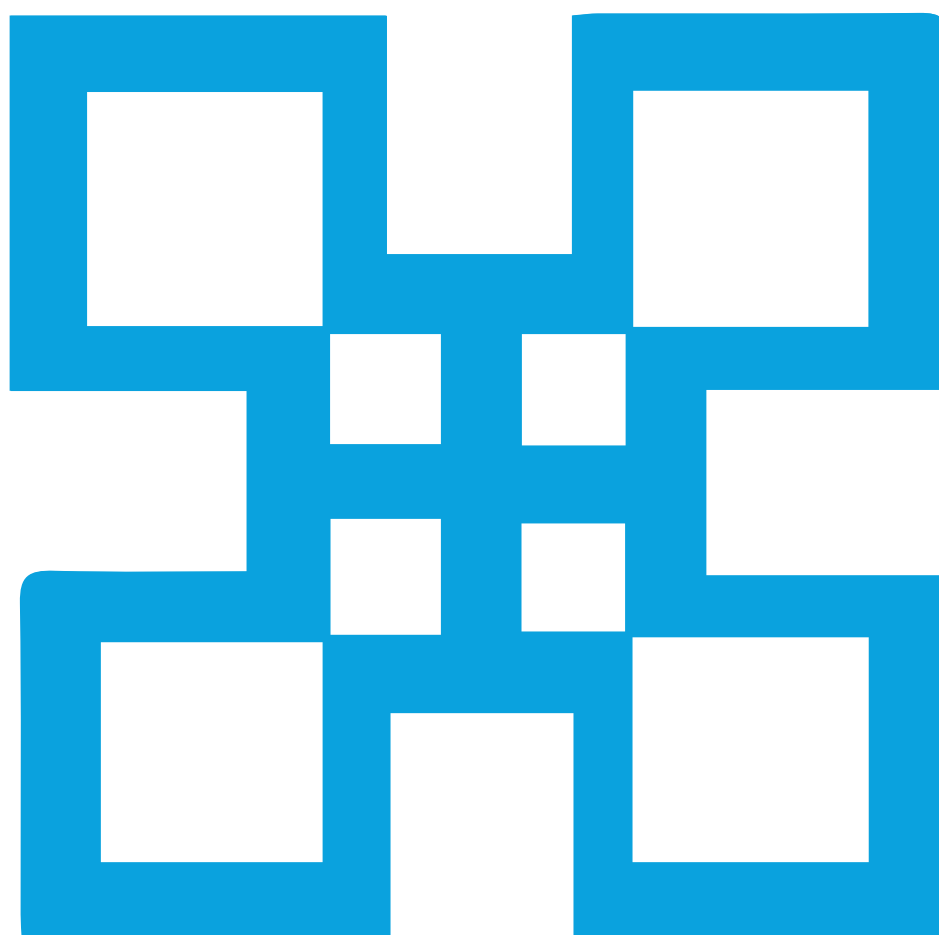


Professional Learning Community Handbook 1

Working to the National Teachers' Standards

HANDBOOK FOR TEACHERS



Wisdom, Knowledge
and Prudence



Ghana Education
Service (GES)





GOVERNMENT OF GHANA



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Professional Learning Community Handbook 1 Working to the National Teachers' Standards

Teacher Version

FOREWORD

Ghana Education Service has collaborated with the National Teaching Council, tutors of Colleges of Education, the University for Development Studies, Accra and Takoradi Technical Universities, and teachers from 12 Senior High Schools, Senior High Technical Schools, and Technical Institutes to develop this maiden Professional Learning Community Handbook. The Professional Learning Community (PLC) Handbook is intended to assist Heads of Secondary Schools and teachers to run weekly PLC sessions in schools. These PLC sessions are dedicated periods in the school's weekly schedule where all teachers come together and work collaboratively to improve teaching and learning.

PLC sessions will help teachers to build a collective understanding of how to improve outcomes for all learners in their schools through a series of practical activities such as lesson study, team teaching and action research. The involvement of teachers from 12 Senior High Schools, Senior High Technical Schools, and Technical Institutes in the writing of this Handbook means that the primary users of the Handbook are the ones who have been involved in its creation, helping to ensure its relevance and practicality.

This first PLC Handbook focuses on strengthening understanding, awareness, and adherence to the National Teachers' Standards (NTS). The NTS provide the foundations upon which Ghana's educational reforms are being built as they specify the three things needed to be an effective teacher:

1. Professional Values and Attitudes - the dedication to learn and improve and become the best teacher you can be;
2. Professional Knowledge- of the subjects and content of the curriculum being taught, and;
3. Professional Practice- the understanding of how to encourage participation, critical thinking and achieve intended learning outcomes.

The PLC Handbook is designed to improve quality and relevance of teaching and learning through experiential sharing and strategies which also incorporate Gender, Equality and Social Inclusion (GESI), Information Communication Technology (ICT) and 21st Century Skills.

The Handbook is structured in 11 units which are applicable for all SHSs and 8 units of TVET to cater for the specific needs of Technical Institutes.

It is our hope and expectation that this PLC Handbook represents an important step in the transformation of our secondary education system and that it will be used effectively across all Ghanaian secondary education institutions.

Professor Kwasi Opoku-Amankwa
Director-General
Ghana Education Service

PROFESSIONAL LEARNING COMMUNITY HANDBOOK 1
WORKING TO THE NATIONAL TEACHERS' STANDARDS – TEACHER VERSION

1. *Background to the PLC Sessions in this Handbook.*

There are eleven weekly PLC Sessions designed to prepare teachers to teach subjects in the secondary school curriculum to the National Teachers' Standards. The Sessions are not subject specific although teachers who teach Technical and Vocation Education and Training (TVET) subjects have access to a subject specific version of the eight of the Sessions (-i.e., Sessions 4-11).

The PLC Sessions are designed to help operationalize the reform of secondary education at both teacher and student levels and to support:

- professionalising teaching by supporting teachers in developing communities of practice and enhancing their professionalism.
- improving the learning outcomes and life chances for all learners.

2. *Features of the PLC Sessions.*

- The main resources for the weekly teacher Sessions are the teacher PLC Handbook and the PLC Coordinator Handbook.
- Both versions are written to provide information to guide the eleven weekly PLC Sessions that are linked directly to the National Teachers' Standards.
- The PLC Coordinator Handbook have prompts for leading the PLC Session.
- The teacher PLC handbook contains activities for teachers and guidance for what they will do during the Session.
- The weekly PD Sessions are of an hour and a half duration.

PLC Session 1: Gender Equality and Social Inclusion		
	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
1. Introduction to session	<p>1.1 Start the PLC session with an icebreaker.</p> <p>1.2 Read the introduction to Gender Equality and Social Inclusion (GESI) and the learning outcome (LO) as well as learning indicators (LIs) below and provide your opinions on same (NTS 1a, 1e, 2b and 3f).</p> <p>Introduction to GESI:</p> <p>a) Purpose of GESI in all subject areas Communities all over the world consist of diverse individuals and social groupings that have different needs, strengths, opportunities, and concerns as a result of differences in culture, gender, abilities, economic and social status. As a teacher, it is important to understand the uniqueness of the diverse groups in the classroom and ensure that every individual is supported to access quality education. GESI in schools is being championed towards promoting equal opportunity for females and males as well as all other disadvantaged groups in the classroom. Teachers need to have a clear understanding of GESI issues to be able to integrate these in the teaching and learning process and other aspects of School life and to encourage learners to do same during learning.</p> <p>b) Overview of GESI and related concepts. This session seeks to expose teachers in all the subject areas (in all second cycle institutions) to the concept of GESI and related issues such as Gender, Equality, Equity, etc., to enable them appreciate issues of stereotyping and work towards challenging traditional gender roles as well as dealing with their own unconscious biases so they can attend to the diverse needs of all learners in the classroom and in the schools generally.</p> <p>Note: The LOs in the Handbook describe what teachers will be able to do by the end of the session.</p> <p>Note <i>LO (Learning Outcome): This is the expected knowledge, understanding, skills, etc., to be acquired at the end of a lesson.</i></p> <p><i>LI (Learning Indicator): This is the practical evidence that learning has taken place. It may include verbal responses, practical activity or products.</i></p>	25 mins

	<p>LO: Demonstrate understanding of the relevance of GESI and related issues in the National Teachers' Standards (NTS).</p> <p>LI 1.1 Discuss the concept of GESI and related issues.</p> <p>LI 1.2 Plan teaching and learning activities that integrate the concept of GESI.</p> <p>LI 1.3 Plan activities that help learners to understand GESI responsiveness and apply them during learning.</p>	
	<p>1.3 Explain what GESI means (NTS 3i).</p> <p>Gender, Equality and Social Inclusion (GESI) is a concept that addresses unequal power relations experienced by people on the grounds of gender, wealth, ability, location, ethnicity, language and agency or a combination of these dimensions. (T-TEL Gender Handbook for Teaching Practice Mentors, 2015.)</p> <p>1.4 In your subject groups, use talk for learning strategies to explain any two concepts related to GESI and how each concept is linked to education. (You may use your phones/laptops to do the search) (NTS 3g, 3i and 3j).</p> <p><i>E.g.</i> <i>Social exclusion: Persons with disabilities may be excluded from various activities due to their inability to participate in such activities. If no adjustment is made to address the limitation, they will remain excluded.</i> <i>In education, exclusion may occur if the classroom is located at a place where it is not accessible to learners in wheelchairs or if the teacher uses a teaching method (e.g., discussion) that is not accessible to learners with special educational needs (SEN)(such as those with hearing impairment).</i></p> <p>1.5 Read aloud the notes on GESI below: Gender is the relationship between females and males and the roles and responsibilities they have in society. For example, in Ghana, it is socially accepted that cooking is the role of women and providing upkeep money for the family is the role of men. Equality is creating equal opportunities for males and females. It is a fundamental right, and it is often the GOAL. Equity refers to a fair sharing of resources, opportunities and benefits according to a given framework. It is often the outcome of the GOAL. It is one of the measures of equality, but not the only one.</p>	

	<p>Note that Equity is the process of achieving Equality, which is the outcome (T-TEL Gender Handbook for Teaching Practice Mentors, 2015).</p> <p>Inclusion is the process of valuing all individuals and leveraging their diverse talent, not in spite of their differences, but because of their differences. For example, ensuring that all learners (boys, girls including SEN) are given equal opportunities to participate in the classroom.</p> <p>Gender Equality is a state where males and females have equal rights, life prospects and opportunities to shape their own lives and contribute to society.</p> <p>Social Inclusion is the process of improving the terms of participation for people who are disadvantaged, through enhancing opportunities and access to resources.</p> <p>1.6 Reflect on your understanding of GESI and justify its importance in education (NTS 1a, 1c, 1f, 3f, 3h and 3i).</p> <p><i>E.g.</i> <i>The classroom and school environment have been skewed in ways that condone gender bias and promote exclusion. Male characters are often represented more than female characters in teaching/learning materials (TLMs) and textbooks.</i></p>	
<p>2. Overcoming GESI related misconceptions, negative perceptions, stereotypes and other challenges</p>	<p>2.1 Identify and discuss how the GESI concepts introduced in the session could be useful in your teaching and general school life (NTS 2f, 3k, 3l, 3m and 3n).</p> <p><i>E.g.</i> <i>Inclusion: mix ability/gender grouping; involving all categories of learners in every teaching activity.</i></p> <p>2.2 Reflect individually, share with a colleague and then the entire group possible barriers to learning in relation to GESI and how to address them (NTS 3f, 3m).</p> <p><i>E.g.</i> Stereotypes: <i>Certain roles are for specific gender; boys are brave and can dissect rodents in science lessons more easily than girls while girls are better cooks than boys. This can be addressed by citing instances where girls demonstrate bravery and boys have been better cooks.</i></p> <p>Negative perception: <i>Persons with special educational needs are low achievers. Address this by giving examples of persons with SEN who have excelled in various aspects of life. An example is Farida Bedwei - a lady living with cerebral palsy who is a software engineer and co-founder of Logiciel, a fin-tech company in Ghana.</i></p>	20 mins

	<p>(Teachers may share their experiences of unfair treatment/unconscious biases that constitute barriers to GESI).</p> <p>2.3 Identify and share GESI responsive practices that can help in creating GESI friendly school and classroom environments in the context of second cycle institutions (NTS 1c, 3e, 3g and 3j).</p> <p><i>Eg.</i></p> <ul style="list-style-type: none"> <i>a) Involving men and women equally in decision making</i> <i>b) ensuring that all school facilities are accessible to everyone (abled bodied and persons with disability, etc.)</i> <i>c) Equitable allocation of resources among all school actors (males, females, minority groups, etc.</i> 	
3. Implementing GESI in teaching, learning and assessment.	<p>3.1 Discuss in your subject groups and come out with strategies on how GESI can be integrated in your specific subject areas (NTS 1a, 3e and 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Using multiple methods (question and answer, discussion, videos, role play, etc.) in lessons to cater for different learning styles</i> <i>b) Using different learning resources (audio, visuals, audio-visuals, tactile, etc.) to cater for different learning styles</i> <i>c) Using different assessment methods (written assignments, oral assessment, online assessment, etc.) to cater for different learning styles</i> <p>3.2 identify and discuss possible strategies to make projects and portfolios GESI responsive (NTS 1a, 3a).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Equitable distribution of relevant resources for projects</i> <i>b) Ensure projects' content does not portray GESI biases and stereotypes.</i> <p>Note: Make conscious efforts to ensure GESI responsiveness in conducting continuous assessment in your subject area</p> <p><i>E.g.</i> <i>Ensure that leadership roles are assigned equally among females, males and learners with special education needs (SEN) when assessments (projects) are done in groups.</i></p>	30 mins

	<p>3.3 identify and discuss the links to GESI resources such as the Gender Handbook for Second Cycle Schools and T-TEL Gender Handbook for Teaching Practice Mentors (NTS 3h, 3j). (EXTENSION ACTIVITY)</p> <p><i>E.g.</i> https://campaignforeducation.org/en/press-centre/an-equal-world-is-an-enabled-world?gclid=EAlaIqobChMliPqFx8iW9wIVmpntCh213wroEAAYBCAAEgljcfD_BwE</p> <p>https://plan-international.org/education/inclusive-education-children-disability/?gclid=EAlaIqobChMI3OuI0cmW9wIVToFQBh1Wnw0aEAAAYASAAEgIN3PD_BwE</p> <p>https://www.worldvisionphilanthropy.org/resources/gesi</p> <p>3.4 Model a selected activity in a teaching situation that is linked to any of the LIs of the session. (EXTENSION ACTIVITY)</p>	
<p>4. Evaluation and review of session:</p> <p>➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p> <p>➤ Noting that teachers need to identify critical friends to observe lessons and report at next session</p>	<p>4.1 Reflect and write what you have learnt in the session (NTS 1a, 3l and 3n).</p> <p>4.2 Share what you have learnt with the larger group.</p> <p>4.3 Identify a critical friend to observe your lesson to provide feedback on how you have used GESI in the lesson and report at the next session</p> <p>4.4 Read session 2 from the PLC Handbook in preparation for the next session.</p> <p>4.5 Come to the next session (i.e., Session 2) with their phones, laptops and other ICT devices for the session on ICT.</p>	15 mins

PLC Session 2: Information and Communications Technology (ICT)

	Guidance Notes on Teacher Activity during the PLC Session. What teachers will do during each stage of the session.	Time in session
1. Review of Previous Session and introduction to new session	<p>1.1. Review the previous session by writing one thing you learnt in the session and share it with a colleague.</p> <p>1.2 Read the purpose, preamble, learning outcomes (LOs) and learning indicators (LIs) of the session.</p> <p>a. Purpose of ICT in teaching and learning: As indicated in the LOs and LIs below, this session is intended to:</p> <ul style="list-style-type: none"> i. Help teachers plan and teach learner-centred lessons using ICT. ii. Provide teachers access to and use of ICT tools for assessment for learning, assessment as learning and assessment of learning. iii. Introduce teachers to the use of ICT for the development of 21st century skills. iv. Guide teachers in the use of ICT software and hardware for teaching and learning. <p>b. Preamble Teachers in the 21st century are facing new challenges because of the expanding possibilities of ICT integration in every aspect of the school curriculum. Irrespective of the level a teacher operates, at with regard to ICT mediated teaching and learning, ICTs have the capabilities to bring several benefits to teachers and students. The benefits may include shared learning resources, shared learning spaces and promotion of cooperative and collaborative learning. They also provide a base for autonomous learning.</p> <p>Welliver's Instructional Transformation Model sets goals and expectations for all teachers at whatever stage they are starting at. The five hierarchical stages, which have been explained below, start with familiarization, then utilization, integration, reorientation and finally revolution. (www.welliversinstructionalmodel.com, published 8th June, 2011, retrieved 8th April, 2022)</p> <ul style="list-style-type: none"> i. Familiarization: This is when teachers become aware of technology and its potential uses. ii. Utilization: This is where teachers use technology, but minor problems will cause them to discontinue its use. iii. Integration: Here, technology becomes essential for the educational process and teachers are constantly thinking of new ways to use technology in their classrooms. 	25 mins

	<p>iv. Reorientation: At this level, teachers begin to rethink the educational goals of the classroom with the use of technology.</p> <p>v. Revolution: This is the highest level where the evolving classroom becomes completely integrated with technology in all subject areas. Technology becomes an invisible tool that is seamlessly woven into the teaching and learning process.</p> <p>Note: LO: Learning Outcome: <i>This is the expected knowledge, understanding, skills, etc., to be acquired at the end of a lesson (Common Core Programme Curriculum).</i></p> <p>LI: Learning Indicator: <i>This is the practical evidence that learning has taken place. It may include verbal responses, practical activity or products (Common Core Programme Curriculum).</i></p> <p>LO 1: Demonstrate the use of basic ICT tools for planning lessons (NTS 3a, 3c).</p> <p>LI 1.1 Mention and describe at least three basic ICT tools that can be used in planning a lesson.</p> <p>LI 1.2 Perform basic lesson planning tasks using an ICT tool.</p> <p>LO 2: Demonstrate knowledge and understanding of the basic ICT tools and their impact on teaching and learning (NTS 3g, 3h, 3j, 3n, 3k, and 3p).</p> <p>LI 2.1 Mention and describe at least three basic ICT tools and how to use them in teaching and learning.</p> <p>LI 2.2 Analyse and evaluate the impact of ICT on teaching and learning</p> <p>LO 3: Demonstrate the use of basic ICT tools in assessment (3j, 3k).</p> <p>LI 3.1 Mention and describe at least three basic ICT tools that can be used to assess both teaching and learning.</p> <p>LI 3.2 Perform lesson assessment using an ICT tool.</p> <p>LO 4: Demonstrate understanding of how ICT tools enhance the quality of research activities (NTS 3b).</p> <p>LI 4.1 List at least four ICT tools used in research.</p> <p>LI 4.2 Perform basic research tasks using ICT tools.</p>	
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	<p>1.3 Mention and at least three basic ICT tools and how to use them.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Desktop Computers (Preparation of document, editing, etc.)</i> <i>b) Laptops (preparation and presentation, etc.)</i> <i>c) Calculators (mathematical and scientific analysis, etc.)</i> <p>1.4 distinguish between computer hardware and software by mentioning at least two of each.</p> <p>Software</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Office Professional – e.g., XP</i> <i>b) Good photo software e.g., Microsoft Digital Photo Suite</i> <i>c) "Photostory 2 -- comes with service pack 2</i> <i>d) Inspiration</i> <p>Hardware</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Flat Screen monitor</i> <i>b) Printer. e.g., HP</i> <i>c) CD/DVD RW drive(s)</i> <i>d) USB ports</i> <i>e) Scanner – e.g., Epson brand</i> <i>f) Digital camera – e.g. Canon</i> <i>g) External storage - an external hard drive to back up data</i> <i>h) Portable storage - USB flash drive, 2 GB minimum.</i> <p>1.5 Share your views about how to create, edit, format, save and print documents using various productivity tools.</p> <p><i>E.g.</i></p> <p><i>Creating a new page in Word, PowerPoint, Excel, etc.</i></p> <p><i>Editing a document using track changes</i></p> <p><i>Saving a document using "save as" or clicking on the 'save' icon</i></p> <p><i>Printing only odd pages of a Word document</i></p> <p>1.6 Share your experiences of the integration and impact of ICT tools in your teaching.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Open Educational Resources (OERs) i.e., open courseware, learning models, streaming videos, online tutorials, open access journals, digital</i> 	
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	<p><i>learning objects all improve lesson presentations and make them more interesting</i></p> <p><i>b) The use of projector and laptops for lesson presentation saves the time for writing on the board and extends quality time on activities to enhance learning</i></p> <p>1.7 Discuss in groups how to assess learning using ICT tools.</p> <p><i>E.g.</i></p> <p><i>a) Using electronic grading rubric – a guide for assessing work manually or electronically</i></p> <p><i>b) Canvas assignments – e.g., quizzes, submitted online</i></p> <p><i>c) Plagiarism detection – used to check how original a piece of work is</i></p> <p><i>d) QuizBot – creating quizzes and sharing them with others online</i></p> <p><i>e) ClassMarker – for online testing</i></p>	
<p>Overcoming misconceptions, stereotypes, negative perceptions about ICT</p>	<p>1.8 In pairs, discuss misconceptions in teaching and learning with ICT tool (s) and share possible ways of addressing them.</p> <p><i>E.g.</i></p> <p><i>a) Computers can do everything a teacher can do. This is a misconception which must be addressed by finding examples of what teachers can do but computers cannot do- i.e., teachers take into consideration students’ feelings when teaching them.</i></p> <p><i>b) ICT is meant for male learners. This misconception can be addressed by creating awareness that this is not true, thus, invite a female ICT expert to have a talk with both teachers and students</i></p> <p>1.9 Outline possible challenging areas in teaching with ICT tool(s) taking into consideration GESI.</p> <p><i>E.g.</i></p> <p><i>a) Identifying areas in the curriculum where GESI stereotypes are reinforced through ICT. An example is where male learners tend to dominate computer use in the classroom. Teachers should ensure equitable access to computer use in the classroom.</i></p>	

	<p><i>b) Some learners copy verbatim essays from the Internet and present them as their own work. Teachers may be able to detect this with the appropriate plagiarism tools</i></p>	
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making links to the secondary school curriculum</p>	<p>2.1 In groups, share your views on how to plan lessons using ICT tools.</p> <p><i>E.g.</i> <i>In planning a lesson, a teacher will need the following materials and electronic devices to develop structured learning activities:</i></p> <ul style="list-style-type: none"> <i>a) Resources – printer/photocopier, printed task sheets, links to videos, slides, memory stick, calculator, etc.</i> <i>b) Different presentation modes – PowerPoint presentation, projecting electronic diagrams and charts, audio recorded tasks, etc.</i> <i>c) Different assessment methods – completing task sheets, using printed mark schemes for self and peer assessment, answering audio recorded questions, using calculators to check answers, etc.</i> <i>d) Using printed task sheets in groupwork to develop communication and collaboration skills, problem solving skills, etc.</i> <p>2.2 Discuss general ICT tools for teaching and learning.</p> <p><i>E.g.</i> <i>Desktop and laptop computers (used to write lesson plans and develop teaching and learning materials), projector, digital cameras, printer, photocopier, tablets, popplet, pen drive, ipods, ipads, webboards, scanners, microphones, interactive white board, DVDs and CDs flash discs, video games, etc.</i></p> <p>2.3. Discuss the appropriate ICT tools to support students with Special Education Needs (SEN) during teaching, learning and assessment (NTS, 3f, 3o).</p> <p><i>E.g.</i> <i>Teachers dealing with the SEN will require special ICT tools like; text magnifier, head wands, etc.</i></p>	20mins
<p>3. Teaching, learning and assessment</p> <p>➤ Reading and discussion of the teaching and learning activities</p> <p>➤ Noting and addressing areas where teachers may require clarification</p>	<p>3.1. Identify at least two possible gaps in the use of ICT tools in your lesson delivery and discuss possible ways of addressing them.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Possible gap: Some teachers may not be IT literate</i> <i>Possible solution: Designing ICT training packages to equip teachers with the necessary knowledge and skills in using ICT tools in lesson delivery</i> <i>b) Possible gap: unavailability of ICT tools or resources for teachers to use in their lesson delivery.</i> 	30mins

<ul style="list-style-type: none"> ➤ Noting opportunities for making explicit links to the Secondary /Technical Vocational Curriculum ➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills ➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student learning ➤ Resources: <ul style="list-style-type: none"> ○ Links to external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. ○ Consideration needs to be given to local availability and guidance on any power point presentations, TLM or other resources which need to be developed to support learning 	<p><i>Possible solution: Provision of the ICT tools and resources in the various schools to improve teaching and learning</i></p> <p>3.2 In groups share your views on the use of specific ICT tools to search for teaching, learning and assessment activities.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Ai. Google – provides education on artificial intelligence</i> b) <i>Academia.edu – provides access to academic papers</i> c) <i>Edulastic – provides access to interactive formative assessment activities</i> d) <i>Others are:</i> <ul style="list-style-type: none"> i. Socrative - quizzes and questions with real-time grading. ii. Classmarker- quizzes and questions with real-time grading iii. Google Forms - easy to use. iv. Mentimeter - pre-built education templates. v. Links application of ICT tools in the teaching and learning process such as https://www.youtube.com/watch?v=k8nMh71ky4Y <p>3.3 Discuss in your subject groups and come out with at least three strategies on how ICT can be integrated in your specific subject areas (NTS 3i, 3j). (EXTENSION ACTIVITY)</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>The use of computer simulation in science teaching presentations</i> b) <i>In mathematics, Excel spreadsheet can be used to present data and draw charts</i> c) <i>The use of computers and ICT applications such as coral draw and publisher to teach TVET students.</i> d) <i>The use of window-eye, Jon Access With Speech (JAWS), TOBII Eye Tracking System, Non-Visual Desktop Access (NVDA) in teaching students who are visually impaired.</i> <p>3.4 Discuss at least two possible strategies that use ICT tools in a GESI responsive manner to develop these skills in learners.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Giving all learners including SEN equal access to computers</i> b) <i>Considering GESI responsive seating arrangement when delivering lessons using ICT by ensuring that learners</i> 	
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	<p>with visual or hearing impairment are seated short distances for the screen</p> <p>c) Providing other ICT tools such as window-eye, Jon Access With Speech (JAWS), TOBII Eye Tracking System, etc., to support learners who are visually impaired, etc.</p> <p>3.5 Mention at least three 21st century skills and ICT tools that can be integrated during teaching and learning to develop these skills in learners.</p> <p>E.g.</p> <p>a) Building communication skills with the use of ICT tools such as computers, projectors, etc</p> <p>b) Building collaborative skills through the use of electronic media (e.g., group activities through the use of WhatsApp)</p> <p>c) The following links can be used to access information on 21st century skills:</p> <ol style="list-style-type: none"> Collaborative problem solving https://youtu.be/cnkKHL_dyGE Creativity https://www.youtube.com/watch?v=qV7DiTFdtv_w Effective written and oral communication https://www.youtube.com/watch?v=D5hMN_XkPQA Information and media literacy https://youtu.be/bjYhmTC3lrc Critical thinking https://youtu.be/y7iMEH7iGFk https://youtu.be/88DoGrqEuJk Leadership https://youtu.be/-NF10F6bX_g Personal responsibility and initiative https://youtu.be/nRE131ErclM3.5 <p>3.6 Discuss in groups how to assess learning using ICT tools.</p> <p>E.g.</p> <p>a) Using electronic grading rubric – a guide for assessing work manually or electronically</p> <p>b) Canvas assignments – e.g., quizzes, submitted online</p> <p>c) Plagiarism detection – used to check how original a piece of work is</p> <p>d) QuizBot – creating quizzes and sharing them with others online</p> <p>e) ClassMarker – for online testing</p> <p>3.7 In subject groups, come out with at least four possible assessment tools in ICT to support you in assessing learners</p>	
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	<p><i>E.g.</i> <i>In English language, tools will include those for checking grammar errors online and those for checking plagiarism, etc.</i></p> <p>3.8 Model a teaching activity using any ICT tool(s) of your choice. (EXTENSION ACTIVITY)</p>	
<p>4. Evaluation and review of session:</p> <ul style="list-style-type: none"> ➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification ➤ Noting that teachers need to identify critical friends to observe lessons and report at next session 	<p>4.1 Identify any outstanding issue(s) relating to the session for clarification.</p> <p>4.2 Mention at least four ICT tools that can be used in the delivery of your lessons.</p> <p>4.3 Identify a critical friend who will observe your lesson and give you feedback on how you integrate ICT in the lesson.</p> <p>4.4 Remember to read session 3 from the PLC Handbook in preparation for the next session.</p> <p>4.5 Come to the next session (i.e., Session 3) with the National Teachers' Standard Guidelines for the next PLC sessions</p>	15 mins

