

TEACHER PROFESSIONAL DEVELOPMENT

# Professional Learning Community Handbook 1 for Basic Schools

Working to the National Teachers' Standards

HANDBOOK FOR COORDINATORS



Excellence, superior quality, perfection, knowledge, and  
critical examination

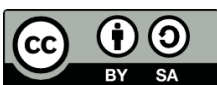


Ghana Education  
Service (GES)





GOVERNMENT OF GHANA



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# **Professional Learning Community Handbook 1 for Basic Schools**

**Working to the National Teachers' Standards**

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**Coordinator Version**

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## FOREWORD

Ghana's Standards-Based Curriculum was introduced across all basic schools in September, 2019. This curriculum is based on standards and learning outcomes which are to be achieved, shifting the focus on to what is actually learnt rather than what is taught. It has a strong focus on the 4 'R's (reading, writing, arithmetic and creativity) and focuses on promoting interactive and play-based approaches which encourage experiential learning and position the teacher as a facilitator rather than as a lecturer. It also articulates the core and global competencies that learners are expected to demonstrate and focuses on learning and progression for all learners, underpinned by pedagogical considerations of differentiation and inclusion.

The Ghana Education Service (GES) has mandated all teachers within our Basic Public Schools to establish Professional Learning Communities (PLCs) and undertake weekly sessions where teachers come together and work collaboratively to improve teaching and learning in line with the new curriculum.


GES has now collaborated with the National Teaching Council (NTC), tutors of Colleges of Education, SISOs, headteachers and teachers from selected Basic Public Schools within Akwapim South, Bosome Freho and Lambussie districts to develop this Professional Learning Community (PLC) Handbook. This Handbook contains structured pedagogical materials which can be used by teachers in basic public schools when conducting their weekly PLC sessions to improve their pedagogical skills and improve children's learning through a series of practical activities.

The involvement of head teachers and teachers from selected Basic Public Schools in the writing of this Handbook is an intentional way of ensuring that its content is responsive to the practicalities of their classrooms.

This first PLC Handbook focuses on strengthening understanding, awareness, and adherence to the National Teachers' Standards (NTS). The NTS, as a document, provides the foundations upon which Ghana's educational reforms are being built as it specifies 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), Social and Emotional Learning (SEL), Information Communication Technology (ICT) and 21<sup>st</sup> Century Skills. It is our hope and expectation that this PLC Handbook represents an important step in the transformation of education in Bosome Freho, Lambussie and Akuapem South and that it will be used effectively across all Basic Public Schools in these districts to transform learning.



**PROF. KWASI OPOKU-AMANKWA**  
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## ACKNOWLEDGEMENTS

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# **PROFESSIONAL LEARNING COMMUNITY HANDBOOK 1**

## **WORKING TO THE NATIONAL TEACHERS' STANDARDS – COORDINATOR VERSION**

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

There are eleven weekly Professional Learning Community (PLC) Sessions in this Handbook designed to prepare teachers to teach in the basic school curriculum to the National Teachers' Standards. The Sessions are not subject specific so subject teachers at the Junior High School level can apply the teaching, learning and assessment principles in their teaching of any subject. The PLC Sessions are designed 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 version of the Handbook and the PLC Coordinator version of the Handbook.
- Both versions are written to provide information to guide the 11 weekly PLC Sessions that are linked directly to the National Teachers' Standards.
- The PLC Coordinator version of the Handbook have prompts for leading the PLC Session.
- The teacher version of the Handbook contains activities for teachers and guidance for what they will do during the Session.
- The weekly PD Sessions are of 50-minute duration in primary schools and 60-minute duration in Junior High Schools.



## PLC Session 1: Gender Equality and Social Inclusion

<p><b>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 or say during each session. Each bullet needs to be addressed</b></p>	<p><b>Guidance notes on Leading the session. What the PLC Coordinator will have to say during each stage of the session</b></p>	<p><b>Guidance Notes on Teacher Activity during the PLC Session. What teachers will do during each stage of the session.</b></p>	<p><b>Time in session</b></p>
<p><b>1. Introduction to the Handbook</b></p>	<p>1.1 Start the PLC session with an icebreaker.</p> <p>1.2 Ask a teacher to read the introduction to the Handbook below.</p> <p><b>Introduction:</b> The philosophy of teacher education in Ghana is to prepare teachers imbued with professional skills, attitudes and values as well as the spirit of inquiry, innovation and creativity. This philosophy underpins the National Teachers’ Standards, which specify, for the first time, what teachers are expected to know, understand and be able to do to continually improve their own learning as well as the learning of those they teach.</p> <p>The Standards set out, in three domains, the knowledge, understanding, skills and values all teachers must possess to enable them to adapt to changing conditions in the teaching profession. The Standards help teachers to achieve high quality learning outcomes for all learners, particularly those</p>	<p>1.1 Participate in the icebreaker activity as appropriate.</p> <p>1.2 Read the introduction to the Handbook below.</p> <p><b>Introduction:</b> The philosophy of teacher education in Ghana is to prepare teachers imbued with professional skills, attitudes and values as well as the spirit of inquiry, innovation and creativity. This philosophy underpins the National Teachers’ Standards, which specify, for the first time, what teachers are expected to know, understand and be able to do to continually improve their own learning as well as the learning of those they teach.</p> <p>The Standards set out, in three domains, the knowledge, understanding, skills and values all teachers must possess to enable them to adapt to changing conditions in the teaching profession. The Standards help teachers to achieve high quality learning outcomes for all learners, particularly those</p>	<p>10 mins</p>

	<p>who are vulnerable, those with various forms of physical or learning impairment and high achieving learners. The domains intersect with one another to develop a teacher competent enough to teach in a way to effect learning in Ghanaian schools.</p> <p>The Standards are supporting Ghana to meet Goal 4 of the Sustainable Development Goals for 2030, which is “to ensure inclusive and equitable quality education and promote life-long learning opportunities for all”. The standards cover several cross-cutting issues in teaching and learning and provide guidelines for teachers to enable them to embed these cross-cutting issues in their work.</p> <p>The Standards apply to all practicing teachers in schools, and the National Teaching Council use them to assess the work of teachers in different contexts including the extent to which teachers meet their professional development needs. Metropolitan, municipal, and district education officers, school improvement support officers, teacher unions, head teachers and mentors in schools also use the Standards as a guide to inform their work.</p> <p><b>Purpose of Handbook:</b> The purpose of this Handbook is to equip teachers with the knowledge, understanding</p>	<p>who are vulnerable, those with various forms of physical or learning impairment and high achieving learners. The domains intersect with one another to develop a teacher competent enough to teach in a way to effect learning in Ghanaian schools.</p> <p>The Standards are supporting Ghana to meet Goal 4 of the Sustainable Development Goals for 2030, which is “to ensure inclusive and equitable quality education and promote life-long learning opportunities for all”. The standards cover several cross-cutting issues in teaching and learning and provide guidelines for teachers to enable them to embed these cross-cutting issues in their work.</p> <p>The Standards apply to all practicing teachers in schools, and the National Teaching Council use them to assess the work of teachers in different contexts including the extent to which teachers meet their professional development needs. Metropolitan, municipal, and district education officers, school improvement support officers, teacher unions, head teachers and mentors in schools also use the Standards as a guide to inform their work.</p> <p><b>Purpose of Handbook:</b> The purpose of this Handbook is to equip teachers with the knowledge, understanding</p>	
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	<p>and skills to teach to the National Teachers' Standards.</p> <p>The Handbook aims at assisting teachers to know how to use the National Teachers' Standards in planning, teaching, and assessing lessons in ways that will improve the learning outcomes of learners.</p> <p>The strategies introduced in the Handbook will help teachers to equip learners with 21<sup>st</sup>-century transferable skills that will develop in learners a sense of equity, inclusion, collaboration, innovation and accountability to make them responsible citizens who are always guided by integrity. They strategies should also help learners to improve their self-awareness and build self-esteem and leadership skills.</p> <p>The Handbook covers the following topics:</p> <ol style="list-style-type: none"> <li>1. Stand-alone session on Gender Equality and Social Inclusion (GESI)</li> <li>2. Stand-alone session on Information and Communications Technology (ICT) and 21<sup>st</sup> century skills</li> <li>3. Stand-alone session on Social and Emotional Learning (SEL)</li> <li>4. Introduction to the National Teachers' Standards (NTS)</li> <li>5. Professional development</li> <li>6. Community of practice</li> </ol>	<p>and skills to teach to the National Teachers' Standards.</p> <p>The Handbook aims at assisting teachers to know how to use the National Teachers' Standards in planning, teaching, and assessing lessons in ways that will improve the learning outcomes of learners.</p> <p>The strategies introduced in the Handbook will help teachers to equip learners with 21<sup>st</sup>-century transferable skills that will develop in learners a sense of equity, inclusion, collaboration, innovation, and accountability to make them responsible citizens who are always guided by integrity. The strategies should also help learners to improve their self-awareness and build self-esteem and leadership skills.</p> <p>The Handbook covers the following topics:</p> <ol style="list-style-type: none"> <li>1. Stand-alone session on Gender Equality and Social Inclusion (GESI)</li> <li>2. Stand-alone session on Information and Communications Technology and 21<sup>st</sup> century skills</li> <li>3. Social and Emotional Learning (SEL)</li> <li>4. Introduction to the National Teachers' Standards (NTS)</li> <li>5. Professional development</li> <li>6. Community of practice</li> <li>7. Knowledge of educational framework and curriculum</li> <li>8. Knowledge of learners</li> </ol>	
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	<p>7. Knowledge of educational framework and curriculum</p> <p>8. Knowledge of learners</p> <p>9. Managing the learning environment</p> <p>10. Teaching and learning</p> <p>11. Assessment</p>	<p>9. Managing the learning environment</p> <p>10. Teaching and learning</p> <p>11. Assessment</p>	
<p><b>2. Introduction to session</b></p>	<p>2.1 Ask teachers to read the purpose, introduction to Gender Equality and Social Inclusion (GESI), the learning outcomes (LOs) and the learning indicators (LIs) below.</p> <p><b>Purpose:</b> To educate teachers to have a clear understanding of GESI matters so they will be able to integrate these into both the teaching and learning process and other aspects of school life as this will encourage learners to do same during learning.</p> <p><b>Introduction to GESI:</b> 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, ability as well as economic and social status. As a teacher, it is important to understand the uniqueness of these diverse groups in the classroom and ensure that every individual is supported to access quality education.</p> <p>GESI in schools is being championed towards promoting equal opportunity for females and males generally and those who find</p>	<p>2.1. Read the purpose, introduction to Gender Equality and Social Inclusion (GESI), the learning outcome (LOs) and the learning indicators (LIs) below.</p> <p><b>Purpose:</b> To educate teachers to have a clear understanding of GESI matters so they will be able to integrate these into both the teaching and learning process and other aspects of school life as this will encourage learners to do same during learning.</p> <p><b>Introduction to GESI:</b> 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, ability as well as economic and social status. As a teacher, it is important to understand the uniqueness of these diverse groups in the classroom and ensure that every individual is supported to access quality education.</p> <p>GESI in schools is being championed towards promoting equal opportunity for females and males generally and those who find</p>	<p>15 mins</p>

