential questions

Create two essential questions that will challenge my learners to explore the meaning and application of rotation and enlargement, fostering deeper understanding rather than step-by-step techniques, etc.

ii. Differentiation

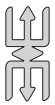
Refer to the Week 8 in the TM and suggest two differentiation approaches that meet the needs of both struggling and advanced learners during the lesson on rotation and enlargement, etc.

iii. Learning activities

Consider the think-pair share activities for Week 8 in the TM and LM and suggest simulation learning activities that can help me achieve my indicators for the week, etc.

iv. Assessment tasks

Construct three DoK level 3 real-world tasks that encourages learners to explore rotation and enlargement through a relatable project, 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.

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

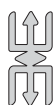
There are 50 learners in my class. About 90% of them are ICT literate. Review my attached learning plan for Week 8 on “Rotation and Enlargement” in line with Teacher Manual and recommend three detailed ways I can go through my learning activities using ICT, etc.

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 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: Data Collection instruments

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 Data Collection instruments 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 Data Collection instruments (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

Develop two essential questions based on Week 9 learning indicators in the Teacher Manual which connect real-life applications, such as class surveys, community interviews or school budgeting, etc.

ii. Differentiation

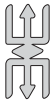
Suggest three differentiation strategies for learning activities suited for class size of 28 learners, that encourage collaborative learning and peer teaching, etc.

iii. Learning activities

Design three learner-centered activities based on Week 9 content in the Teacher Manual and Learner Material, ensuring they include adaptations for SEN learners and are GESI-compliant, etc.

iv. Assessment tasks

Plan two formative and summative assessment tasks each that align with Week 9 indicators and allow my mixed ability learners to demonstrate use of digital tools in building and analysing data instruments, 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.

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

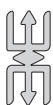
I want to improve my Week 9 essential questions in the attached learning plan on data collection instruments so that they connect well to the real-life experiences of my 45 mixed-ability learners. Give me a version that encourages them to think critically, use digital tools where possible, and apply what they learn to everyday situations like tracking dining hall attendance, while also building 21st-century skills like collaboration, communication, and responsible data handling, etc.

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).

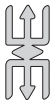
2.3 Share your experience with the group.

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 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: Data Organisation and Representation

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 Data Organisation and Representation 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 Data Organisation and Representation (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. **Essential questions**

Consider the SEL and 21st century skills and suggest four essential questions to guide me to teach “Data Organisation and Representation”. I have learners from different economic and social background in my class, etc.

ii. **Differentiation**

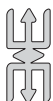
Support me with three notes on differentiation that support all learners with differs learning needs to attain the learning indicator for Week 10 in the Teacher manual, etc.

iii. **Learning activities**

Based on the learning indicators for Week 10 in the Teacher Manual, give me three learning activities that requires the use of local resources for my school in a rural community. I have 40 learners in my class, 120 minutes for the lesson, etc.

iv. **Assessment tasks**

Refer to the formative assessment tasks in the Teacher Manual and Learner Material and give me two real-life DoK level 2 tasks to be done in 15-minute. Add a detailed mark scheme for a total of 10 marks, 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.

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

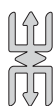
The attached document is my completed learning plan for Week 10. Review it and include two real-life DoK level 3 tasks on data organisation and representation with visual aids for learners with SEN, etc.

Hint



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

- essential questions
- learning activities
- assessment tasks, etc.



Note

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

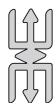
2.3 Share your experience with the group.

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 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: Analysis and Interpretations of Data

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 Analysis and Interpretations of Data 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 Analysis and Interpretations of Data (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

I am a teacher in an urban high school where most of my learners have easy access to ICT tools. There are 63 learners in my class. Design three essential questions on “Data Analysis and Interpretation” to guide teaching my class, etc.

ii. Differentiation

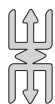
Refer to the talk for learning and the mixed ability groups strategies in the Teacher manual and give me three key notes on differentiated that focus on content and process for my class, etc.

iii. Learning activities

The resources for the learning activities in the Teacher Manual and Learner Material is quite scarce and expensive in my community. Suggest three creative alternatives of learning activities using local materials that I can use to teach the lesson, etc.

iv. Assessment tasks

I am teacher who has little knowledge on ICT. Suggest 2 assessment tasks for my lesson on “Data Analysis and Interpretation” and guide me with three ways I can assess my learners using ICT, 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.

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

In reference to the summative assessment task in my learning plan for Week 11 of the Teacher Manual, suggest 2 assessment task for 45 mixed ability learners to be done in 25 minutes and design a system that can help my learners provide quality peer feedback, and be more self-reflective., etc.