PLC Session 3: Introduction to the National Teachers' Standards		
	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
<p>1. Review of previous session and introduction to new session</p> <p>NB: The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson.</p> <p>NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session</p>	<p>1.1 Share your findings of the lesson you observed your critical friend teach with the group.</p> <p>1.2 Listen to information on the session and note the relationship between Session 3 and the subsequent sessions.</p> <p>1.3 Read the learning outcomes (LOs) and learning indicators (LIs) of the session for a discussion of the relationship between the LOs and the LIs with colleagues.</p> <p>Note: LO: Learning Outcome: <i>This is the expected knowledge, understanding, skills, etc., to be acquired at the end of a lesson (Common Core Programme Curriculum).</i></p> <p>LI: Learning Indicator: <i>This is the practical evidence that learning has taken place. It may include verbal responses, practical activity or products (Common Core Programme Curriculum).</i></p> <p>LO 1: Demonstrate knowledge and understanding of the domains and sub-domains of the NTS.</p> <p>LI 1.1 State the three domains of the NTS.</p> <p>LI 1.2 State the sub-domains of each domain.</p> <p>LI 1.3 Match the sub-domains to their respective domains.</p> <p>LO 2: Identify the characteristics of the domains and sub-domains of the NTS.</p> <p>LI 2.1 Discuss the characteristics of the domains.</p> <p>LI 2.2 Draw a diagram to indicate all the domains and their characteristics.</p> <p>LO 3: Demonstrate knowledge and understanding of the philosophy of the NTS and describe its structure and content.</p> <p>LI 3.1 State the philosophy of the NTS and list the various documents that spell out the philosophy of the NTS.</p>	25 mins

	<p>LI 3.2 Explain how the following documents inform the philosophy of the NTS.</p> <ul style="list-style-type: none"> a) Education Act, 2008 (Act 778) repealed with Education Regulatory Bodies Act, 2020 (Act 1023) b) Pre-tertiary Teacher Professional Development and Management Policy (PTPDM) c) Continental Education Strategy for Africa (CESA) d) Sustainable Development Goals (SDGs). <p>LI 3.3 Discuss the structure of the NTS.</p> <p>LI 3.4 Examine the content of the NTS.</p> <p>LO 4: Demonstrate knowledge and understanding of the relevance of cross- cutting issues including Gender Equality and Social Inclusion (GESI), Information and Communications Technology (ICT) and 21st century skills and competencies in the NTS.</p> <p>LI 4.1 Identify key cross- cutting issues in the NTS.</p> <p>LI 4.2 Explain how the cross-cutting issues affect teacher professionalism.</p> <p>LI 4.3 Share experiences on the cross-cutting issues in the classroom.</p> <p>LI 4.4 Identify the relevant GESI responsive and ICT resources for teaching and learning.</p> <p>LO 5: Analyse how the NTS can guide the planning, teaching and assessment of lessons in secondary schools.</p> <p>LI 5.1 Give examples of how to take cognizance of diverse learners' backgrounds in planning and teaching.</p> <p>LI 5.2 Give examples of varied teaching methods that can address the learning need of learners with different backgrounds</p> <p>LI 5.3 Integrate a variety of assessments modes into teaching to support learning.</p> <p>LO 6: Explore how teachers' training needs regarding the application of the NTS can be addressed. LI 6.1 Deploy action research in classroom to enhance teaching and learning</p> <p>LI 6.2 Use reflective logs in teaching.</p>	
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	LI 6.3 Use assessment data to improve teaching and learning.	
Give regard for the domains and subdomains of the NTS, etc.	<p>1.4 Discuss what you know about the NTS.</p> <p><i>E.g.</i> <i>The Standards describe values, attitudes, what teachers should know and be able to do, and used to support the on-going development of teachers once in the classroom.</i></p> <p>1.5 Read the Table of Contents of the NTS (Refer to In-service NTS Guidelines, n.d., p. 4).</p> <p>1.6 Discuss the following in groups and share your findings with the larger group.</p> <ol style="list-style-type: none"> What do the Standards stand for? (Refer to In-service NTS Guidelines, n.d., p. 6). Who are the Standards for? (Refer to In-service NTS Guidelines, n.d., p. 8). How were the Standards developed? (Refer to In-service NTS Guidelines, n.d., p. 9). What is the legal status of the teachers' Standards? (Refer to In-service NTS Guidelines, n.d., p. 10). What philosophy underpins the Standards? (Refer to In-service NTS Guidelines, n.d., p. 11). <p>1.7 Identify the Domains and the Sub-Domains. (Refer to In-service NTS Guidelines, n.d., pp. 12-15).</p> <p>1.8 Think-pair-share on how the Standards are to be used and the role of Teacher Education Institutions. (Refer to In-service NTS Guidelines, n.d., pp. 17- 18).</p> <p>1.9 Discuss the format of the Standards in your groups. (Refer to In-service NTS Guidelines, n.d., pp. 19-32).</p> <p>1.10 Identify and discuss the evidence that a teacher has met or can meet the Standards at the appropriate level by looking at the teacher's professional portfolio. (Refer to In-service NTS Guidelines, n.d., pp. 34-35).</p> <p><i>Evidence criteria:</i> <i>E.g.</i> <i>a) Assignment</i> <i>b) Examination Results</i> <i>c) Lecture Notes</i> <i>d) Lesson Plan</i></p> <p>1.11 Identify and discuss the competency requirements of the various ranks in the Ghana Education Service. (Refer to In-service NTS Guidelines, n.d., pp. 38-39).</p>	

<p>2. Planning for teaching, learning and assessment activities for the lesson/s making links to the secondary school curriculum</p>	<p>2.1. Think-square-share and prepare an outline of a lesson plan that can be used to teach a lesson to the NTS in a particular subject in any class (NTS 3a). <i>E.g. Sample lesson plan in Social Studies: Refer to Social Studies Teaching syllabus 2010 Year 1.</i></p> <p><i>An example of an outline plan for teaching based on the 2010 SHS Social Studies Syllabus*.</i></p> <ul style="list-style-type: none"> a) <i>Topic: Self Identity</i> b) <i>Sub-topic: Actions of False Identity</i> c) <i>Objectives: By the end of the lesson the learner will be able to:</i> <ul style="list-style-type: none"> i. <i>Explain the term self</i> ii. <i>Identify at least two actions of false identity and their related problems</i> d) <i>Relevant previous knowledge: Students know themselves.</i> e) <i>Introduction: Ask students to describe themselves.</i> f) <i>Tasks/activities:</i> <ul style="list-style-type: none"> i. <i>Discuss with learners, the concept of self in relation to their capabilities.</i> ii. <i>Group learners to identify actions of false identity and their related problems.</i> g) <i>Core points:</i> <ul style="list-style-type: none"> i. <i>Self is the whole being of an individual, taking into consideration their personal and psychological nature and abilities.</i> ii. <i>Some students pretend to be what they are not, e.g. they want to show off that they come from well to do families while it is not the case.</i> h) <i>Core competencies:</i> <ul style="list-style-type: none"> i. <i>Communication and collaboration</i> ii. <i>personal development and leadership</i> i) <i>Conclusion: Use questions and answers to summarise the lesson with learners</i> j) <i>Evaluation:</i> <ul style="list-style-type: none"> i. <i>What is self?</i> ii. <i>What is the meaning of false identity?</i> iii. <i>Mention two examples of false identity.</i> iv. <i>Mention two problems that can result from false identity.</i> 	<p>20 mins</p>
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	<p>Note: <i>*Teachers would be guided to tease out the learning outcomes and learning indicators from the lesson, so they know the relationship between lesson objectives and learning outcomes</i></p>	
<p>3. Teaching, learning and assessment</p> <ul style="list-style-type: none"> ➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification ➤ Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum ➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills ➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning ➤ Resources: <ul style="list-style-type: none"> ○ Links to the existing PLC Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. ○ Consideration needs to be given to local availability and guidance on any power point 	<p>3.1 Tease out the learning outcomes and the learning indicators from the sample lesson plan and explain how they are related to the objectives (NTS 3h).</p> <p><i>E.g.</i> <i>LO: Demonstrate knowledge and understanding of self-identity.</i></p> <p><i>LI 1.1 Explain the term self</i></p> <p>3.2 Brainstorm to come up with how the NTS can help to promote the delivery of lessons in the secondary school curriculum (NTS 3e, 3f, 3g, 3h, 3i and 3j).</p> <p><i>E.g.</i> <i>NTS 3e: Employs a variety of instructional strategies that encourage student participation and critical thinking.</i> <i>E.g. Demonstration, Peer teaching</i> <i>Enquiry based teaching, Projects based, etc.</i></p> <p><i>NTS 3f: Pays attention to all learners, especially girls and students with Special Educational Needs, ensuring their progress.</i></p> <p><i>E.g.</i> <i>a) Even distribution of questions among male and female students.</i> <i>b) Giving equal opportunities to learners to achieve</i> <i>c) Portraying female characters that are mostly</i></p> <p>3.3 Refer to the NTS guidelines and discuss how the Standards are linked to the use of formative assessment (assessment for learning and assessment as learning) tools and summative assessment (assessment as learning) practices in your respective subject areas (NTS 3k, 3l, 3m, 3n, 3o and 3p).</p> <p>Note: <i>NTS 3k: Integrates a variety of assessment modes into teaching to support learning.</i></p> <p><i>E.g.</i> <i>a) Class exercise</i> <i>b) Project work</i></p> <p><i>NTS 3l: Listens to learners and gives constructive feedback.</i></p>	30 mins

<p>presentations, TLRs or other resources which need to be developed to support learning</p>	<p><i>E.g.</i> <i>Marking and submission of books or scripts.</i></p> <p><i>NTS 3m: Identifies and remediates learners' difficulties or misconceptions, referring learners whose needs lie outside the competency of the teacher.</i> <i>E.g.</i> <i>a) Using resource persons</i> <i>b) Team teaching</i></p> <p><i>NTS 3n: Keeps meaningful records of every learner and communicates progress clearly to parents and learners.</i> <i>E.g.</i> <i>Records of students works</i></p> <p><i>NTS 3o: Demonstrates awareness of national and school learning outcomes of learners.</i> <i>E.g.</i> <i>Keeping data on learners' performance periodically</i></p> <p><i>NTS 3p: Uses objective criterion referencing to assess learners.</i> <i>E.g.</i> <i>Using a rating scale to award grades</i></p> <p>3.4 Present your work for feedback from the larger group</p>	
<p>4. Evaluation and review of session:</p> <ul style="list-style-type: none"> ➤ Teachers need to identify critical friends to observe lessons and report at next session ➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification 	<p>4.1 Reflect and share what you have learnt about the NTS.</p> <p>4.2 Remember to identify a critical friend to observe you in your lessons in relation to PLC Session 3 and provide feedback at the next PLC session.</p> <p>4.3 Remember to read Session 4 from the PLC Handbook in preparation for the next PLC session.</p>	<p>15 mins</p>

PLC Session 4: Professional Development		
<p><i>Focus: the bullet points provide the frame for what is to be done in the session. The writer should use the bullets to guide what they write for the PLC Coordinators and teachers to do and say during each session. Each bullet needs to be addressed</i></p>	<p>Guidance Notes on Teacher Activity during the PLC Session. What teachers will do during each stage of the session.</p>	<p>Time in session</p>
<p>1. Review of previous session and introduction to new session</p> <p>NB The guidance for PLC Coordinator should identify, address and provide explanations for any areas where teachers might require clarification on an aspect of the lesson.</p> <p>NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session.</p>	<p>1.1 Share your findings of the lesson you observed your critical friend teach after the last PLC session (NTS 1a, 1b and 1e).</p> <p>1.2 Read Standards 1a, 1b, and 1c under Professional Values and Attitudes of NTS and deduce possible learning outcomes (LOs) and learning indicators (LIs) of the session before reading the LOs and LIs listed for the session.</p> <p>Note: LO: Learning Outcome: <i>This is the expected knowledge, understanding, skills, etc., to be acquired at the end of a lesson (Common Core Programme Curriculum).</i></p> <p>LI: Learning Indicator: <i>This is the practical evidence that learning has taken place. It may include verbal responses, practical activity or products (Common Core Programme Curriculum).</i></p> <p>LO 1: Demonstrate ability to critically and collectively improve teaching and learning (NTS 1a, 3e and 3k). LI 1.1 List strengths and limitations of own practice (NTS 1a).</p> <p>LI 1.2 Critique peers' practice using lesson notes, reflective logs, journals, portfolios, etc. (NTS 1a).</p> <p>LO 2: Demonstrate knowledge and skill to improve their personal and professional development through lifelong learning and continuous professional development (1b, 1d).</p> <p>LI 2.1 Identify gaps in knowledge to improve own personal development (go beyond the textbook and show evidence of the use of the library, internet, mentor /resource person's inputs, etc.).</p> <p>L1.2.2 Identify gaps in own knowledge to improve professional development (go beyond the textbook and</p>	<p>25 mins</p>

	<p>show evidence of the use of the library, internet, mentor /resource person’s inputs, etc.).</p> <p>LO 3: Demonstrate skills in effective leadership qualities both in the classroom and wider school community (NTS 1c, 1f).</p> <p>LI 3.1 Model given roles.</p> <p>LI 3.2 Delegate roles taking into consideration Gender Equality Social Inclusion (GESI) (NTS 3f, 3g).</p>	
<p>Give regard for misconceptions, stereotypes, GESI, ICT, 21st century skills, etc.</p>	<p>1.3 Discuss and relate the concept of professional development to your various subjects (NTS 1b, 1c,1d and 1f).</p> <p><i>E.g.</i> <i>Working with other teachers to exchange ideas at professional learning community sessions</i></p> <p>1.4 Identify further areas of professional development that will enhance your teaching of Science (NTS 1b, 1c and 3a).</p> <p><i>E.g.</i> <i>Universities provide opportunities for further studies in the subject areas</i></p> <p>1.5 Identify possible misconceptions and stereotypes in Science (NTS 3m).</p> <p><i>E.g. (Science)</i> <i>a) Science is for students with very high IQ.</i> <i>b) Some Science domains are gender specific, e.g., Engineering for males, Nursing for females, etc.</i> <i>c) Science is not suitable for students with Special Educational Needs (SEN)</i></p> <p>1.6 Discuss possible ways to mitigate these misconceptions and stereotypes in your subject area (NTS 3i).</p> <p><i>E.g. (Science)</i> <i>Invite role models / resource persons that have overcome these stereotypes and have achieved successes in the Science domains in the society to share their experiences to encourage the learners.</i></p> <p>1.7 In mixed gender groupings (where possible) list some 21st century skills (NTS 3e, 3f and 3g).</p>	

	<p>E.g.</p> <ul style="list-style-type: none"> a) <i>Communication skills</i> b) <i>Collaboration skills</i> c) <i>Observation and enquiry skills</i> d) <i>Digital literacy skills</i> <p>1.8 Discuss possible activities you would adopt to develop the 21st century skills in your learners (NTS 3j).</p> <p>Communication skills e.g., group discussion, role- play, presentation, etc.</p> <p>Collaboration skills e.g., group discussion, project/ research, role-play, hands-on-activities, etc.</p> <p>Observation and enquiry skills e.g., group discussion, project / research, role-play, hands-on-activities, etc.</p> <p>Creativity and innovation skills e.g., group discussion, project/ research, role-play, hands-on-activities, presentation.</p> <p>1.9 Identify ways of incorporating ICT in your lessons (NTS 3j).</p> <p>E.g.</p> <ul style="list-style-type: none"> a) <i>Surfing OERs and other internet sources for information</i> b) <i>Teach using power Point presentation.</i> 	
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making links to the secondary school curriculum</p>	<p>2.1 Discuss samples of your lesson topics in your various subject areas and link them to the concepts of LOs and LIs (NTS 3a, 3b).</p> <p>E.g.</p> <p><i>Sample lesson topics in Science domains:</i></p> <p><i>Domain: Physics</i> <i>Topic: Scientific Measurement</i> <i>Sub-topic: S.I. Units - Basic units and Derived units of measurement</i></p> <p><i>Domain: Biology</i> <i>Topic: Cells</i> <i>Sub-topic: Plant Cell and Animal Cell</i></p> <p><i>Domain: Chemistry</i> <i>Topic: Matter</i> <i>Sub-topic: The building blocks of matter</i></p> <p><i>Domain: Agricultural Science</i> <i>Topic: Rocks</i> <i>Sub-topic: Major types of rocks and their formation</i></p>	20 mins

	<p>An example of an outline of a lesson plan based on the 2010 Senior High School Syllabus for teaching the topic Scientific Measurements. *</p> <p>a) Topic: Scientific Measurement</p> <p>b) Sub-topic: S.I. Units - Basic units and Derived units of measurement</p> <p>c) Objectives: By the end of the lesson, the learner will be able to:</p> <ol style="list-style-type: none"> Use S.I. units in measurement Differentiate between basic units and derived units of measurement Give 5 examples of basic units of measurement <p>d) Relevant previous knowledge: Learners have been measuring things around them</p> <p>e) Introduction: Group learners, bearing in mind GESI and ask each group to discuss and write the things we measure in daily life and share with the whole the class. Remind each group to appoint a leader and a secretary. The leader will do the sharing on behalf of the group.</p> <p>In groups, lead learners to discuss and write the aspects of the things identified that are measured.</p> <p>f) Tasks/activities:</p> <ol style="list-style-type: none"> Present a set of materials (e.g., watch, tape measure, etc) to learners and brainstorm with them what the materials are used to measure) Discuss with learners the use of S.I. units in measurement Discuss with class the differences between basic units and derived units of measurement brainstorm with learners to give examples of basic units of measurements <p>g) Closure: Ask learners to reflect on the following questions: What have you learnt today? How are you going to apply what you have learnt today in everyday life?</p> <p>h) Evaluation:</p> <ol style="list-style-type: none"> Match the following quantities with their right units of measurement <table border="1"> <thead> <tr> <th>S/ N</th><th>QTY</th><th>S.I. UNITS</th></tr> </thead> <tbody> <tr> <td>1</td><td>time</td><td>Metre (m)</td></tr> </tbody> </table>	S/ N	QTY	S.I. UNITS	1	time	Metre (m)	
S/ N	QTY	S.I. UNITS						
1	time	Metre (m)						

	2	mass	Metre square (m^2)	
	3	volume	Kelvin (K)	
	4	length	Kilogram (Kg)	
	5	area	Cubic Metre (m^3)	
	6	temperature	Second (S)	
	<p>i) Content</p> <p><i>Some of the things we measure around us include: trees, tables, human beings, playing field, food, water, etc.</i></p> <p><i>Aspects of these things that are measured are:</i></p> <ul style="list-style-type: none"> <i>i. Tree - height</i> <i>ii. Table - length, breadth and height</i> <i>iii. Human being - height and mass</i> <i>iv. Food - mass, etc</i> <p><i>The S.I. Units for these measurements are:</i></p> <ul style="list-style-type: none"> <i>height measured in metres (m)</i> <i>mass measured in kilogram (Kg)</i> <i>volume measured in cubic metre /cubic centimetre (m^3/c^3)</i> <i>electric current measured in ampere (A)</i> <i>time measured in second(s)</i> <p><i>The main difference between Basic Units and Derived Units of measurement is that basic units are fundamental units of measurement that are generally recognized and accepted all over the world as units of measurement while derived units are units of measurement obtained by the multiplication or division of the basic units of measurement.</i></p> <p><i>Examples of Basic Units of measurement are:</i></p> <ul style="list-style-type: none"> <i>i. Kilogram for mass</i> <i>ii. Second for time</i> <i>iii. Kelvin for temperature</i> <i>iv. Candela for light intensity</i> <i>v. Mole for amount of substance</i> <i>vi. Ampere for electrical current</i> <i>vii. Metre for length</i> <p>j) Core Competencies:</p> <ul style="list-style-type: none"> <i>i. Communication and Collaboration</i> <i>ii. Personal Development and Leadership</i> <i>iii. Critical Thinking and Problem Solving</i> <p><i>*Teachers will be guided to tease out the learning outcomes and the learning indicators from the sample lesson plan</i></p>			

<p>3.0 Teaching, learning and assessment Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification</p> <ol style="list-style-type: none"> 1. Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum 2. Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills 3. Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning 4. Resources: <ul style="list-style-type: none"> ○ Links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. ○ Consideration needs to be given to local availability guidance on any PowerPoint presentations, TLM or other resources which need to be developed to support learning 	<p>3.1 Deduce the learning outcomes and the learning indicators from the sample lesson plan and compare them with the objectives of the lesson.</p> <p><i>E.g.</i> <i>LO: Demonstrate sound knowledge and understanding of scientific measurement.</i> <i>LI 1.1 Use S.I. units in measurement</i></p> <p><i>LI 1.2 Differentiate between basic units and derived units of measurement</i></p> <p>3.2 Identify gaps in your sample lesson plans and discuss possible ways of addressing same (NTS 3a).</p> <p><i>E.g.</i> Possible gaps: <i>absence of a prescribed textbook, etc.</i> Possible Solution: <i>use of a library, OERs and other internet facilities, etc.</i></p> <p>3.3 Suggest alternative ways of delivering the sample lessons (NTS 3e).</p> <p><i>E.g.</i> <i>a) use of flipped classroom</i> <i>b) extended learning</i> <i>c) demonstration</i> <i>d) simulation</i></p> <p>3.4 Indicate how you will promote GESI responsiveness in the lesson (NTS 2f, 3a, 3f and 3g).</p> <p><i>E.g.</i> <i>a) Classroom arrangement that facilitates interaction between all learners</i> <i>b) Mixed ability/gender group activities</i></p> <p>3.5 Discuss how the session is linked to the use of formative assessment tools and practices, e.g., assessment for learning and assessment as learning (NTS 3k, 3l).</p> <p>3.6 In groups, suggest other authentic assessment methods that could be used in your planned lesson (NTS 3p).</p> <p><i>E.g.</i> <i>a) Self-assessment</i> <i>b) Peer-assessment</i> <i>c) Appraisal</i> <i>d) Portfolio</i></p>	<p>30 mins</p>
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	<p>3.7 List and discuss how the lesson makes use of resources to support relevant activities in the NTS (NTS 3j).</p> <p>E.g.</p> <ul style="list-style-type: none"> a) <i>Pre-recorded videos</i> b) <i>YouTube videos</i> c) <i>Photographs</i> d) <i>OERs/Internet facilities</i> <p>3.8 Model a teaching activity in the lesson plan sample lesson. (EXTENSION ACTIVITY)</p>	
<p>4. Evaluation and review of session:</p> <ul style="list-style-type: none"> ➤ Teachers need to identify critical friends to observe lessons and report at next session ➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification 	<p>4.1 Reflect and write what you have learnt in the session (NTS 1a, 3l and 3n).</p> <p>4.2 Share what you have learnt with the larger group.</p> <p>4.3 Identify a critical friend to observe you in teaching your lessons in relation to PLC session 4 and provide feedback at the next PLC Session.</p> <p>4.4 Read Session 5 from the PLC Handbook in preparation for the next session.</p>	15 mins

PLC Session 5: Community of Practice		
<p><i>Focus: the bullet points provide the frame for what is to be done in the session. The writer should use the bullets to guide what they write for the PLC Coordinators and teachers to do and say during each session. Each bullet needs to be addressed</i></p>	<p>Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the sessions</i></p>	<p>Time in session</p>
<p>1. Review of previous session and introduction to new session</p> <p>NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson. NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session</p>	<p>1.1 Share your findings of the lesson you observed with your critical friend after the last PLC session.</p> <p>1.2 Read Standards 1d, 1e, 1f and 1g under <i>Professional Values and Attitudes</i> of the NTS and deduce possible learning outcomes (LOs) and learning indicators (LIs) for the session before reading the LOs and LIs (listed below) for the session</p> <p>Note: LO: Learning Outcome: <i>This is the expected knowledge, understanding, skills, etc., to be acquired at the end of a lesson (Common Core Programme Curriculum).</i></p> <p>LI: Learning Indicator: <i>This is the practical evidence that learning has taken place. It may include verbal responses, practical activity or products (Common Core Programme Curriculum).</i></p> <p>LO 1: Demonstrate knowledge and understanding of ethical, legal, and professional code of conduct (NTS 1d).</p> <p>LI 1.1 Mention at least three Ministry of Education (MoE)/Ghana Education Service (GES) ethical codes of conduct for teachers.</p> <p>LI 1.2 State the duties and responsibilities of a teacher.</p> <p>LI 1.3 List the dos and don'ts of the teaching profession.</p> <p>LO 2: Demonstrate knowledge, understanding and skills in establishing and maintaining a cordial relationship with staff, learners, and the entire school community (NTS 1e).</p> <p>LI 2.1 State ways by which teachers can establish and maintain cordial relationship with staff, learners and the school community.</p> <p>LI 2.2 State ways by which teachers can be involved in community activities.</p>	<p>25 mins</p>