	<p>themselves in disadvantaged groups in the classroom.</p> <p><b>Overview of GESI and related concepts:</b> In addition to the purpose stated above, this session also seeks to expose teachers in basic schools to the concepts of GESI and related matters such as gender, equality, equity, etc., to enable them to appreciate issues of stereotyping and work towards challenging these and particularly traditional gender roles.</p> <p>The session seeks to help teachers to deal with their own unconscious biases so they can attend to the diverse needs of all learners in the classroom and the school generally.</p> <p><i>Note:</i> <i>The LOs in the Handbook describe what teachers will be able to do by the end of the session</i></p> <p><i>Learning Indicator (LI): This is the practical evidence that learning has taken place. It may include verbal responses, practical activities, or products</i></p> <p>LO 1: Demonstrate knowledge and understanding of concepts related to GESI (NTS 1c, 3f).</p> <p>LI 1.1 Explain the term GESI. LI 1.2 List at least four terminologies associated with GESI.</p>	<p>themselves in disadvantaged groups in the classroom.</p> <p><b>Overview of GESI and related concepts:</b> In addition to the purpose stated above, this session seeks to expose teachers in basic schools to the concepts of GESI and related matters such as gender, equality, equity, etc., to enable them to appreciate issues of stereotyping and work towards challenging these and particularly traditional gender roles.</p> <p>The session seeks to help teachers to deal with their own unconscious biases so they can attend to the diverse needs of all learners in the classroom and the school generally.</p> <p><i>Note:</i> <i>The LOs in the Handbook describe what teachers will be able to do by the end of the session</i></p> <p><i>Learning Indicator (LI): This is the practical evidence that learning has taken place. It may include verbal responses, practical activities, or products</i></p> <p>LO 1: Demonstrate knowledge and understanding of concepts related to GESI (NTS 1c, 3f).</p> <p>LI 1.1 Explain the term GESI. LI 1.2 List at least four terminologies associated with GESI.</p>	
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	<p>LI 1.3 Explain any four terminologies associated with GESI.</p> <p>LO 2: Demonstrate knowledge, understanding and application of GESI concepts in basic schools (NTS 2e, 2f, 3c, 3d, 3f, 3g, 3k and 3o).</p> <p>LI 2.1 Analyse GESI concepts that are relevant to the school environment including the classroom.</p> <p>LI 2.2. Analyse how to address GESI issues that are relevant to the school environment including the classroom.</p>	<p>LI 1.3 Explain any four terminologies associated with GESI.</p> <p>LO 2: Demonstrate knowledge, understanding and application of GESI concepts in basic schools (NTS 2e, 2f, 3c, 3d, 3f, 3g, 3k and 3o).</p> <p>LI 2.1 Analyse GESI concepts that are relevant to the school environment including the classroom.</p> <p>LI 2.2. Analyse how to address GESI issues that are relevant to the school environment including the classroom.</p>	
	<p>2.2 Ask teachers to state at least four terminologies associated with GESI (NTS 1c, 3f).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) Gender</li> <li>b) Equity</li> <li>c) Equality</li> <li>d) Inclusion</li> <li>e) Gender Equality</li> <li>f) Social Inclusion, etc.</li> </ul> <p>2.3 Ask teachers in pairs/groups to explain any four terminologies associated with GESI listed in Activity 2.2. (NTS 1c, 3f).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) Gender is the relationship between males and females and the roles and responsibilities they have in society. For instance, in Ghana, it is socially accepted that cooking is the role of women and providing money for the</li> </ul>	<p>2.2 State at least four terminologies associated with GESI (NTS 1c, 3f).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) Gender</li> <li>b) Equity</li> <li>c) Gender Equality, etc.</li> </ul> <p>2.3 In pairs/groups explain any four terminologies associated with GESI listed in Activity 2.2. (NTS 1c, 3f).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) Gender is the relationship between males and females and the roles and responsibilities they have in society. For instance, in Ghana, it is socially accepted that cooking is the role women and providing money for the</li> </ul>	

	<p><i>upkeep of the family is the role of men</i></p> <p>b) <i>Equality is the similarity of treatment as it is legally and constitutionally given. For instance, providing all children (irrespective of ability, gender, socioeconomic background, etc.) with opportunities to achieve quality learning outcomes meets the requirement of equality</i></p> <p>c) <i>Equity is the state of being fair or just in terms of the provision of resources, support or opportunities based on individual learners' needs</i></p> <p>d) <i>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</i></p> <p>e) <i>Social Inclusion is the process of improving the terms of participation for disadvantaged people, by enhancing opportunities and access to resources</i></p> <p>f) <i>Inclusion is the process of valuing all individuals and leveraging their diverse talents, not in spite of their differences, but because of their differences. For instance, ensuring that all learners (boys, girls and those with special educational needs) are given equal opportunities to</i></p>	<p><i>upkeep of the family is the role of men</i></p> <p>b) <i>Equality is the similarity of treatment as it is legally and constitutionally given. For instance, providing all children (irrespective of ability, gender, socioeconomic background, etc.) with opportunities to achieve quality learning outcomes meets the requirement of equality</i></p> <p>c) <i>Equity is the state of being fair or just in terms of the provision of resources, support or opportunities based on individual learners' needs, etc.</i></p>	
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	<p><i>participate in the classroom, etc.</i></p> <p>2.4 Ask teachers to give examples of how GESI concepts can be applied in the school environment (NTS 2e, 3f). E.g.</p> <p>a) <i>Ensuring equitable allocation of resources among all learners (males, females, minority groups, etc.)</i></p> <p>b) <i>Ensuring the content of projects /assignments/exercises does not portray GESI biases and stereotypes. In grouping learners for projects, teachers must consider mixed ability/gender/ Special Educational Needs (SEN) groupings</i></p> <p>c) <i>Involving all learners equally in playing leadership roles</i></p> <p>d) <i>Ensuring that all school facilities are accessible to everyone, etc.</i></p>	<p>2.4 Give examples of how GESI concepts can be applied in the school environment (NTS 2e, 3f). E.g.</p> <p>a) <i>Ensuring equitable allocation of resources among all learners (males, females, minority groups, etc.)</i></p> <p>b) <i>Ensure the content of projects /assignments/exercises does not portray GESI biases and stereotypes. In grouping learners for projects, teachers must consider mixed ability/gender/ Special Educational Needs (SEN) groupings</i></p> <p>c) <i>Involving all learners equally in playing leadership roles etc.</i></p>	
<p><b>3. Overcoming GESI-related misconceptions, negative perceptions, stereotypes, and other challenges in the school environment including the classroom</b></p>	<p>3.1 Ask teachers to reflect individually, share with a colleague and then with the larger group (think-pair-share) to identify possible barriers to the application of concepts of GESI to teaching and learning and how to address them (NTS 3f, 3m). E.g.</p> <p>a) <i>Stereotypes: Certain characteristics are ascribed to specific gender. For instance, boys are braver than girls, and girls are good cooks</i></p>	<p>3.1 Reflect individually, share with a colleague and then with the larger group (think-pair-share) possible barriers to the application of concepts of GESI to teaching and learning and how to address them (NTS 3f, 3m). E.g.</p> <p>a) <i>Stereotypes: Certain characteristics are ascribed to specific gender. For instance, boys are braver than</i></p>	15 mins

	<p><i>To address this issue, cite instances where girls have demonstrated bravery and boys have been good cooks</i></p> <p>b) <i>Negative perceptions: Persons with special education needs are low achievers</i></p> <p><i>To address this, cite an instance where an individual with special education needs has excelled at various levels of life. For instance, Farida Bedwei (who suffers from cerebral palsy) is a software engineer from Ghana. Also, Dr. Henry Seidu Danaa (visually impaired) was a lawyer and a minister of chieftaincy in Ghana, etc.</i></p> <p>c) <i>Labelling: Giving funny names to people who appear to be different from the majority. For instance, calling a person who cannot walk “Pozoh” and calling short people “dwarf”</i></p> <p><i>To address this, teachers must ensure that all learners are called by their official names, etc.</i></p> <p>3.2 Ask teachers to identify and share GESI responsive practices that can help make the learning environment conducive and non-threatening (NTS 3c, 3e).</p>	<p><i>girls, and girls are good cooks</i></p> <p><i>To address this issue, cite instances where girls have demonstrated bravery and boys have been good cooks</i></p> <p>b) <i>Negative perceptions: Persons with special education needs are low achievers</i></p> <p><i>To address this, cite an instance where an individual with special education needs has excelled at various levels of life. For instance, Farida Bedwei (who suffers from cerebral palsy) is a software engineer from Ghana. Also, Dr. Henry Seidu Danaa (visually impaired) was a lawyer and a minister of chieftaincy in Ghana, etc.</i></p> <p>3.2 Ask teachers to identify and share GESI responsive practices that can help make the learning environment conducive and non-threatening (NTS 3c, 3e).</p>	
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	<p><i>E.g.</i></p> <p>a) <i>Providing suitable seating arrangements to meet the learning needs of all learners</i></p> <p>b) <i>Not using negative expressions or language that can demean or exclude learners</i></p> <p>c) <i>Avoiding labelling learners based on their background, or physical appearance,</i></p> <p>d) <i>Challenging gender stereotyping</i></p> <p>e) <i>Assigning roles equally and fairly to all, etc.</i></p> <p>3.3 Ask teachers to identify at least three ways of teaching GESI responsive lessons (NTS 3k, 3p).</p> <p><i>E.g.</i></p> <p>a) <i>Giving equal opportunities for playing leadership roles to all learners</i></p> <p>b) <i>Giving differentiated tasks to learners</i></p> <p>c) <i>Forming mixed ability groupings</i></p> <p>d) <i>Distributing questions evenly</i></p> <p>3.4 Ask teachers to identify at least three ways of making assessment GESI responsive (NTS 3k, 3p).</p> <p><i>E.g.</i></p> <p>a) <i>Provide constructive feedback to both male and female learners</i></p> <p>b) <i>Give male and female learners equal</i></p>	<p><i>E.g.</i></p> <p>a) <i>Providing suitable seating arrangements to meet the learning needs of all learners</i></p> <p>b) <i>Not using negative expressions or language that can demean or exclude learners</i></p> <p>c) <i>Avoiding labelling learners based on their background, or physical appearance, etc.</i></p> <p>3.3 Identify at least three ways of teaching GESI responsive lessons (NTS 3k, 3p).</p> <p><i>E.g.</i></p> <p>a) <i>Giving equal opportunities for playing leadership roles to all learners</i></p> <p>b) <i>Giving differentiated tasks to learners, etc.</i></p> <p>3.4 Identify at least three ways of making assessment GESI responsive (NTS 3k, 3p).</p> <p><i>E.g.</i></p> <p>a) <i>Provide constructive feedback to both male and female learners</i></p> <p>b) <i>Give male and female learners equal</i></p>	
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	<p><i>opportunity to ask and answer questions</i></p> <p>c) <i>Use multiple methods of assessment to cater for learners' different learning styles</i></p> <p>d) <i>Use self and peer assessment activities</i></p> <p>e) <i>Use differentiated assessment to cater for different learning needs of learners, etc.</i></p>	<p><i>opportunity to ask and answer questions, etc.</i></p>	
<p><b>4. Evaluation and review of session:</b></p> <ul style="list-style-type: none"> <li>● <b>Identifying and addressing any outstanding issues relating to the lesson/s for clarification</b></li> <li>● <b>Noting that teachers need to identify colleagues to observe lessons and report at the next session</b></li> </ul>	<p>4.1 Ask teachers to identify any outstanding issues relating to the session for clarification (NTS 1a, 3l, and 3n).</p> <p>4.2 Ask teachers to individually reflect, write and share what they have learned from the session with the larger group (NTS 1a, 3l, and 3n).</p> <p>4.3 Ask teachers to identify a colleague to observe their lesson to provide feedback to them on how they have used GESI in their lesson (NTS 1a, 3l and 3n).</p> <p>4.4 Remind teachers to read Session 2 from the PLC Handbook in preparation for the next session.</p> <p>4.5 Remind teachers to come to the next session on ICT (i.e., Session 2) with their phones, laptops, and other ICT devices as well as a sample lesson plan.</p> <p>4.6 Remind teachers that they may come along (to the next PLC session) with areas they find challenging in their</p>	<p>4.1 Identify and share with the larger group any outstanding issues relating to the session for clarification (NTS 1a, 3l, and 3n).</p> <p>4.2 Individually reflect, write and share what you have learned from the session with the larger group (NTS 1a, 3l, and 3n).</p> <p>4.3 Identify a colleague to observe your lesson to provide feedback on how you have used GESI in your lesson (NTS 1a, 3l and 3n).</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 on ICT (i.e., Session 2) with your phones, laptops, and other ICT devices.</p> <p>4.6 You may come along (to the next PLC session) with areas you find challenging in</p>	10 mins

	teaching for a discussion (NTS 3a, 3e).	your teaching for a discussion (NTS 3a, 3e).	
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## PLC Session for Topic 2: Information and Communications Technology (ICT)