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

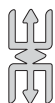
- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. Transfer the information from your SS App into your learning planner template to complete your plans

- 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 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.
2. prepare assessment tasks and rubrics for end of semester examination

Learning Outcome (LO): To review the learning plan for Week 12 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

In my class, 18 out of the 48 learners struggle with percentages and ratio conversion. I plan to group them with stronger peers during the VAT and E-Levy tasks.

Go through my learning plan and suggest other strategies, visual aids, or simplified tasks I can use to support my learners with, etc.

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.

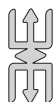
3.0 Prepare for End of Semester Examination (50 minutes)

- 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.

Based on the prescribed assessment framework in Section 5 of the Mathematics Teacher Manual, I need to prepare a 2 hours 30 minutes examination covering weeks 1–12 with 40 multiple choice questions and 10 essay-type questions aligned with DoK levels 1 to 3 in the distribution, 30%, 40%, 30% DoK levels.

Generate a Table of Test Specification and use it to provide assessment tasks covering: surds and indices (weeks 1–4), simultaneous equations (weeks 5–6), transformations (weeks 7–8), data handling (weeks 9–11), and ratios/rates/proportions (week 12), with detailed marking schemes.



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 and 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**

Your DoK 1 questions are heavily focused on Weeks 1–2 surd operations with only 2 questions covering weeks 9–12. Redistribute to include basic recall from data collection methods and simple ratio identification. This will achieve balanced content coverage across the 12-week syllabus, etc.

- ii. Mark scheme and score distribution**

The real-life question on logarithm awards 7 marks for final answer but only 1 mark each for setup and working. Revise to 2 marks setup, 3 marks calculations, 2 marks interpretation. This better rewards the mathematical reasoning process for multi-step problems, etc.

- iii. Resources needed for assessment administration**

Questions using ECG electricity bill data may be difficult to read in poorly lit examination halls common in rural Ghana. Provide enlarged, clear copies of utility bills, etc.

- iv. How to provide feedback**

Provide feedback that closes the gap on abstract mathematics and practical applications. The designed feedback should help learners transfer skills across different mathematical topics and contexts, etc.

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:

- mark, record and upload your learners' assessment scores in the Student Transcript Portal (NTS 3j, 3n).
- read PLC Session 13, Teacher Manual and related Learner Material (NTS 3a).
- 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: Applications of Proportions

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 Applications of Proportions 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 Applications of Proportions (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

Craft three essential questions that enable learners to link the mathematical principles of angle ratios and Pythagoras's theorem to their daily life experiences, etc.

ii. Differentiation

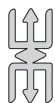
Given my mixed-ability class of 35 learners, how can I differentiate the content, process, and product when teaching ratios in triangles and Pythagoras's theorem to ensure that both struggling learners and advanced learners are appropriately challenged and supported, etc.

iii. Learning activities

Design three hands-on, collaborative learning activities that allow learners to discover the relationships between angle ratios, side ratios, and Pythagoras's theorem through investigation and exploration, etc.

iv. Assessment tasks

Develop class exercise assessment tasks for distance-time graphs that assess DoK level 2 while providing meaningful feedback on learners' ability to interpret and apply these concepts in real-life contexts, 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.

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

There are 53 mixed ability learners from diverse social and cultural backgrounds in my class. I have limited teaching and learning resources. The duration for the session is 120 minutes. Review the essential questions in my learning plan in line with the TM and LM on application of ratios and proportions to angles and Pythagoras's theorem in real-life contexts and suggest areas for growth to favour my resources, etc.

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

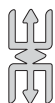
- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. Transfer the information from your SS App into your learning planner template to complete your plans

- 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 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 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.
- 2. prepare assessment tasks and rubrics for individual project.

Learning Outcome (LO): To review the learning plan for Week 14 and address any challenges in planning and developing assessment tasks for the group project (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.

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.

Differentiation

I have about half of my class struggling with numeracy. Suggest any three ways you can support me to improve on the differentiation strategies I have captured in my attached learning plan to make the lesson more effectively and efficiently to cater for differentiation, etc.

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 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 Appendix F in the Teacher Manual and generate a task for individual project to a class of 35 which will be submit by week 17. Add the rubrics and feedback strategies including weekly check-ins on the learners. Consider GESI, and the rural set-up of the school, etc.