	<p>LI 2.3 State ways by which teachers can participate in school activities.</p> <p>LO 3: Demonstrate knowledge, understanding and skills in establishing a positive teacher identity and acting as a good role model (NTS 1f).</p> <p>LI 3.1 Mention at least five qualities of a good teacher.</p> <p>LI 3.2 List sources or records of class attendance by teachers.</p> <p>LI 3.3 List four ways by which a teacher can be GESI responsive.</p> <p>LO 4: Demonstrate knowledge, skills and understanding of the teacher's roles as a potential agent of change in the school, community and the nation (NTS 1g).</p> <p>LI 4.1 List at least four ways by which a teacher can be seen as a change agent in the school, community and the nation.</p> <p>LI 4.2 Give examples of challenges of the school and the community and suggest possible solutions.</p> <p>1.3 List at least three ethical codes of conduct for teachers in the Ghana Education Service (NTS 1d). <i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Teachers should be punctual to class</i> <i>b) Teachers should show regard for policies of MoE/GES and the school in their work</i> <p>1.4 Discuss at least three duties and responsibilities of a teacher (NTS 1d). <i>E.g.</i></p> <ul style="list-style-type: none"> <i>c) Prepare relevant and adequate teaching notes</i> <i>d) Teach and give class exercises, etc.</i> <p>1.5 List at least four dos and four don'ts of the teaching profession (NTS 1d). <i>E.g.</i></p> <p><i>Dos:</i></p> <ul style="list-style-type: none"> <i>a) Do teach and give class exercises</i> <i>b) Do mark and give feedback on class exercises</i> <i>c) Do supervise learners' work</i> <p><i>Don'ts</i></p> <ul style="list-style-type: none"> <i>a) Don't exploit the vulnerability of learners</i> <i>b) Don't send learners on errands during contact hours</i> <i>c) Don't engage in physical violence, etc.</i> 	
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	<p>1.6 State at least four ways by which you can establish and maintain cordial relationship with staff, learners and the school community (NTS 1e). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Read the teachers' code of ethics</i> b) <i>Attend and contribute to school meetings</i> c) <i>Take part in parent-teacher consultations, etc.</i> <p>1.7 State at least four ways by which you can be involved in community activities (NTS 1e). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Take part in community durbars</i> b) <i>Attend community festivals, funerals, naming ceremonies, etc.</i> c) <i>Take part in community sports and games, etc.</i> <p>1.8 Mention at least five qualities of a good teacher (NTS 1f). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Be a good communicator</i> b) <i>Be a good listener</i> c) <i>Be a good collaborator</i> d) <i>Be adaptable, etc.</i> <p>1.9 List at least three sources of records to monitor the attendance of teachers (NTS 1f). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Clock-in and out machine</i> b) <i>Staff attendance register, etc.</i> <p>1.10 State at least three ways by which a teacher can be GESI responsive (NTS 1f). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Be a good role model for learners in class</i> b) <i>Respect the views of all learners</i> c) <i>Provide special attention to learners with special educational needs (SEN), etc.</i> <p>1.11 List at least four ways by which a teacher can be seen as an agent of change in the school, community and the nation (NTS 1g). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Promote inclusion and tolerance of all learners</i> b) <i>Actively prevent intolerance</i> c) <i>Challenge traditional gender roles and promote gender equality issues, etc.</i> <p>1.12 Identify at least two challenges of the school and the community and suggest possible solutions (NTS 1g).</p>	
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	<p><i>E.g.</i> School Challenges and solutions: a) <i>Accommodation challenges – seek support from PA, District Assembly and other benevolent organizations, etc.</i> b) <i>Indiscipline – effective enforcement of school rules and regulations</i></p> <p>Community Challenges and solutions: a) <i>Teenage pregnancies – awareness creation/education to both learners and community, etc.</i> b) <i>Irresponsible parenting – sensitizing parents</i></p> <p>1.13 Discuss and relate the concept of community of practice to the delivery of lessons in your various subject areas. <i>E.g.</i> <i>In English Language, learners could be put into two GESI responsive groups to debate a motion such as “Female education is the panacea for the country’s underdevelopment”, thereby engaging in different areas of English language like grammar, writing (composition), listening and speaking (speech work), etc.</i></p>	
<p>Give regard for possible misconceptions and stereotypes, GESI, ICT, 21st century skills, etc.</p>	<p>1.14 Identify possible misconceptions in your various subject areas. <i>E.g. (English)</i> a) <i>English Language is for learners with high IQ</i> b) <i>Females are more fluent in English than males, etc.</i></p> <p>1.15 Discuss possible ways to mitigate these misconceptions and stereotypes in teaching the various subjects. <i>E.g.</i> a) <i>In English Language, you may invite role models/resource persons that have overcome these stereotypes and have achieved successes in the study of English Language to give a talk on such misconceptions and stereotypes</i> b) <i>Organize orientations to sensitize all learners on the benefits of the study of English Language by all categories of learners, etc.</i></p> <p>1.16 In mixed gender groupings (where possible), list at least four 21st century skills related to community of practice. <i>E.g.</i> a) <i>Critical thinking</i> b) <i>Research skills</i> c) <i>Digital citizenship</i> d) <i>Communication skills</i></p>	

	<p>e) <i>Collaboration skills</i></p> <p>1.17 Identify ways of incorporating ICT in your lessons. E.g.</p> <p>a) <i>Employ computer assisted approaches such as surfing Open Educational Resources (OERs), Encarta Encyclopedia, Google classroom, etc., in teaching English Language</i></p> <p>b) <i>Employ computer software such as Sunflower, Microsoft office, AnswerGarden, BrainPOP, Mathkids, etc., in teaching Mathematics and Science related subjects</i></p> <p>1.18 Mention and Discuss your lists of 21st century Skills (from 1.16 above) and how they can support community of practice. E.g.</p> <p>a) <i>Critical thinking:</i> <i>Teamwork, assigning tasks, brainstorming, etc.</i></p> <p>b) <i>Research skills:</i> <i>Google search, group work and other research tools, etc.</i></p> <p>1.19 Discuss possible activities you would adopt to develop the 21st century skills in their learners. E.g. <i>Communication skills, collaboration, observation and enquiry skills, digital literacy, creativity, personal development skills, etc., can be developed in learners using the following activities;</i></p> <p>a) <i>group discussion</i></p> <p>b) <i>project/research work</i></p> <p>c) <i>role-play</i></p> <p>d) <i>hands-on activities, etc.</i></p>	
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making links to secondary school curriculum</p>	<p>2.1 Discuss samples of your lesson plans in your various subject areas and link them to the NTS, particularly to community of practice (NTS 1d, 1e, 1f and 1g).</p> <p><i>An example of an outline of Lesson Plan based on the 2010 Senior High School Syllabus in English Language *</i></p> <p>a) Aspect: <i>Writing</i></p> <p>b) Topic: <i>Debate writing</i></p> <p>c) Sub-topic: <i>Format of debate writing</i></p> <p>d) Objectives: <i>By the end of the lesson, the learner will be able to;</i></p> <p>i. <i>explain the term debate</i></p> <p>ii. <i>list the features of a debate</i></p> <p>iii. <i>write a good debate using the features</i></p> <p>iv. <i>present a debate</i></p>	20 mins

	<p>e) RPK: Learners argue on issues of interest.</p> <p>f) Introduction/pre-writing stage: Introduce the lesson by asking learners to;</p> <ol style="list-style-type: none"> brainstorm (in two mixed gender groups), on which of these two people is more important – a farmer and a teacher share their opinions with the wider class <p>g) Tasks/Activities/ Writing Stage:</p> <ol style="list-style-type: none"> In mixed gender groups, let learners brainstorm and come out with the meaning of debate. <p>Note: A debate is a formal discussion or a process that involves a formal discourse of a particular topic often including a moderator and audience, etc. Also, it is an organized argument between two opposing sides on a given topic with some agreed modalities</p> <ol style="list-style-type: none"> Through a discussion method, guide learners to identify the features of a debate. <p>Note: A debate has three main features. Introduction: (Vocatives, motion and declaration of stand) Body: (Explanation of key terms or words of the motion, rebuttal of opponent points, state your main points, etc.) Conclusion: (Summarize main points in the body, call for support, etc.)</p> <ol style="list-style-type: none"> In two groups, introduce a debate topic for learners and guide them to develop a good debate using the features of a debate. E.g. “Female education is the panacea for the country’s underdevelopment” Allow the groups to select their members to present their debate in the class. <p>h) Core Points: Writing skills, speaking skills, listening skills, critical thinking, etc.</p> <p>i) Closure: Review the lesson by asking the learners to mention what they have learnt</p> <p>j) Evaluation</p> <ol style="list-style-type: none"> What is a debate? List the features of a debate Write a debate for or against the motion: “The extraction of Ghana’s mineral resources has caused more harm than good” and submit in the next lesson. 	
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	<p>k) Remarks: <i>*Teachers would be guided to tease out the learning outcomes and learning indicators from the lesson.</i></p>	
<p>3. Teaching, learning and assessment</p> <p>➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification</p> <p>➤ Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum</p> <p>➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills</p> <p>➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support learner teacher learning</p> <p>➤ Resources:</p> <ul style="list-style-type: none"> ○ Links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. ○ Consideration needs to be given to local availability and guidance on any power point presentations, TLM or other resources 	<p>3.1 Identify gaps in your sample lesson plans and possible ways of addressing same.</p> <p><i>E.g.</i> <i>Possible gap:</i> <i>Inadequate reading/reference materials on debate topics in English Language, etc.</i> <i>Possible Solution: Use of a library, Newspapers, Journals, OERs and other internet facilities, etc.</i></p> <p>3.2 Tease out the learning outcomes and learning indicators from the sample lesson plan above.</p> <p>LO: Demonstrate knowledge and understanding of a debate and its features.</p> <p>LI 1.1 Explain the term debate</p> <p>LI 1.2 State the features of a debate.</p> <p>3.3 Suggest alternative ways of delivering the sample lesson.</p> <p><i>E.g.</i> <i>a) Use YouTube videos or pre-recorded videos on academic and political debates etc.</i> <i>b) Demonstration/ simulation</i></p> <p>3.4 Review the sample lesson plans to identify activities that promote GESI responsiveness.</p> <p><i>E.g.</i> <i>a) Using classroom arrangement that facilitates interaction among all learners</i> <i>b) Putting learners in mixed ability/gender groups</i></p> <p>3.5 Discuss how the session is linked to the use of formative assessment tools and practices i.e., assessment for learning and assessment as learning.</p> <p><i>E.g.</i> <i>a) Use assessment to diagnose learners' needs (for)</i> <i>b) Use assessment to review learners' progress (for)</i> <i>c) Encourage self-assessment (as), etc.</i></p> <p>3.6 In groups suggest other authentic assessment methods that could be used in the sample lesson.</p> <p><i>E.g.</i> <i>a) Self-assessment</i> <i>b) Peer-assessment</i></p>	30 mins

<p>which need to be developed to support learning</p>	<p>3.7 List and discuss how the session makes use of resources to support relevant activities in the NTS. <i>E.g.</i> a) <i>Pre-recorded videos</i> b) <i>Photographs</i> c) <i>OERs/Internet facilities, etc.</i></p> <p>3.8 Model a teaching activity in the sample lesson plan. (Extension Activity)</p>	
<p>4. Evaluation and review of session:</p> <ul style="list-style-type: none"> ➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification ➤ Noting that teachers need to identify critical friends to observe lessons and report at next session 	<p>4.1 Reflect and write what you have learnt in the session.</p> <p>4.2 Share what they have learnt with the larger group.</p> <p>4.3 Identify a critical friend to observe you in teaching your lesson in relation to PLC Session 5 and provide feedback at the next PLC session.</p> <p>4.4 Read Session 6 from the PLC Handbook in preparation for the next session.</p>	<p>15 mins</p>

PLC Session 6: Knowledge of Educational Frameworks and Curriculum		
	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
<p>1. Review of previous session and introduction to new session</p> <p>NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson.</p> <p>NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session</p>	<p>1.1 Share your findings of the lesson you observed your critical friend teach after the last PLC session.</p> <p>1.2 Read National Teachers' Standards (NTS 2a, 2b, 2c and 2d) under <i>Professional Knowledge</i> of the NTS and deduce possible learning outcomes (LOs) and learning indicators (LIs) for the session before reading the LOs and LIs (listed below) for the session.</p> <p>Note: LO: Learning Outcome: <i>This is the expected knowledge, understanding, skills, etc., to be acquired at the end of a lesson (Common Core Programme Curriculum).</i></p> <p>LI: Learning Indicator: <i>This is the practical evidence that learning has taken place. It may include verbal responses, practical activity or products (Common Core Programme Curriculum)</i></p> <p>LO1: Exhibit familiarity with the education system and key policies guiding it (NTS 2a, 2b).</p> <p>LI 1.1 State the similar characteristics of key educational policies</p> <p>LI 1.2 State two differences in key educational policies</p> <p>LI 1.3 Explain expected outcomes of educational curricula</p> <p>LI 1.4 Analyse the importance of educational frameworks.</p> <p>LO 2: Demonstrate comprehensive knowledge of the official school curriculum, including learning outcomes (NTS 2b, 3o).</p> <p>LI 2.1 Discuss issues that surround the implementation of the curriculum for vulnerable groups (NTS 3f, 3g and 3m)</p> <p>LI 2.2 Describe how gender inequalities can affect learner outcomes.</p> <p>LI 2.3 Outline what learners need to work towards achieving higher examination grades.</p> <p>LO 3: Show a command of content knowledge, pedagogical knowledge and pedagogical content knowledge (NTS 2c).</p>	25 mins

	<p>LI 3.1 State how gaps in subject and pedagogical knowledge of teachers can be identified and addressed</p> <p>LI 3.2 Explain how children develop and learn in diverse contexts and apply this in teaching</p> <p>LI 3.3 Describe how you will organize learning using teacher and learner centred and gender responsive pedagogies.</p> <p>LO 4: Demonstrate knowledge of how to teach numeracy and literacy in multi-grade classrooms at the early grade level (NTS 2d).</p> <p>LI 4.1 Plan and teach using differentiated instruction</p> <p>LI 4.2 Guide learners to perform mathematical operations using manipulatives</p> <p>LI 4.3 Guide learners to read and write using an appropriate language teaching tool.</p> <p>1.3 State the similar characteristics of key educational policies.</p> <p><i>E.g. Each policy has items including the following:</i></p> <ul style="list-style-type: none"> a) Preamble b) Policy goal(s) c) Policy objective(s) <p>1.4 In groups, discuss the differences of key educational policies.</p> <p><i>E.g. Content of policy depends on rationale, objectives, outcomes, etc.</i></p> <p>1.5 Identify expected outcomes of some educational policies.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>The Pre-Tertiary Teacher Professional Development and Management (PTPDM) Policy Expected Outcomes</i> b) <i>Provide the framework for developing standards, core values and ethics for the teaching profession.</i> c) <i>Develop teachers' ability to adopt reflective teaching approaches to enhance the quality of lesson delivery, etc.</i> <p>1.6 Write some of the expected outcomes of the educational curricula.</p>	
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	<p>E.g. <i>The Senior High School mathematics curriculum is aimed at developing individuals to become mathematically literate, good problem solvers, have the ability to think creatively and have both the confidence and competence to participate fully in Ghanaian society as responsible local and global citizens (Mathematics Syllabus for SHS, 2010).</i></p> <p>1.7 Discuss the benefits of educational frameworks.</p> <p>E.g. <i>National Teacher Education Curriculum Frameworks</i></p> <p>Note: <i>Educational frameworks are informed models for course designed that helps instructors align learning goals with classroom activities, create motivating and inclusive environment, integrate assessment into learning.</i></p> <p><i>For example, in demonstrating knowledge of educational frameworks and curriculum, every teacher needs to:</i></p> <ol style="list-style-type: none"> <i>show comprehensive knowledge of the official school curriculum, including learning outcomes</i> <i>secure content knowledge, pedagogical knowledge and pedagogical content knowledge</i> 	
<p>Give regard for misconceptions and stereotypes, GESI, ICT, 21st century skills, etc.</p>	<p>1.8 Identify possible misconceptions and stereotypes in learning various subjects</p> <p>E.g. <i>(Mathematics)</i></p> <ol style="list-style-type: none"> <i>If you want to be good at mathematics, you have to memorize lots of facts and formulas</i> <i>Some students don't just have an aptitude for mathematics</i> <p>1.9 Discuss how these misconceptions about teaching and learning in mathematics classroom can be addressed.</p> <p>E.g.</p> <ol style="list-style-type: none"> <i>Teachers should discover students' systematic errors in mathematics</i> <i>Teachers should mostly focus on identifying students' misconceptions rather than student errors</i> <p>1.10 Identify activities that promote GESI responsiveness in the classroom (NTS 3a, 3c).</p> <p>E.g.</p> <ol style="list-style-type: none"> <i>Classroom arrangement that facilitates interaction</i> <i>Mixed ability/gender groupings</i> <i>Using positive feedback to students especially the disadvantaged, etc.</i> 	

	<p>1.11 Identify ways of incorporating ICT into their lessons taking into consideration different learning styles (NTS 3i, 3j). E.g. <i>Surfing Open Educational Resources and other Internet sources for information, etc.</i></p> <p>1.12 Discuss possible activities you would adopt to develop the 21st century skills in their learners (NTS 3a, 3b, 3c and 3d).</p> <p>Note: Communication skills <i>E.g. group discussion, Role-play, presentation, etc.</i></p> <p>Collaboration <i>E.g. group discussion, project/research, Role-play, hands-on activities, etc.</i></p> <p>Observation and enquiry skills <i>E.g. group discussion, project/research Role-play, hands-on activities, etc.</i></p> <p>Creativity and innovation <i>E.g., group discussion, project/research, Role-play, hands-on activities, presentation, etc.</i></p>	
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making links to secondary school curriculum</p>	<p>2.1 Discuss samples of their lesson plans based on the SHS 2010 syllabuses in your respective subjects and link them to the NTS (NTS 3a, 3e, 3g and 3j). (E.g. <i>Mathematics</i>) <i>An example of an outline for teaching understanding Sets and Operations on Sets from the SHS 2010 Mathematics Syllabus*</i></p> <p>a) Topic: <i>Sets and Operations on Sets</i> b) Sub-topic: <i>Finding the number of subsets in a set with N elements</i> c) Objective: <i>Determine and write the number of subsets in a set</i> d) Relevant previous knowledge: <i>students can describe sets</i> e) Introduction: <i>Review with students the description of sets</i> f) Tasks/activities: i. <i>Present instructional resources (consider different learning styles in selection) and guide students to group them into various sets</i> ii. <i>Guide learners in a discussion to find the number of subsets they can derive from the set of objects given</i> iii. <i>In groups, let learners discuss to deduce a formula for finding the number of subsets that can be derived</i></p>	20 mins

	<p>in a given set. E.g. The Set {a} has two subsets {a} and the { }</p> <p>iv. Guide students to create a table showing the relationship between elements in a set and the number of subsets</p> <p>g) Core Points: The number of subsets in a given set is calculated as 2^n where 'n' is the number of elements in the set</p> <p>h) Core Competencies: Collaboration, problem solving, critical thinking, etc.</p> <p>i) Closure: Review the lesson and ask evaluation questions</p> <p>j) Evaluation: Find the number of subsets in a set with 5 elements.</p> <p>* Teachers would be guided to tease out the LOs and the LIs from the sample lesson and compare with the objectives of the lesson.</p>	
<p>3. Teaching, learning and assessment</p> <p>➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification</p> <p>➤ Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum</p> <p>➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills</p> <p>➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning</p> <p>➤ Resources:</p> <ul style="list-style-type: none"> ○ Links to the existing PD Themes, for 	<p>3.1 Identify gaps in their sample lesson plans and discuss possible ways of addressing them (NTS 1a, 3d, 3e, 3f, 3g and 3m).</p> <p>Examples of possible gaps:</p> <ul style="list-style-type: none"> a) <i>Inadequate prescribed textbooks for mathematics,</i> b) <i>Lack of gender responsive materials in the classroom, etc.</i> <p>Possible solutions: Use of:</p> <ul style="list-style-type: none"> a) <i>a library</i> b) <i>Open Educational Resources (OERs) and other Internet facilities</i> <p>3.2 Tease out the learning outcomes and learning indicators from the sample lesson plan.</p> <p>E.g. LO: <i>Demonstrate knowledge of the subsets in a set.</i> LI 1. <i>Determine the number of subsets in a set</i></p> <p>3.3 Suggest alternative ways of delivering the sample lesson. E.g. Use of:</p> <ul style="list-style-type: none"> a) <i>flipped classroom,</i> b) <i>extended learning</i> c) <i>simulation</i> <p>3.4 Identify activities that promote GESI responsiveness in your sample lesson plans (NTS 3c, 3e, 3f and 3g). E.g.</p> <ul style="list-style-type: none"> a) <i>Classroom arrangement that facilitates interaction</i> b) <i>Mixed ability/gender groupings</i> c) <i>Using positive feedback to students especially the disadvantaged, etc.</i> 	30 mins

<p>example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used.</p> <ul style="list-style-type: none"> ○ Consideration needs to be given to local availability and guidance on any power point presentations, TLM or other resources which need to be developed to support learning 	<p>3.5 Discuss how the session is linked to the use of formative assessment tools and practices for assessment <i>for</i> learning and assessment <i>as</i> learning (NTS 3k, 3l and 3m). E.g. <i>Self-assessment (as), peer-assessment (as/for) Project (for),</i></p> <p>3.6 List and discuss how the sample lesson makes use of resources to support relevant activities in the NTS. E.g. a) <i>Posters on Sets,</i> b) <i>Charts showing the relationship between operations on sets</i></p> <p>3.7 Model a teaching activity in the sample lesson plan. (Extension Activity)</p>	
<p>4. Evaluation and review of session:</p> <ul style="list-style-type: none"> ➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification ➤ Noting that teachers need to identify critical friends to observe lessons and report at next session 	<p>4.1 Reflect and write what you have learnt in the session. Using the ‘Talk-to-the-hand’ strategy, write five things learnt.</p> <p>4.2 Share what you have written with the larger group (NTS 1a).</p> <p>4.3 Identify a critical friend to observe your lessons in relation to PLC Session 6 and provide feedback at the next PLC session.</p> <p>4.4 Remember to read Session 7 from the PLC Handbook in preparation for the next session.</p>	15 mins

PLC Session 7: Knowledge of Learners		
	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
<p>1. Review of previous session and introduction to new session</p> <p>NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson.</p> <p>NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session</p>	<p>1.1 Participate in the ice breaker.</p> <p>1.2 Share your findings of the lesson you observed your critical friend teach after the last PLC session.</p> <p>1.3 Read Standards 2e and 2f the NTS.</p> <p>1.4 Read the learning outcomes (LOs) and learning indicators (LIs) of the session to set the stage for the session.</p> <p>LO 1: Demonstrate understanding of how students learn in diverse contexts.</p> <p>LI 1.1 Give examples of different contexts under which learners learn.</p> <p>LI 1.2 Explain different contexts under which learners learn influence how they learn.</p> <p>LO 2: Demonstrate understanding of different learning styles of learners.</p> <p>LI 2.1 List at least three different learning styles.</p> <p>LI 2.2 Analyse at least three different learning styles of learners.</p> <p>LO 3: Demonstrate knowledge and understanding of GESI.</p> <p>LI 3.1 Mention at least five GESI related issues in learning.</p> <p>LI 3.2 Outline the need for incorporating GESI issues into classroom activities.</p> <p>LO 4: Demonstrate the use of GESI issues in lesson plan preparation and classroom management.</p> <p>LI 4.1 Show how GESI issues can be embedded in lesson plan preparation.</p> <p>LI 4.2 Describe how GESI would be integrated into classroom management.</p> <p>1.5 Discuss and relate the concept of knowledge of learner to your various subject domains (NTS 1a, 2e and 3i).</p>	25 mins

	<p>1.6 Identify different learning styles of learners that will enhance teaching of your subjects (NTS 2e, 2f, 3e and 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Auditory learning</i> <i>b) Visual learning</i> 	
<p>Give regard for possible misconceptions and stereotypes, GESI, ICT, 21st century skills, etc.</p>	<p>1.7 Identify possible misconceptions and stereotypes about your subject (NTS 3m).</p> <p><i>E.g. (Social Studies)</i></p> <ul style="list-style-type: none"> <i>a) Social Studies is for students with very low IQ.</i> <i>b) Social Studies is easy to pass</i> <p>1.8 Discuss possible ways to address these misconceptions and stereotypes in your subject areas in the classroom (NTS 3m).</p> <p><i>E.g. (Social Studies)</i> <i>Invite a resource person to draw the attention of teachers and learners to the links between Social Studies and the other subjects.</i></p> <p>1.9 In mixed gender groupings (where possible), list some 21st century skills that are required to cater for all learners' needs in the classroom (NTS 3f, 3g and 3j).</p> <p><i>E.g., Communication skills, collaboration skills, etc.</i></p> <p>1.10 Identify ways of incorporating ICT in your lessons to cater for every learner's needs (NTS 3j).</p> <p><i>E.g., Surfing Open Educational Resources and other Internet sources for teaching and learning strategies that make use of learners' preferred learning styles, etc.</i></p> <p>1.11 Discuss possible activities you would adopt to develop the 21st century skills in your learners (NTS 2c, 3h and 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) Communication skills: <i>E.g., group discussion providing opportunities for learners to develop oral presentation skills.</i> b) Collaboration skills: <i>E.g., group projects that will make use of the strengths of learners of different backgrounds.</i> 	<p>30 mins</p>

<p>2. Planning for teaching, learning and assessment activities for the lesson/s making links to the secondary school curriculum</p>	<p>➤ Discuss samples of your lesson plans in your various subject areas that take different learning styles of learners into account (NTS 2e, 3a). <i>E.g. Sample lesson plan in Social Studies: Refer to Social Studies Teaching syllabus 2010 Year 1.</i></p> <p><i>An example of an outline plan for teaching based on the 2010 SHS Social Studies Syllabus*.</i></p> <p>a) Topic: National Independence and Self-reliance b) Sub-topic: Political Independence c) Objectives: By the end of the lesson, the learner will be able to;</p> <ul style="list-style-type: none"> i. explain the term political independence. ii. state at least two reasons why Ghanaians misconstrued the implications of independence. <p>d) Relevant Previous Knowledge (RPK): Learners have been taking part in 6th March activities. e) Introduction: Discuss with learners what 6th March reminds them of. f) Tasks/activities:</p> <ul style="list-style-type: none"> i. Ask learners to brainstorm the concept of political independence. ii. Put learners in mixed ability groups to discuss whether an independent nation should continue to rely on the colonial masters for their survival. iii. Ask each group to present their findings to the class using variety of resources. <p>g) Core Points:</p> <ul style="list-style-type: none"> i. Political independence means gaining self-rule from a colonial master thus entitling the new nation to govern itself. ii. Some people thought independence was an end in itself and was a time to amass wealth. iii. Some people believed that political independence was an answer to their economic woes. <p>h) Core competencies: Critical thinking and problem solving, communication and collaboration, personal development and leadership, and digital literacy. i) Closure: Use leading questions to review the lesson with learners. j) Evaluation:</p> <ul style="list-style-type: none"> a) What is political independence? b) Explain at least 2 reasons why Ghanaians misconstrued the implications of independence. <p>*Teachers would be guided to tease out the learning outcomes and the learning indicators from the sample lesson plan.</p>	<p>20 mins</p>
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<p>3. Teaching, learning and assessment</p> <ul style="list-style-type: none"> ➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification ➤ Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum ➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st Century skills ➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning 	<p>3.1 Identify gaps in your sample lesson plans and discuss possible ways of addressing same (NTS 3a). <i>E.g. Possible gap: Inadequate prescribed textbooks, etc.</i></p> <p>Possible Solution: use of a library, OERs and other Internet facilities.</p> <p>3.2 Tease out the learning outcomes and the learning indicators from the sample lesson plan (NTS 3h). <i>E.g.</i> <i>LO: Demonstrate understanding of the concept of political independence</i> <i>LI 1 Explain the term political independence.</i></p> <p>3.3 Review your sample lesson plans to identify activities that promote GESI responsiveness (NTS 3f, 3g). <i>E.g.</i> <i>a) Classroom arrangement that facilitates interaction among learners.</i> <i>b) Mixed ability/gender grouping that encourage collaboration among learners.</i></p> <p>3.4 Discuss how the session is linked to the use of formative assessment tools and practices, e.g., assessment <i>for learning</i> and assessment <i>as learning</i> (NTS 3k, 3l).</p> <p>3.5 In groups, suggest other authentic assessment methods that could be used in the sample lesson (NTS 3k, 3l and 3p). <i>E.g., Self-assessment, peer-assessment, etc.</i></p> <p>3.6 List and discuss how the session makes use of resources to support relevant activities in the NTS (NTS 3j). <i>E.g., Pre-recorded videos, posters, etc.</i></p> <p>3.7 Model a teaching activity in the sample lesson plan (NTS 1a, 3a). (Extension Activity)</p>	30 mins
<p>4. Evaluation and review of session:</p> <ul style="list-style-type: none"> ➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification 	<p>4.1 Reflect and write what you have learnt in the session.</p> <p>4.2 Share what you have learnt with the larger group.</p> <p>4.3 Identify a critical friend to observe you in teaching your lessons in relation to PLC Session 7 and provide feedback at the next PLC session.</p> <p>4.4 Read Session 8 from the PLC Handbook in preparation for the next session.</p>	15 mins