<p><b>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 or say during each session. Each bullet needs to be addressed</b></p>	<p><b>Guidance notes on Leading the session. What the PLC Coordinator will have to say during each stage of the session</b></p>	<p><b>Guidance Notes on Teacher Activity during the PLC Session. What teachers will do during each stage of the session.</b></p>	<p><b>Time in session</b></p>
<p><b>1. Introduction to session</b></p>	<p>1.1 Start the session with an ice breaker and ask teachers to review the previous session by writing one thing they learned in the session and share it with a colleague.</p> <p>1.2 Introduce the session by asking a teacher to read the purpose, Learning Outcomes (LOs) and Learning Indicators (LIs) of the session.</p> <p><b>Purpose:</b> Teachers in the 21<sup>st</sup> century are facing new challenges because of the expanding possibilities of ICT integration in every aspect of the school curriculum. Irrespective of the level at which a teacher operates, ICTs have the capabilities to bring several benefits to the teacher and their learners. The benefits include shared learning resources, shared learning spaces and promotion of cooperative and collaborative learning. ICTs also provide a base for autonomous learning.</p> <p>As indicated in the LOs and LIs below, this session is intended to;</p>	<p>1.1. Review the previous session by writing one thing you learned in the session and share it with a colleague.</p> <p>1.2 Read the purpose, Learning Outcomes (LOs) and Learning Indicators (LIs) of the session.</p> <p><b>Purpose:</b> Teachers in the 21<sup>st</sup> century are facing new challenges because of the expanding possibilities of ICT integration in every aspect of the school curriculum. Irrespective of the level at which a teacher operates, ICTs have the capabilities to bring several benefits to the teacher and their learners. The benefits include shared learning resources, shared learning spaces and promotion of cooperative and collaborative learning. ICTs also provide a base for autonomous learning.</p> <p>As indicated in the LOs and LIs below, this session is intended to;</p>	<p>10mins</p>

	<p>a) help teachers plan and teach learner-centred lessons using ICT</p> <p>b) provide teachers access to and use of ICT tools for assessment for learning, assessment as learning and assessment of learning</p> <p>c) introduce teachers to the use of ICT for the development of 21<sup>st</sup> century skills</p> <p>d) guide teachers in the use of ICT software and hardware for teaching and learning.</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, learning and assessment (NTS 3g, 3h, 3j, 3k, 3n, and 3p).</p> <p>LI 2.1 Mention and describe at least three basic ICT tools and how to use them in teaching, learning and assessment.</p> <p>LI 2.2 Analyse the impact of ICT on teaching, learning and assessment.</p>	<p>a) help teachers plan and teach learner-centred lessons using ICT</p> <p>b) provide teachers access to and use of ICT tools for assessment for learning, assessment as learning and assessment of learning</p> <p>c) introduce teachers to the use of ICT for the development of 21<sup>st</sup> century skills</p> <p>d) guide teachers in the use of ICT software and hardware for teaching and learning.</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, learning and assessment (NTS 3g, 3h, 3j, 3k, 3n, and 3p).</p> <p>LI 2.1 Mention and describe at least three basic ICT tools and how to use them in teaching, learning and assessment.</p> <p>LI 2.2 Analyse the impact of ICT on teaching, learning and assessment.</p>	
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	<p>1.3 Ask teachers to mention at least three basic ICT tools and browsers and what they are used for (NTS 3a, 3f, 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Desktop computers for preparation of documents</i></li> <li>b) <i>Laptops for preparation and presentation of lessons</i></li> <li>c) <i>Calculators for mathematical and scientific analysis</i></li> <li>d) <i>Projectors for presentations</i></li> <li>e) <i>Printers for printing and photocopying of documents and scanning</i></li> <li>f) <i>Browsers for online search, for instance, Mozilla Firefox, Google chrome, Opera-mini, Microsoft edge, etc.</i></li> </ul> <p>1.4 Ask teachers to distinguish between computer software and hardware by mentioning at least two of each (NTS 3e, 3i, 3j).</p> <p><b>Software</b></p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i><u>Office Professional</u>, for instance, Windows XP</i></li> <li>b) <i><u>Good photo software</u>, for instance, <u>Microsoft Digital Photo Suite</u></i></li> <li>c) <i>Photo story 2 - comes with Service Pack 2</i></li> <li>d) <i>Mavis Beacon typing software</i></li> <li>e) <i><u>Smart Notebook</u></i></li> <li>f) <i>Microsoft Teams, etc.</i></li> </ul>	<p>1.3 Mention at least three basic ICT tools and browsers and what they are used for (NTS 3a, 3f, 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Desktop computers for preparation of documents</i></li> <li>b) <i>Laptops for preparation and presentation of lessons, etc.</i></li> </ul> <p>1.4 Distinguish between computer software and hardware by mentioning at least two of each (NTS 3e, 3i, 3j).</p> <p><b>Software</b></p> <p><i>E.g.</i></p> <p><i><u>Office Professional</u>, for instance, Windows XP, etc.</i></p>	
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	<p><b>Hardware</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Flat screen monitor</li> <li>b) Printer, for instance HP</li> <li>c) CD/DVD RW drive(s)</li> <li>d) <u>USB ports</u></li> <li>e) Scanner, for instance Epson brand</li> <li>f) Digital camera, for instance Canon</li> <li>g) External storage, for instance an <u>external hard drive</u> to back up data</li> <li>h) Portable storage, for instance USB flash drive, etc.</li> </ul> <p>1.5 Ask teachers who are conversant with and have utilized ICT tool(s) in their lessons to share their experiences of the integration of ICT into their lessons and the impact of ICT on their teaching (NTS 3a, 3j).</p> <p>E.g.</p> <ul style="list-style-type: none"> <li>a) Open Educational Resources (OERs) i.e., open courseware, learning models, streaming videos, online tutorials, open access journals, digital learning objects, all improve lesson presentations and make them more interesting</li> <li>b) The use of projector and laptops for lesson presentation saves time for writing on the board and extends quality time on activities to enhance learning</li> <li>c) Digital learning materials, for instance, e-textbooks,</li> </ul>	<p><b>Hardware</b> E.g. Flat screen monitor, etc.</p> <p>1.5 Share your experiences of the integration of ICT into your lessons and the impact of ICT on your teaching (NTS 3a, 3j).</p> <p>E.g.</p> <ul style="list-style-type: none"> <li>a) Open Educational Resources (OERs) i.e., open courseware, learning models, streaming videos, online tutorials, open access journals, digital learning objects, all improve lesson presentations and make them more interesting</li> <li>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, etc.</li> </ul>	
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	<p><i>e-workbooks, e-tests and educational videos all help in improving understanding of lessons, etc.</i></p> <p>1.6 Ask teachers to discuss in pairs/groups how to search for information using ICT (NTS 3a).</p> <p><i>E.g.</i></p> <p>a) <i>Mozilla Firefox helps to provide a wide range of educational information through the appropriate search engine</i></p> <p>b) <i>ResearchGate provides access to academic writings</i></p> <p>c) <i>Google podcast provides learning information and content that can be used in teaching and learning</i></p> <p>d) <i>Twitter provides videos, images and demos that can be used to plan and deliver a lesson</i></p> <p>e) <i>Google classroom provides a wide range of features in lesson delivery, etc.</i></p>	<p>1.6 Discuss in pairs/groups how to search for information using ICT (NTS 3a).</p> <p><i>E.g.</i></p> <p>a) <i>Mozilla Firefox helps to provide a wide range of educational information through the appropriate search engine</i></p> <p>b) <i>ResearchGate provides access to academic writings, etc.</i></p>	
<p><b>2. Planning for teaching, learning and assessment activities for the lesson/s making links to the basic school curriculum</b></p>	<p>2.1 Ask teachers in pairs/groups to share their views on the ICT tools they intend to use when planning lessons (NTS 3a, 3j).</p> <p><i>E.g.</i></p> <p><i>In planning a lesson, a teacher can use any of the following materials and electronic devices to develop structured learning activities:</i></p>	<p>2.1 In pairs/groups, share your views on the ICT tools you intend to use when planning lessons (NTS 3a, 3j).</p> <p><i>E.g.</i></p> <p><i>In planning a lesson, a teacher can use any of the following materials and electronic devices to develop structured learning activities:</i></p>	15 mins