Note

- i. One prompt 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

How can I adapt the assessment you provided for learners whose families may not be comfortable sharing financial information, etc.

ii. Mark scheme and score distribution

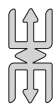
Simplify the rubric so that it can be used consistently by different teachers with varying experience levels, etc.

iii. Resources needed for assessment administration

Give me ways I can implement this assessment if I don't have access to resources such as calculators, computers, printed materials, etc.

iv. How to provide feedback

Provide a well-structured 15-minute post project reflection session where learners complete a self-assessment form, identifying what they felt confident about, the ones they found challenging and what they would approach differently if given another attempt, etc.



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 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 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 15: Patterns and Relations involving Sequence and Series 1

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 Patterns and Relations involving Sequence and Series 1 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 Patterns

and Relations involving Sequence and Series 1 (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

Formulate two essential questions that support my diverse class of 18 learners in distinguishing sequences from series and mastering arithmetic progression concepts. Consider GESI and SEL, etc.

ii. Differentiation

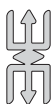
Give me three ways I can differentiate my learning activities learning styles and assessment tasks to cater for all my 18 learners with different ICT backgrounds, etc.

iii. Learning activities

Considering the size of my class (18 learners) and the learning indicator 1 for Week 15, provide three talk for learning and collaborative learning activities that use local resources on patterns and sequences, etc.

iv. Assessment tasks

The mode of assessment for Week 15 in the TM is group presentation. Refer to the learning indicator 1 and give me a task for group presentation. I have 18 learners of different abilities. Provide how I should form the groups, organise the presentations and a detailed feedback system of how to score, 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.

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

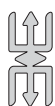
I teach 18 learners, 6 have all the basic learning resources. Review my arithmetic sequences visual presentation activity in my learning plan and suggest improvements for accessibility, differentiation, and alignment with the teacher manual, etc.

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).

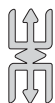
2.3 Share your experience with the group.

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: Patterns and Relations involving Sequence and Series 2

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 Patterns and Relations involving Sequence and Series 2 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 Patterns

and Relations involving Sequence and Series 2 (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

Generate three essential questions for Week 16 on Sequence and Series that help learners identify geometric progressions and find algebraic expressions for the general term while promoting critical thinking and differentiation across all ability levels, etc.

ii. Differentiation

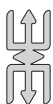
Suggest three key notes that I can consider to make my learning activities for Week 16 on Patterns and Relations well differentiated to cater for all the learners in my class, etc.

iii. Learning activities

Create 3 collaborative learning activities for Week 16 geometric sequences that help learners identify geometric progressions and find n th terms using local resources, allowing differentiation through visual charts, verbal explanations, and algebraic methods, etc.

iv. Assessment tasks

Develop a task sheet on geometric progressions for my learners as a class work to be completed in 20 minutes. Add a detailed peer assessment mark scheme with a total of 10 marks, 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.

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

My class consists of 55 mixed-ability learners, 30-minute duration, class work assessment. Consider SEL and GESI. Review my Week 16 learning plan on “Patterns and Relations involving Sequence and Series 2” for demonstrating geometric sequences through visual and verbal methods, and suggest 3 differentiated resource improvements with assessment criteria, etc.

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

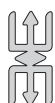
- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. Transfer the information from your SS App into your learning planner template to complete your plans

- 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 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: Real Life Problems involving Sequence and Series

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 Real Life Problems involving Sequence and Series 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 Real Life

Problems involving Sequence and Series (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. **Essential questions**

Develop 2 essential questions that can guide my lesson to help learners recognise how sequences and series appear in their daily lives, such as savings patterns, population growth, or loan repayments, etc.

ii. **Differentiation**

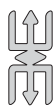
Provide notes on how I can provide multiple pathways for learners to access and demonstrate their understanding of sequence and series applications, etc.

iii. **Learning activities**

Create 120-minute learning activities divided into three parts (introduction, main lesson and conclusion) using hands-on and collaborative learning strategies that allow learners to discover sequence and series patterns through real-world investigations and problem-solving, etc.

iv. **Assessment tasks**

Give me three assessment tasks that can cater for learners with different learning styles (visual, auditory, kinaesthetic) when evaluating their understanding of real-life problems involving sequences and series, 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.

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

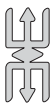
Review the assessment tasks in my learning plan and give me ways I can structure these tasks as preparation for the upcoming mid-semester examination by incorporating similar question formats and complexity levels. Check the DoK levels for each task as well, etc.

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).

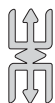
2.3 Share your experience with the group.