PLC Session for Topic 8: Managing the Learning Environment

	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
<p>1. Review of previous session and introduction to new session</p> <p>NB The guidance for PLC Coordinator should identify, address and provide explanations for any areas where teachers might require clarification on an aspect of the lesson.</p> <p>NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session.</p>	<p>1.1 Share your findings of the lesson you observed your critical friend teach after the last PLC session (NTS 1a, 1b and 1e).</p> <p>1.2 Read Standards 3a, 3b, 3c and 3d under <i>Professional Practice</i> of the NTS and the learning outcomes (LOs) and learning indicators (LIs) of the session to set the stage for the session.</p> <p>LO 1: Demonstrate knowledge and understanding of creating safe and encouraging learning environment (NTS 3c, 3d, 3e and 3f).</p> <p>LI 1.1 Give examples of how to create a warm, friendly and fair environment for teaching and learning (NTS 3c, 3d, 3e and 3f).</p> <p>LI 1.2 Give examples of how to create conducive physical learning environment (NTS 3c, 3d, 3e and 3f).</p> <p>LO 2: Demonstrate knowledge, understanding and skills of planning and delivering varied and challenging lessons showing a grasp of the intended outcomes of teaching (NTS 3e, 3f, 3g and 3j).</p> <p>LI 2.1 Prepare a scheme of learning for the semester bearing in mind GESI (NTS 2b, 2e and 3a).</p> <p>LI 2.2 Prepare a lesson plan showing cross-cutting issues and GESI (NTS 2d, 2f and 3a).</p> <p>LI 2.3 Model the delivery of a planned lesson (NTS 3e, 3g, 3k and 3p). (Extension Activity)</p> <p>LO 3: Demonstrate knowledge, understanding and skills of carrying out action research to improve practices in the learning environment (NTS 3b).</p> <p>LI 3.1 List learners' learning needs identified in the classroom (NTS 3a, 3b and 3m).</p> <p>LI 3.2 Design an instrument for data collection (NTS 3n).</p>	25 mins

	<p>LI 3.3 List interventions to solve a problem identified in class (NTS 3a).</p> <p>LI 3.4 Analyse and interpret data collected on teaching and learners learning needs (NTS 3n).</p> <p>LO 4: Demonstrate knowledge understanding and skills of managing behaviours with small and large class sizes (NTS 3c).</p> <p>LI 4.1 Give examples of how to overcome challenges of teaching large class sizes (NTS 3d).</p> <p>LI 4.2 Give examples of how to manage behaviour in large classes (NTS 3d).</p>	
Give regard for GESI, ICT, 21st century skills, etc	<p>1.3 Discuss acceptable social behaviour that promotes teaching and learning and share with the larger class (NTS 1c, 1d, 1g and 1p). <i>E.g. Obedience, discipline, punctuality, regularity, hard work, etc.</i></p> <p>1.4 In small groups, discuss how to create a warm and friendly environment for effective teaching and learning and share your findings with the larger group (NTS 3c, 3d and 3h). <i>E.g.</i> a) <i>Teacher being friendly to the learners</i> b) <i>Teacher showing love, affection and empathy to the learners</i> c) <i>Creating classroom rules together with the learners and making sure learners obey rules and regulations</i></p> <p>1.5 In subject groups, discuss your prepared scheme of learning for the semester to find out if GESI, ICT and 21st century skills have been embedded (NTS 1d, 1f and 3g). (Extension Activity) <i>E.g. (Science)</i> <i>In a Science practical lesson, both boys and girls should be encouraged to do dissection of rodents.</i></p> <p>1.6 In subject groups, suggest ways of addressing gaps identified in learners' learning (NTS 1a, 3l and 3n). <i>E.g. (Science)</i> a) <i>Invite role models/resource persons to give a talk on the application of scientific principles</i> b) <i>Organize trips to science fairs</i></p>	

	<p>1.7 Discuss in subject groups the teaching and learning resources you will use in your lesson presentation, providing examples (NTS 3j). <i>E.g. (Science)</i></p> <ul style="list-style-type: none"> a) <i>Models</i> b) <i>Chemicals</i> c) <i>Science equipment</i> d) <i>Posters</i> e) <i>Pre-recorded videos</i> f) <i>YouTube videos</i> <p>1.8 In your subject groups, discuss how you will assess your learners, giving examples (NTS 3k, 3l, 3n and 3p). <i>E.g. (Science)</i></p> <ul style="list-style-type: none"> a) <i>Self-assessment</i> b) <i>Peer-assessment</i> c) <i>Modelling</i> d) <i>Portfolio</i> e) <i>Project</i> <p>1.9 Using think-pair-share strategy, come out with various strategies that will be used to manage unacceptable behaviours in large classes (NTS 3d, 3g and 3m). <i>E.g.</i></p> <p><i>Disruption avoidance Strategies</i></p> <ul style="list-style-type: none"> a) <i>Organising classroom environment to suit the learning context, e.g. rearranging desks for groupwork</i> b) <i>Getting appropriate and adequate teaching learning resources</i> <p><i>Anticipation Strategies</i></p> <ul style="list-style-type: none"> a) <i>Assigning roles to learners who have tendency of disturbing during teaching and learning</i> b) <i>Teachers should use hands-on-activities and task setting</i> <p><i>Response Strategies</i> <i>Use of rewards such as gifts, awarding of extra marks to well behaved students or groups</i></p>	
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making links to the secondary school curriculum</p>	<p>2.1 In small groups, brainstorm the meaning of learning needs and share with the larger group (NTS 1e, 2c).</p> <p><i>E.g. Learning need is the gap between the learner's present knowledge and skills levels and the knowledge and skills levels required to perform an activity</i></p>	20 mins

	<p>2.2 List examples of learners' learning needs you can identify in your subject area; for example, teaching and learning of science (NTS 1e, 2c). <i>E.g. (Science)</i></p> <ul style="list-style-type: none"> a) <i>Learners' inability to plot graph with coordinates obtained from pendulum experiment</i> b) <i>Learners' inability to differentiate between diffusion and osmosis</i> <p>2.3 Using think-pair-share, identify instruments that can be designed to collect data to justify or otherwise, an intervention for the problem you have identified in the classroom during teaching and learning sessions (NTS 3b, 3n). <i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Interview guide</i> b) <i>Observation guide checklist</i> <p>2.4 List the appropriate interventions to solve the problem you have identified (NTS 3e). <i>E.g, (Science)</i></p> <ul style="list-style-type: none"> a) <i>Problem: Learners' inability to plot graph with coordinates obtained from pendulum experiment</i> <i>Intervention: Remediation classes</i> <p>2.5 Prepare a lesson plan for an intervention. This should be based on the 2010 Senior High School Syllabus (NTS 3a, 3j and 3l). (Extension Activity)</p> <p><i>An example of an outline of a lesson plan for an intervention based on the 2010 SHS Integrated Science Syllabus*</i></p> <p><i>Learning need:</i> <i>learner's inability to differentiate between plant cell and animal cell correctly.</i></p> <p><i>Intervention:</i> <i>Re-teaching content</i></p> <ul style="list-style-type: none"> <i>a) Topic:</i> <i>Cells</i> <i>b) Sub-topic:</i> <i>Differences between Plant Cell and Animal Cell</i> <i>c) Objectives</i> <i>By the end of the lesson, the student will be able to:</i> <ul style="list-style-type: none"> <i>i. Describe the structure of the plant cell.</i> <i>ii. Describe the structure of the animal cell.</i> 	
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	<p>iii. Differentiate between the plant cell and the animal cell.</p> <p>d) Relevant Previous Knowledge: learners can explain what a cell is.</p> <p>e) Introduction: Elicit from the learners the meaning of cells using brainstorming. Prepare the learners' mind to watch a documentary on plant cell and animal cell.</p> <p>f) Tasks/activities:</p> <ul style="list-style-type: none"> i. Let learners watch a documentary on plant cell and note salient points on the structure of the plant cell for discussion. ii. Show them a chart of a well labelled diagram of the structure of a plant cell for a discussion. iii. Let learners watch a documentary on animal cell and note salient points on the structure of the animal cell for a discussion. iv. Show them a chart of a well labelled diagram of the structure of Animal cell for a discussion. v. Using small group discussion, let the learners discuss and write the differences they have discovered between plant cell and animal cell. <p>Remind the learners to appoint group leaders and secretaries and let the leaders share the group's work with the larger class.</p> <p>g) Closure: Close the lesson by asking learners to reflect on the following questions:</p> <ul style="list-style-type: none"> a. What new things have you learnt from today's lesson? b. How will today's lesson help you in your daily life activities? <p>h) Evaluation</p> <ul style="list-style-type: none"> i. Draw a plant cell and animal cell and label them. ii. State 4 differences between plant cell and animal cell. <p>i) Content: Cells are the basic units of life or the building blocks of life. Examples are plant cell and animal cell.</p> <p>The differences between plant cell and animal cell include the following:</p>	
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	<ul style="list-style-type: none"> i. Plant cell is surrounded by a rigid cell wall but animal cell does not have a cell wall. ii. Plant cell is larger in size but animal cell is smaller in size. iii. While plant cell has a large vacuole animal cell has small vacuole. iv. Plant cell has plastids but animal cell does not have plastids. v. Plant cell does not have cilia however, animal cell has cilia. vi. Lysosomes are very rare in plant cell but abundant in animal cell. vii. Plant cell does not have centrosome but animal cell has centrosome. <p>j) Core competencies</p> <ul style="list-style-type: none"> i. Leadership ii. Communication iii. Collaboration iv. Critical thinking v. Creativity and innovation <p>2.6. In groups, do a presentation on the prepared lesson plan whilst your colleagues critique it (NTS 3a). (Extension Activity)</p> <p><i>*Teachers will be guided to tease out the learning outcomes and the learning indicators from the sample lesson plan.</i></p>	
3. Teaching, learning and assessment.	<p>3.1 Tease out the learning outcomes and the learning indicators from the sample lesson plan and use them in a post intervention activity. (Extension Activity) <i>E.g.</i> <i>LO: Demonstrate sound knowledge and understanding of plant cell and animal cell.</i></p> <p><i>LI 1.1 Describe the structure of the plant cell.</i></p> <p><i>LI 1.2 Describe the structure of the animal cell.</i></p> <p>3.2 Discuss how you will collect post intervention data and share with the larger group data (NTS 1e, 3n). <i>E.g., Marked tests, class exercises, project works, etc.</i></p> <p>3.3 Describe how you will analyze the post intervention data and interpret it (NTS 3b). <i>E.g., Using tables of test scores to compare the post and the pre-intervention test scores to identify areas</i></p>	30 mins

	<p><i>of progress and give conclusion and recommendations.</i></p> <p>3.4 In groups, identify and discuss ways of overcoming challenges in teaching large class size and share with the larger group for further discussion (NTS 3d). <i>E.g.</i> <i>a) Use of group and pair work in large classrooms</i> <i>b) Altering seating plans so that female and males are mixed</i> <i>c) Managing resources such that all learners get access to resources</i></p> <p>3.5 Present your work for feedback from the larger group</p>	
<p>4. Evaluation and review of session:</p> <p>➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p> <p>➤ Noting that teachers need to identify critical friends to observe lessons and report at next session</p>	<p>4.1 Reflect and write what you have learnt in the session (NTS 1a, 3l and 3n).</p> <p>4.2 Share what you have written with the larger group.</p> <p>4.3 Identify a critical friend to observe you in teaching your lessons in relation to PLC Session 8 and provide feedback at the next PLC Session.</p> <p>4.4 Remember to read Session 9 from the PLC Handbook in preparation for the next session.</p>	15 mins

PLC Session 9: Teaching and Learning		
	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session</i>	Time in session
<p>1. Review of previous session and introduction to new session</p> <p>NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson.</p> <p>NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session</p>	<p>1.1 Share your findings of the lesson you observed with your critical friend after the last PLC session.</p> <p>1.2 Ask a teacher to read standard 3e, 3f, 3g, 3h, 3i, 3j, 3k and 3l under <i>Professional Practice</i> of the NTS and the learning outcomes (LOs) and learning indicators (LIs) of the session to set the stage for the session.</p> <p>LO 1: Develop a variety of instructional strategies that encourage learners’ participation and critical thinking (NTS 3e).</p> <p>LI 1.1 Mention at least three instructional strategies that encourage learners’ participation in class.</p> <p>LI 1.2 Mention at least three instructional strategies that encourage learners’ critical thinking.</p> <p>LO 2: Employ Gender Equality and Social Inclusive (GESI) responsive activities during teaching and learning (NTS 3f).</p> <p>LI 2.1 State at least four measures a teacher can adopt to be GESI responsive.</p> <p>LI 2.2 Identify and mention at least three categories of learners that require GESI responsive support approaches in teaching and learning the most.</p> <p>LO 3: Employ instructional strategies appropriate for mixed ability, multilingual, and multi-age classes of learners (NTS 3g).</p> <p>LI 3.1 State at least three instructional strategies that support the teaching of learners from diverse backgrounds.</p> <p>LI 3.2 Identify at least four teaching and learning resources that can be used in teaching learners from different ability groups.</p>	25 mins

	<p>LO 4: Discuss meaningful tasks that encourage learner collaboration and lead to purposeful learning (NTS 3h).</p> <p>LI 4.1 List at least four classroom activities that will encourage learners to collaborate during teaching and learning.</p> <p>LI 4.2 List at least three classroom activities that will lead to purposeful learning.</p> <p>LO 5: Explain concepts clearly using examples familiar to learners.</p> <p>LI 5.1 Mention at least three strategies teachers can adopt to explain key concepts in the lessons (NTS 3i).</p> <p>LI 5.2 Discuss at least two strategies teachers can adopt to explain key concepts in their lessons.</p> <p>LO 6: Discuss the production and uses of a variety of teaching and learning resources that enhance learning, including Information and Communications Technology (ICT) tools (NTS 3j).</p> <p>LI 6.1 List and discuss at least three ways in which teaching and learning resources can be produced using local resources.</p> <p>LI 6.2 State at least three ways in which teaching and learning resources can be produced using ICT.</p> <p>1.3 Share with the group, various teaching strategies you have been using to deliver your lessons (NTS 3e). <i>E.g.</i> a) <i>Role-play</i> b) <i>Demonstrations</i> c) <i>Group discussions, etc.</i></p> <p>1.4. Discuss at least four teaching strategies that encourage learners' critical thinking and participation (NTS 3e, 3g). <i>E.g.</i> a) <i>Whole-class dialogue</i> b) <i>Questioning/probing</i> c) <i>Group/peer work, etc.</i></p>	
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	<p>1.5. State at least four measures that you can adopt to be GESI responsive (NTS 3f). <i>E.g.</i> <i>a) Classroom arrangement</i> <i>b) Even distribution of questions, etc.</i></p> <p>1.6 Identify and mention at least three categories of learners that require GESI responsive support approaches in teaching and learning the most (NTS 3g). <i>E.g.</i> <i>a) Hearing impaired</i> <i>b) Visually impaired, etc.</i></p> <p>1.7 State at least four instructional strategies that support the teaching of learners from diverse backgrounds (NTS 3e, 3g). <i>E.g.</i> <i>Organize the classroom to support multi-grade learning through:</i> <i>a) Seating arrangement</i> <i>b) Same or mixed grade groups</i> <i>c) Individual self-directed work, etc.</i></p> <p>1.8 Identify at least four teaching and learning resources that can be used in teaching learners from different ability groups (NTS 3i). <i>E.g.</i> <i>a) Audio-visual material</i> <i>b) Braille</i> <i>c) Videos, etc.</i></p> <p>1.9 Identify teaching and learning resources that will further enhance lessons delivery in the classroom (NTS 3i). <i>E.g.</i> <i>a) Simple story books</i> <i>b) Charts</i> <i>c) Bottle tops</i> <i>d) Stones</i> <i>e) Pens, etc.</i></p> <p>1.10 List at least four classroom activities that will encourage learners to collaborate during teaching and learning (NTS 3h). <i>E.g.</i> <i>a) Peer learning/ teaching</i></p>	
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	<p><i>b) Talk and debate, etc.</i></p> <p>1.11 List at least three classroom activities that will lead to purposeful learning (NTS 3h). <i>E.g.</i> <i>a) Mixed ability grouping</i> <i>b) Demonstration, etc.</i></p> <p>1.12 Mention at least three strategies you can adopt or adapt to explain key concepts in your lessons (NTS 3i). <i>E.g.</i> <i>a) Imaginative use of drawings, diagrams, charts, etc.</i> <i>b) Demonstrations, etc.</i></p> <p>1.13 Discuss at least two key strategies you can use to explain key concepts in your lessons (NTS 3i). <i>E.g.</i> <i>Using diagrams, drawing, demonstration, and other teaching and learning resources to explain key concepts in a lesson.</i></p> <p>1.14 List and discuss at least three ways in which teaching and learning resources can be produced using local resources (NTS 3j). <i>E.g.</i> <i>a) Draw on cardboards</i> <i>b) Create pictures, charts, flash cards, etc.</i></p> <p>1.15 State at least three ways in which teaching and learning resources can be produced using ICT tools (NTS 3j). <i>E.g.</i> <i>Use computers to produce:</i> <i>a) Charts</i> <i>b) Maps, etc.</i></p>	
<p>Give regard for possible misconceptions and stereotypes, GESI, ICT, 21st century skills, etc.</p>	<p>1.15 Identify possible misconceptions and stereotypes in teaching and learning. <i>E.g.</i> <i>a) Female teachers can teach lower-level classes better than male teachers</i> <i>b) Male teachers understand lesson delivery better than female teachers</i> <i>c) Some female teachers feel that having a special needs child in their class may lead to them giving birth to such children</i></p>	

	<p>1.16 Discuss possible ways to mitigate these misconceptions in teaching and learning in your various subjects.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Teaching is a profession which requires training irrespective of gender</i> <i>b) Invite female and male professionals and experts who have overcome some of these misconceptions to deliver a talk on them</i> <i>c) Engage the services of professional psychologists and counsellors to counsel female teachers who may harbour the fear of having children with disability because they teach such children, etc.</i> <p>1.17 In mixed gender groupings (where possible), list at least three 21st century skills related to teaching and learning.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Communication skills</i> <i>b) Collaboration skills</i> <i>c) Observation and enquiry skills, etc.</i> <p>1.18 Discuss your list of 21st century skills (from 1.18) and how they can support teaching and learning.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) Communication skills: <i>Group discussion, role-play, presentation, debate, etc.</i> b) Collaboration skills: <i>Group discussion, project/research, role-play, hands-on activities, drama, etc.</i> <p>1.19 Identify ways of incorporating ICT in your lessons.</p> <p><i>E.g.</i></p> <p><i>Employ ICT tools and applications in teaching and learning:</i></p> <ul style="list-style-type: none"> <i>a) Surf Open Educational Resources (OERs)</i> <i>b) Use google classroom</i> <i>c) Use of Microsoft Office Suite (Word, PowerPoint, Excel, etc.)</i> <i>d) Use of online search engines (Mozilla firefox, google chrome, microsoft edge, etc.), etc.</i> <p>1.20 Discuss possible activities you would adopt to develop the following 21st century skills in your learners.</p>	
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	<p><i>E.g.</i> <i>Communication skills, collaboration, observation and enquiry skills, digital literacy, creativity, personal development skills, etc., can be developed in learners using the following activities;</i></p> <ul style="list-style-type: none"> <i>a) group discussion</i> <i>b) project/research</i> <i>c) role-play</i> <i>d) hands-on activities, etc.</i> 	
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making links to the secondary school curriculum</p>	<p>2.1 Discuss samples of your lesson plans in your various subject areas and link them to the NTS, particularly to teaching and learning (NTS 3e, 3f, 3g, 3h, 3i, 3j, 3k and 3l).</p> <p>An example of an outline of a Lesson Plan based on the 2010 Senior High School Syllabus in Geography*</p> <ul style="list-style-type: none"> <i>a) Topic: Rocks</i> <i>b) Sub-topic: Types of rocks</i> <i>c) Objectives: By the end of the lesson, learners will be able to:</i> <ul style="list-style-type: none"> <i>i. Explain the term rock</i> <i>ii. State the types of rocks</i> <i>iii. Give at least two examples each of the types of rocks</i> <i>d) RPK: learners have seen rocks, stones and sand in their environment</i> <i>e) Introduction:</i> <i>Introduce the lesson by giving samples of rocks, stones and sand for learners to observe and come out with their differences and similarities.</i> <i>f) Task/Activities:</i> <ul style="list-style-type: none"> <i>i. With the aid of pictures, drawings of rocks on cardboard, etc., guide learners to brainstorm the meaning of rock</i> <i>ii. Using samples of the sand, stones, and rocks, guide learners to identify their differences and similarities and come out with the types of rocks</i> <i>iii. Guide learners group the rocks according to their types i.e. igneous rocks (basalt, granite, gabbro), sedimentary rocks (chalk, shale, sandstone) and metamorphic rocks (slate, marble, gneiss)</i> <i>g) Core Points:</i> <i>Meaning of rock:</i> 	20 mins

	<p><i>Rocks are aggregates of a solid mineral matter that constitute a significant part of the earth crust or a mass of a stone projecting out of the ground</i></p> <p><i>Types of rocks and their examples:</i></p> <ol style="list-style-type: none"> <i>Igneous rocks e.g. basalt, granite, gabbro,</i> <i>Sedimentary rocks e.g. chalk, shale, sandstone</i> <i>Metamorphic rocks e.g. slate, marble, gneiss</i> <p>g) Core Competencies: <i>identification skills, imagination skills, observation skills, collaboration skills, communication skills</i></p> <p>h) Closure: <i>Review the lesson with learners and allow them to ask for clarification if any</i></p> <p>i) Evaluation:</p> <ol style="list-style-type: none"> <i>Describe what rocks are.</i> <i>Mention at least two types of rocks.</i> <i>State at least two examples each of the various types of rocks.</i> <p>j) Remarks:</p> <p><i>*Teachers would be guided to tease out the learning outcomes and learning indicators from the lesson.</i></p>	
<p>3. Teaching, learning and assessment</p> <p>➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification</p> <p>➤ Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum</p> <p>➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills</p>	<p>3.1 Identify gaps in your sample lesson plans and possible ways of addressing same.</p> <p><i>E.g.</i></p> <ol style="list-style-type: none"> Possible gaps: <i>Lack of differentiation for learner diversity</i> Possible solution: <i>Use different teaching methods and resources to cater for different learner needs, etc.</i> <p>3.2 Ask teachers to tease out the learning outcomes and learning indicators from the sample lesson plan and compare their work.</p> <p><i>E.g.</i></p> <p><i>LO: Demonstrate knowledge and understanding of the various types of rocks.</i></p>	30 mins

<p>➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support learner teacher learning</p> <p>➤ Resources:</p> <ul style="list-style-type: none"> ○ Links to the existing PLC Themes, for example, action research, questioning and to other external reference. ○ Material: literature, on web, YouTube, physical resources, power point; how they should be used. ○ Consideration needs to be given to local availability and guidance on any power point presentations, TLM or other resources which need to be developed to support learning 	<p><i>LI 1.1 Explain the term rock'.</i></p> <p><i>LI 1.2 Mention at least two types of rocks.</i></p> <p>3.3 Ask teachers to suggest alternative ways of delivering the sample lesson.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Small group work</i> <i>b) Field trips</i> <i>c) Learner presentations</i> <i>d) Use of YouTube/pre-recorded videos, etc.</i> <p>3.4 Review your sample lesson plans to identify activities that promote GESI responsiveness.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Plan for differences in learner needs</i> <i>b) Use individual tasks reflecting different learning styles</i> <i>c) Use mixed gender groups to encourage collaboration between male and female learners, etc.</i> <p>3.5 Discuss how the session is linked to the use of formative assessment tools and practices i.e. assessment for learning and assessment as learning.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Use assessment to diagnose learners' needs (for)</i> <i>b) Use assessment to review learners' progress (for)</i> <i>c) Encourage Self- assessment (as), etc.</i> <p>3.6 In groups suggest other assessment methods that could be used in the sample lesson.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Self-assessment</i> <i>b) Peer-assessment</i> <i>c) Quizzes</i> <i>d) Test</i> <i>e) Project work, etc.</i> <p>3.7 List resources and discuss how the lesson can make use of these to support relevant activities (NTS 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Photographs</i> <i>b) YouTube/Pre-recorded videos.</i> <i>c) Projectors</i> 	
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	<p>d) <i>OERs/Internet facilities, etc.</i></p> <p>3.8 Model a teaching activity in the sample lesson plan (Extension Activity)</p>	
<p>4. Evaluation and review of session:</p> <ul style="list-style-type: none"> ➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification ➤ Noting that teachers need to identify critical friends to observe lessons and report at next session 	<p>4.1 Reflect and write what you have learnt in the session (NTS 3e, 3f, 3g, 3h, 3i, 3g and 3k).</p> <p>4.2 Share what you have written with the larger group.</p> <p>4.3 Identify a critical friend to observe you in teaching your lessons in relation to PLC Session 9 and provide feedback at the next PLC session.</p> <p>4.4 Remember to read Session 10 from the PLC Handbook in preparation for the next session.</p>	15 mins