	<p>a) Resources including printers/photocopiers, printed task sheets, links to videos, slides, memory sticks, calculator (to cater for the learning needs of different learners)</p> <p>b) Different presentation modes including PowerPoint presentation, projecting electronic diagrams and charts, audio recorded tasks (to save time used in writing on the board and extend time on task)</p> <p>c) Different assessment methods including completing task sheets, using printed marking schemes for self and peer assessment, answering audio recorded questions, using calculators to check answers</p> <p>d) Using printed task sheets in groupwork to develop communication and collaboration skills, problem solving skills, etc.</p> <p>2.2 Ask teachers to discuss general ICT Apps for teaching, learning and assessment and give examples of how they are used (NTS 3a, 3j).</p> <p>E.g.</p> <p>a) Turnitin is used to check plagiarism</p> <p>b) Grammarly is used to check sentence structure</p>	<p>a) Resources including printers/photocopiers, printed task sheets, links to videos, slides, memory sticks, calculators (to cater for the learning needs of different learners)</p> <p>b) Different presentation modes including PowerPoint presentation, projecting electronic diagrams and charts, audio recorded tasks (to save time used in writing on the board and extend time on task)</p> <p>c) Different assessment methods including completing task sheets, using printed marking schemes for self and peer assessment, answering audio recorded questions, using calculators to check answers, etc.</p> <p>2.2 Discuss general ICT Apps for teaching, learning and assessment and give examples of how they are used (NTS 3a, 3j).</p> <p>E.g.</p> <p>a) Turnitin is used to check plagiarism</p> <p>b) Grammarly- is used to check sentence structure etc.</p>	
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	<p>c) PowerPoint is used to design lessons for presentation</p> <p>d) Microsoft excel is used to analyse learners' data and also for assessment</p> <p>e) YouTube provides a variety of educational videos for teaching and learning</p> <p>f) Microsoft word has features for planning lessons and demonstrations</p> <p>g) ClassMarker helps to create and organize class exercise, class test and assignment and also provides instant feedback, etc.</p> <p>2.3 Ask teachers to discuss the appropriate ICT tools to support learners with Special Educational Needs (SEN) when planning, teaching and learning (NTS 3f, 3o).</p> <p>E.g.</p> <p>a) Google Podcast is used to teach the visually impaired learners by listening to audio/voice instructions</p> <p>b) Braille is used by the visually impaired to write</p> <p>c) Video is used to provide visual images to learners</p> <p>d) Hearing aids for amplifying sound</p> <p>e) Text magnifier is used to enlarge the font of texts, etc.</p> <p>f) Socratic quizzes and questions with real-time grading, etc.</p>	<p>2.3 Discuss the appropriate ICT tools to support learners with Special Educational Needs (SEN) when planning, teaching and learning (NTS, 3f, 3o).</p> <p>E.g.</p> <p>a) Google Podcast is used to teach the visually impaired learners by listening to audio/voice instructions</p> <p>b) Braille- used by the visually impaired to write etc.</p>	
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<p><b>3. Teaching, learning, resources and assessment</b></p>	<p>3.1 Ask teachers to discuss in pairs/groups and come out with at least three strategies on how ICT can be integrated in (their) specific subject areas (NTS 3i, 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>The use of computer simulation in science teaching, presentations and assessment of practical lessons</i></li> <li>b) <i>In mathematics, Excel spreadsheet can be used to present data, draw charts and assess learning</i></li> <li>c) <i>The use of computers and ICT applications such as CorelDraw and Publisher to teach Basic Design and Technology</i></li> <li>d) <i>The use of window-eye, Jon Access with Speech (JAWS), TOBII Eye Tracking System, Non-Visual Desktop Access (NVDA) in teaching learners who are visually impaired</i></li> <li>e) <i>Other sources: Smart phones, calculators, projectors, Office 365 vs G-Suite for education, Google Meet for online teaching, Google Classroom for online teaching, learning and assessment, etc.</i></li> </ul> <p>3.2 Ask teachers to mention at least three 21<sup>st</sup> century skills and ICT tools that can be integrated during teaching and learning to develop these skills in learners (NTS 3j).</p>	<p>3.1 Discuss in pairs/groups and come out with at least three strategies on how ICT can be integrated in (your) specific subject areas (NTS 3i, 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>The use of computer simulation in science teaching, and assessment of practical lessons</i></li> <li>b) <i>In mathematics, Excel spreadsheet can be used to present data, draw charts and assess learning</i></li> <li>c) <i>The use of computers and ICT applications such as CorelDraw and Publisher to teach Basic Design and Technology, etc.</i></li> </ul> <p>3.2 Mention at least three 21<sup>st</sup> century skills and ICT tools that can be integrated during teaching and learning to develop these skills in learners (NTS 3j).</p>	<p>15mins</p>
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	<p>E.g.</p> <p>a) <i>Building communication skills with the use of ICT tools such as computers, projectors to do PowerPoint presentations</i></p> <p>b) <i>Building collaborative skills through the use of electronic media, for instance, group activities through the use of WhatsApp</i></p> <p>c) <i>Enhancing research capabilities or skills through the use of internet search engines such as Google search, Wikipedia, Ask.com</i></p> <p>d) <i>Improving creativity skills through the use of YouTube videos</i></p> <p>e) <i>The following links can be used to access information on 21<sup>st</sup> century skills:</i></p> <p>i. <b>Collaborative problem solving</b> <a href="https://youtu.be/cnkKHLdyGE">https://youtu.be/cnkKHLdyGE</a></p> <p>ii. <b>Creativity</b> <a href="https://www.youtube.com/watch?v=qV7DiTFdtvw">https://www.youtube.com/watch?v=qV7DiTFdtvw</a></p> <p>iii. <b>Hands-on learning</b> <a href="https://youtu.be/vYUNfj9lKzs">https://youtu.be/vYUNfj9lKzs</a></p> <p>iv. <b>Effective written and oral communication</b> <a href="https://www.youtube.com/watch?v=D5hMNXkPQA">https://www.youtube.com/watch?v=D5hMNXkPQA</a></p> <p>v. <b>Ethical decision making</b> <a href="https://youtu.be/lwk8dGFn1tY">https://youtu.be/lwk8dGFn1tY</a></p> <p>vi. <b>Information and media literacy</b></p>	<p>E.g.</p> <p>a) <i>Building communication skills with the use of ICT tools such as computers, projectors to do PowerPoint presentations</i></p> <p>b) <i>Building collaborative skills through the use of electronic media, for instance, group activities through the use of WhatsApp</i></p> <p>c) <i>The following links can be used to access information on 21<sup>st</sup> century skills:</i></p> <p>i. <b>Collaborative problem solving</b> <a href="https://youtu.be/cnkKHLdyGE">https://youtu.be/cnkKHLdyGE</a></p> <p>ii. <b>Creativity</b> <a href="https://www.youtube.com/watch?v=qV7DiTFdtvw">https://www.youtube.com/watch?v=qV7DiTFdtvw</a></p> <p>iii. <b>Effective written and oral communication</b> <a href="https://www.youtube.com/watch?v=D5hMNXkPQA">https://www.youtube.com/watch?v=D5hMNXkPQA</a></p> <p>iv. <b>Information and media literacy</b> <a href="https://youtu.be/biYhmTC3lrc">https://youtu.be/biYhmTC3lrc</a></p> <p>v. <b>Critical thinking</b> <a href="https://youtu.be/y7iMEH7jGfK">https://youtu.be/y7iMEH7jGfK</a> <a href="https://youtu.be/88DoGrqEuJk">https://youtu.be/88DoGrqEuJk</a></p> <p>vi. <b>Leadership</b> <a href="https://youtu.be/NF10F6bX_q">https://youtu.be/NF10F6bX_q</a></p> <p>vii. <b>Personal responsibility and initiative</b></p>	
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	<p><a href="https://youtu.be/bjYhmTC3lrc">https://youtu.be/bjYhmTC3lrc</a></p> <p>vii. <b>Critical thinking</b>  <a href="https://youtu.be/y7iMEH7iGFk">https://youtu.be/y7iMEH7iGFk</a>  <a href="https://youtu.be/88DoGrqEuJk">https://youtu.be/88DoGrqEuJk</a></p> <p>viii. <b>Leadership</b>  <a href="https://youtu.be/-NF10F6bX_q">https://youtu.be/-NF10F6bX_q</a></p> <p>ix. <b>Personal responsibility and initiative</b>  <a href="https://youtu.be/nRE131ErclM">https://youtu.be/nRE131ErclM</a></p> <p>3.3 Ask a teacher to model a teaching activity using any ICT tool(s) of their choice (EXTENSION ACTIVITY).</p>	<p><a href="https://youtu.be/nRE131ErclM">https://youtu.be/nRE131ErclM</a></p> <p>3.3 Model a teaching activity using any ICT tool(s) of your choice (EXTENSION ACTIVITY).</p>	
<p><b>4. Evaluation and review of session:</b></p> <ul style="list-style-type: none"> <li>○ <b>Identifying and addressing any outstanding issues relating to the lesson/s for clarification</b></li> <li>○ <b>Noting that teachers need to identify critical friends to observe lessons and give feedback</b></li> </ul>	<p>4.1 Ask teachers to reflect individually and write what they have learned in the session (NTS 1a, 1b).</p> <p>4.2 Ask teachers to share what they have written with the larger group (NTS 1a,1b).</p> <p>4.3 Remind teachers to identify a colleague to observe them while they teach their lesson and provide feedback to them.</p> <p>4.4 Remind teachers to come along with their NTS guide and read Session 3 from the PLC Handbook in preparation for the next session.</p> <p>4.5 Remind teachers that they may come along with areas they find challenging in their teaching and also a sample lesson plan.</p>	<p>4.1 Reflect and write what you have learned in the session (NTS 1a, 1b).</p> <p>4.2 Share what you have written with the larger group (NTS 1a,1b).</p> <p>4.3 Identify a colleague to observe your lessons and provide feedback to you.</p> <p>4.4 Remember to come along with your NTS guide and read Session 3 from the PLC Handbook in preparation for the next session.</p> <p>4.5 You may come along with areas you find challenging in your teaching and also a sample lesson plan.</p>	10 mins

## PLC Session 3: Social and Emotional Learning (SEL)

<p><b>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 or say during each session. Each bullet needs to be addressed</b></p>	<p><b>Guidance notes on Leading the session. What the PLC Coordinator will have to say during each stage of the session</b></p>	<p><b>Guidance Notes on Teacher Activity during the PLC Session. What teachers will do during each stage of the session.</b></p>	<p><b>Time in session</b></p>
<p><b>1. Introduction to new session</b></p>	<p>1.1 Start the session with an icebreaker and ask teachers to review the previous session by writing one thing they learned and share with a colleague.</p> <p>1.2 Ask a teacher to read the purpose, introduction to Social and Emotional Learning (SEL), the Learning Outcomes (LOs) and the Learning Indicators (LIs) below.</p> <p><b>Purpose:</b> The purpose of this session is to guide teachers to;</p> <ul style="list-style-type: none"> <li>a) have a clear understanding of SEL competencies</li> <li>b) take SEL competencies into account in the teaching and learning process</li> <li>c) implement SEL in other aspects of school life</li> <li>d) engage teachers on how to encourage learners to take SEL into account in their learning.</li> </ul> <p><b>Introduction to SEL</b> Social and emotional learning refers to the process through which learners learn to understand and manage</p>	<p>1.1 Write one thing you learned in the previous session and share with a colleague.</p> <p>1.2 Read the purpose, introduction to Social and Emotional Learning (SEL), the Learning Outcomes (LOs) the Learning Indicators (LIs) below.</p> <p><b>Purpose:</b> The purpose of this session is to guide teachers to;</p> <ul style="list-style-type: none"> <li>a) have a clear understanding of SEL competencies</li> <li>b) take SEL competencies into account in the teaching and learning process</li> <li>c) implement SEL in other aspects of school life</li> <li>d) engage teachers on how to encourage learners to take SEL into account in their learning.</li> </ul> <p><b>Introduction to SEL</b> Social and emotional learning refers to the process through which learners learn to understand and manage</p>	<p>15 mins</p>

	<p>emotions; set and achieve positive goals; feel and show empathy for others; establish and maintain positive relationships; and make responsible decisions (Weissberg, <i>et al.</i>, 2015). Teaching involves addressing learners' emotional, social and behavioural needs. With the right support, learners learn to articulate and manage their own emotions. They are able to deal with conflict and solve problems if they are given the appropriate guidance. Also, learners are able to understand things from other people's perspective and communicate in appropriate ways if teachers make a deliberate effort to encourage them to do so. These social and emotional skills are essential for learners' development. They support effective learning and are linked to positive outcomes in later life. Social and emotional learning can enhance mental health and well-being, positive learner behaviour and academic performance.</p> <p>LO 1: Demonstrate knowledge and understanding of concepts related to SEL (NTS 2e, 2f, 3c, 3d, 3f, 3g and 3k).</p> <p>LI 1.1 Explain the term SEL. LI 1.2 List and explain at least four competencies associated with SEL.</p> <p>LO 2: Demonstrate knowledge and understanding of SEL</p>	<p>emotions; set and achieve positive goals; feel and show empathy for others; establish and maintain positive relationships; and make responsible decisions (Weissberg, <i>et al.</i>, 2015). Teaching involves addressing learners' emotional, social and behavioural needs. With the right support, learners learn to articulate and manage their own emotions. They are able to deal with conflict and solve problems if they are given the appropriate guidance. Also, learners are able to understand things from other people's perspective and communicate in appropriate ways if teachers make a deliberate effort to encourage them to do so. These social and emotional skills are essential for learners' development. They support effective learning and are linked to positive outcomes in later life. Social and emotional learning can enhance mental health and well-being, positive learner behaviour and academic performance.</p> <p>LO 1: Demonstrate knowledge and understanding of concepts related to SEL (NTS 2e, 2f, 3c, 3d, 3f, 3g and 3k).</p> <p>LI 1.1 Explain the term SEL. LI 1.2 List and explain at least four competencies associated with SEL.</p> <p>LO 2: Demonstrate knowledge and understanding of SEL</p>	
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	<p>in basic schools (NTS 2e, 2f, 3c, 3d, 3f, 3g and 3k).</p> <p>LI 2.1 Mention and explain at least two benefits of the SEL competencies listed in LI 1.2.</p> <p>LI 2.2 Discuss how to promote SEL competencies in the school environment including the classroom.</p>	<p>in basic schools (NTS 2e, 2f, 3c, 3d, 3f, 3g and 3k).</p> <p>LI 2.1 Mention and explain at least two benefits of the SEL competencies listed in LI 1.2.</p> <p>LI 2.2 Discuss how to promote SEL competencies in the school environment including the classroom.</p>	
	<p>1.3 Ask teachers in pairs/groups to explain the term SEL in their own words (NTS 2c, 2e).</p> <p><i>E.g.</i>  <i>Social and Emotional Learning refers to the process through which learners learn to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships and make responsible decisions (Weissberg, et al., 2015), etc.</i></p> <p>1.4 Ask teachers to list and explain at least three competencies associated with SEL (NTS 2e, 2f).</p> <p><i>E.g.</i>  <i>a) Self-awareness: Ability to consider and understand one's emotions, thoughts, values and experiences, and how these can influence one's actions</i>  <i>b) Self-management: Ability to regulate and control one's emotions, thoughts and behaviour</i></p>	<p>1.3 In pairs/groups, explain the term SEL in your own words (NTS 2c, 2e).</p> <p><i>E.g.</i>  <i>Social and Emotional Learning refers to the process through which learners learn to understand and manage emotions, set and achieve positive goals, etc.</i></p> <p>1.4 List and explain at least three competencies associated with SEL (NTS 2e, 2f).</p> <p><i>E.g.</i>  <i>a) Self-awareness: Ability to consider and understand one's emotions, thoughts, values and experiences, and how these can influence one's actions</i>  <i>b) Self-management: Ability to regulate and control one's emotions, thoughts and behaviour, etc.</i></p>	