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.
2. prepare assessment tasks and rubrics for mid-semester examination

Learning Outcome (LO): To review the learning plan for week 18 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 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

Analyse the differentiation strategies in my Week 18 learning plan focusing on surface area calculations. Do the review in terms of learning activities, assessment tasks and resource allocation for 60 learners in rural school context. Please consider ICT, and GESI, etc.

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 Mid-Semester Examination (50 minutes)

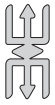
- 3.1** Refer to your Teacher Manual for the format of the mid semester examination and use the subject-specific App to review or develop your assessment tasks, mark schemes/rubrics, etc. (NTS 2a–2c, 2e–2h and 3j–3q).

E.g.

In line with the assessment structure for the mid-semester examination, which specifies 30 multiple-choice questions (MCQs) across Depth of Knowledge (DoK) levels 1 to 3, to be completed within a 2-hour period.

Design a table of specification aligned with the Teacher Manual's requirements for Weeks 13 to 18. Assist me in generating the following:

- a) A set of 30 MCQ items distributed across cognitive levels as follows:
 - i. 9 questions at DoK Level 1
 - ii. 12 questions at DoK Level 2
 - iii. 9 questions at DoK Level 3
- b) Five essay-type questions, including:
 - i. 3 items targeting DoK Level 2, and
 - ii. 2 items targeting DoK Level 3,
- c) Detailed rubrics for scoring.

**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 and 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**

Questions heavily favour surface area (Week 18) but inadequately cover Weeks 13–17 content. Again, some questions labelled as DoK level 2 and 3 are actually DoK level 1 (e.g., Q10 is basic formula application, not conceptual understanding), etc.

- ii. Mark scheme and score distribution**

Award partial credit for correct method but wrong answer. Also, give me alternative solution methods that reach the same answer, etc.

- iii. Resources needed for assessment administration**

Some of the teaching and learning resources cannot be used in a rural-school like Mando Senior High Technical School. Provide rural-friendly teaching and learning resources for me and my learners, etc.

- iv. How to provide feedback**

Provide differentiated feedback based on individual needs and suggest a clear direction for remediation efforts etc.

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 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 19: Volume and Capacity

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 Volume and Capacity 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 Volume and Capacity (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. Essential questions

Develop four essential questions that guide my lesson on real life applications of volume and capacity measurements in both SI and imperial units. Two of the questions should be learner-centered, and the other two guiding me on how to add GESI and SEL into my lesson, etc.

ii. Differentiation

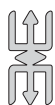
The focal area for week 19 of the Teacher Manual is “Volume and Capacity”, suggest three ways I can support my learners with different local learning resources, etc.

iii. Learning activities

Be guided by the activities for Week 19 in the Teacher Manual and craft three learning activities to teach “Volume and Capacity”. There are 40 learners in my class with different learning styles, good access to ICT tools, etc.

iv. Assessment tasks

I am teaching the focal area for Week 19 of the Teacher Manual. Give me three assessment tasks covering DoK levels 2 and 3 to be completed in 20 minutes, their scoring rubric and how I can provide detailed and targeted feedback to my learners, 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.

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

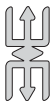
Refer to the assessment tasks (group assignments) in the uploaded learning plan for Week 19 of the Teacher Manual on “Volume and Capacity” and make the necessary recommendations on: 45 learners in my class (10 quick learners, 12 truants, 10 without learning resources), DoK levels 1–3, the mark scheme, etc.

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

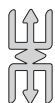
- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. Transfer the information from your SS App into your learning planner template to complete your plans

- 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: Real World Problems that involves the Volume/Capacity of a 3-D Object

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 Real World Problems that involves the Volume/Capacity of a 3-D Object 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 Real World Problems that involves the Volume/Capacity of a 3-D Object (NTS 1a, 2b, 2c, 2e-2h and 3a-3q).

E.g.

i. **Essential questions**

Develop three essential questions that connect volume and capacity to daily life problems like construction and storage. One question should help me plan my teaching approach, and two questions should help learners think about and discuss volume concepts during the 120-minute session, etc.

ii. **Differentiation**

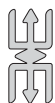
Plan three notes on different ways I can guide all 30 learners with varying mathematics abilities in my class to understand the focal area for Week 20 of the Teacher Manual using hands-on materials, pictures, and easier or harder problems with available classroom resources, etc.

iii. **Learning activities**

I am teaching a class of 30 mixed ability learners with limited resources on focal area for week 20 of the Teacher Manual. Create four project-based activities that use creativity, thinking skills, and problem-solving for learners to explore real-world problems on volume, etc.

iv. **Assessment tasks**

Design three DoK level 3 assessment tasks that allow 30 learners show their understanding on real life problems on volume in 25 minutes through group problem-solving, digital presentations, and creative solutions. Add a detailed mark scheme out of 10 marks, 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.