PLC Session for Topic 10: Assessment		
	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
<p>1. Review of previous session and introduction to new session</p> <p>NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson.</p> <p>NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session</p>	<p>1.1 Share the findings of the lesson you observed your critical friend teach after the last PLC session.</p> <p>1.2 Read NTS 3k, 3l, 3m, 3n, 3o and 3p the under <i>Professional Practice</i> of the NTS and the learning outcomes (LOs) and learning indicators (LIs) of the session to set the stage for the session.</p> <p>LO 1: Show an understanding of assessment and how teachers can assess learners inside and outside the classroom (NTS 3k).</p> <p>LI.1.1 Briefly state the meaning of assessment.</p> <p>LI 1.2 State at least three characteristics of continuous assessment.</p> <p>LO 2: Demonstrate understanding of the modes of assessment (<i>assessment for</i>, <i>assessment as</i> and <i>assessment of learning</i>) (NTS 3k, 3l, 3m, 3n, 3o and 3p).</p> <p>LI 2.1 State how assessment modes are incorporated in teaching and learning.</p> <p>LI 2.2 Describe how the assessment of learners' academic attainment relates to the NTS (NTS 3k, 3l, 3m, 3n, 3o and 3p).</p> <p>LI 2.3 Discuss ways in which continuous assessment can be improved.</p> <p>1.3 Brainstorm the meaning of assessment. <i>Assessment is a variety of procedures used to obtain information about learner performance. It involves the measurement and evaluation of learners/learners' traits', potential and actual performance. (Linn & Miller, 2005)</i></p> <p>1.4 Think-pair-share the characteristics of continuous assessment (NTS 3k).</p> <p>E.g., <i>It is cumulative, comprehensive, diagnostic, etc.</i></p> <p>1.5 Discuss in groups how assessment modes are incorporated in teaching and learning (NTS 3k). <i>E.g.</i> <i>Assessment "for" learning is the process of seeking and interpreting evidence for use by learners and teachers to decide where the learners are in their learning</i></p>	25 mins

	<p><i>Assessment “as” learning is where learners are able to learn by themselves and become aware of how they learn. They reflect on their work on a regular basis usually through self and peer assessment and decide what their next learning will be.</i></p> <p><i>Assessment “of” learning occurs when teachers use evidence of learners’ learning to make judgement on learners’ achievements against goals and standards (Deluca et al., 2019).</i></p> <p>1.6 In mixed groups, explain ways in which continuous assessment could be improved (NTS 3b, 3h, 3k, 3l and 3n).</p> <p><i>Continuous assessment can be improved through:</i></p> <ul style="list-style-type: none"> <i>a) in-service training on how to keep records</i> <i>b) group assessment tasks to reduce workload resulting from large class sizes</i> <i>c) organizing workshops for teachers on test administration, etc.</i> <p>1.7 Reflect and write how you have used <i>assessment for</i>, <i>assessment as</i> and <i>assessment of</i> in your classroom. <i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Class exercise to check understanding (for)</i> <i>b) Asking learners to reflect on their work and indicate the progress they have made (as)</i> <i>c) Giving a test and recording the marks as part of assessment for West African Senior School Certificate (WASSCE) (of)</i> 	
<p>Give regard for possible misconceptions related to GESI, ICT, 21st century skills, etc.</p>	<p>1.8 State the misconceptions surrounding the different types of classroom assessments (NTS 3m). <i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Oral assessment calls for open response</i> <i>b) Boys perform better than girls in classroom assessment</i> <i>c) Multiple-Choice type test is easy to construct, etc.</i> <p>1.9 Discuss possible ways to mitigate these misconceptions and stereotypes in assessment (NTS 3m). <i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Organise orientation to sensitise teachers on the various assessment modes</i> <i>b) Ask teachers to construct multiple test items</i> <p>1.10 Discuss what to do to ensure equal participation of male and female learners in classroom assessment (NTS 3e). <i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Provide opportunities for self-assessment</i> <i>b) Distribute questions in the classroom fairly, etc.</i> <p>1.11 Identify ways of incorporating</p>	

	<p>ICT in lessons (NTS 3j).</p> <p>E.g.</p> <ol style="list-style-type: none"> Use Open Educational Resources (OERs) and other Internet sources for information Use PowerPoint for presentation, etc. <p>1.12 Discuss possible activities they would adopt to develop the 21st century skills in learners through assessment.</p> <p>E.g.</p> <ol style="list-style-type: none"> Research skills E.g. Google search, group work etc. Critical thinking and problem Solving E.g. enquiry, project, etc. Creativity and Innovation E.g. role-play, dramatization, etc. Communication and collaboration E.g. group discussions, debates, etc. 	
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making Links to the secondary school curriculum</p>	<p>2.1 Discuss samples of lesson plans based on the SHS 2010 syllabuses in respective subjects and link them to the NTS (NTS 3a, 3e, 3g and 3j).</p> <p><i>An example of an outline for teaching simultaneous linear equations from the SHS 2010 Mathematics Syllabus*</i></p> <ol style="list-style-type: none"> Topic: Simultaneous Linear Equations Sub-topic: Graphical Method for solving Linear Equations in two variables Objectives: Learners will be able to: <ol style="list-style-type: none"> Plot points for given linear equations Draw graphs for given linear equation Determine the point of intersection as the solution for two given linear equations. Relevant previous knowledge: Learners can plot points and draw straight lines on a graph. Introduction: Ask learners to come to the board to plot given points on a graph (Ensure males and females including SEN learners) Tasks/activities: <ol style="list-style-type: none"> Guide learners to plot points for given linear equations. In pairs, let learners draw graphs for given linear equations. Move round the tables to observe the learners' activities and provide support where necessary Guide learners to determine the point of intersection as the solution set for the two given linear equations Lead learners to brainstorm the application of the concept in everyday life. 	20 mins

	<p>g) Core Points:</p> <ol style="list-style-type: none"> Two equations are said to be simultaneous equations in x and y if there exist a value for x and y which can satisfy the two equations at the same time The point of intersection is where the two lines meet and that gives the solution set. <p>h) Core Competences:</p> <ol style="list-style-type: none"> Collaboration Observation and enquiry skills Critical Thinking and problem solving Personal development, etc. <p>i) Closure: Recap the lesson by asking the various groups to come out with what they have learned from the lesson.</p> <p>j) Evaluation: Draw graphs for $3x+2y=8$ and $4x-3y=5$ and use the graph to find the solution set of the two equations.</p> <p>*Teachers would be guided to tease out the LOs and the LIs from the sample lesson.</p>	
<p>3. Teaching, learning and assessment</p> <p>Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification</p> <ul style="list-style-type: none"> ➤ Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum ➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills ➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support learner teacher learning 	<p>3.1 Identify gaps in your sample lesson plans and discuss possible ways of addressing them (NTS 1a, 3d, 3e, 3f, 3g and 3m).</p> <p>Possible gaps:</p> <ol style="list-style-type: none"> inadequate prescribed textbooks for mathematics inadequate teaching learning resource <p>Possible solutions: E.g. Use of:</p> <ol style="list-style-type: none"> a library OERs and other Internet facilities PLC sessions on GESI and assessment, etc. <p>3.2 Tease out the learning outcomes and learning indicators from the sample lesson plan. E.g. LO: Demonstrate understanding of Graphical Method for solving Linear Equations in two variables LI 1. Plot points for given linear equations. LI 2. Draw graphs for given linear equations. LI 3. Determine the point of intersection as the solution for two given linear equations.</p> <p>3.3 Suggest alternative ways of delivering the sample lesson plan (NTS 2e). E.g. Use of:</p> <ol style="list-style-type: none"> flipped classroom, i.e. form of blended learning requiring readings at home and work on live problem solving during class time demonstration 	

<p>➤ Resources:</p> <ul style="list-style-type: none"> ○ Links to the existing PLC Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. ○ Consideration needs to be given to local availability guidance on any power point presentations, TLM or other resources which need to be developed to support learning 	<p>c) <i>simulation.</i></p> <p>3.4 Review your sample lesson plans to identify activities that promote GESI responsiveness (NTS 2e). E.g.</p> <ul style="list-style-type: none"> a) <i>Classroom arrangement that facilitates interaction</i> b) <i>Mixed ability/gender grouping</i> c) <i>Using positive feedback to learners especially the disadvantaged</i> <p>3.5 Discuss how the session is linked to the use of assessment tools and practices, i.e. assessment <i>for learning</i>, assessment <i>as learning</i> and assessment <i>of learning</i> (NTS 3k). E.g.</p> <ul style="list-style-type: none"> a) <i>Question and answer method</i> b) <i>promotes assessment for learning</i> c) <i>Marking own work promotes assessment as learning</i> <p>3.6 Suggest other authentic assessment methods that could be used in the sample lesson (NTS 3o). E.g. <i>Observation, simulation, projects (as), Peer-assessment (as or for), Differentiated assessment, portfolio (for) etc.</i></p> <p>3.7 List and discuss how the session makes use of ICT resources to support relevant activities in the NTS (NTS 3n). (Extension Activity) E.g. <i>Pre-recorded videos, charts, etc.</i></p> <p>3.8 Model the sample lesson for feedback from the group (NTS 3f, 3p). (Extension Activity)</p>	
<p>4 Evaluation and review of session:</p> <p>➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p> <p>➤ Noting that teachers need to identify critical friends to observe lessons and report at next session</p>	<p>4.1 Reflect and write what you have learnt in the session using the “Talk-to-the-hand” strategy (teacher place their palm on a sheet of paper and trace the fingers out, and in each finger, write the key thing they have learnt) (NTS 3e).</p> <p>4.2 Share your reflections with the larger group (NTS 1a).</p> <p>4.3 Identify a critical friend who observed you teach your lesson in relation to PLC Session 10 and provide feedback at the next PLC session (NTS 3l).</p> <p>4.4 Remember to read Session 11 from the PLC Handbook in preparation of the next session (NTS 3a).</p>	15 mins

PLC Session for Topic 11: Training needs of teachers		
	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
<p>1. Review of previous session and introduction to new session</p> <p>NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson.</p> <p>NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session</p>	<p>1.1 Participate in ice breaker.</p> <p>1.2 Write one thing you have learnt in PLC Session 10 and share with the group.</p> <p>1.3 Read the learning outcomes (LOs) and learning indicators (LIs) below to set the stage for the session.</p> <p>LO 1: Demonstrate knowledge in Professional Portfolio (PP) development and action research in the classroom.</p> <p>LI 1.1 Identify items to be included in the PP.</p> <p>LI 1.2 Give examples of the issues in the classroom that need action research to address.</p> <p>LO 2: Demonstrate knowledge and skills required for implementing equity and inclusion policies in schoolwork.</p> <p>LI 2.1 Identify skills required for implementing equity and inclusion policies in schoolwork.</p> <p>LI 2.2 Show how inclusive issues can be addressed.</p> <p>LI 2.3 Give examples of how equity and inclusion policies improve teaching and learning in schools.</p> <p>LO 3: Demonstrate knowledge in ICT integration in teaching and learning.</p> <p>LI 3.1 State how to integrate ICT in teaching and learning.</p> <p>LI 3.2 Explain how integration of ICT improves teaching and learning in schools.</p> <p>LI 3.3 Identify three challenges associated with integrating ICT in teaching and learning.</p>	25 mins

	<p>LI 3.4 Analyse ways to address the challenges of integrating ICT in teaching and learning.</p> <p>LO 5: Demonstrate knowledge and understanding of the key GES policies.</p> <p>LI 5.1 State at least three policies of GES.</p> <p>LI 5.2 Analyse at the relevance of at least three key GES policies.</p> <p>LO 6: Demonstrate knowledge and understanding of leadership for learning.</p> <p>LI 6.1 State at least three qualities of a good leader.</p> <p>LI 6.2 Analyse at least three leadership styles.</p> <p>1.4 Discuss the various ranks in the GES listed in the NTS for general discussion. <i>E.g. Rank 1, Rank 2, Rank 3, Rank 4, Rank 5 and Rank 6.</i></p> <p>1.5 In your groups, present on the training needs of teachers at the rank you discussed under Activity 1.4.</p> <p>1.6 Identify and discuss items in the portfolio at Rank 1 of the GES (NTS 1b). <i>E.g., assignments, reflective practice, lesson notes, etc.</i></p> <p>1.7 Write some of the issues in the classroom that trigger action research (NTS 3b, 3c). <i>E.g., Absenteeism, indiscipline, etc.</i></p> <p>1.8 List four skills required for implementing equity and inclusion policies in schoolwork (NTS 3f, 3g). <i>E.g. ICT skills, communication skills, identifying learning needs of learners, using different assessment strategies, etc.</i></p> <p>1.9 Identify and write how inclusive issues in schools can be addressed (NTS 3f, 3g). <i>E.g. Using mixed groupings of students with different learning abilities.</i></p>	
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	<p>1.10 Discuss how equity and inclusion policies affect teaching and learning. E.g. a) <i>Prevent exploitation of vulnerable groups</i> b) <i>Provide learning opportunities for disadvantaged groups</i></p> <p>.</p> <p>1.11 Identify training activities for teachers at the various GES ranks, as indicated in the NTS, that can support teaching and learning in secondary schools E.g. Rank 1 <i>Portfolio writing/development</i></p> <p>Rank 2 <i>Mentoring and coaching skills</i></p> <p>Rank 3 <i>Examination item writing and management</i></p> <p>Rank 4 <i>Integrating ICT and other technologies in school administration and governance</i></p> <p>Rank 5 a) <i>Knowledge of procurement laws</i></p> <p>Rank 6 <i>Strategic planning and management in education</i></p> <p>1.12 Identify specific Standards of NTS that seek to address the training needs of teachers in various ranks of the GES.</p> <p>Note: <i>See the training needs listed in the appendix of the NTS and identify the Standards that can address them.</i></p> <p>1.13 Write at least four qualities of a good leader that are capable of helping to address the training needs of teachers in the various ranks of the GES (NTS 1c, 1f and 1g). E.g., <i>Ranks 2, 3, and 5 of the GES</i></p> <p>1.15 State and discuss the types of leadership styles that can be employed to address the training needs</p>	
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	<p>of teachers in the various ranks of the GES Ranks 2, 3, and 5 in the NTS (NTS 1c, 1f and 1g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Authoritarian</i> b) <i>Participative</i> 	
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making links to secondary school curriculum</p>	<p>2.1 Discuss samples of your lesson plans in your respective subject areas and link them to the NTS (NTS 3a, 3b and 3e).</p> <p>Sample of lesson outline in Social Studies: <i>An example of an outline plan for teaching based on the 2010 SHS Social Studies Syllabus*.</i></p> <ul style="list-style-type: none"> a) Topic: <i>The role of the individual in a community development</i> b) Sub-topic: <i>Levels of community and community development</i> c) Objectives: <i>By the end of the lesson, the learner will be able to;</i> <ul style="list-style-type: none"> i. <i>identify the levels of community,</i> ii. <i>explain at least four ways by which an individual can contribute to the development of their community.</i> d) RPK: <i>Learners have been taking part in communal labour.</i> e) Introduction: <i>Ask learners to mention things they have observed during communal labour.</i> f) Teacher and learner activities: <ul style="list-style-type: none"> i. <i>Students undertake a case study of the community development project and present their findings.</i> ii. <i>Students brainstorm to come up with ways an individual can contribute to the development of their community.</i> g) Core points: <ul style="list-style-type: none"> i. <i>A community is a group of people living in a locality. The group has common values, interest, enduring ties, frequent interactions and a sense of closeness.</i> ii. <i>The levels of community include: neighbourhood, village, town, district/municipal/metropolitan, regional and national.</i> iii. How to contribute to community development <ul style="list-style-type: none"> 1. <i>Attending community meetings</i> 2. <i>Volunteer to help at a local event hosted by the community</i> 	20mins

	<p>3. Volunteer time for a committee that helps with community development, etc.</p> <p>h) Core competencies:</p> <ul style="list-style-type: none"> i. Personal development and leadership ii. Communication and collaboration iii. Critical thinking and problem solving <p>i) Conclusion: Elicit responses from learners about what they have learnt from lesson through questioning and answering technique.</p> <p>j) Evaluation:</p> <ul style="list-style-type: none"> i. What is community? ii. State 3 ways an individual can contribute to the development of his/ her community. <p>*Teachers would be guided to tease out the learning outcomes and learning indicators from the lesson.</p>	
<p>3. Teaching, learning and assessment</p> <ul style="list-style-type: none"> ➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification ➤ Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum ➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills ➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to 	<p>3.1 Identify gaps in your sample lesson plans and discuss possible ways of addressing same (NTS 3a). <i>E.g.</i> Possible gaps: Inadequate teaching and learning resources.</p> <p>Possible Solution: <i>Online search for resources</i></p> <p>3.2 Tease out the learning outcomes and the learning indicators from the sample lesson plan and compare these with the objectives (NTS 3h). <i>E.g.</i> <i>LO: Demonstrate knowledge and understanding in the levels of community and community development.</i></p> <p><i>LI 1.1 Identify the levels of community.</i></p> <p>3.3 Identify and discuss ways the lessons could be taught using creative approaches and making the lesson ICT mediated and GESI responsive. <i>E.g.</i> <i>a) teach using PowerPoint</i> <i>b) providing opportunities for both male and female students to participate fully in the lesson</i></p> <p>3.4 Write how the NTS will help to promote the delivery of lessons in the secondary school curriculum (NTS 2b, 2d).</p>	30 mins

<p>support student teacher learning</p> <ul style="list-style-type: none"> ➤ Resources: ➤ Links to the existing PLC Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. ➤ Consideration needs to be given to local availability and guidance on any power point presentations, TLRs or other resources which need to be developed to support learning 	<p>E.g. <i>By highlighting the way in which lessons are to be delivered effectively</i></p> <p>3.5 State alternative ways of delivering the sample lessons plan (NTS 3a, 3e and 3g). E.g. Use of a) <i>flipped classroom</i>, b) <i>extended learning, etc.</i></p> <p>3.6 Discuss how the session is linked to the use of formative assessment tools and practices (NTS 3k, 3l). E.g. <i>Assessment for learning and assessment as learning should be encouraged</i></p> <p>3.8 Brainstorm the sources of support and resources teachers need to enable them to improve their teaching. E.g. a) <i>Professional Learning Community sessions</i> b) <i>Further reading, etc.</i></p> <p>3.9 Model a teaching activity in the sample lesson plan (NTS 1a, 3a). (Extension Activity)</p>	
<p>4. Evaluation and review of session:</p> <p>a. Teachers need to identify critical friends to observe lessons and report at next session</p> <p>b. Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p>	<p>4.1 Reflect and write what you have learned in the session.</p> <p>4.2 Share what you have learned in the session with the larger group.</p> <p>4.3 Reflect and write what you have learned from PLC Session 1 to Session 10.</p> <p>4.4 Remember to identify a critical friend to observe you in teaching your lessons in relation to PLC Session 11 and provide feedback to you.</p>	<p>15 mins</p>

TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING (TVET) SESSIONS

TVET PLC Session 4: Professional Development

TVET Domain:

1. Agricultural Science
2. Home Economics
3. Technical Skills
4. Visual Art

	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
<p>1. Review of previous session and introduction of new session</p> <p>NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson.</p> <p>NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session</p>	<p>1.1 Ice breaker activity: <i>Either use:</i></p> <p style="text-align: center;"><i>The Allegory of the Tailless Monkey</i></p> <p>There lived a happy community of monkeys in the <i>Nunya</i> Forest. One day a middle-aged sanguine monkey called <i>Blekpo</i> ventured out of the forest into a large farm. To his joyful surprise, he saw many new things he had never seen before. The air was fresh, and the land was flat with very few trees. There was a lot of space to run and jump as much as he could. He sighed with excitement, ‘what a freedom! ‘At last, I am free. I can do whatever I like without the disruption from those old clumpy folks who think they have seen it all. When I get back and tell my experience, the old fools will keep quiet because they will know that they do not have monopoly over experience’. Soon he was all over the place, jumping and climbing the yam poles from one yam mound to another.</p> <p>Unfortunately, he got his head trapped in the farmer’s trap. Seeing that he was going to die, he managed to exchange his tail with his head, Having lost his tail in the process, he sneaked back into the forest shamefully. He began to feel odd and lonely because he was the only one without a tail. Cunningly, he decided to trick other monkeys also to cut off their tails so they can become equal. As a good orator his ideas began to gain grounds and many young monkeys were willing to cut off their tails as he suggested. <i>Abrewaa</i> the oldest female monkey in the <i>Nunya</i> forest who herself had survived many disasters saw everything that happened to troublesome monkey, <i>Blekpo</i>, that faithful day. She was on her own lookout for her naughty grandson who also went on adventure in the forest that day. She called a meeting of all the monkeys and narrated all that had happened to the tailless monkey. He explained that every monkey’s agility to climb is in its tail, hence the tail cannot be a nuisance as <i>Blekpo</i> was making it look like. She warned that monkeys will be unable to escape as fast as they need</p>	25 mins

	<p>should they chop off their tails. Having shared many experiences, <i>Abrewaa</i> succeeded in persuading the younger monkeys from cutting off their tails.</p> <p>a) What lesson have you learnt from this story?</p> <p>b) What saved the other monkeys that were going to chop off their tails as a result of the deception?</p> <p>c) How can you relate this story to the PLC sessions?</p> <p>Or</p> <p>Begin the session by asking teachers to mention what they know about the National Teachers' Standards (NTS)</p> <p>1.2 Share your findings of the lesson you observed your critical friend teach after the last PLC session (NTS 1a, 1e).</p> <p>1.3 Read NTS 1a, 1b, and 1c and tease out the learning outcomes (LOs) and learning indicators (LIs) of the session. and compare with the LOs and LIs listed below.</p> <p>LO 1: Demonstrate ability to critically and collectively improve teaching and learning.</p> <p>LI 1.1 Reflect on one's own practice.</p> <p>LI 1.2 Reflect and critique one's own and peers' practice using lesson notes, reflective log, reflective journals, portfolios, etc.</p> <p>LO 2: Demonstrate knowledge skill and willingness to improve personal and professional development through lifelong learning and continuous professional development.</p> <p>LI 2.1 Identify gaps in knowledge that can impede personal development.</p> <p>LI 2.2 Identify gaps in knowledge that can impede professional development.</p> <p>LO 3: Demonstrate skill in effective leadership both in the classroom and wider school community.</p> <p>LI 3.1 Model GESI compliant qualities in the classroom and beyond.</p> <p>LI 3.2 Show high quality of attendance and punctuality to class and meetings.</p> <p>LI 3.3 Delegate roles to all learners equally irrespective of gender or ability.</p>	
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	<p>LI3.4 Attend and contribute meaningfully to school, Parent-Teacher Association/Parent Association and other relevant community meetings.</p> <p>LI 3.5 Avoid exploiting the vulnerability of both male and female learners including SEN.</p> <p>LI 3.6 Comply with Ministry of Education (MoE) and Ghana Education Service (GES) Ethical Codes.</p> <p>LI 3.7 Volunteer to perform roles that will lead to the growth and development of learners, the school and the wider community.</p> <p>1.4 Discuss the relationship between the LOs and the LIs.</p> <p>Note: LO is the expected knowledge, understanding, skills, etc. to be acquired at the end of a lesson, LI is the practical evidence that learning has taken place. It may include verbal responses, practical activity or products.</p> <p>1.5 Discuss and relate the concept of Professional Development to their various TVET domains.</p> <p><i>E.g.</i> <i>Professional development refers to continuing education and career training after a person has entered the workforce in order to help them develop new skills, stay up-to-date on current trends and advance their career (NTS 2c, 3j).</i> Ref. https://www.webce.com (retrieved 24/03/2022)</p> <p>1.6 Identify further areas of professional development that will enhance your teaching.</p> <p><i>E.g.</i> <i>Short courses such as cake making, exterior and interior decoration, exhibitions, fish farming, art association meetings, courses in ICT, etc., (NTS 1b, 3m).</i></p>	
Give regard for misconceptions and stereotypes, GESI, ICT, 21 st century skills, etc.	<p>1.7 Identify possible misconceptions and stereotypes in TVET.</p> <p><i>E.g.</i> <i>a) TVET is for learners with low IQ.</i> <i>b) Some TVET domains are gender specific, e.g., Agriculture for males, Home Economics for females, Technical and Visual Art, etc.</i></p>	20 mins

	<p>c) <i>TVET is not suitable for SEN student, NTS 2f, 3f and 3m).</i></p> <p>1.8 Discuss possible ways of mitigating these misconceptions and stereotypes in TVET in the classroom and elsewhere.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>Invite role models/resource persons that have overcome these stereotypes and have achieve successes in the TVET domains in the society to interact with learners</i> b) <i>Use a pre-recorded videos of persons who have defied these stereotypes and have achieve successes in the society to inspire learners</i> c. <i>Do community walk to expose learners to the contribution of TVET to society (NTS 2f, 3a, 3e, 3g and 3j).</i> <p>1.9 In mixed gender groupings (where possible) list some 21st century skills.</p> <p><i>E.g., Communication skills, collaboration, observation and enquiry skills, digital literacy, creativity, etc., (NTS 2c, 3a).</i></p> <p>1.10 Identify ways of incorporating ICT in your lesson.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>surfing Open Educational Resources (OERs) and other internet sources for information</i> b) <i>teach using PowerPoint</i> c) <i>employ computer software such as AutoCAD in teaching and learning, Photoshop, Coral Draw, Paint, etc. (NTS 1a, 3j).</i> <p>1.11 Discuss possible activities you would adopt to develop the 21st century skills such communication skills, collaboration, observation and enquiry skills, digital literacy, creativity, personal development in your learners.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>group discussion</i> b) <i>project</i> c) <i>research</i> d) <i>role play</i> e) <i>hands-on activities</i> <p>(NTS 3e, 3h and 3j).</p>	
2 Planning for teaching, learning and assessment activities for the lesson/s making	<p>2.1 Discuss samples of their lesson plans in their various TVET domains based on the 2010 SHS Syllabus and link them to the concepts of LOs and Lis*</p>	20 mins

<p>links to the TVET curriculum</p>	<p><i>Sample Lesson Topic in the TVET: Introduction to Agriculture, Home Economics, Technical Skills, Visual Art.</i></p> <p>Agricultural Science <i>Topic: Introduction to Agriculture</i> <i>Sub-topic: Importance of Agriculture (to the national economy).</i></p> <p>Home Economics <i>Topic: Introduction to Nutrition</i> <i>Sub-topic: Importance of Nutrition.</i></p> <p>Technical Skills <i>Topic: Introduction to Technical Drawing.</i> <i>Sub-topic: Importance of Technical Drawing.</i></p> <p>Visual Art <i>Topic: Introduction to Picture Making</i> <i>Sub-topic: Importance of Picture Making.</i></p> <p>a) Objectives <i>By the end of the lesson, learners will be able to:</i></p> <ol style="list-style-type: none"> <i>List the components of Agriculture, Nutrition, Technical Drawing and Picture making.</i> <i>Discuss the components of Agriculture, Nutrition, Technical Drawing and Picture making.</i> <i>List and discuss products of Agriculture, Nutrition, Technical Drawing and Picture making.</i> <i>Discuss the importance of Agriculture, Nutrition, Technical Drawing and Picture making to the economy of Ghana.</i> <p>b) Core activities</p> <ol style="list-style-type: none"> <i>Guide learners in groups to list the components of Agriculture, Nutrition, Technical Drawing and Picture making</i> <i>Guide learners to surf OERs and other sources on the Internet to find more information to discuss the components of Agriculture, Nutrition, Technical Drawing and Picture making.</i> <i>Guide learners to list and discuss five products of Agriculture, Nutrition, Technical Drawing and Picture making.</i> <i>Put learners in mixed ability/gender groups (where possible) discuss the importance of Agriculture, Nutrition, Technical Drawing and Picture making to the economy of Ghana.</i> 	
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	<p>c) Evaluation <i>Evaluate the lesson by using question and answer method.</i> <i>*Tease out the learning outcomes and the learning indicators from the sample lesson plans outline.</i></p> <p>2.1 Tease out LOs and LIs from the sample lesson.</p> <p><i>LO: Demonstrate understanding of the importance of agriculture, nutrition, technical drawing and picture making (to the national economy).</i></p> <p><i>LI.1 List the components of Agriculture, Nutrition, Technical Drawing and Picture making.</i></p> <p><i>LI.2 State the importance of Agriculture, Nutrition, Technical Drawing and Picture making.</i></p> <p><i>LI.3 Identify some products of Agriculture, Nutrition, Technical Drawing and Picture making (NTS 3a).</i></p>	
<p>3 Teaching, learning and assessment</p> <ul style="list-style-type: none"> ➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification ➤ Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum ➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills ➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning ➤ Resources: <ul style="list-style-type: none"> ○ Links to the existing PD Themes, for 	<p>3.1 Identify gaps in your sample lesson plans and discuss possible ways of addressing same (NTS 1a, 1e and 2c). <i>E.g.</i> Possible gap: <i>Inadequate prescribed textbooks, etc.</i></p> <p>Possible Solution: <i>a) use of a library (e-library and physical), Open Educational Resources (OERs) and other Internet facilities</i></p> <p>3.2 Suggest alternative ways of delivering the sample lessons (NTS 3f, 3j). <i>E.g., use of:</i> <i>a) flipped classroom,</i> <i>b) extended learning</i> <i>c) demonstration</i> <i>D) simulation</i> <i>e) field trips, etc.,</i></p> <p>1.3 Review their sample lesson plans to identify activities that promote GESI responsiveness (NTS 3f, 3l and 3m). <i>E.g.</i> <i>a) classroom arrangement that facilitates interaction</i> <i>b) mixed ability or gender groupings that facilitates collaboration</i> <i>c) non-stereotype role play in TVET.</i></p> <p>3.4 Discuss how the unit is linked to the use of formative assessment tools and practices (NTS 3k, 3l, 3m and 3n).</p>	30 mins