	<p>c) <i>Responsible decision making: Ability to make positive and constructive choices based on ethical standards, safety concerns and social norms</i></p> <p>d) <i>Social awareness: Ability to empathize with others and treat them fairly</i></p> <p>e) <i>Relationship skills: Ability to make positive connections with others, taking their emotions into account, etc.</i></p> <p>1.5 Ask teachers in pairs/groups to mention and explain at least two benefits of any of the competencies of SEL (NTS 2e, 2f, 3c, 3f, 3g, 3k and 3l).</p> <p>E. g.</p> <p>a) <i>Self-awareness:</i>  <i>i. Helps to identify one’s strengths and limitations</i>  <i>ii. Improves self-management and decision making</i></p> <p>b) <i>Self-management:</i>  <i>i. Helps to control one’s impulses</i>  <i>ii. Helps one to set goals and cultivate self-discipline</i></p> <p>c) <i>Responsible decision making:</i>  <i>Helps one to make positive choices and avoid negative ones</i></p> <p>d) <i>Social awareness:</i>  <i>Helps one to establish and maintain healthy relationships and social interactions</i></p> <p>e) <i>Relationship skills:</i>  <i>Helps one to establish and maintain healthy,</i></p>	<p>1.5 In pairs/groups list and explain at least two benefits of any of the competencies of SEL (NTS 2e, 2f, 3c, 3f, 3g, 3k and 3l).</p> <p>E.g.</p> <p>a) <i>Self-awareness:</i>  <i>Helps to identify one’s strengths and limitations</i></p> <p>b) <i>Self-management:</i>  <i>Helps to control one’s impulses, etc.</i></p>	
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	<p><i>mutually rewarding relationships, etc.</i></p> <p>1.6 Ask teachers to discuss how they will promote SEL competencies in their classroom and the school as a whole (NTS 3c).</p> <p><i>E. g.</i></p> <p>a) <i>Self-awareness: Expand learners' emotional vocabulary and support them to express emotions</i></p> <p>b) <i>Self-management:</i></p> <p>i. <i>Teach learners to use self-calming strategies and positive self-talk to help deal with intense emotions</i></p> <p>ii. <i>Model the social and emotional behaviour you want learners to adopt</i></p> <p>c) <i>Social awareness:</i></p> <p>i. <i>Use stories to discuss others' emotions and perspectives</i></p> <p>ii. <i>Give specific and focused praise when learners display SEL skills</i></p> <p>d) <i>Relationship skills: Role play good communication and listening skills</i></p> <p>e) <i>Responsible decision-making: Get learners to practise problem solving strategies</i></p> <p>f) <i>Embed SEL teaching across a range of subject areas (literacy, history, drama and PE), etc.</i></p>	<p>1.6 Discuss how you will promote SEL competencies in your classroom and the school as a whole (NTS 3c).</p> <p><i>E.g.</i></p> <p>a) <i>Self-awareness: Expand learners' emotional vocabulary and support them to express emotions</i></p> <p>b) <i>Self-management: Teach learners to use self-calming strategies and positive self-talk to help deal with intense emotions</i></p> <p>c) <i>Social awareness: Use stories to discuss others' emotions and perspectives, etc.</i></p>	
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<p><b>2. Overcoming SEL-related misconceptions, perceptions, and other challenges in the school environment including the classroom</b></p>	<p>2.1 Ask teachers to reflect individually, share their ideas with a colleague and then with the larger group (i.e. think-pair-share) to identify possible barriers to applying concepts of SEL to teaching and learning and how to address them (NTS 2f, 3m).</p> <p><i>E.g.</i></p> <p><i>Misconceptions:</i></p> <p>a) <i>Many people think that reserved and shy learners are academically weak</i></p> <p>b) <i>Many people think that reserved and shy learners are the most talented learners</i></p> <p><i>To address these, teachers can use whole-class dialogue, questions, think-pair-share in their lessons which will encourage reserved learners to participate fully in lessons</i></p> <p>c) <i>Friendship between boys and girls in school is misconstrued as sexual relationship</i></p> <p><i>To address this, learners should be educated on healthy gender relationships, etc.</i></p> <p>2.2 Ask teachers to identify at least four ways of making assessment SEL responsive (NTS 3k, 3n, 3o and 3p).</p> <p><i>E.g.</i></p> <p>a) <i>Provide constructive feedback to all learners</i></p> <p>b) <i>Give male and female learners equal opportunity to ask and answer questions</i></p>	<p>2.1 Reflect individually, share their ideas with a colleague and then with the larger group (i.e. think-pair share) possible barriers to applying concepts of SEL to teaching and learning and how to address them (NTS 2f, 3m).</p> <p><i>E.g.</i></p> <p><i>Misconception:</i></p> <p>a) <i>Many people think that reserved and shy learners are academically weak</i></p> <p>b) <i>Many people think that reserved and shy learners are the most talented learners</i></p> <p><i>To address this, teachers can use whole-class dialogue, questions, think-pair-share in their lesson which will encourage reserved learners to participate fully lessons etc.</i></p> <p>2.2 Identify at least four ways of making assessment SEL responsive (NTS 3k, 3n, 3o and 3p).</p> <p><i>E.g.</i></p> <p>a) <i>Provide constructive feedback to all learners</i></p> <p>b) <i>Give male and female learners equal opportunity to ask and answer questions</i></p>	<p>15 mins</p>
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	<p>c) <i>Use self and peer assessment activities</i></p> <p>d) <i>Use differentiated assessment to cater for different learning needs of learners</i></p> <p>e) <i>Respect and appreciate learners' feedback, etc.</i></p> <p>2.3 Ask teachers to write and share at least four SEL responsive practices that can help make the learning environment conducive and non-threatening (NTS 3a, 3b, 3c, 3e, 3f and 3g).</p> <p><i>E.g.</i></p> <p>a) <i>Provide suitable seating arrangements to meet all types of learners' needs</i></p> <p>b) <i>Avoid negative expressions or language that can demean or exclude learners</i></p> <p>c) <i>Avoid labelling learners based on their background and physical appearance</i></p> <p>d) <i>Assign roles equally and fairly to all learners</i></p> <p>e) <i>Respect learners' views at all times</i></p> <p>f) <i>Provide psychological safety that makes the learning environment non-threatening, etc.</i></p>	<p>c) <i>Use self and peer assessment activities, etc.</i></p> <p>2.3 Write and share at least four SEL responsive practices that can help make the learning environment conducive and non-threatening (NTS 3a, 3b, 3c, 3e, 3f and 3g).</p> <p><i>E.g.</i></p> <p>a) <i>Provide suitable seating arrangements to meet all types of learners' needs</i></p> <p>b) <i>Avoid negative expressions or language that can demean or exclude learners</i></p> <p>c) <i>Avoid labelling learners based on their background and physical appearance, etc.</i></p>	
<p><b>3. Evaluation and review of session:</b></p> <ul style="list-style-type: none"> <li>● <b>Identifying and addressing any outstanding issues relating to the lesson/s for clarification</b></li> <li>● <b>Noting that teachers need to identify colleagues to observe lessons</b></li> </ul>	<p>3.1 Ask teachers to identify any outstanding issues relating to the session for clarification (NTS 1a).</p> <p>3.2 Ask teachers to individually reflect, write and share what they have learned from the session with the larger group (NTS 1a, 1b).</p> <p>3.3 Ask teachers to identify a colleague to observe their lesson and provide feedback</p>	<p>3.1 Identify and share with the larger group any outstanding issues relating to the session for clarification (NTS 1a).</p> <p>3.2 Individually reflect, write and share what you have learned from the session with the larger group (NTS 1a, 1b).</p> <p>3.3 Identify a colleague to observe your lesson and provide feedback on how you have used SEL in your lesson.</p>	<p>10 mins</p>

<p><b>and report at the next session</b></p>	<p>to them on how they have used SEL in their lesson.</p> <p>3.4 Remind teachers to read Session 4 of the PLC Handbook and come along with both their NTS Guide and a sample lesson plan in preparation for the next session.</p> <p>3.5 Remind teachers that they may come along with areas they find challenging in their teaching (NTS 3a).</p>	<p>3.4 Read session 4 of the PLC Handbook and come along with both your NTS Guide and a sample lesson plan in preparation for the next session.</p> <p>3.5 You may come along with areas you find challenging in your teaching (NTS 3a).</p>	
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## PLC Session 4: Introduction to the National Teachers’ Standards (NTS)

<p><b>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 PLXC Coordinators and teachers to do and say during each session. Each bullet needs to be addressed</b></p>	<p><b>Guidance notes on Leading the session. <i>What the PLC Coordinator will have to say during each stage of the session</i></b></p>	<p><b>Guidance Notes on Teacher Activity during the PLC Session. <i>What teachers will do during each stage of the session.</i></b></p>	<p><b>Time in session</b></p>
<p><b>Introduction to session</b></p>	<p>1.1 Introduce the session with an ice breaker and ask a teacher to read the purpose, Learning Outcomes (LOs) and Learning Indicators (LIs) of the session.</p> <p><b>Purpose:</b> The purpose of the session is to introduce the NTS and expose teachers to how they can align the specific standards in the NTS with their lessons.</p> <p>LO 1: Demonstrate knowledge and understanding of the domains and sub-domains of the NTS (NTS 1b, 1d, 1f and 1g; NTECF pp. 20-22 and 27-30).</p> <p>LI 1.1 State the three domains of the NTS and align them with their sub-domains.</p> <p>LI 1.2 Explain at least one of the sub-domains under any of the three domains.</p>	<p>1.1 Read the purpose, Learning Outcomes (LOs) and Learning Indicators (LIs) of the session.</p> <p><b>Purpose:</b> The purpose of the session is to introduce the NTS and expose teachers to how they can align the specific standards in the NTS with their lessons.</p> <p>LO 1: Demonstrate knowledge and understanding of the domains and sub-domains of the NTS (NTS 1b, 1d, 1f and 1g; NTECF pp. 20-22 and 27-30).</p> <p>LI 1.1 State the three domains of the NTS and align them with their sub-domains.</p> <p>LI 1.2 Explain at least one of the sub-domains under any of the three domains.</p>	<p>10 mins</p>