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

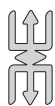
Check and make suggestions if my essential questions allow all 30 learners to participate in the lesson, including those who cannot see well and those at different maths levels. Make sure the questions connect volume and capacity to real-life situations that all learners can relate to from their own experiences, etc.

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).

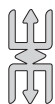
2.3 Share your experience with the group.

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 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: Project on Data Collection, Analysis and Interpretation

1.0 Introduction (5 minutes)

- 1.1 Share one thing you applied in your classroom based on PLC Session 20
 - a. the challenges you faced
 - b. 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 Project on Data Collection, Analysis and Interpretation 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 Project on

Data Collection, Analysis and Interpretation (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. **Essential questions**

Go by the learning indicator for Week 20 of the Teacher Manual and Develop two essential questions that help learners carry out real data collection projects on current issues while building their research abilities and thinking skills. One question should help me teach project work well, while the other should guide learners through collecting and analysing data step by step, etc.

ii. **Differentiation**

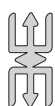
The focal area for Week 20 of the Teacher Manual talks about “Data Collection, Analysis and Interpretation”; create three inclusive strategies that considers different learning styles through visual data representation, hands-on data collection activities, and collaborative analysis while integrating 21st century skills, etc.

iii. **Learning activities**

Refer to Week 20 of the Teacher Manual and develop project-based learning activities where 38 learners work in groups to design data collection instruments, gather real data from their school or community, and present their findings. Include GESI and ICT, etc.

iv. **Assessment tasks**

Create mini-group project tasks for 38 learners that check if learners can make good survey questions, collect data fairly and honestly, analyse their information correctly, and explain what their results mean in simple, clear ways. Include a rubric for scoring, 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.

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

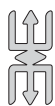
I have 38 learners in my class, including 4 learners with limited technology skills, 6 fast learners who complete tasks quickly, and 5 learners who struggle with data interpretation. Review the learning activities in my learning plan on Project on Data Collection, Analysis and Interpretation in alignment with the Teacher Manual. Suggest specific improvements to accommodate diverse learning needs, effective group project management, and ensure all learners can meaningfully participate in designing data collection instruments, conducting research, and presenting their findings using available classroom technology and resources, etc.

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).

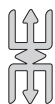
2.3 Share your experience with the group.

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 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: Simple and Compound Probability Experiments

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 Simple and Compound Probability Experiments 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 Simple and

Compound Probability Experiments (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

E.g.

i. **Essential questions**

Create three essential questions that guide learners to investigate sample spaces through basic experiments like coin tosses and dice throws, then advance to more complex experiments like rolling multiple dice and drawing cards consecutively, while helping them distinguish between dependent and independent events, etc.

ii. **Differentiation**

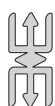
Design three differentiation strategies for 30 learners with varying mathematical abilities, using think–pair–share activities for concept discussions and mixed–groupings for solving dependent event problems, while providing concrete manipulatives for struggling learners and complex tree diagram challenges for advanced learners, etc.

iii. **Learning activities**

Refer to the activities for Week 22 in the Teacher Manual on “Simple and Compound Probability Experiments” and develop three hands-on experimental activities where 30 learners conduct simple experiments (coin tosses, dice rolls) to determine sample spaces, then progress to compound experiments (two dice, card drawing), etc.

iv. **Assessment tasks**

Refer to the key assessments questions 6–8 in the Teacher Manual and give me step–by–step mark scheme, 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.

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

Check through my uploaded learning plan if my mixed-grouping approach effectively supports learners with varying abilities while promoting inclusive participation and respect for different mathematical perspectives, and how well I have integrated National Values, GESI, and 21st century skills into probability activities. Suggest ways I can make it better to support my learners achieve learning, etc.

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

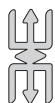
- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. Transfer the information from your SS App into your learning planner template to complete your plans

- 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 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: Vectors

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

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

Purpose: The purpose for this session is to populate the learning planner for week 23 on Vectors 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 Vectors (NTS 1a, 2b, 2c, 2e–2h and 3a–3q).

*E.g.***i. Essential questions**

Create two essential questions that help learners learn vector operations through hands-on activities with arrows and numbers. One of the essential questions should guide me to add SEL and SEN into the lesson, etc.

ii. Differentiation

Plan four different ways to help 45 learners with varying mathematics abilities, using think-pair-share activities for exploring properties of vectors and group work for solving real-world vector problems, while giving hands-on materials and pictures for struggling learners and harder algebraic vector challenges for advanced learners, etc.