<p>example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used.</p> <ul style="list-style-type: none"> ○ Consideration needs to be given to local availability guidance on any power point presentations, TLM or other resources which need to be developed to support learning 	<p><i>E.g.</i></p> <p><i>a) Assessment for learning</i> <i>b) Assessment as learning</i></p> <p>3.5 In your domain groups brain-write other possible authentic assessment methods that could be used in the sample lesson and share same with the whole group (NTS 2e, 3k, 3l and 3o). <i>E.g.</i></p> <p><i>a) Self-assessment</i> <i>b) Peer-assessment</i> <i>c) Jury, etc.</i></p> <p>3.6 List and discuss how the session makes use of ICT resources to support relevant activities in the NTS (NTS 3j). <i>E.g.</i></p> <p><i>a) Pre-recorded video</i> <i>b) Photographs,</i> <i>c) OERs/internet facilities</i></p> <p>3.7 Ask one teacher to model the sample lesson. (NTS 1f, 1c and 3a). (Extension Activity)</p>	
<p>Evaluation and review of session:</p> <ul style="list-style-type: none"> ➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification ➤ Noting that teachers need to identify critical friends to observe lessons and report at next session 	<p>4.1 Reflect and brain-write what you have learnt in the session (NTS 1a, 1b and 1f).</p> <p>4.2 Share with the larger group (NTS 1e).</p> <p>4.3 Identify a critical friend to observe you in teaching your lessons in relation to PLC session 4 and provide feedback at the next PLC session (NTS 1a,1e and 3l)</p> <p>4.4 Read Session 5 from the PLC Handbook in preparation for the next session (NTS 3b).</p>	15 mins

TVET PLC Session 5: Community of Practice		
TVET Domains: 1. Agriculture 2. Home Economics 3. Technical Skills 4. Visual Art		
	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
1. Review of previous session and introduction to new lesson NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson. NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session	1.1 Share your successes and challenges in their lesson delivery after the PLC session 4. 1.2 Read NTS 1d, 1e, 1f and 1g on the Community of Practice and tease out the learning outcomes (LOs) and learning indicators (LIs) of the session for a discussion with colleagues (NTS 1 d, 1e, 1f and 1g) and compare these with the LOs and LIs listed below. LO 1: Demonstrate knowledge and understanding of the legal and ethical codes of conduct for teachers and how they guide teacher behaviour. LI 1.1 State the code of ethics for teachers. LI 1.2 Explain how the code of ethics guides teachers' practice, professional conduct and relationship with stakeholders. LI 1.3 State the role of the head teacher in enforcing the code of ethics. LI 1.4 Prepare and deliver a sample lesson reflecting teacher professional ethics, good conduct, and appropriate relationship with all learners within the context of GESI (NTS 1d, 2a). LO 2: Demonstrate knowledge and skill of engaging positively with all stakeholders (colleagues, learners, parents, school management committee (SMC), parent association and wider public) as an agent of change in a school's community of practice. LI 2.1 Identify at least three stakeholders within the school's community of practice. LI 2.2 Explain the role of stake holders in promoting a strong community of practice. LI 2.3 Explain the role of the teacher as an agent of change (NTS 1e, 1f and 1g).	25mins

	<p>LO 3: Exhibit positive teacher identity by acting as a good role model for learners.</p> <p>LI 3.1 Identify at least three characteristics of a good teacher.</p> <p>LI3.2 Explain how the attributes of a good teacher promote a strong community of practice (NTS 1f, 1g).</p> <p>1.3 Discuss and relate the concept of community of Practice to the various TVET domains (NTS 3a, 3c and 3e).</p> <p>1.4 Identify other areas of community of practice that will enhance their teaching.</p> <p><i>E.g.</i> <i>Professional TVET Associations such as:</i> <i>a) Ghana Art Teachers Association (GATA)</i> <i>b) Ghana Home Economics Association (GHEA)</i> <i>c) Agriculture Educator and Trainers Association of Ghana (EATAG)</i> <i>d) Ghana National Association of Teachers (GNAT), etc.</i> (NTS 3m, 3n and 3o).</p>	
<p>Give regard for misconceptions and stereotypes, GESI, ICT, 21st century skills, etc.</p>	<p>1.3 Identify possible misconceptions and stereotypes related to their various TVET lessons for the week (NTS 1a, 2e, 2f and 3m).</p> <p><i>E.g.</i> <i>Lesson topic for the week: Tools and materials</i> <i>Misconceptions</i> <i>a) Females cannot operate tractors and other farm equipment</i> <i>b) SEN learners cannot operate machines, etc.</i></p> <p>1.7 Discuss possible ways of mitigating these misconceptions and stereotypes in a TVET classroom using the concept of community of practice (NTS 1a, 2c, 2e, 2f, 3e and 3m).</p> <p><i>E.g.</i> <i>a) Invite a female machine operator or a machine operator with SEN as role models and resource persons to interact with learners to dispel the misconception.</i> <i>b) Take learners on an educational trip to a TVET enterprise to see at first-hand how females and persons with disability have overcome such stereotypes in real life situations, etc.</i></p> <p>1.8 In mixed gender groups (if feasible) list some 21st century skills (NTS 2c, 3e, 3g, 3j and 3k).</p> <p><i>E.g.</i> <i>a) Communication skills</i></p>	

	<p><i>b) Collaboration</i> <i>c) Observation and enquiry skills, etc.</i></p> <p>1.9. Identify ways of incorporating ICT in their lesson (NTS 3j). <i>E.g.</i> <i>a) Surf open educational resources (OERs) and other sources from the Internet for tools and how they are operated</i> <i>b) Simulate using smartboard and other ICT tools</i></p> <p>1.10 Discuss possible activities you would adopt to develop the 21st century skills in your learners (NTS 3i, 3l). <i>E.g.</i> <i>a) Hands-on actives</i> <i>b) Group discussion</i> <i>c) Role play</i> <i>d) Field trip</i></p>	
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making links to the TVET curriculum</p>	<p>2.1 Discuss samples of your lesson plans in your various TVET domains based on the 2010 SHS Syllabus and link them to the concepts of LOs and LIs*</p> <p><i>Sample Lesson Topics in the TVET: The Production Process in Agriculture, Home Economics, Technical Skills and Visual Art.</i></p> <p>Agricultural Science <i>Sub-topic: Tools and Materials in Agriculture.</i></p> <p>Home Economics <i>Sub-topic: Tools and Materials in Home Economics.</i></p> <p>Technical Skills <i>Sub-topic: Tools and Materials Technical Drawing.</i></p> <p>Visual Art <i>Sub-topic: Tools and Materials in Picture Making (NTS 1a, 1e and 3a).</i></p> <p>a) Lesson Objectives: <i>By the end of the lesson learners will be able to;</i></p> <ol style="list-style-type: none"> <i>List some tools and materials for Agriculture, Home Economics, Technical Skills and Visual Art</i> <i>demonstrate the proper use of simple tools in Agriculture, Home Economics, Technical Skills and Visual Art</i> <i>describe how basic tools and materials in Agriculture, Home Economics, Technical Skills and Visual Art can be maintained and preserved</i> <i>formulate simple safety rules in the use of tools and materials in Agriculture, Home Economics, Technical and Visual Art, etc.</i> 	20 min

	<p>b) Core Activities:</p> <ol style="list-style-type: none"> Guide learners to list basic tools and materials in Agriculture, Home Economics, Technical and Visual Art Demonstrate or simulate the use of basic tools in Agriculture, Home Economics, Technical Skills and Visual Art using hands-on activity, smart board, YouTube videos or pre-recorded videos, etc. Assist learners to try their hands at operating some basic tools using basic instructional guides like flowchart, spidergram, etc. Guide learners to formulate simple safety rules for the use, maintenance and preservation of tools and materials. <p>c) Evaluation: Use question and answer, concept mapping, etc., to review the lesson.</p> <p><i>*Tease out the learning outcomes and the learning indicators from the sample lesson plans outline.</i></p> <p>2.1 Tease out the LOs and LIs from their sample lessons and compare them with the objectives.</p> <p><i>LO: Demonstrate the appropriate use of tools and materials in Agriculture, Home Economics Technical Skills and Visual Art.</i></p> <p><i>LI 1 List the tools and materials in Visual Art, Technical Skills, Home Economics, and Agriculture</i></p> <p><i>LI 2 State the uses of tools and materials in Visual Art, Technical Skills, Home Economics, and Agriculture</i></p>	
<p>3. Teaching, learning and assessment</p> <p>➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification</p> <p>➤ Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum</p> <p>➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills</p>	<p>3.1 Identify gaps in your lesson plans. <i>E.g.</i> <i>Possible gaps:</i></p> <ol style="list-style-type: none"> <i>Inadequate teaching and learning resources.</i> <i>Non availability of workshops, model farms, kitchen, etc.</i> <p>3.2 Suggest ways you can apply the concept of community of practice to resolve the possible gaps in their lesson plans (NTS 3a, 3b, 3c and 3d). <i>Possible Solutions:</i></p> <ol style="list-style-type: none"> <i>field trip to workshops in town to observe the real uses of tools and materials.</i> <i>use local experts in your community of practice as resource person etc. (NTS 3a, 3b, 3c and 3d).</i> <p>3.3 Suggest alternative ways of delivering the sample lessons (NTS 3e, 3g).</p>	30 mins

<p>➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning</p> <p>➤ Resources:</p> <p>➤ Links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used.</p> <p>➤ Consideration needs to be given to local availability and guidance on any power point presentations, TLM or other resources which need to be developed to support learning</p>	<p><i>E.g. Use of:</i></p> <p><i>a) Video with discussion,</i></p> <p><i>b) Extended learning</i></p> <p><i>c) Demonstration or simulation etc.</i></p> <p>3.4 Review your sample lesson plans to identify activities that promote GESI responsiveness (NTS 3f, 3m).</p> <p><i>E.g.</i></p> <p><i>a) Classroom arrangement to facilitate effective learners' interaction</i></p> <p><i>b) Mixed ability/gender groupings to facilitate collaboration among learners</i></p> <p><i>c) Non-stereotype role-play to encourage all learners including SEN to participate in the learning process, etc.</i></p> <p>3.5 Discuss how the session is linked to the use of formative assessment tools and practices (NTS 3k, 3p).</p> <p><i>E.g.</i></p> <p><i>a) Assessment for learning</i></p> <p><i>b) Assessment as learning</i></p> <p>3.6 In groups, suggest other authentic assessment methods that could be used in the sample lesson (NTS 3k, 3p).</p> <p><i>E.g.</i></p> <p><i>a) Self-assessment</i></p> <p><i>b) Peer-assessment</i></p> <p><i>c) Jury, etc. (NTS 3k, 3p).</i></p> <p>3.7 Discuss how the lesson makes use of ICT resources to support relevant activities in the sample lesson (NTS 3g, 3j).</p> <p><i>E.g.</i></p> <p><i>a) Pre-recorded videos</i></p> <p><i>b) Photographs</i></p> <p><i>c) OERs/internet facilities</i></p> <p><i>d) Projectors</i></p> <p>3.8 Model a teaching activity sample lesson in any of the TVET domains taking due cognizance of the concept of community of practice (NTS 1d).</p> <p>(Extension Activity)</p>	
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<p>4. Evaluation and review of session:</p> <ul style="list-style-type: none"> ➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification ➤ Noting that teachers need to identify critical friends to observe lessons and report at next session 	<p>4.1 Reflect and brain-write what you have learnt in the session (NTS 1a, 1b and 1f).</p> <p>4.2 Share with the larger group (NTS 1e).</p> <p>4.3 Identify a critical friend to observe you in teaching your lessons in relation to PLC Session 5 and provide feedback at the next PLC session (NTS 1a, 1e and 3I).</p> <p>4.4 Read Session 6 from the PLC Handbook in preparation for the next session (NTS 3b).</p>	<p>15 mins</p>
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TVET PLC Session 6: Knowledge of Educational Frameworks and Curriculum.

TVET Domains:

1. Agriculture
2. Home Economics
3. Technical Skills
4. Visual Art

	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
<p>1. Review of previous session and introduction to new session</p> <p>NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson.</p> <p>NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session</p>	<p>1.1 Either use the story of the 'Friendship of the Elephant and the mosquito' as an ice breaker or give an ice breaker related to the topic</p> <p>The friendship of the Elephant and the Mosquito</p> <p>Long ago, the elephant and the mosquito were very good friends. They went to every place together.</p> <p>One hot afternoon, they decided to go fishing to while away the time. After spending the whole afternoon without a catch, the elephant eventually had one.</p> <p>With great joy and excitement, he shouted out to his friend the mosquito, '<i>Ko Mosquito, I have caught a big fish</i>'.</p> <p>The mosquito who was then busy chasing some humans for a bite, replied his friend the elephant, '<i>really?</i>' '<i>Ko Elephant, is your catch as big as my leg?</i>'</p> <p>The elephant was dumbfounded and angered at the mosquito's sense of size. 'How could I call a thing as small as your leg, which I can't even see, as big?' 'What a disgusting description', queried the Elephant. A hot argument then ensued between them which eventually broke their long-time friendship,</p> <p>Ask teachers to:</p> <ol style="list-style-type: none"> a) <i>Identify the concept of 'big' and small' as was seen by the mosquito and the elephant</i> b) <i>Speak to the danger of limiting one's judgement to only one's horizon?</i> c) <i>Suggest how the two friends could have learnt from each other?</i> <p>1.2 Share any successes and challenges you had in your last lesson last week (NTS 1a, 1e).</p> <p>1.3 Read NTS 2a, 2b, 2c and 2d on the Knowledge of Educational Frameworks and Curriculum and tease out the learning outcomes (LOs) and learning indicators (LIs) of the session and compare these with the LOs and LIs listed below.</p> <p>LO 1: Demonstrate knowledge and understanding of the secondary school curriculum and its learning outcomes.</p>	25 mins

	<p>LI 1.1 State the pedagogies prescribed for the delivery of the secondary school curriculum.</p> <p>LI 1.2 Discuss the implication(s) of the prescribed pedagogies in LI 2.2 on teaching and learning.</p> <p>LI 1.3 Give examples of learning outcomes in any subject area.</p> <p>LO 2: Exhibit content knowledge, pedagogical knowledge and pedagogical content knowledge for the school and grade taught</p> <p>LI 2.1 Explain the concept of:</p> <ol style="list-style-type: none"> Content knowledge (CK) Pedagogical knowledge (PK) Pedagogical content knowledge (PCK) <p>LI 2.2 Explain the relationship between the three concepts as in a, b, and c.</p> <p>LI 2.3 Describe how pedagogical content knowledge will help in lesson preparation and delivery (NTS 2b, 2c).</p> <p>1.4 Identify and discuss how TVET knowledge and skills (as it relates to the various domains) are articulated within the Educational Frameworks and Curriculum (NTS 1a, 2b and 2d).</p> <p><i>E.g.</i></p> <ol style="list-style-type: none"> <i>TVET domains concentrate on hands-on activities</i> <i>TVET curriculum promotes inter domain activities</i> <i>Assessment of TVET activities is based on competencies</i> <p>1.5 Ask teachers to explain the concept of:</p> <ol style="list-style-type: none"> Content knowledge (CK) Pedagogical knowledge (PK) Pedagogical content knowledge (PCK) <p><i>E.g.</i></p> <ol style="list-style-type: none"> <i>CK describes knowledge of subject matter</i> <i>PK describes how the content can be taught</i> <p>1.2 Describe how pedagogical content knowledge will help in lesson preparation and delivery (NTS 2b, 2c).</p> <p><i>E.g.</i></p> <ol style="list-style-type: none"> <i>CK helps the teacher to present same aspects of the content in different ways to support differentiation</i> <i>CK allows the teacher to get learners to work on content before the lesson</i> 	
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<p>Give regard for misconceptions and stereotypes, GESI, ICT, 21st century skills, etc.</p>	<p>1.7 Identify possible misconceptions and stereotypes in the various TVET lesson topics for the week (NTS 2f, 3f and 3m). <i>E.g.</i> <i>Lesson Topic: Career Opportunities in:</i> <i>a) Agriculture</i> <i>b) Home Economics</i> <i>c) Technical Skills</i> <i>d) Visual art</i></p> <p><i>Possible misconceptions and stereotypes</i> <i>a) Agriculture careers are not a profession for learned people.</i> <i>b) Home Economics: career opportunities are reserved for females</i> <i>c) Technical Skills: Persons with disability cannot go into Technical Skills careers.</i></p> <p>1.8 Discuss possible ways to mitigate these misconceptions and stereotypes in TVET (NTS 1a, 2f, 3a, 3g, 2j and 3e). <i>E.g.</i> <i>a) Invite role models/resource persons that have overcome these stereotypes and have achieved successes in the TVET domains in the community</i> <i>b) Use a pre-recorded videos of persons who have defied these stereotypes and have achieved successes in the society or</i> <i>c) Do a community walk to expose learners to the contribution of TVET to the society</i></p> <p>1.9 In mixed gender groupings (if feasible) list some 21st century skills and share with the whole group (NTS 2c 3a). <i>E.g.</i> <i>communication skills, collaboration, observation and enquiry skills, digital literacy, creativity and personal development.</i></p> <p>1.10 Identify ways of incorporating ICT in your lesson (NTS 1a, 3j). <i>E.g.</i> <i>a) Surf Open Educational Resources (OERs) and other Internet sources for information on knowledge of educational frameworks and curriculum.</i> <i>b) Teach using PowerPoint presentations</i> <i>c) Employ computer software such AutoCAD, Photoshop, Coral Draw, Paint, etc.</i></p>	
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	<p>1.11 Discuss possible activities you would adopt to develop the 21st century skills in their learners such as communication skills, collaboration, observation and enquiry skills, digital literacy, creativity and personal development skills (NTS 3e, 3h and 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Learners to do group PowerPoint presentations to facilitate digital literacy, collaborative skills, etc.</i> <i>b) Project and research to encourage observation, inquiry skills, personal development skills, etc.</i> <i>c) Role-play to develop leadership</i> 	
<p>2 Planning for teaching, learning and assessment activities for the lesson/s making links to the TVET curriculum</p>	<p>2.1 Discuss samples of your lesson plans in your various TVET domains based on the 2010 SHS syllabus and link them to the concept of Knowledge of Educational Frameworks and Curriculum*.</p> <p>Sample Lesson Topics in the TVET domain: Topic: Scope and importance of: Agriculture, Home Economics, Technical Skills and Visual Art.</p> <p>Sub-topic: Career opportunities in Agriculture, Home Economics, Technical Skills and Visual Art.</p> <p>a) Objectives for the lesson: <i>By the end of the lesson, the learner will be able to:</i></p> <ul style="list-style-type: none"> <i>i. Mention at least five career opportunities in Agriculture, Technical skills, Home Economics, and Visual Art</i> <i>ii. List the qualifications needed for entering into the career opportunities mentioned in i. above</i> <i>iii. State their career preferences.</i> <p>b) Core Activities</p> <ul style="list-style-type: none"> <i>i. Surf OERs and other sources on the Internet to discover career opportunities in Agriculture, Home Economics, Technical Skills and Visual Art</i> <i>ii. Discuss qualifications needed for assessing career opportunities in Agriculture, Home Economics, Technical Skills and Visual Art</i> <i>iii. Invite a career expert in TVET to interact with learners</i> <i>iv. Discuss the career preferences of learners in relation to their capabilities and desires.</i> <p>c) Evaluation: <i>Use question and answers to evaluate the lesson</i></p> <p><i>*Teachers would be guided to tease out the learning outcomes and learning indicators from sample lesson plan</i></p> <p>2.8 Tease out the LOs and the LIs from your sample lesson plans.</p>	20 mins

	<p><i>E.g.</i> <i>LO: Demonstrate Knowledge and understanding of the different career opportunities in Agriculture, Technical skills, Home Economics, and Visual Art.</i></p> <p><i>LI 1.1 Mention at least five career opportunities in Agriculture, Home Economics, Technical skills and Visual Art.</i></p> <p><i>LI 1.2 Discuss the requirements that are needed for the various career opportunities in Agriculture, Home Economics, Technical skills and Visual Art.</i></p>	
<p>3 Teaching, learning and assessment</p> <p>➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification</p> <p>➤ Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum</p> <p>➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills</p> <p>➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning</p> <p>➤ Resources:</p> <p>➤ Links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical</p>	<p>3.1 Identify gaps in your lesson plans (if any) and use your knowledge of the secondary school curriculum to resolve them (NTS 1a, 1c).</p> <p><i>E.g.</i> <i>Possible gaps:</i> <i>a) Unsuitable teaching methods</i> <i>b) Inadequate teaching and learning resources, etc.</i></p> <p><i>Possible Solution:</i> <i>a) Make efficient use of pedagogical content knowledge to select appropriate methods of teaching, e.g. Drama or role-play, video show to depict various career opportunities,</i> <i>b) Use field trips to relevant industries in town or beyond to observe the real application of the careers.</i></p> <p>3.2 Suggest alternative ways of delivering the sample lessons (NTS 3f, 3j).</p> <p><i>E.g., use of:</i> <i>a) Pre-recorded video to show variety of career opportunities</i> <i>b) Library or/and Internet research to read about career opportunities</i> <i>b) Field trips to see at first hand career opportunities</i> <i>c) Community walk to expose learners to career opportunities in their immediate community</i></p> <p>3.3 Review your sample lesson plans to identify activities that promote GESI responsiveness (NTS 2f, 3f, 3g and 3h).</p> <p><i>E.g.</i> <i>a) Classroom arrangement to facilitate better learner to learner interaction as well as easy teacher assess to learners</i> <i>b) Mixed ability and/or gender groupings to ensure GESI compliance</i> <i>c) Non-stereotype role-plays to overcome limitations placed on learners due to misconceptions and stereotypes</i></p>	30 mins

<p>resources, power point; how they should be used.</p> <p>➤ Consideration needs to be given to local availability guidance on any power point presentations, TLM or other resources which need to be developed to support learning</p>	<p><i>d) Using positive feedback to learners especially female and SEN learners to encourage them to do their best in all circumstances.</i></p> <p>3.4 Discuss how the session is linked to the use of formative assessment tools and practices.</p> <p><i>a) Learners to self and peer review or assess their work</i> <i>b) Seminar to solicit wider community views and appreciation of learners' concept of TVET career opportunities and their preferred choices.</i></p> <p>3.5 In groups, suggest authentic summative assessment methods that could be used in the sample lesson (NTS 2e, 3k, 3l and 3o).</p> <p><i>E.g.</i></p> <p><i>a) Develop a check list indicating stages of the activity</i> <i>b) Identify skill(s) that must be acquired</i> <i>c) Determine scores for each stage depending on the complexity of the skill</i> <i>d) Completed artefact must be scored on the following criteria:</i></p> <p><i>i. Evidence of Preliminary/idea development process</i> <i>ii. Appropriate use of tools/material</i> <i>iii. Draft/craftsmanship (Composition-appropriate use of principles and elements of design, Colour and tone, etc. for 2-D works)</i> <i>iv. Originality</i></p> <p>3.6 Discuss how the use of ICT resources to support the delivery of the TVET curriculum (NTS 3j).</p> <p><i>E.g.</i></p> <p><i>a) Pre-recorded videos that bring near life experience of career opportunities to learners</i> <i>b) Photographs of relevant scenes also provide quite vivid picture of what to expect in real life as far as TVET career opportunities are concerned</i> <i>c) OERs/Internet facilities provide a wider range of possibilities for the learner</i></p> <p>3.7 Model a teaching activity in the sample lesson in any of the TVET domains (NTS 1c, 1f and 3a).</p> <p>(Extension Activity)</p>	
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<p>4 Evaluation and review of session:</p> <p>➤ Teachers need to identify critical friends to observe lessons and report at next session</p> <p>➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p>	<p>4.1 Brain-write what they have learnt in the session (<i>NTS 1a, 1b, 1e and 1f</i>).</p> <p>4.2 What they have written with the larger group (<i>NTS 1e</i>)</p> <p>4.3 Ask questions on any issue that need further clarification.</p> <p>4.4 Identify a critical friend to observe you in teaching your lessons in relation to PLC session 6 and provide feedback at the next PLC Session (<i>NTS 1a, 1e and 3l</i>).</p> <p>4.5 Read Session 7 from the PLC Handbook in preparation for the next session (<i>NTS 3b</i>).</p>	<p>15 mins</p>
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TVET PLC Session 7: Knowledge of Learners.