	<p>LO 2: Demonstrate knowledge and understanding of how the NTS can guide the planning, teaching and assessment of lessons in basic schools (NTS 3a, 3k, 3l, 3n and 3p).</p> <p>LI 2.1 State at least two areas of a lesson where the NTS can be applied in teaching, learning and assessment.</p> <p>LI 2.2 State and explain how the two main purposes of assessment in the NTS can be applied in lessons.</p>	<p>LO 2: Demonstrate knowledge and understanding of how the NTS can guide the planning, teaching and assessment of lessons in basic schools (NTS 3a, 3k, 3l, 3n and 3p).</p> <p>LI 2.1 State at least two areas of a lesson where the NTS can be applied in teaching, learning and assessment.</p> <p>LI 2.2 State and explain how the two main purposes of assessment in the NTS can be applied in lessons.</p>	
<p><b>Give regard for the domains and subdomains of the NTS, etc.</b></p>	<p>1.3 Ask teachers to mention the domains in the NTS and align them with their sub-domains (NTS 1b, 1d, 1f and 1g). <i>E.g.</i></p> <p>a) <i>Professional Values and Attitudes (PVA)</i></p> <p>i. <i>Professional development</i></p> <p>ii. <i>Community of practice</i></p> <p>b) <i>Professional knowledge (PK)</i></p> <p>i. <i>Knowledge of Educational frameworks and curriculum</i></p> <p>ii. <i>Knowledge of students(learners)</i></p> <p>c) <i>Professional Practice (PP).</i></p> <p>i. <i>Managing the learning environment</i></p> <p>ii. <i>Teaching and learning</i></p> <p>iii. <i>Assessment</i></p> <p>1.4 Ask teachers to use think-pair-share (involving an</p>	<p>1.3 Mention the domains in the NTS and align them with their sub-domains (NTS 1b, 1d, 1f and 1g). <i>E.g.</i></p> <p>a) <i>Professional Values and Attitudes (PVA)</i></p> <p>i. <i>Professional development</i></p> <p>ii. <i>.....</i></p> <p>b) <i>Professional knowledge (PK)</i></p> <p>i. <i>Knowledge of Educational frameworks and curriculum</i></p> <p>ii. <i>.....</i></p> <p>c) <i>Professional Practice (PP).</i></p> <p>i. <i>Managing the learning environment</i></p> <p>ii. <i>Teaching and learning</i></p> <p>iii. <i>.....</i></p> <p>1.4 Use think-pair-share (involving an individual</p>	10 mins

	<p>individual thinking about an issue and sharing their views with a partner and both of them sharing the views they have put together with the larger group) to explain the sub-domains and present their explanations on charts for a gallery walk.</p> <p><i>E.g.</i></p> <p>a)PVA</p> <p>i. <i>Professional development is a process by which teachers maintain and enhance their knowledge, skills and experiences gained as they work beyond any initial training</i></p> <p>ii. <i>Community of practice is a group of people who share concern and passion for something they do and learn how to do it better as they interact regularly</i></p> <p>b)PK</p> <p>i. <i>Knowledge of Educational frameworks and curriculum involves the familiarity of the teacher with educational policies, programmes, the curriculum across the various grades of practice</i></p> <p>ii. <i>Knowledge of learners concerns itself with the ability of the teacher to have knowledge about the characteristics of their learners and needs at the various grades</i></p> <p>c) PP</p> <p>i. <i>Managing the learning environment is about creating a safe and</i></p>	<p>thinking about an issue and sharing their views with a partner and both of them sharing the views they have put together with the larger group) to explain the sub-domains and present your explanations on charts for a gallery walk.</p> <p><i>E.g.</i></p> <p>a) PVA</p> <p>i. <i>Professional development is a process by which teachers maintain and enhance their knowledge, skills and experiences gained as they work beyond any initial training</i></p> <p>ii. <i>Community of practice is a group of people who share concern and passion for something they do and learn how to do it better as they interact regularly</i></p> <p>b)PK</p> <p>i. <i>Knowledge of Educational frameworks and curriculum involves the familiarity of the teacher with educational policies, programmes, the curriculum across the various grades of practice</i></p> <p>ii. <i>Knowledge of learners concerns itself with the ability of the teacher to have knowledge about the characteristics of their learners and needs at the various grades</i></p> <p>b) PP</p> <p>i. <i>Managing the learning environment is about creating a safe and</i></p>	
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	<p><i>conducive learning environment for learners at all times</i></p> <p><i>ii. Teaching and learning involve the ability of the teacher to plan and deliver a variety of teaching strategies that encourage learners' participation and critical thinking</i></p> <p><i>iii. Assessment is when the teacher integrates a variety of purposes of assessment (formative assessment - assessment as learning and assessment for learning; summative assessment - assessment of learning) into teaching to support learning</i></p> <p>1.5 Ask teachers in groups/pairs to state the areas of their lessons where NTS can be applied (NTS 3a, 3e, 3f, 3k, 3l, 3n and 3p).</p> <p><i>E.g.</i></p> <p><i>a) Planning</i></p> <p><i>b) Delivery</i></p> <p><i>c) Assessment</i></p> <p>1.6 Ask teachers to state the two main purposes of assessment in the NTS through think-pair-share (NTS 3k, 3l, 3n and 3p).</p> <p><i>E.g.</i></p> <p><i>a) Formative assessment</i></p> <p><i>i. assessment as learning</i></p> <p><i>ii. assessment for learning</i></p> <p><i>b) Summative assessment (Assessment of learning)</i></p>	<p><i>conducive learning environment for learners at all times</i></p> <p><i>ii. Teaching and learning involve the ability of the teacher to plan and deliver a variety of teaching strategies that encourage learners' participation and critical thinking</i></p> <p><i>iii. Assessment is when the teacher integrates a variety of purposes of assessment (formative assessment - assessment as learning and assessment for learning; summative assessment - assessment of learning) into teaching to support learning</i></p> <p>1.5 State the areas of your lessons where NTS can be applied (NTS 3a,3e,3f, 3k, 3l, 3n and 3p).</p> <p><i>E.g.</i></p> <p><i>a) Planning</i></p> <p><i>b) Delivery, etc.</i></p> <p>1.6 State the two main purposes of assessment in the NTS using think-pair-share (NTS 3k, 3l, 3n and 3p).</p> <p><i>E.g.</i></p> <p><i>a) Formative assessment</i></p> <p><i>i. assessment as learning</i></p> <p><i>ii. ....</i></p> <p><i>b) .....</i></p>	
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<p><b>3. Planning for teaching, learning and assessment activities for the lesson/s making links to the basic school curriculum</b></p>	<p>3.1 Ask teachers to refer to appendices 4.1 and 4.2 for a sample lesson plans in Science as a guide and tease out the LOs and the LIs in their lesson plan (NTS 3a, 3e, 3g and 3j).</p> <p>3.2 Ask teachers to explain how the NTS can help to promote the delivery of lessons in basic schools (NTS 3e, 3f, 3g, 3h, 3i and 3j).</p> <p><i>E.g.</i></p> <p><i>NTS 3e: Employ a variety of instructional strategies that encourage learner participation and critical thinking. (This standard can help teachers use different learning resources and teaching methods to cater for the needs of all learners in a class)</i></p> <p><i>NTS 3f: Pay attention to all learners, especially girls and learners with Special Educational Needs, ensuring their progress. (This standard will encourage the teacher to make a conscious effort to plan and teach inclusive lessons)</i></p> <p><i>NTS 3g: Employ instructional strategies appropriate for mixed ability, multilingual and multi-age classes</i></p> <p><i>NTS 3h: Set meaningful tasks that encourage learner collaboration and leads to purposeful learning</i></p> <p><i>NTS 3i: Explain concepts clearly using examples familiar to learners, etc.</i></p>	<p>3.1 Refer to appendices 4.1 and 4.2 for a sample lesson plans in Science as a guide and tease out the LOs and the LIs in your lesson plan (NTS 3a, 3e, 3g and 3j).</p> <p>3.2 Explain how the NTS can help to promote the delivery of lessons in basic schools (NTS 3e, 3f, 3g, 3h, 3i and 3j).</p> <p><i>E.g.</i></p> <p><i>NTS 3e: Employ a variety of instructional strategies that encourage learner participation and critical thinking. (This standard can help teachers use different learning resources and teaching methods to cater for the needs of all learners in a class)</i></p> <p><i>NTS 3f: Pay attention to all learners, especially girls and learners with Special Educational Needs, ensuring their progress. (This standard will encourage the teacher to make a conscious effort to plan and teach inclusive lessons), etc.</i></p>	
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	<p>3.3 Ask teachers to explain how the NTS can help to promote the effective use of assessment in the classroom (NTS 3k, 3l, 3m, 3n, 3o and 3p).</p> <p><i>E.g.</i></p> <p><i>NTS 3k: Integrate a variety of assessment modes into teaching to support learning.</i></p> <p><i>NTS 3l: Listen to learners and give constructive feedback</i></p> <p><i>NTS 3m: Identify and remediate learners' difficulties or misconceptions, referring learners whose needs lie outside the competency of the teacher</i></p> <p><i>NTS 3n: Keep meaningful records of every learner and communicates progress clearly to parents and learners</i></p> <p><i>NTS 3o: Demonstrate awareness of national and school learning outcomes of learners</i></p> <p><i>NTS 3p: Use objective criterion referencing to assess learners etc.</i></p> <p>3.4 Ask a teacher to model a teaching activity using any ICT tool(s) of their choice taking into consideration appropriate NTS (EXTENSION ACTIVITY).</p>	<p>3.3 Explain how the NTS can help to promote the effective use of assessment in the classroom (NTS 3e, 3f, 3g, 3h, 3i and 3j).</p> <p><i>E.g.</i></p> <p><i>NTS 3k: Integrate a variety of assessment modes into teaching to support learning.</i></p> <p><i>NTS 3l: Listen to learners and give constructive feedback</i></p> <p><i>NTS 3m: Identify and remediate learners' difficulties or misconceptions, referring learners whose needs lie outside the competency of the teacher</i></p> <p><i>NTS 3n: Keep meaningful records of every learner and communicates progress clearly to parents and learners, etc.</i></p> <p>3.4 Model a teaching activity using any ICT tool(s) of their choice (EXTENSION ACTIVITY).</p>	
<p><b>4. Evaluation and review of session:</b></p> <ul style="list-style-type: none"> <li>○ <b>Teachers need to identify critical friends to observe lessons and give feedback</b></li> <li>○ <b>Teacher s need to identify and</b></li> </ul>	<p>4.1 Ask teachers to reflect individually and write what they have learned in the session (NTS 1a, 1b).</p> <p>4.2 Ask teachers to share what they have written with the larger group (NTS 1a).</p> <p>4.3 Remind teachers to identify a colleague to</p>	<p>4.1 Reflect individually and write what you have learned in the session (NTS 1a, 1b).</p> <p>4.2 Share what you have written with the larger group (NTS 1a).</p> <p>4.3 Identify a colleague to observe your lessons in</p>	<p>10 mins.</p>

<p><b>address any outstanding issues relating to the lesson/s for clarification</b></p>	<p>observe them while they teach their lesson in relation to PLC Session 4 and provide feedback to them (NTS 1a, 1e).</p> <p>4.4 Remind teachers to come along with their NTS guide and read Session 5 from the PLC Handbook in preparation for the next session.</p> <p>4.5 Remind teachers that they may come along with areas they find challenging in their teaching if any and also a sample lesson plan (NTS 3a, 3e).</p>	<p>relation to PLC Session 4 and provide feedback to them (NTS 1a, 1e).</p> <p>4.4 Remember to come along with your NTS guide and read Session 5 from the PLC Handbook in preparation for the next session.</p> <p>4.5 You may come along with areas you find challenging in your teaching and also a sample lesson plan (NTS 3a, 3e).</p>	
<p><b>Appendix 4.1</b></p>	<p><u>See sample lesson plan on Science in appendices 4.1 and 4.2</u></p> <p><b>a) Strand 1:</b> Diversity of Matter</p> <p><b>b) Sub-strand:</b> <i>Materials</i></p> <p><b>c) Content Standard:</b> B7.1.1.1 Recognize materials as important resources for providing human needs</p> <p><b>d) Indicator(s) B7.1.1.1.1</b> Classify materials into liquid, solid and gas</p> <p><b>e) Performance indicator:</b> learner can recognize materials as important resources for providing human needs.</p> <p><b>f) Core competencies:</b> <i>E.g. Collaborative problem solving, Leadership, critical thinking, communication, digital literacy, creativity and innovation</i></p> <p><b>Key words/Vocabulary:</b> resources, solid, liquid, gas, water vapour</p> <p><b>g) Phase 1: Starter</b> (preparing the brain for learning)</p>	<p><u>See sample lesson plan on Science in appendices 4.1 and 4.2</u></p> <p><b>a) Strand 1:</b> Diversity of Matter</p> <p><b>b) Sub-strand:</b> <i>Materials</i></p> <p><b>c) Content Standard:</b> B7.1.1.1 Recognize materials as important resources for providing human needs</p> <p><b>d) Indicator(s) B7.1.1.1.1</b> Classify materials into liquid, solid and gas</p> <p><b>e) Performance indicator:</b> learner can recognize materials as important resources for providing human needs.</p> <p><b>f) Core competencies:</b> <i>E.g. Collaborative problem solving, Leadership, critical thinking, communication, digital literacy, creativity and innovation</i></p> <p><b>Key words/Vocabulary:</b> resources, solid, liquid, gas, water vapour</p> <p><b>g) Phase 1: Starter</b> (preparing the brain for learning)</p>	