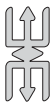
iii. Learning activities

Base on the activities and examples in the Teacher Manual and create three ways I can put my 50 learners into groups for hands-on activities where they explore drawing vectors and calculating numbers, and investigate vector properties through practical work and teamwork within 120 minutes, etc.

iv. Assessment tasks

Create five performance tests that check if learners can move between drawing vectors and calculating with numbers, solve real-world vector problems.

Design these tests to prepare learners for the end of semester examination by using similar question types, difficulty levels, 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.

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

There are 43 learners in my class, including 5 learners who struggle with abstract algebraic concepts, and 4 learners who prefer visual learning approaches.

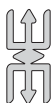
Review my assessment tasks in my learning plan on Vectors, specifically focusing on the Teacher Manual's key assessment areas. Suggest specific improvements in the formative assessment to address diverse learning needs, etc.

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

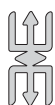
- i. Chatting once may not be enough for the App to provide all that you may need for the tasks
- ii. Transfer the information from your SS App into your learning planner template to complete your plans

- 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 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.
2. prepare assessment tasks and rubrics for end of semester examination

Learning Outcome (LO): To review the learning plan for Week 24 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.

Assessment tasks

I teach learners who are between the ages of 15 to 19 years. Does the formative assessment task adequately assess understanding at DoK 2 or 3? How can I revise the assessment task to challenge learners to justify which installation site is most optimal when comparing multiple locations with different sun elevation angles?

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 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.

Follow the blueprint outlined in the Table of Test Specification for content covered during Weeks 13 to 24 and construct an end-of-semester mathematics examination. The assessment should consist of:

- a. *Forty (40) multiple-choice items, broken down by cognitive rigor as follows:*
 - i. *Twelve (12) items targeting DoK Level 1*
 - ii. *Fourteen (14) items addressing DoK Level 2*
 - iii. *Twelve (12) items requiring DoK Level 3*
- b. *Thirteen (13) essay-type questions with equal marks, with the following cognitive distribution:*
 - i. *Four (4) at DoK Level 1*
 - ii. *Five (5) at DoK Level 2*
 - iii. *Three (3) at DoK Level 3*

c. *Detailed scoring rubric/mark scheme.*

The assessment will be conducted over a 2 hour 30-minute session.



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 and 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***

Questions 29, 30, and 34–40 are based on routine steps and fit DoK 2, not DoK 3; replace them with tasks that require analysis, evaluation, and combining ideas in new situations, etc.

ii. ***Mark scheme and score distribution.***

The marks for the essay questions are uneven, so adjust to 13 questions at 4 marks each to ensure fairness and balance, etc.

iii. ***Resources needed for assessment administration***

Set a pre-exam protocol where all calculator memories are cleared, graphing calculators are banned, and spare calculators are provided for emergencies, etc.

iv. ***How to provide feedback***

The current feedback and differentiation approach is too general, emphasizing overall scores instead of targeting specific mathematical skills and the distinct learning needs of students at different performance levels, etc.

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).

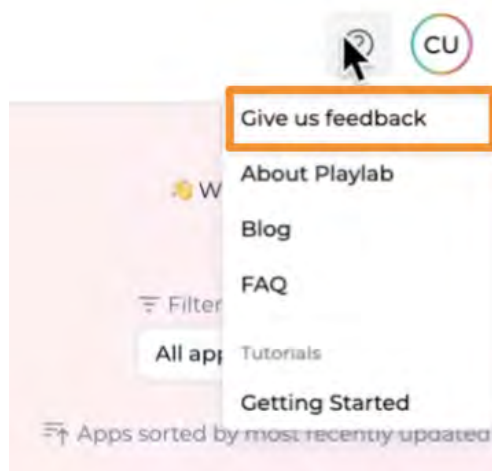
4.3 Remember to mark, record and upload your learners' assessment scores in the Student Transcript Portal (NTS 3j, 3n).