NB. TVET Domains:

1. Agriculture
2. Home Economics
3. Technical Skills
4. Visual Art

	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
1. Review of previous session and introduction to new session NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson. NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session	<p>1.1 Share an ice breaker related to the topic.</p> <p>1.2. Share your views on the usefulness of the previous PLC sessions in your lesson delivery.</p> <p>1.3 Read NTS 2 (e and f) on the <i>Knowledge of Learners</i> of the NTS teachers to Appendix E and tease out the learning outcomes (LOs) and learning indicators (LIs) of the session and compare them with the LOs and LIs listed below (NTS 2d, 2f).</p> <p>LO 1: Demonstrate the understanding of how learners learn in diverse contexts and apply this in teaching</p> <p>LI 1.1 Identify different contexts in which learners learn.</p> <p>LI 1.2 Identify and discuss the appropriate methods of teaching learners at different developmental stages.</p> <p>LO 2: Demonstrate knowledge and skills in harmonizing and directing learners varied cultural, linguistic, socio-economic and educational backgrounds in their planning and teaching.</p> <p>LI 2.1 Identify at least four possible cultural linguistic and backgrounds found in Ghanaian Senior High Schools,</p> <p>LI 2.2 Discuss at least three learning approaches/styles that facilitates learning among learners from varied cultural, linguistic, socio-economic and educational backgrounds.</p> <p>LO 3: Demonstrate knowledge and understanding of GESI issues.</p> <p>LI 3.1 Mention at least five GESI related issues in learning.</p> <p>LI 3.2 Outline the need for incorporating GESI issues in classroom.</p>	25 mins

	<p>1.4 Show you can help learners relate concepts from the varied cultural, linguistic, socio-economic and educational backgrounds to the learning of TVET (NTS 2f). <i>E.g.</i> <i>Incorporating traditional symbols into designs</i></p> <p>1.5 Ask teachers to identify different learning styles of learners that will enhance teaching of their subjects (NTS 2e, 2f, 3e and 3g). <i>E.g.</i> <i>a) Tactile learning</i> <i>b) Visual learning</i></p> <p>1.6 Identify other related areas on knowledge of learners that will enhance the delivery of the TVET curriculum (NTS 2e, 2f and 3m). <i>E.g.</i> <i>Learner's educational background</i></p> <p>1.7 Identify at least four possible cultural and linguistic backgrounds found in Ghanaian Senior High Schools that can influence the learning of TVET subject <i>E.g.</i> <i>Learners from different cultures are exposed to different artefacts such as those in urban areas use gas stoves for cooking while those in rural areas use wood for cooking</i></p>	
<p>Give regard for misconceptions and stereotypes, GESI, ICT, 21st century skills, etc.</p>	<p>1.3 Identify possible misconceptions and stereotypes in your various TVET lesson topics for the week (NTS 3m). <i>E.g.</i> <i>Lesson Topic: Work ethics in:</i> <i>a) Agriculture</i> <i>b) Home Economics</i></p> <p><i>Possible misconceptions and stereotypes</i> <i>a) TVET is reserved for people with little intellectual endowment hence they can't set targets and attain them.</i> <i>b) TVET does not give learners good work opportunities and social status.</i></p> <p>1.4 Discuss possible ways to mitigate these misconceptions and stereotypes in TVET (NTS 3e, 3f and 3m). <i>E.g.</i> <i>a) Invite role models/resource persons that have overcome these stereotypes and have achieved successes in their TVET domains within the society</i> <i>b) Use a pre-recorded videos of persons who have defied these stereotypes and have achieve successes in the society</i></p>	

	<p>c. <i>Do community walk to expose students to the contribution of TVET to society</i></p> <p>1.5 In mixed gender groupings (if feasible) list some 21st century skills (NTS 3j). E.g. <i>communication skills, collaboration, observation and enquiry skills, digital literacy, creativity and personal development.</i></p> <p>1.6 Identify ways of incorporating ICT in your lesson (NTS 3j). E.g. <i>a) surf open educational resources (OERs) and other internet sources for information.</i> <i>b) teach using PowerPoint presentation</i> <i>c) employ computer software such AutoCAD, Photoshop, Coral Draw, Paint, etc. to teach.</i></p> <p>1.7 Discuss possible activities you would adopt to develop the 21st century skills in your learners such as communication skills, collaboration, observation and enquiry skills, digital literacy, creativity and personal development (NTS 3a, 3e, 3h and 3j). E.g. <i>a) Learners doing PowerPoint presentations in groups.</i> <i>b) Project/research</i> <i>c) Role-play</i></p>	
<p>2 Planning for teaching, learning and assessment activities for the lesson/s with links to the TVET curriculum</p>	<p>2.1 Discuss samples of your lesson plans in your various TVET domains based on the 2010 SHS Syllabus and link them to the concepts of LOs and Lis*</p> <p><i>Sample Lesson Topics in the TVET domain:</i> <i>Sub-topic: Work ethics in Agriculture Home Economics, Technical skills and Visual Art</i></p> <p>a) Objectives <i>By the end of the lesson learners will be able to;</i></p> <ol style="list-style-type: none"> <i>Explain the concept work ethics as it pertains to TVET.</i> <i>State at least four work ethics in Agriculture Home Economics, Technical skills and Visual Art.</i> <i>Discuss qualities that promote good work ethics in Agriculture Home Economics, Technical skills and Visual Art.</i> <p>b) Core activities</p> <ol style="list-style-type: none"> <i>Guide learners in groups to explain the concept of work ethics.</i> <i>Guide learners to identify and discuss in mixed ability/gender groups, what constitutes bad work ethic in TVET.</i> 	20 mins

	<p>iii. <i>Guide learners to discuss the qualities that promote good work ethics in groups.</i></p> <p>c) Evaluation</p> <p>i. <i>Evaluate the lesson by using question and answer method.</i></p> <p>ii. <i>In groups, assign learners to visit any local workshop in the community to observe their work ethics and report.</i></p> <p><i>* Tease out the learning outcomes and the learning indicators from the sample lesson plans outline.</i></p> <p><i>LO: Demonstrate Knowledge and understanding of work ethics in Agriculture, Home Economics, Technical Skills and Visual Art.</i></p> <p><i>LI 1.1 Explain work ethics in Visual Agriculture, Home Economics, Technical Skills and Visual Art</i></p> <p><i>LI 1.2 Identify and discuss qualities that promote good work ethics in Agriculture, Home Economics, Technical Skills and Visual Art.</i></p>	
<p>3 Teaching, learning and assessment</p> <p>➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification</p> <p>➤ Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum</p> <p>➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills</p> <p>➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning</p>	<p>3.1 Identify gaps in your lesson plans (if any) and use your knowledge of educational framework and curriculum to resolve them (NTS 1a, 2c, 2e and 2f).</p> <p><i>E.g.</i></p> <p><i>Possible gaps:</i></p> <p><i>a) absence of differentiated teaching/learning methods</i></p> <p><i>b) inadequate teaching and learning resources, etc.</i></p> <p><i>Possible Solution:</i></p> <p><i>a) Teachers' lesson plan should show variety of teaching and learning strategies appropriate for learners with different abilities.</i></p> <p><i>b) improvisation (use of available local tools and materials), etc.</i></p> <p>3.2 Suggest alternative ways of delivering the sample lessons (NTS 3e, 3g and 3i).</p> <p><i>E.g.</i></p> <p><i>a) Use extended learning</i></p> <p><i>b) Portfolio building, etc.</i></p> <p>3.3 Review your sample lesson plans to identify activities that promote GESI responsiveness (NTS 3f, 3l and 3m).</p> <p><i>E.g.</i></p> <p><i>a) Give opportunities for leadership roles to all learners irrespective of their gender, background or ability</i></p> <p><i>b) deliberately giving attention and support to learners with learners' difficulty</i></p>	30 mins

<p>➤ Resources:</p> <ul style="list-style-type: none"> ○ Links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. ○ Consideration needs to be given to local availability guidance on any power point presentations, TLM or other resources which need to be developed to support learning 	<p>c) Give positive feedback to all students especially those with learning difficulty</p> <p>3.4 Discuss how the unit is linked to the use of formative assessment tools and practices (NTS 3k, 3l, 3m and 3n). E.g.</p> <ul style="list-style-type: none"> a) Observation b) Scrap book/albums, c) Reflective journal d) Portfolio** <p>**Note: Building a TVET subject based portfolio involves the following steps:</p> <ul style="list-style-type: none"> i. Identify the variety of items that can go into a TVET portfolio <ul style="list-style-type: none"> ▪ Sketches ▪ Finished 2D/3D works ▪ Scrap book ▪ Cut-out articles from magazines/newspapers, etc. ▪ Written projects/assignments ▪ Downloads from the internet ▪ Power point presentations ▪ Written Reports ▪ Photographs/videos, etc. ii. Decide the appropriate form of the portfolio. Portfolios can be either soft as in e-portfolios or hard portfolios. iii. Portfolios should not exist only for assessment. They constitute a private library for the learner, now and the future iv. For Visual Art, it is a necessary requirement for the scoring of any practical project work <p>3.5 Suggest other authentic assessment methods that could be used in the sample lesson. (NTS 3k, 3l, 3m and 3n). E.g.</p> <ul style="list-style-type: none"> a) Observation b) Question and Answer c) Reflective journals, <p>3.6 Discuss how the lesson can make use of ICT resources to support relevant activities in the NTS (NTS 3j). E.g. pre-recorded videos, photographs of some professionals, OERs/internet facilities, projectors, etc.</p> <p>3.7 Model a teaching activity in the sample lesson in any of the TVET using ICT. (Extension Activity)</p>	
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<p>4 Evaluation and review of session:</p> <ul style="list-style-type: none"> ➤ Teachers need to identify critical friends to observe lessons and report at next session ➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification 	<p>4.1 Brain write two key ideas you are taking away from the lesson.</p> <p>4.2 Share with the larger group</p> <p>4.3 Raise any unresolved issues for clarification</p> <p>4.4 Identify a critical friend to observe you in teaching your lessons in relation to PLC Session 7 and provide feedback at the next PLC session.</p> <p>4.5 Read Session 8 from the PLC Handbook in preparation for the next session.</p>	<p>15 mins</p>
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TVET PLC Session 8: Managing the Learning Environment

NB. TVET Domain:

1. Agriculture
2. Home Economics
3. Technical Skills
4. Visual Art

	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
<p>1. Review of previous session and introduction to new session</p> <p>NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson.</p> <p>NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session</p>	<p>1.1 Participate in the ice breaker activities by reading this: yy u are, yy u be. I ci, u are yy 4 me.</p> <p>1.2 Reflect and share your successes and challenge you had in your last week lesson delivery.</p> <p>1.3 Read NTS 3a, 3b and 3c of and tease out the learning outcomes (LOs) and learning indicators (LIs) of the session for a discussion of the relationship between the LOs and the LI with colleagues (NTS 3a, 3b and 3c).</p> <p>LO 1: Demonstrate the ability to plan and deliver (varied and challenging) lessons that achieved the intended learning outcomes.</p> <p>LI 1.1 Exhibit a sample plan or forecast that indicate a long-term and short-term (termly, weekly and daily) plans showing clearly how learners are to progress within the context of the prescribed Senior High School curriculum and its expected learning outcomes.</p> <p>LI 1.2 Describe how varied teaching and assessment strategies as well as ICT and GESI issues can be integrated in the teaching and learning process in the Senior High Schools.</p> <p>LO 2: Demonstrate use of reflective practice and small-scale action research findings to improve teaching and learning.</p> <p>LI 2.1 Identify at least one area to improve on each term.</p> <p>LI 2.2 Provide a gender responsive action plan to guide practice,</p> <p>LI 2.3 Exhibit of a reflective journal showing the benefits of conducting lesson evaluation by teachers and learners.</p> <p>LO 3: Exhibit the ability to create a safe, encouraging learning environment.</p>	25 mins

	<p>LI 3.1 Identify the elements of a safe and encouraging learning environment.</p> <p>LI 3.2 Establish clear classroom rules and routine to promote positive behaviour among learners.</p> <p>1.4 Discuss how TVET concepts can be employed in managing the learning environment. E.g. <i>Adaptation of safety rules as in the studios, workshops, farms and in the laboratories into all learning environment</i></p> <p>1.5 identify other related areas of managing the learning environment that will enhance the teaching and learning of TVET. E.g. <i>Organizing:</i> <i>a. jury sessions to encourage peer assessment</i> <i>b. exhibition to promote self-assessment among learners</i></p>	
<p>Give regard for misconceptions, stereotypes, GESI, ICT, 21st century skills, etc.</p>	<p>1.6 In your TVET domain groups identify possible misconceptions and stereotypes in your various lesson topics for the week. E.g. <i>Lesson Topic:</i> <i>a) Agriculture: (General Management Practices of a Farm (Plant/animal), Machinery and Implements)</i> <i>b) Home Economics: Kitchen Safety and Sanitation</i> <i>c) Technical Skills: Health Safety and Protection</i> <i>d) Visual art: Studio Maintenance</i></p> <p><i>Possible misconceptions and stereotypes</i></p> <ul style="list-style-type: none"> <i>i. Agriculture: care for agricultural tools, implements, animals and plants are for males and difficult for females.</i> <i>ii. Home Economics: cleaning and care for the Kitchen is for females not males</i> <i>iii. Technical skills: wearing of boots and other protective gears are for males and not suitable and appropriate for learners with SEN.</i> <i>iv. Visual Art: Visual art learners are dirty, etc.</i> <p>1.7 Discuss possible ways to mitigate these misconceptions and stereotypes in TVET. E.g. <i>a) Invite a role model who has achieved success in their respective fields of TVET (either female, male or/and person with SEN) as resource persons to interact with learners as a way of helping learners to overcome these stereotypes in Agriculture, Home Economics, and Visual Art</i></p>	

	<p><i>b. Prepare and use pre-recorded videos of persons who have defied these stereotypes and have achieve successes in various TVET production activities within the local community and beyond</i></p> <p>1.8 In mixed ability/gender groups (where possible) discuss the 21st century skills that could be developed among learners in relation to their lessons for the week. <i>E.g., communication skills, collaboration, observation and enquiry skills, digital literacy, creativity and personal development.</i></p> <p>1.9 Brainstorm ways of incorporating ICT into your lesson. <i>E.g.</i></p> <ul style="list-style-type: none"> <i>a. Video show of some workshops/studios/kitchens and farms</i> <i>b. Surf open educational resources (OERs) and other internet sources for information on safety rules in workshops, studios, kitchens and farms</i> <i>c. Use of PowerPoint presentation to facilitate the teaching and lessons of the topic.</i> <p>1.10 Discuss possible activities you would adopt to develop 21st century skills in their learners such as creativity, communication skills, collaboration, observation and enquiry skills, digital literacy and personal development skills. <i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Group learners into mixed ability groups to clean workshops, studios, kitchens and farms</i> <i>b) engage technology to monitor learners' behaviour in the workshops, studios, kitchens and farms, etc.</i> 	
<p>2. Planning for teaching, learning and assessment activities for the lesson/s making links to the TVET curriculum</p>	<p>2.1 In your TVET domain groups discuss your sample lesson plans based on the 2010 SHS Syllabus and link them to the concepts of LOs and Lis*</p> <p><i>Sample Lesson Topics in the TVET domains for the week:</i> <i>Lesson Topic:</i></p> <ul style="list-style-type: none"> <i>a) Agriculture: (General Management Practices of a Farm (Plant/animal/Machinery and Implements)</i> <i>b) Home Economics: Kitchen Safety and Sanitation)</i> <i>c) Technical Skills: Health Safety and Protection</i> <i>d) Visual art: Studio Maintenance</i> <p>a) Objectives: <i>By the end of the lesson, learners will be able to:</i></p> <ul style="list-style-type: none"> <i>i. State how to ensure safety and protection practices on the farm (as regards plant and animal machinery and implements), kitchen, laboratories,</i> 	20 mins

	<p><i>workshops and studios before, during and after work,</i></p> <p><i>E.g.</i></p> <p>Before work: <i>Clean workshops, laboratories. Studios, etc. before the start of work making sure the environment is free of accident causing items such as water, oil, cutting and piecing object on the floor etc.</i></p> <p>During Work: <i>Use appropriate tools in the right way(s)</i></p> <p>After work:</p> <ul style="list-style-type: none"> <i>ii. Clean floors and tools, pack and cover equipment, tools and materials at their appropriate places, switch off machines and electrical gadgets, close windows, doors and cabinets, etc.</i> <i>iii. Demonstrate through hands-on activity safety and protection practices on the farms, kitchens, laboratories, workshops and studios,</i> <i>iv. Develop at least five safety rules on the farms, kitchens, laboratories, workshops and studios, etc.</i> <p>Core activities:</p> <ul style="list-style-type: none"> <i>i. Guide learners to state five safety rules on the farm, kitchen, laboratories, workshops and studios,</i> <i>ii. Demonstrate through simulation/demonstration basic safety and protection practices on the farms kitchens, laboratories, workshops and studios for learners to observe.</i> <i>iii. Guide learners to surf OERs and other sources on the Internet to discover other safety and protection practices elsewhere.</i> <i>iv. Guide learners to try their hands on basic safety and protection practices on the farms, kitchens, laboratories, workshops and studios</i> <i>v. Put learners in mixed ability/gender groups (where possible) to formulate simple safety and protection rules for the farms, kitchens, laboratories, workshops and studios.</i> <p>Evaluation:</p> <ul style="list-style-type: none"> <i>i. Evaluate learners progress by providing check lists for learners to use to re-enact basic safety and protection practices on farms, kitchens, laboratories, workshops and studios, etc.</i> <i>ii. Organise a jury session for learners to assess themselves and their peers' work.</i> 	
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	<p><i>* Tease out the learning outcomes and the learning indicators from the sample lesson plans outline.</i></p> <p>2.2 Tease out the Los and Lis from the sample lesson.</p> <p><i>LO: Demonstrate Knowledge and understanding of the different learning environments in the respective TVET domains</i></p> <p><i>LI 1.1 State at least 2 learning environments in your TVET domain,</i></p> <p><i>LI 1.2: Discuss how to enforce safety rules in the different learning environments</i></p>	
<p>3. Teaching, learning and assessment</p> <ul style="list-style-type: none"> ➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification ➤ Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum ➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills ➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning ➤ Resources: <ul style="list-style-type: none"> ○ Links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, 	<p>3.1 Discuss how the NTS 3a, 3b and 3c) i.e. Managing the Learning Environment will help to promote teaching and learning of TVET in the Senior High Schools.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) ensure safety of all learners</i> <i>b) promote responsible behaviour among teachers and learners in the learning environment</i> <i>c) facilitate inclusivity and tolerance of all learners and their peculiarities during the learning process, etc.</i> <p>3.2 Identify gaps in your lesson plans (if any) and use their knowledge of educational framework and curriculum to resolve them.</p> <p><i>E.g.</i></p> <p><i>Possible gaps:</i></p> <ul style="list-style-type: none"> <i>a) Lack of regulations to guide learners and teachers' activities in the studios, kitchens, workshops or in the farms</i> <i>b) Absence of attendants at the studios, kitchens, workshops and in the farms to assist the teacher</i> <p><i>Possible Solution:</i></p> <ul style="list-style-type: none"> <i>a) Develop safety rules in the studios, kitchens, workshops or in the farms together with learners</i> <i>b) Train learners to assist you in the studios, kitchens, workshops or in the farms where it will be feasible</i> <p>3.3 Suggest alternative ways of delivering the sample lessons.</p> <p><i>E.g., use of:</i></p> <ul style="list-style-type: none"> <i>a) work-based learning to provides opportunity for learners to engage in Hands-on-activities in maintain and cleaning the studios, kitchens, workshops or in the farms</i> <i>b) pre-recorded video to show how variety of TVET studios, kitchens, workshops or farms safety rules apply</i> 	30 mins

<p>YouTube, physical resources, power point; how they should be used.</p> <ul style="list-style-type: none"> ○ Consideration needs to be given to local availability guidance on any power point presentations, TLM or other resources which need to be developed to support learning 	<p><i>c) library/internet resources and mass media discussions on safety practices in the studios, kitchens, workshops and the farms</i></p> <p>3.4 Review your sample lesson plans to identify activities that promote GESI responsiveness, <i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) classroom arrangement to promote group and teamwork among learners of different socio-economic and religious background.</i> <i>b) mixed ability/gender groupings to facilitate the development of collaborative skills.</i> <i>c) non-stereotype role-play to dispel social stereotyping among learning</i> <p>3.5 In your domain groups (where possible) to suggest authentic assessment methods that could be used in the sample lesson. <i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) jury to promote self-appraisal among learners.</i> <i>b) observation and hands-on-activity in safety, protection and cleaning of studios, kitchens, workshops and farms, etc.</i> <p>3.6 Discuss how the session makes use of resources to support relevant activities in the NTS. <i>E.g.</i> <i>Adaptation of empty/available spaces for model farms, kitchens, workshops and studios.</i></p> <p>3.7 Model a sample lesson in any of the TVET domains taking due cognizance of the learning environment. (Extension Activity)</p>	
<p>4 Evaluation and review of session:</p> <ul style="list-style-type: none"> ➤ Teachers need to identify critical friends to observe lessons and report at next session ➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification 	<p>4.1 In your TVET domain, write and share what you have learnt in the session on a flip chat</p> <p>4.2 Ask questions on any issue that need further clarification.</p> <p>4.3 Invite a critical friend to observe you in teaching your lessons in relation to PLC Session 8 and provide feedback at the next PLC session.</p> <p>4.4 Read Session 9 from the PLC Handbook in preparation for the next session.</p>	<p>15 mins</p>

TVET PLC Session 9: Teaching and Learning

NB. TVET Domain:

1. Agriculture
2. Home Economics
3. Technical Skills
4. Visual Art

	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
<p>➤ Review of previous session and introduction to new session</p> <p>NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson.</p> <p>NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session</p>	<p>1.1 Give an ice breaker related to the topic.</p> <p>1.1 Share some of the discoveries in you last week's lesson delivery.</p> <p>1.3 Read NTS 3d, 3e, 3f, 3g, 3h, 3i, 3j, 3k and 3l of the NTS under the sub-domain <i>Teaching and Learning</i>, tease out possible learning outcomes (LOs) and learning indicators (LIs) for the session and compare them with the LOs and Lis listed below.</p> <p>LO 1: Demonstrate understanding and skill in using variety of teaching strategies that encourages learner participation and critical thinking.</p> <p>LI 1.1 identify at least four teaching strategies in teaching and learning.</p> <p>LI 1.2 Explain how teaching strategies will help learner participation and critical thinking. ref. https://flippedlearning.org</p> <p>LO 2: Demonstrate the skill of involving all learners including girls and SEN learners.</p> <p>LI 2.1 Explain how learners especially girls and SEN can be involved in teaching and learning.</p> <p>LI 2.2 Identify at least five teaching and learning resources that could help learners especially girls and SEN to ensure their progression.</p> <p>LO 3: Demonstrate knowledge and skill of using a variety of teaching and learning resources including ICT that enhance learning.</p>	25 mins

	<p>LI 3.1 Identify at least five teaching and learning resources.</p> <p>LI 3.2 Examine how the teaching and learning resources including ICT will enhance learning.</p> <p>1.4 Identify and discuss how TVET knowledge (as it relates the various domains) is articulated within teaching and learning activities in the SHS syllabus (NTS 2a, 2e and 3h).</p> <p><i>E.g.</i></p> <p><i>The 2010 SHS Syllabus in the various TVET domains is designed to equip learners with scientific knowledge and practical skills to make them ready for higher education and the job market.</i></p> <p>1.5 Identify specific teaching and learning strategies that enhance the delivery of TVET lessons (NTS 2c, 2d, 2e).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Competency Based Training (CBT)</i> <i>b) Experiments</i> <i>c) educational field trip</i> <i>d) Simulated games, etc.</i> 	
<p>Give regard for misconceptions, stereotypes, GESI, ICT, 21st century skills, etc.</p>	<p>1.6 Identify possible misconceptions and stereotypes in your TVET lesson topics for the week (NTS 3m).</p> <p><i>E.g.</i></p> <p><i>Lesson Topic: Enterprise Management in:</i></p> <ul style="list-style-type: none"> <i>a) Agriculture</i> <i>b) Home Economics</i> <i>c) Technical Skills</i> <i>d) Visual art</i> <p><i>Possible misconceptions and stereotypes</i></p> <ul style="list-style-type: none"> <i>a) Home Economics: One requires a lot of money to start up a business.</i> <i>b) Visual Art: it is difficult to break into the existing business environment.</i> <i>c) Agriculture: You have to start with mechanized farming to be able to make profit.</i> <i>d) You need sophisticated machinery in Technical skills careers.</i> <p>1.7 Discuss possible ways to mitigate these misconceptions and stereotypes in TVET (NTS 3e, 3f and 3m).</p>	

	<p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Invite someone who has nurtured and grown a business to share his experience with students.</i> <i>b) Educate students on business incubation.</i> <i>c) c. Do community walk to expose students to the contribution of TVET to society</i> <i>d) Organize field trips for students to visit the business incubation centers.</i> <p>1.8 In your TVET domains list some 21st century skills.</p> <p><i>E.g.</i></p> <p><i>communication skills, taking calculated risk, selling, observation and enquiry skills, creativity, strategies, personal development and leadership skills (NTS 3j).</i></p> <p>1.9. Identify ways of incorporating ICT in your lesson (NTS 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Analyze labels to get business ideas.</i> <i>b) Surf open educational resources (OERs) and other internet sources for information.</i> <i>c) Teach using power Point presentation.</i> <i>d) Employ computer software such AutoCAD, Photoshop, Coral Draw, Paint, etc.</i> <p>1.10 Discuss possible activities you would adopt to develop the 21st century skills in your learners such as <i>communication skills, collaboration, observation and enquiry skills, digital literacy, creativity and personal development (NTS 3a, 3e, 3h and 3j).</i></p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Group students to do PowerPoint presentation.</i> <i>b) Project/research</i> <i>c) Role-play</i> <i>d) Fieldtrip</i> <i>e) panel presentation</i> 	
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<p>2 Planning for teaching, learning and assessment activities for the lesson/s with links to the TVET curriculum</p>	<p>2.1 Discuss samples of their lesson plans in their various TVET domains and use their knowledge in teaching and learning to deliver the lessons</p> <p><i>Sample Lesson Topics in the TVET domain:</i> <i>Topic: Entrepreneurial skills</i> <i>Sub-topic: Enterprise Management in visual Art, Home Economics, Agriculture and Technical skills.</i></p> <p>a) Objectives <i>By the end of the lesson learners will be able to;</i></p> <ul style="list-style-type: none"> <i>i. Mention at least four business enterprises.</i> <i>ii. State at least three factors to consider when setting up business enterprise.</i> <i>iii. Identify the elements of the business plan.</i> <p>b) Core activities</p> <ul style="list-style-type: none"> <i>i. Guide learners in their groups to surf and discuss business enterprises they identified.</i> <i>ii. Guide learners to state and discuss factors to consider when setting up a business enterprise in their various groups.</i> <i>iii. In groups, guide learners to surf and discuss elements of business plans for presentation.</i> <p>c) Evaluation <i>Evaluate the lesson by using question and answer method.</i></p> <p><i>*Tease out the learning outcomes and the learning indicators from the sample lesson plans outline.</i></p> <p>2.2 Ask teachers to tease LOs and LIs from sample lessons</p> <p><i>E.g.</i> <i>LO: Exhibit the essential skills of managing Enterprise in TVET.</i></p> <p><i>LI 1.1 Mention at least four TVET based business enterprises.</i></p> <p><i>LI 1.2 State at least three factors to consider when setting up a TVET based business enterprise.</i></p> <p><i>LI 1.3 Identify the elements of the business plan</i></p>	<p>20 mins</p>
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<p>3 Teaching, learning and assessment</p> <ul style="list-style-type: none"> ➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification ➤ Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum ➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills ➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning ➤ Resources: <ul style="list-style-type: none"> ○ Links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. 	<p>3.1 Identify gaps in your lesson plans (if any) and use your knowledge of teaching and learning to resolve them (NTS 2e, 2f and 2j)..</p> <p><i>E.g.</i></p> <p><i>Possible gaps:</i></p> <ul style="list-style-type: none"> a) <i>Lack of well-established TVET enterprises in the local community.</i> b) <i>Inadequate resource persons in the field of TVET business to speak on entrepreneur issues.</i> c) <i>Inadequate ICT tools to promote teaching and learning of TVET related business skills.</i> <p><i>Possible Solution:</i></p> <ul style="list-style-type: none"> d) <i>Teachers should make creative use of available resources within the environment.</i> e) <i>Teachers should make use of basic gadgets like mobile phones and laptops to promote ICT in the absence of sophisticated equipment.</i> <p>3.2 Suggest alternative ways of delivering the sample lessons (NTS 2h, 2i and 2j).</p> <p><i>E.g., use of:</i></p> <ul style="list-style-type: none"> a) <i>pre-recorded video to show variety of enterprise management</i> b) <i>library/internet resources and discussions</i> b) <i>field trip</i> c) <i>community walk</i> d) <i>use of local or indigenous entrepreneur mentors, etc.</i> <p>3.3 Review your sample lesson plans to identify activities that promote GESI responsiveness.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> a) <i>classroom arrangement</i> b) <i>mixed ability/gender groupings</i> c) <i>non-stereotype role play</i> d) <i>using positive feedback to students especially female and SEN students.</i> <p>3.4 Discuss resources that can be used to support teaching and learning in the sample lesson NTS (NTS 3j).</p>	<p>30 mins</p>
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<ul style="list-style-type: none"> ○ Consideration needs to be given to local availability guidance on any power point presentations, TLM or other resources which need to be developed to support learning 	<p><i>E.g.</i> <i>Pre-recorded videos, photographs of some entrepreneurs, OERs/internet facilities, projectors, etc.</i></p> <p>3.5 Model a teaching activity in the sample lesson in any of the TVET domain taking due cognizance of any of the LO and LIs of the PLC session. (Extension Activity)</p>	
<p>4 Evaluation and review of session:</p> <ul style="list-style-type: none"> ➤ Teachers need to identify critical friends to observe lessons and report at next session ➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification 	<p>4.1 In pairs, share what you have learnt in this session.</p> <p>4.2 Share with the larger group</p> <p>4.3 Ask questions on any issue that need further clarification.</p> <p>4.4 Identify a critical friend to observe you in teaching your lessons in relation to PLC Session 9 and provide feedback at the next PLC session.</p> <p>4.5 Read Session 10 from the PLC Handbook in preparation for the next session.</p>	15 mins