	<p>Engage learners in naming and describing materials assembled from the environment in terms of texture, appearance, colour, smell and shape</p> <p><b>h) Phase 2: Main (new learning including assessment)</b></p> <p><i>i. Ask learners to Group the materials into liquids, solids and gases and give reasons for the grouping</i></p> <p><i>ii. Put learners in groups or in pairs for them to discuss the differences between liquid, solid and gas. (Initiate the discussion by using question(s). Ensure that when students are discussing the topic, they should talk extensively about the issues bringing their view points).</i></p> <p><i>iii. Perform activities to demonstrate the presence of air (gas). For example, heating water in a receptacle and tie the open end of a plastic bag to the mouth of the receptacle to form a balloon. Let the learners observed the plastic bag and explain why the plastic bag ballooned. Caution: Ensure that the hot water does not pour on the learners. Any other appropriate activity can be performed by the learners.</i></p>	<p>Engage learners in naming and describing materials assembled from the environment in terms of texture, appearance, colour, smell and shape</p> <p><b>h) Phase 2: Main (new learning including assessment)</b></p> <p><i>i. Ask learners to Group the materials into liquids, solids and gases and give reasons for the grouping</i></p> <p><i>ii. Put learners in groups or in pairs for them to discuss the differences between liquid, solid and gas. (Initiate the discussion by using question(s). Ensure that when students are discussing the topic, they should talk extensively about the issues bringing their view points).</i></p> <p><i>iii. Perform activities to demonstrate the presence of air (gas). For example, heating water in a receptacle and tie the open end of a plastic bag to the mouth of the receptacle to form a balloon. Let the learners observed the plastic bag and explain why the plastic bag ballooned. Caution: Ensure that the hot water does not pour on the learners. Any other appropriate activity can be performed by the learners.</i></p>	
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	<p><b>Homework/project work/community engagement suggestions</b></p> <p><b>Let learners do the following as homework:</b></p> <ol style="list-style-type: none"> <li>Visit industries within the locality to identify the different types of liquids, solids and gases.</li> <li>Identify materials at home and classify them into solids, liquids and gases.</li> <li>Find out why water is visible; and air is not</li> </ol> <p><b>Phase 3: Plenary/Reflections (Learner and teacher)</b> Allow one learner from each group to tell the class what they have learned. Encourage learners not to repeat already mentioned responses.</p> <p><b>Cross-curriculum links/ Cross-cutting issues</b></p> <p><i>E.g.</i> <i>Subjects like Career Technology and Physical and Health Education use solids and liquids in their activities. Therefore, cross check with teachers of these subjects to see if solids and liquids are treated before you facilitate learning of them.</i></p> <p><b>Potential misconceptions/student learning difficulties</b> <i>E.g.</i> The misconception that air supports burning should be addressed. <b>Note</b> that it is the oxygen component of air that</p>	<p><b>Homework/project work/community engagement suggestions</b></p> <p><b>Let learners do the following as homework:</b></p> <ol style="list-style-type: none"> <li>Visit industries within the locality to identify the different types of liquids, solids and gases.</li> <li>Identify materials at home and classify them into solids, liquids and gases.</li> <li>Find out why water is visible; and air is not</li> </ol> <p><b>Phase 3: Plenary/Reflections (Learner and teacher)</b> Allow one learner from each group to tell the class what they have learned. Encourage learners not to repeat already mentioned responses.</p> <p><b>Cross-curriculum links/ Cross-cutting issues</b></p> <p><i>E.g.</i> <i>Subjects like Career Technology and Physical and Health Education use solids and liquids in their activities. Therefore, cross check with teachers of these subjects to see if solids and liquids are treated before you facilitate learning of them.</i></p> <p><b>Potential misconceptions/student learning difficulties</b> <i>E.g.</i> The misconception that air supports burning should be addressed. <b>Note</b> that it is the oxygen component of air that</p>	
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	<p>supports burning and not the whole air.</p> <p><b>Resources/Equipment</b> Water, cooking oil, sand, gravel, vinegar, soft drink, water vapour, source of heat, liquid medicine any others available.</p>	<p>supports burning and not the whole air.</p> <p><b>Resources/Equipment</b> Water, cooking oil, sand, gravel, vinegar, soft drink, water vapour, source of heat, liquid medicine any others available</p>	
<b>Appendix 4.2</b>	<p>Sample lesson plan for Basic 6</p> <p><b>a) Strand 1:</b> Diversity of Matter</p> <p><b>b) Sub-strand:</b> Materials</p> <p><b>c) Content Standard:</b> <b>B6.1.2.1</b> Recognize materials as important resources for providing human needs</p> <p><b>d) Indicator(s)</b> <b>B6.1.2.1.2:</b> Investigate the uses of metals in everyday life and link the uses to their properties</p> <p><b>e) Performance indicator:</b> Learners understand that the uses of metals depend on their properties and that different metals are used for different purposes.</p> <p><b>f) Core competencies:</b> <i>E.g.</i> Personal Development and Leadership; Digital Literacy; Critical Thinking and Problem Solving; Creativity and Innovation; Cultural Identity and Global Citizenship</p> <p><b>Key words/Vocabulary:</b> metal, malleable, ductile</p>	<p>Sample lesson plan for Basic 6</p> <p><b>a) Strand 1:</b> Diversity of Matter</p> <p><b>b) Sub-strand:</b> Materials</p> <p><b>c) Content Standard:</b> <b>B6.1.2.1</b> Recognize materials as important resources for providing human needs</p> <p><b>d) Indicator(s)</b> <b>B6.1.2.1.2:</b> Investigate the uses of metals in everyday life and link the uses to their properties</p> <p><b>e) Performance indicator:</b> Learners understand that the uses of metals depend on their properties and that different metals are used for different purposes</p> <p><b>f) Core competencies:</b> <i>E.g.</i> Personal Development and Leadership; Digital Literacy; Critical Thinking and Problem Solving; Creativity and Innovation; Cultural Identity and Global Citizenship</p> <p><b>Key words/Vocabulary:</b> metal, malleable, ductile</p>	

	<p><b>g) Phase 1: Starter</b> (preparing the brain for learning)</p> <p>Metals are among the most important materials on earth. Many of the things we use in the home are made of metals. Enter the class with a ringing bell and ask learners which substances make sounds like the bell.</p> <p><b>h) Phase 2: Main (new learning including assessment)</b></p> <p><i>i.</i> Teacher’s displays different objects made from metals and engage learners in groups to write</p> <p><i>ii.</i> Learners discuss and come out with uses of metals by observing the objects displayed in class or from a video, (these include farm tools, jewellery, ornaments, cars, bridges, metallic spoons).</p> <p><i>iii.</i> Link the use of the metal to its property, e.g., copper is used to make wires because it ductile, aluminium is used to make roofing sheets because it is malleable.</p> <p><i>iv.</i> Learners present their ideas to class for discussion</p> <p><b>Homework/project work/community engagement suggestions</b></p> <p><b>Let learners do the following as homework:</b></p> <p><i>i)</i> Visit industries within the locality to identify the</p>	<p><b>g) Phase 1: Starter</b> (preparing the brain for learning)</p> <p>Metals are among the most important materials on earth. Many of the things we use in the home are made of metals. Enter the class with a ringing bell and ask learners which substances make sounds like the bell.</p> <p><b>h) Phase 2: Main (new learning including assessment)</b></p> <p><i>i.</i> Teacher’s displays different objects made from metals and engage learners in groups to write</p> <p><i>ii.</i> Learners discuss and come out with uses of metals by observing the objects displayed in class or from a video, (these include farm tools, jewellery, ornaments, cars, bridges, metallic spoons).</p> <p><i>iii.</i> Link the use of the metal to its property, e.g., copper is used to make wires because it ductile, aluminium is used to make roofing sheets because it is malleable.</p> <p><i>iv.</i> Learners present their ideas to class for discussion.</p> <p><b>Homework/project work/community engagement suggestions</b></p> <p><b>Let learners do the following as homework:</b></p> <p><i>i)</i> Visit industries within the locality to identify the</p>	
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	<p>different types of liquids, solids and gases.</p> <p>ii) Identify materials at home and classify them into solids, liquids and gases.</p> <p>iii) Find out why water is visible; and air is not</p> <p>Assessment Give an example of a metal and what it is used for and explain why it is used for that purpose.</p> <p><b>Phase 3: Plenary/Reflections (Learner and teacher)</b> Teacher facilitates the group discussions by chipping in from time to time since this topic will seem a little more difficult for most learners. Teacher sums up the learning outcomes.</p> <p><b>Cross-curriculum links/ Cross-cutting issues</b> <i>E.g.</i> <i>Subjects like Career Technology, Creative Arts and Physical and Health Education use materials like metals in their activities.</i></p> <p><b>Resources/Equipment</b> Water, cooking oil, sand, gravel, vinegar, soft drink, water vapour, source of heat, liquid medicine.</p>	<p>different types of liquids, solids and gases.</p> <p>ii) Identify materials at home and classify them into solids, liquids and gases.</p> <p>iii) Find out why water is visible; and air is not</p> <p>Assessment Give an example of a metal and what it is used for and explain why it is used for that purpose.</p> <p><b>Phase 3: Plenary/Reflections (Learner and teacher)</b> Teacher facilitates the group discussions by chipping in from time to time since this topic will seem a little more difficult for most learners. Teacher sums up the learning outcomes.</p> <p><b>Cross-curriculum links/ Cross-cutting issues</b> <i>E.g.</i> <i>Subjects like Career Technology, Creative Arts and Physical and Health Education use materials like metals in their activities.</i></p> <p><b>Resources/Equipment</b> Water, cooking oil, sand, gravel, vinegar, soft drink, water vapour, source of heat, liquid medicine.</p>	
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## Appendix 4.3 Sample Lesson Plan for K2