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 SS 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

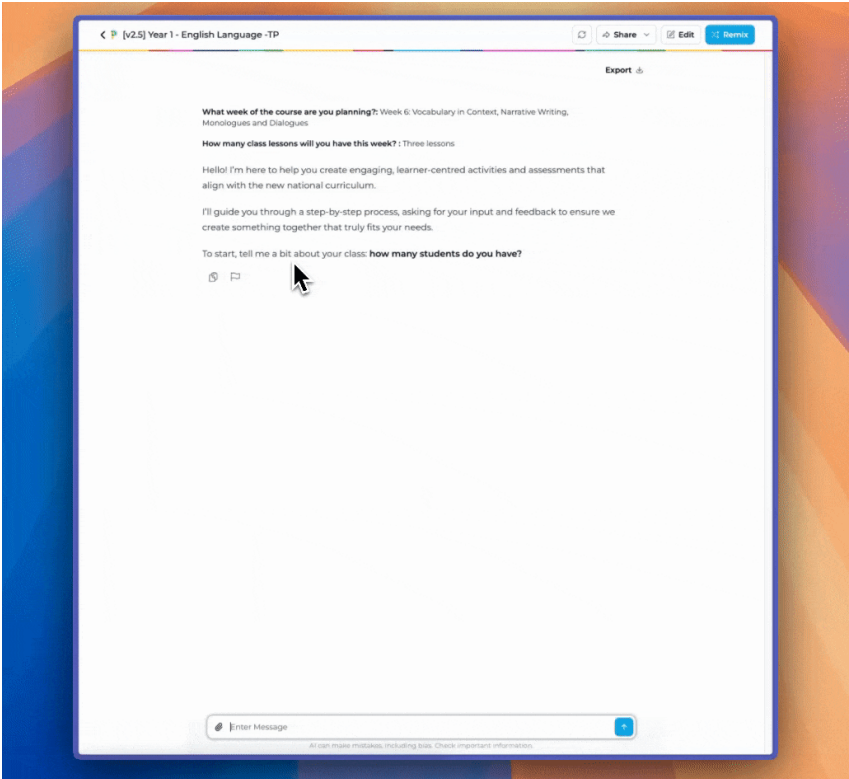
Please share any screenshots or videos that help visualize your feedback.

 **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



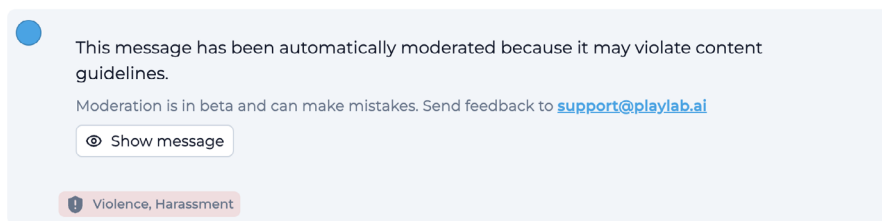
- Click to report biased, inaccurate, or inappropriate messages.
- Best for: Immediate issues with app responses
- There is also in app moderation for both user messages and AI generated responses. You can read more about it here.