TVET PLC Session for Topic 10: Assessment

NB. TVET Domain:

1. Agriculture
2. Home Economics
3. Technical Skills
4. Visual Art

	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
1. Review of previous session and introduction to new session NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson. NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session	<p>1.1 Give an ice breaker related to the topic.</p> <p>2.1 Share some of the discoveries in your previous week's lesson delivery.</p> <p>1.3 Read NTS 3k, 3l, 3m, 3n, 3o and 3p and tease out possible learning outcomes (LOs) and learning indicators and compare them with the LOs and Lis listed below (LIs) of the session for a.</p> <p>LO 1: Demonstrate knowledge and skill in identifying through assessment and addressing learners' learning difficulties and misconceptions.</p> <p>LI1. 1 Identify at least four learning difficulties among learners of TVET.</p> <p>LI1.2 State and discuss ways of helping learners of TVET to overcome learning difficulties and misconceptions.</p> <p>LI 1.3 Make appropriate referral of learners with learning difficulties to expertise attention.</p> <p>LO 2: Demonstrate skill in building meaningful records of learners using assessment and communicating same to the learners.</p> <p>LI 2.1 State the different types of assessment records of learners.</p> <p>LI 2.2 Keep a portfolio of students' works and progress report.</p> <p>LO 3: Demonstrate awareness of national and school level of assessment of learners</p> <p>LI 3.1 Develop assessment plan to guide assessment activities.</p>	25 mins

	<p>LI 3.2 Apply national and school-based assessments tools at the appropriate time to enhance students' performance and progress.</p> <p>LO 4: Demonstrate skill in using objective and predetermined criteria to assess TVET learners without comparing learner with learner.</p> <p>LI 4.1 Identify the different tools/instruments to use in assessing and analyzing TVET students' results.</p> <p>LI 4.2 Analyze students results objectively without comparing learner with learner to enhance learners' progress.</p> <p>1.5 identify further areas of assessment that will enhance your teaching (NTS 3k, 3p). E.g. a) Assessment as learning –self assessment, self-reflection etc. b) Assessment for learning –Portfolio, library research c) Assessment of learning- End of course project work and exhibition, etc.</p> <p>1.6 Identify other related areas of assessment that will enhance the delivery of the TVET curriculum (3i, 3n). E.g. a) observation b) jury c) peer review, etc.</p>	
<p>Give regard for misconceptions, stereotypes, GESI, ICT, 21st century skills, etc.</p>	<p>1.7 Identify possible misconceptions and stereotypes in your various TVET lesson topics for the week (NTS 3m). E.g. Lesson Topic: Project (end of course project work) in: a) Agriculture b) Home Economics c) Technical Skills d) Visual Art</p> <p>Possible misconceptions and stereotypes a) perception from learners that project works are difficult to execute. b) Teachers' perception that project works are difficult to assess.</p> <p>1.8 Discuss possible ways to mitigate these misconceptions and stereotypes in TVET (NTS 3e, 3f and 3m).</p>	

	<p>E.g.</p> <ul style="list-style-type: none"> a) <i>Simplify the process by dividing the project execution plan into phases and provide a step-by-step approach to each phase.</i> b) <i>Provide project marking procedures and schemes to teachers</i> c) <i>Encourage learners to use local and zero cost materials for their projects.</i> <p>1.9 In your TVET domains to list some 21st century skills (NTS 3j).</p> <p>E.g.</p> <p><i>communication skills, taking calculated risk, advertising, observation and enquiry skills, creativity, strategic planning, personal development and leadership skills</i></p> <p>1.10. Identify ways of incorporating ICT in your lesson (NTS 3j).</p> <p>E.g.</p> <ul style="list-style-type: none"> a) <i>Take pictures of learners' works for reflective assessment after onsite assessment.</i> b) <i>Surf open educational resources (OERs) and other internet sources for information on how to execute and assess project works.</i> c) <i>Teach using power Point presentation.</i> d) <i>Employ computer software such AutoCAD, Photoshop, Coral Draw, Paint and other relevant tools ICT in teaching, executing and assessing project.</i> <p>1.11 Discuss possible activities you would adopt to develop the 21st century skills in your learners such as communication skills, collaboration, observation and enquiry skills, digital literacy, creativity and personal development (NTS 3a, 3e, 3h and 3j).</p> <p>E.g.</p> <ul style="list-style-type: none"> a) <i>Encourage learners to work in mixed ability/gender groups.</i> b) <i>Encourage creativity and innovation through research and thinking outside the box activities.</i> 	
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<p>➤ Planning for teaching, learning and assessment activities for the lesson/s with links to the TVET curriculum</p>	<p>2.1 Discuss Ask teachers to discuss samples of their lesson plans in their various TVET domains and link them to assessment *</p> <p><i>Sample Lesson Topics in the TVET domain:</i></p> <p><i>Topic: Project work in visual Art, Home Economics, Agriculture and Technical skills.</i></p> <p>a) Objectives <i>By the end of the lesson learners will be able to;</i></p> <ul style="list-style-type: none"> <i>i. Identification of a challenge that require solution.</i> <i>ii. Design and produce artifact/a model farm in the various TVET domains.</i> <i>iii. Write a comprehensive project report including an appreciation of artifacts/model farms stating and explain any symbolisms used.</i> <p>b) Core activities</p> <ul style="list-style-type: none"> <i>i. Guide learners to identify challenges that require solution in the community</i> <i>ii. Guide learners to design a solution using the ideation process.</i> <i>iii. Guide learners to execute the artifact/model farm, in the various TVET domains using a phase to phase and a step-by-step approach at each stage.</i> <i>iv. Guide learners in groups to write a project report including an appreciation of their artifact/farm.</i> <p>c) Evaluation: <i>Evaluate the lesson by organizing jury session, and an exhibition to help each learner to improve upon their own abilities.</i></p> <p><i>*Tease out the learning outcomes and the learning indicators from the sample lesson plans outline.</i></p> <p>2.2 Tease out LOs and LIs from the sample lesson</p> <p><i>LO: Design and execute projects in Agriculture, Home Economics, Technical Skills and Visual Art.</i></p> <p><i>LI 1.1 Design and produce:</i></p> <ul style="list-style-type: none"> <i>i. Agriculture - Model farm</i> 	<p>20 mins</p>
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	<p>ii. Home Economics – Garment design.</p> <p>iii. Technical Skill – Design of a circuit with a light bulb.</p> <p>iv. Visual Art – Collage</p> <p>LI 1.2 State the step-by-step procedure of executing the project.</p> <p>E.g.</p> <p>a) identification of the problem</p> <p>b) undertake preliminary designs using the ideation process</p> <p>c) gathering of appropriate tools and materials</p> <p>LI 1.3 Write a project report including an appreciation of the artifact/farm.</p>	
<p>➤ Teaching, learning and assessment</p> <p>➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification</p> <p>➤ Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum</p> <p>➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills</p> <p>➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning</p>	<p>3.1 Identify gaps in your lesson plans (if any) and use your knowledge of Teaching of Assessment to resolve them (3k, 3o).</p> <p>E.g.</p> <p>Possible gaps:</p> <p>a) lack of well-established TVET workshops/kitchen and model farms in the school</p> <p>b) Inadequate time allocation on the school time table for elaborate project work</p> <p>c) Inadequate tools to promote teaching and learning.</p> <p>Possible Solution:</p> <p>a) Teachers should make creative use of available resources within the environment.</p> <p>b) Teachers may adopt after official class lessons and weekends where feasible to accomplish projects</p> <p>3.2 Suggest alternative ways of delivering the sample lessons (NTS 3e, 3g and 3i).</p> <p>E.g. use of:</p> <p>a) Pre-recorded video to show variety of enterprise management</p> <p>b) library/internet resources and discussions,</p> <p>b) field trip</p> <p>c) community walk</p> <p>d) use of entrepreneur mentors</p> <p>e) use of enterprise management test,</p> <p>f) use of experiential learning etc.</p>	30 mins

<p>➤ Resources:</p> <ul style="list-style-type: none"> ○ Links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. ○ Consideration needs to be given to local availability guidance on any power point presentations, TLM or other resources which need to be developed to support learning 	<p>3.3 Review your sample lesson plans to identify activities that promote GESI responsiveness (NTS 3f, 3l and 3m).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Duty roster for laboratory, studio, workshop and farm management.</i> <i>b) Mixed ability/gender groupings during project execution.</i> <p>3.4 Discuss how the lesson is linked to the use of assessment tools and practices as assessment <i>for</i>, <i>as</i> and <i>of</i> learning (NTS 3k, 3l, 3m and 3n).</p> <p><i>E.g.</i></p> <p><i>How to score practical lessons</i></p> <ul style="list-style-type: none"> <i>a) Develop a check list indicating stages of the process.</i> <i>b) Identify skill(s) that must be acquired..</i> <i>c) Completed artefact must be scored on the following criteria</i> <ul style="list-style-type: none"> ➤ <i>Evidence of Preliminary/idea development process</i> ➤ <i>Appropriate use of tools/material</i> ➤ <i>Draft/craftsmanship (Composition- appropriate use of principles and elements of design, Colour and tone, etc. for 2-D works as in Visual Art, right and timely application of chemicals as in Agriculture, etc.)</i> ➤ <i>Originality/creativity</i> ➤ <i>Suitability (NB if the work is not suitable it means all other areas of evaluation may be faulty).</i> <p>3.5 Suggest other authentic assessment methods that could be used in the sample lesson (NTS 3k, 3l, 3m and 3n).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Portfolio</i> <i>b) Self-assessment</i> <i>c) Peer-assessment</i> <p>3.6 Discuss how the session makes use of resources to support relevant activities in the NTS (NTS 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) surfing OERs/internet facilities, to assess ideas for designs as well as procedures and processes</i> 	
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	<p><i>b) using Power Point to present reports,</i> <i>c) publishing finished works via social media, etc.</i></p> <p>3.7 Model a teaching activity in the sample lesson in any of the TVET domains taking due cognizance of any of the LOs and LIs of the PLC session. (Extension Activity)</p>	
<p>➤ Evaluation and review of session:</p> <p>➤ Teachers need to identify critical friends to observe lessons and report at next session</p> <p>➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification</p>	<p>4.1 In pairs, share what you have learnt in this session.</p> <p>4.2 Share with the larger group</p> <p>4.3 Ask questions on any issue that need further clarification.</p> <p>4.4 Identify a critical friend to observe you in teaching your lessons in relation to PLC Session 10 and provide feedback at the next PLC session.</p> <p>4.5 Read Session 11 from the PLC Handbook in preparation for the next session.</p>	15 mins

TVET PLC Session 11: Training Needs

NB. TVET Domain:

1. Agriculture
2. Home Economics
3. Technical Skills
4. Visual Art

	Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i>	Time in session
<p>1 Review of previous session and introduction to new session</p> <p>NB The guidance for PLC Coordinator should identify, address, and provide explanations for any areas where teachers might require clarification on an aspect of the lesson.</p> <p>NB PLC Coordinator should ask teachers to plan for their teaching as they go through the PLC session</p>	<p>1.1 Give an ice breaker related to the topic.</p> <p>1.2 Share some of the discoveries in you last week's lesson delivery.</p> <p>1.3 Read the write-up about the background of the topic 'Training Needs of Teachers'.</p> <p>Note: <u>Background</u> <i>There are a number of skills and attributes a teacher need to be effective in the classroom. These include:</i></p> <p>a) Discipline Skills: <i>Discipline helps the teacher to be effective. It is a vital component of an effective classroom management. The teacher's discipline ensures that positive behaviour is encouraged in classrooms.</i></p> <p>b) Classroom Management Skills: <i>By ensuring good behaviour of learners, half of the teacher's battle is won. To be an effective teacher, you should also be able to help learners develop good study and work habits.</i> <i>Good classroom management skills start with setting ground rules to stress the importance of classroom dignity.</i></p> <p>c) Observation Skills: <i>It is the prime responsibility of teachers to have a thorough understanding of the cognitive, emotional and social development of learners. Since a classroom is filled with learners coming from different parental backgrounds, it is beneficial for a teacher to be aware of the learning capabilities of different learners.</i></p> <p>d) Learner Engagement Skills: <i>Teachers handle a lot of learners with different mentalities towards learning.</i> <i>While some learners demonstrate keen interest in learning, others are distracted at the smallest provocation. Hence, to be called an effective teacher, you should develop learner engagement skills so that you can motivate your learners.</i></p>	25 mins

	<p>e) Strong Communication Skills: <i>Teaching is all about communication. The ability of the teacher to transmit information to the learner in a manner acceptable to each learner is key in the teaching and learning process. The teacher must take note of the fact that different learners process information differently. Hence, it is very important for a teacher to possess effective communication skills to be able to address the needs of the variety of learners under their care.</i></p> <p>f) Teaching Skills: <i>Teaching is described as a noble profession, it has the capacity to change the lives of learners for the better. Every effective teacher requires good inter-personal skills along with effective speaking and strong presentation skills. A teacher needs the following teaching skills to be effective in the classroom:</i></p> <ul style="list-style-type: none"> <i>i. deep content knowledge</i> <i>ii. different models of instructional strategies and assessment practices</i> <i>iii. knowledge of the learning and development of children and adults</i> <i>iv. clinical supervision skills</i> <i>v. the ability to model effective instructional and assessment practices</i> <p>g) Subject Matter Expertise: <i>Every teacher has a specific area of specialization. Putting in years of teaching experience with the appropriate knowledge, skills and continuous professional development will enable teachers to be abreast of changes to the curriculum in their subject areas.</i></p> <p>h) Time Management Skills: <i>It is easy to get carried away by different aspects of teaching, but it is important for teachers to ensure that the curriculum is completed within the pre-defined time frame. Teachers should therefore attach importance to the time taken by learners to complete their assignments. Teachers should also follow strategies to organize their working day around educational and other priorities.</i></p> <p>i) Planning Skills: <i>A teacher should be able to clearly plan what the objectives for each lesson are. Planning ahead of time allows a teacher to be more confident about what he/she is going to teach.</i></p>	
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	<p>j) Passion and Positivity: <i>Being passionate about teaching is a pre-requisite for becoming an effective teacher. When you are passionate, you can learn from experience and there would be a constant search for methods to improve yourself as a teacher.</i></p> <p>k) Be a Team Player: <i>Every teacher should be an active member of a community of practice where they can draw on the expertise of others for the benefit of their learners. Learners on the other hand, would love to have teachers who are friendly and understand them rather than forcing them to learn. Working with learners as members of a team with a common goal and in a non-threatening manner would help them to contribute to the lesson while having fun.</i></p> <p>l) Patience: <i>Managing a classroom full of learners is not the easiest of jobs. There may be some learners who would test teachers' patience. Teachers should not lose their temper during such testing time in order to produce positive outcomes.</i> Refer. https://www.edsys.in/8-skills-teachers-require-effective-teaching/ <u>Retrieved 5/04/2022</u></p> <p>1.4 Read the appendix to the NTS which highlights the training needs of teachers, tease out possible learning outcomes (LOs) and learning indicators (LIs) and compare them with the LOs and LIs listed below.</p> <p>LO 1: Demonstrate knowledge and understanding of the training needs of teachers under the various Ranks (1 to 6).</p> <p>LI 1.1 Identify the training needs of teachers under the various Ranks (1, 2, 3, 4, 5 and 6). Refer to the appendix to the NTS.</p> <p>LI 1.2 Identify ways of meeting the training needs at each of the Ranks, i.e. (1, 2, 3, 4, 5 and 6).</p> <p>LI 1.3 List the resources needed to achieve the training needs at each of the Ranks for TVET (NTS 1b, 1c and 3j).</p> <p>LO 2: Demonstrate understanding of the rationale for the needs at the various levels. Refer to the appendix to the NTS.</p>	
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	<p>LI 2.1 Identify the professional roles the teacher will be expected to play at the various levels (NTS 1g).</p> <p>LI 2.2 Discuss the interrelatedness of the roles teachers play at the various levels (Ranks 1, 2, 3, 4, 5 and 6).</p> <p>LI 2.3. Discuss how the roles played by teachers at the various levels to promote teaching and learning (NTS 3e, 3f, 3g, 3h, 3i and 3j).</p> <p>LO 3: Demonstrate the skill of identifying possible training avenues and how to avail oneself for capacity building (NTS 1a, 1e and 3a).</p> <p>LI 3.1 List possible training avenues that a TVET teacher can access for capacity building (NTS 1b).</p> <p>LI 3.2 Discuss how the avenues listed in LI 3.1 will facilitate training for TVET teachers (NTS 1b).</p> <p>1.5 Identify and list your own training needs in relation to the three main domains of the NTS (NTS 1a, 1b).</p> <p><i>a) Professional values and attitude.</i> <i>E.g.</i> <i>i) Comply with Ministry of Education and GES ethical codes</i> <i>ii) Compliance to national education policies and framework</i> <i>(NTS 1a, 1b, 1c, 1d, 1e, 1f and 1g).</i></p> <p><i>b) Professional knowledge.</i> <i>E.g.</i> <i>Models of learning and development of children (NTS 2a, 2b, 2c, 2d, 2e and 2f).</i></p> <p><i>c) Professional practice.</i> <i>E.g.</i> <i>i. Different models of instructional strategies and assessment practices</i> <i>ii. Clinical supervision skills</i> <i>iii. Ability to model effective instructional and assessment practices</i> <i>iv. Model GESI compliance qualities in the classroom and beyond (NTS 1a, 1b, 1c, 1d, 1e, 1f, 1g, 1h, 1i, 1j, 1k, 1l, 1m, 1n, 1o and 1p).</i></p>	
Give regard for misconceptions, stereotypes, GESI, ICT, 21st century skills, etc.	<p>1.6 Identify possible misconceptions and stereotypes that affect training needs of the various TVET teachers (NTS 3m).</p>	

	<p>Possible misconceptions and stereotypes</p> <p>a) <i>The perception that many in-service training programmes are usually geared towards the generalized teacher and not well suited for the TVET teacher</i></p> <p>b) <i>The perception that pursuing further studies is expensive and must be borne by the employer</i></p> <p>1.7 Discuss possible ways to mitigate these misconceptions and stereotypes. E.g.</p> <p>a) <i>Encourage the formation of subject based associations to facilitate specialized in-service training for its members</i></p> <p>b) <i>Sensitize teachers on the values of self-development as a way of positioning oneself for better opportunities in the future (NTS 3m).</i></p> <p>1.8 Identify ICT skills training that would be useful for the TVET teacher (NTS 3j). E.g.</p> <p>a) <i>PowerPoint presentation skills</i></p> <p>b) <i>Skills in the use of software like AutoCAD, Paint, Photo Shop, Coral Draw, goggle classroom, zoom, Microsoft teams, smart board, web conferencing, webinars, etc.</i></p> <p>1.9 List possible 21st century skills that could be acquired during in-service training/short courses (NTS 3c, 3e). E.g.</p> <p><i>communication skills, observation and enquiry skills, creativity, personal development and leadership skills, collaborative skills, digital literacy, life-long learning, critical thinking skills, etc.</i></p>	
1 Planning for teaching, learning and assessment activities for the lesson/s	<p>2.1 Discuss samples of their lesson plans in their various TVET domains based on the 2010 SHS syllabus and linked to any of the LOs and LIs for the PLC session *.</p> <p>Sample Lesson Topics in the TVET domain:</p> <p><i>Topic: Project work in Agriculture, Home Economics, Technical skills and Visual Art.</i></p> <p>Sub-Topic:</p> <p>a. <i>Agriculture - Model farms</i></p> <p>b. <i>Home Economics – Garment design.</i></p> <p>c. <i>Technical Skills – Design circuit with a light bulb</i></p> <p>d. <i>Visual Art – Collage</i></p>	20 mins

	<p><i>a) Objectives:</i> <i>By the end of the lesson learners will be able to:</i></p> <ol style="list-style-type: none"> <i>i. Identify at least four challenges to be addressed</i> <i>ii. Design suitable solutions following the ideation process</i> <i>iii. Execute the project using the appropriate tools, materials, procedures and processes</i> <i>iv. Exhibit finished products for a jury session</i> <p><i>b) Core Activities</i></p> <ol style="list-style-type: none"> <i>i. In groups, guide learners to research and come out with challenges in their immediate environment</i> <i>ii. Guide learners through the ideation process to design appropriate solution(s) to resolve the challenges identified in (i) above</i> <i>iii. Guide learners to assemble appropriate tools and materials needed to execute the project</i> <i>iv. Guide learners with concept maps/flow chart/work plan/check list to execute the project paying attention to appropriate use of tools and materials</i> <i>v. Guide learners to write their project report/appreciation explaining any symbolisms used and their relevance to the work</i> <i>vi. Guide learners to exhibit the finished products for a jury session.</i> <p><i>c) Use jury session to evaluate the final project work.</i> <i>*Tease out the learning outcomes and the learning indicators from the sample lesson plans outline.</i> <i>Note: Refer to PLC Session 6 for assessment procedures for practical works</i></p> <p>2.2 Tease out the LOs and the LIs from your sample lesson plans as in (2.1). <i>LO: Design and execute projects in Agriculture, Home Economics, Technical Skills and Visual Art (NTS 2b)</i></p> <p><i>LI 1.1 Identify a challenge in your immediate environment.</i> <i>LI 1.2 Design a suitable solution for the challenge identified in (1.1) above using the ideation process.</i> <i>LI 1.3 Exhibit artefacts /completed projects and portfolios in Agriculture, Home Economics, Technical Skills and Visual Art.</i></p> <p>2.3 List possible training needs that should be acquired to help deliver the sample lesson successfully, Refer to the appendix to the NTS (Rank 1, 2, 3, 4, 5 and 6)</p>	
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	<p>E.g.</p> <ul style="list-style-type: none"> a) Portfolio development b) Project facilitation and supervision skills c) Project assessment techniques d) GESI implementation skills 	
<p>2 Teaching, learning and assessment</p> <ul style="list-style-type: none"> ➤ Reading and discussion of the teaching and learning activities noting, addressing, and explaining areas where teachers may require clarification ➤ Noting opportunities for making <i>explicit</i> links to the Secondary School Curriculum ➤ Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills ➤ Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning ➤ Resources: <ul style="list-style-type: none"> ○ Links to the existing PLC Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. ○ Consideration needs to be given to local availability guidance on any power point 	<p>3.1 identify gaps in your lesson planning and delivery skills (if any) and use your knowledge of training needs to resolve them (NTS 1a, 2c).</p> <p>E.g.</p> <p>Possible gaps:</p> <ul style="list-style-type: none"> i. Deficiency in portfolio writing skills ii. Inadequate project facilitation and supervision skills iii. Unsuitable project assessment techniques <p>Possible Solution:</p> <p>a) Educate teachers on how to build portfolios either in hard copy or in soft copy and identify the variety of items that can go into a portfolio in TVET such as:</p> <ul style="list-style-type: none"> i. Sketches ii. Finished 2D/3D works iii. Scrap book iv. Cut out articles from magazines/ newspapers, etc. v. Written projects/ assignments vi. Downloads from the internet vii. PowerPoint presentations viii. Photographs/ videos, etc. <p><i>Note: Portfolios should not exist only for assessment. They also constitute a private library for the learners' current and future use. Note also that portfolios are a necessary requirement for the scoring of any practical project work.</i></p> <p>b) Educate teachers on how to assess practical works</p> <p>E.g.</p> <ul style="list-style-type: none"> i. Develop a check list indicating stages of the process ii. Identify skill(s) that must be acquired iii. Determine scores for each stage depending on the complexity of the skill iv. Completed artefact must be scored on the following criteria: <ol style="list-style-type: none"> 1. Evidence of Preliminary/idea development processes 2. Appropriate use of tools/material 3. Draftmanship/ craftsmanship (Composition-appropriate use of principles and elements of design, Colour and tone, etc. for 2-D works) 4. Originality 5. Suitability 	30 mins

<p>presentations, TLM or other resources which need to be developed to support learning</p>	<p>3.2 Review your sample lesson plans to identify activities that promote GESI responsiveness (NTS 3f, 3m). <i>E.g.</i></p> <ul style="list-style-type: none"> <i>a) Mixed ability/gender groupings skills.</i> <i>b) Effective, none-bias questioning techniques/skills</i> <i>c) GESI compliant classroom management skills.</i> <i>d) Observation skills</i> <i>e) Student engagement skills, etc.</i> 	
<p>4. Evaluation and review of session:</p> <ul style="list-style-type: none"> ➤ Teachers need to identify critical friends to observe lessons and report at next session ➤ Identifying and addressing any outstanding issues relating to the lesson/s for clarification 	<p>4.1 In pairs, share what you have learnt in this session.</p> <p>4.2 Share with the larger group</p> <p>4.3 Ask questions on any issue that need further clarification.</p> <p>4.4 Identify a critical friend to observe you in teaching your lessons in relation to PLC session 10 and provide feedback reflective practice.</p> <p>4.5 Read and reflect on the in the National Teachers' Standards Guidelines to improve teaching and learning.</p>	<p>15 mins</p>

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