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

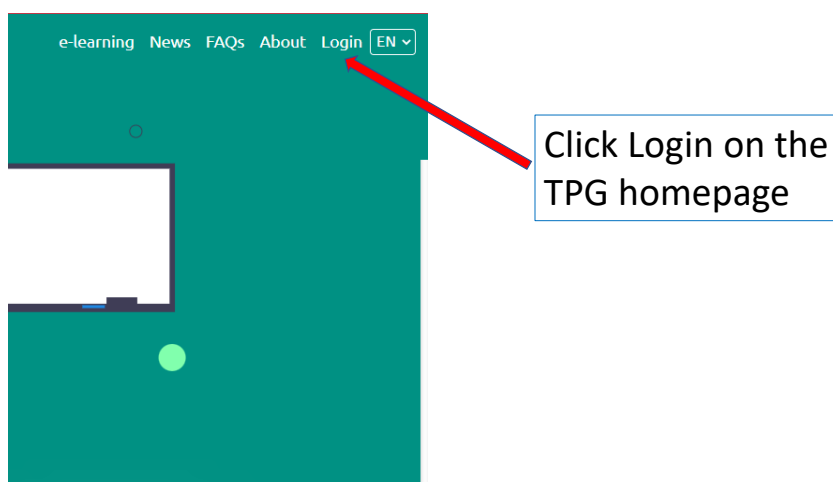
22. Areas for
development

23. Next steps for
teacher

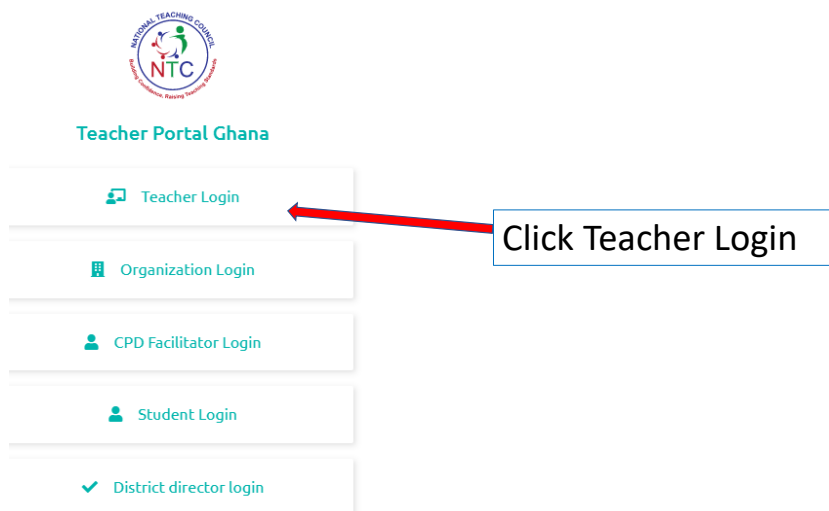
Additional Notes (on teacher's actions, the flow of activities, etc.)

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

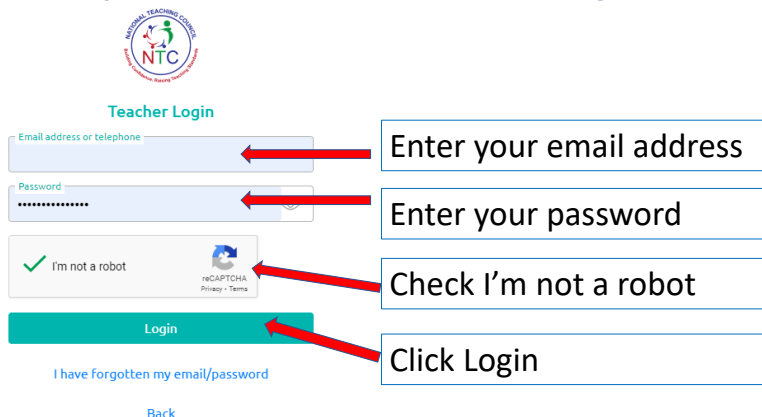
1. Visit tpg.ntc.gov.gh and click Login



2. On the Login page, click Teacher Login



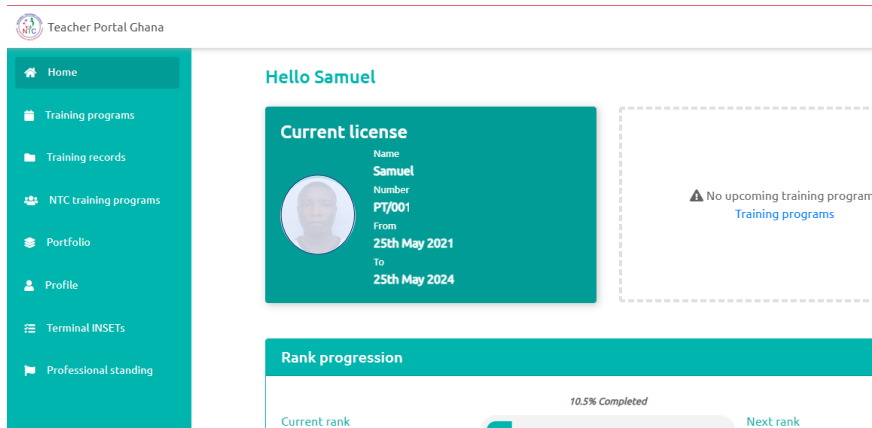
3. On the **Teacher Login** page enter your email address and password and then click **Login**



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** (Link)
- Back** (Link)

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



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

- Header:** Teacher Portal Ghana
- Left Sidebar:** Home, Training programs, Training records, NTC training programs, Portfolio, Profile, Terminal INSETs, Professional standing
- Main Content:**
 - 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 image shows the 'Teacher Portal Ghana' interface. On the left is a teal side menu with options: Home, Training programs, Training records, NTC training programs, Portfolio, Profile, Terminal INSETs, and Professional standing. A red arrow points from a text box to the 'Training records' option. The main content area is titled 'Training records' and shows '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 (AMLJM)' (Processed, Credits: 0.5788). A red bracket groups these programs, with a text box pointing to it. Another text box points to the 'Training records' menu item.

Teacher Portal Ghana

Training records

Records for training programs registered and/or attended

Total points: 1.8988

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

List of training programs

Click to view training records

THANK YOU