<b>Date:</b> xxxxxxxxxxxx <b>Day:</b> xxxxxxxx <b>Class:</b> KG2 <b>Class size:</b> xxxxxxxx		<b>Strand:</b> K2.6 All Around Us  <b>Sub-Strand:</b> K2.6.3 Water
<b>Content Standard:</b> K2.6.5.1 Demonstrate understanding that water is an important natural resource that helps all living things, human plants and animals.	<b>Indicator:</b> <ul style="list-style-type: none"> <li>○ K2.6.3.1.1, discuss where we get water from its importance to living things and how to care for the sources.</li> <li>○ K2.6.3.1.7, measure, estimate and compare the capacity of different containers of water.</li> </ul>	
<b>Performance Indicator:</b> <ol style="list-style-type: none"> <li>1. Learners can identify some sources of water, it's use and how they can take care of the sources.</li> <li>2. Learners can measure, estimate and compare the capacity of different containers of water in a playful way.</li> </ol>	<b>Core Competencies/Values:</b> <ol style="list-style-type: none"> <li>1. Communication and Collaboration</li> <li>2. Personal Development and Leadership</li> <li>3. Critical Thinking and Problem Solving</li> </ol>	
Key words: Water, sources, use, care, well, rain, stream, river. Ref.MoE(2019)Kindergarten Curriculum pp.166-167		
<b>Phase/Duration</b>	<b>Learners activities</b>	<b>Resources</b>
<b>Phase 1: Starter (preparing the brain for learning)</b>	Sing related song e.g. <ol style="list-style-type: none"> <li>1. "if all the rain drops were lemon drops and candy drops....."</li> <li>2. "it's raining, it's pouring, the old man is snoring....."</li> <li>3. "rain rain go away, come again another day....."</li> </ol>	poster, conversational poster, bottles, flipchart, Audio-visuals e.g. Tv set, mobile phone, Laptop....
<b>Phase 2: Main (new learning including assessment)</b>	<b>CIRCLE TIME (30MINS)</b> <ol style="list-style-type: none"> <li>a. From the song you just sang, tell what you think the song is about. (expected answer: rain)</li> <li>b. In pairs (if possible boys and girls), observe the conversational poster displayed and discuss activities on it.</li> <li>c. With your partner, dictate a story out of the activities on the poster/watch a short video on the sources of water.</li> <li>d. Dictate a story from the pictures or video as the teacher write on a card to be read every day of the week. (The Language Experience Approach, LEA)</li> </ol>	Conversational poster, mobile phone, Audio-visuals.  Markers, piece of card/cardboard
<b>GROUP ACTIVITIES (OUTDOOR, 60mins)</b>	<b>Group one (Outdoor)</b> <ol style="list-style-type: none"> <li>a. Pick a smaller and bigger containers/ bottles and estimate how many times the smaller one will fill the bigger one.</li> </ol>	<b>Outdoor Group one</b> Difference sizes of empty bottles/containers,

<p><b>GROUP ACTIVITIES INDOOR (60MINS)</b></p>	<p>b. Fill the smaller container and empty it into the big container and find out how many of the smaller one filled the bigger one.</p> <p>c. Fill the two containers and estimate their weight, by weighing them in your palm or by lifting them with both hands. Use the words <b>heavy</b> or <b>light</b> to describe the weight of the filled containers.</p> <p><b>Group two</b></p> <p>a. Fill an empty bottle with water and with the help of your teacher, punch a hole on the bottle top.</p> <p>b. Turn the bottle upside down and use it to write the letter-sounds you have learnt so far on the ground.</p> <p><b>Group three</b></p> <p>a. Play the obstacle race game which allows you to fill empty bottles with water at the end of the race to determine which one you will be first.</p> <p>b. In a large group, discuss with your partner what you use water for in your daily life.</p> <p>c. Mention two uses of water each to plants and animals.</p> <p><b>Group one (Indoor)</b> <i>Table-top activities</i> Draw and colour two sources of water.</p> <p><b>Group two</b> Draw and colour yourself using water.</p> <p><b>Group three</b> Match the names of the sources of water to their corresponding pictures.</p>	<p>Water</p> <p><b>Group two</b></p> <p>Bottles, water, nails</p> <p><b>Group three</b></p> <p>Materials for the game</p> <p><b>Indoor Group one</b></p> <p>Pencils, crayons, sheets of paper.</p> <p><b>Group two</b></p> <p>Pencils, crayons, sheets of paper.</p> <p><b>Group three</b></p> <p>a. Word cards on which the names of the following sources of water are written: rain, well, river, pond, borehole and steam.</p> <p>b. Pictures of sources of water.</p>
<p><b>PHONICS (30MINS)</b></p>	<p><b>PHONICS</b> Depending on the Phonic approach being used in your area.</p>	

<p><b>LEARNING CENTRE (30MINS)</b></p>   <p><b>STORY SHARING</b></p>  <p><b>ASSESSMENT</b></p>	<p><b>Learning Centres</b></p> <ol style="list-style-type: none"> <li>1. A set-up station for different uses of water for play.</li> <li>2. Home including kitchen</li> <li>3. Art</li> <li>4. Book</li> <li>5. Clinic/hospital</li> <li>6. Music (calabash in water a musical instrument)</li> </ol> <p><b>Story sharing</b> Facilitator shares a story related to the theme (water).</p> <p><b>Assessment</b> Ask reflect-connect-apply questions</p> <ol style="list-style-type: none"> <li>a. Did you enjoy the lesson? Why?</li> <li>b. Draw and colour a use of water in the school.</li> <li>c. Mention two ways by which you use water in the home.</li> </ol>	<p><b>Learning Centres</b> Centre materials</p>
<p><b>Phase 3: Plenary/Reflections (Learner and teacher)</b></p>	<ol style="list-style-type: none"> <li>a. Sing related songs to the lesson.</li> <li>b. What have you learnt today that you are going to share with your family?</li> </ol>	

## PLC Session 5: Professional Development (PD)

<p><b>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</b></p>	<p><b>Guidance notes on Leading the session.</b> <i>What the PLC Coordinator will have to say during each stage of the session</i></p>	<p><b>Guidance Notes on Teacher Activity during the PLC Session.</b> <i>What teachers will do during each stage of the session.</i></p>	<p><b>Time in session.</b></p>
<p><b>1. Introduction to session</b></p>	<p>1.1 Begin the session with an icebreaker and ask a teacher to read the purpose, Learning Outcomes (LOs) and Learning Indicators (LIs) of the session.</p> <p><b>Purpose:</b> The purpose of the session is to help teachers engage in lifelong learning through professional development. It also seeks to expose teachers to how they can develop their leadership skills.</p> <p>LO 1: Demonstrate knowledge and understanding of Continuous Professional Development (CPD) (NTS 1a, 1b, NTECF Pillar 3: p. 28).</p> <p>LI 1.1 Define CPD (NTS 1a).</p> <p>LI 1.2 State reasons why CPD is important to the teacher (NTS 1a, 1b).</p> <p>LI 1.3 Discuss the different ways of carrying out self-directed learning through libraries, internet and others (NTS 1b).</p>	<p>1.1 Participate in the icebreaker and read the purpose, Learning Outcomes (LOs) and Learning Indicators (LIs) of the session.</p> <p><b>Purpose:</b> The purpose of the session is to help teachers engage in lifelong learning through professional development. It also seeks to expose teachers to how they can develop their leadership skills.</p> <p>LO1: Demonstrate knowledge and understanding of Continuous Professional Development (CPD) (NTS 1a, 1b, NTECF Pillar 3: p. 28).</p> <p>LI 1.1 Define CPD (NTS 1a).</p> <p>LI 1.2 State reasons why CPD is important to the teacher (NTS 1a, 1b).</p> <p>LI 1.3 Discuss the different ways of carrying out self-directed learning through libraries, internet and others (NTS 1b).</p>	<p>10 mins</p>

	<p>LO 2: Demonstrate knowledge and understanding of leadership qualities in the school setting (NTS 1c,1d, 1f, NTECF Pillar 3: p. 28).</p> <p>LI 2.1 State at least two qualities of a good leader in the school setting (NTS 1c,1d and 1f).</p> <p>LI 2.2 State at least three roles of a leader in the school setting (NTS 3f, 3g, 3h and 3i).</p> <p>1.2 Ask teachers to use thought-shower to come out with the definition of CPD (NTS 1a, 1b and 2a).</p> <p><i>E.g.</i>  <i>Continuous professional development is the process by which members of a profession maintain and improve their knowledge and skills to remain competent in their chosen profession for the benefit of themselves, clients and the wider profession.</i>  <i>(<a href="https://ghanapsychologycouncil.org.gh/wp-content/uploads/fdownload/forms/CPD%20Points.pdf">https://ghanapsychologycouncil.org.gh/wp-content/uploads/fdownload/forms/CPD%20Points.pdf</a> ).</i></p> <p>1.3 Ask teachers to use think-pair-share (thinking about the subject on their own, comparing their ideas with that of a colleague and sharing with whole group) to examine at least three benefits of CPD (NTS 1b, 1c,1f, 2a, 2b and 2g).</p> <p><i>E.g.</i>  <i>a) Helps participants to develop additional skills, knowledge and understanding of relevant issues</i></p>	<p>LO 2: Demonstrate knowledge and understanding of leadership qualities in the school setting (NTS 1c,1d, 1f, NTECF Pillar 3: p. 28).</p> <p>LI 2.1 State at least two qualities of a good leader in the school setting (NTS 1c,1d and 1f).</p> <p>LI 2.2 State at least three roles of a leader in the school setting (NTS 3f, 3g, 3h and 3i).</p> <p>1.2 Use thought-shower to come out with the definition of CPD to the best of your knowledge (NTS 1a, 1b and 2a).</p> <p><i>E.g.</i>  <i>Continuous professional development is the process by which members of a profession maintain and improve their knowledge and skills to remain competent in their chosen profession for the benefit of themselves, clients and the wider profession.</i>  <i>(<a href="https://ghanapsychologycouncil.org.gh/wp-content/uploads/fdownload/forms/CPD%20Points.pdf">https://ghanapsychologycouncil.org.gh/wp-content/uploads/fdownload/forms/CPD%20Points.pdf</a> ).</i></p> <p>1.3 Use think-pair-share (thinking about the subject on your own, comparing your ideas with that of a colleague and sharing with whole group) to examine at least three benefits of (NTS 1b, 1c,1f, 2a, 2b and 2g).</p> <p><i>E.g.</i>  <i>a) Helps participants to develop additional skills, knowledge and understanding of relevant issues</i></p>	
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	<p>b) <i>Corrects misconceptions</i>  c) <i>Builds self-confidence</i>  d) <i>Improves performance</i>  e) <i>Encourages best professional practice</i>  f) <i>Helps to induct mentors/new teachers into working with educational policies, etc.</i></p> <p>1.4 Ask teachers to discuss in pairs/groups, at least four ways of carrying out self-directed learning (NTS 1b, 2a and 2c).</p> <p><i>E.g.</i>  a) <i>Using the internet for research</i>  b) <i>Gaining knowledge from peers</i>  c) <i>Going to the library to study</i>  d) <i>Engaging relevant educational stakeholders</i>  e) <i>Practising what has been learned overtime, etc.</i></p> <p>1.5 Ask teachers in pairs/groups to state at least four qualities of a good leader in the school (NTS 1c, 1f, 1g, 3b, 3c, 3f and 3g).</p> <p><i>E.g.</i>  a) <i>Delegates duties</i>  b) <i>Focuses on developing others</i>  c) <i>Practises democratic leadership</i>  d) <i>Goal oriented</i>  e) <i>Hardworking</i>  f) <i>Willing to serve others</i>  g) <i>Good listener</i>  h) <i>Excellent communicator, etc.</i></p> <p>1.6 Ask teachers to think-pair-share to come out with at least three roles of a school leader (NTS 1c, 3b, 3c, 3h and 3j).</p>	<p>b) <i>Corrects misconceptions, etc.</i></p> <p>1.4 In pairs/groups, discuss at least four ways of carrying out self-directed learning (NTS 1b, 2a and 2c).</p> <p><i>E.g.</i>  a) <i>Using the internet for research</i>  b) <i>Gaining knowledge from peers</i>  c) <i>Going to the library to study, etc.</i></p> <p>1.5 In pairs/groups, state at least four qualities of a good leader in the school (NTS 1c, 1f, 1g, 3b, 3c, 3f and 3g).</p> <p><i>E.g.</i>  a) <i>Delegates duties</i>  b) <i>Focuses on developing others</i>  c) <i>Should be democratic, etc.</i></p> <p>1.6 Use think-pair-share to come out with at least three roles of a school leader (NTS 1c, 3b, 3c, 3h and 3j).</p>	
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	<p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Monitoring and supervision of teaching and learning</i></li> <li>b) <i>Coaching and mentoring</i></li> <li>c) <i>Encouraging team members to give off their best</i></li> <li>d) <i>Seeing to the running of day-to-day activities in the school, etc.</i></li> </ul>	<p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Monitoring and supervision of teaching and learning</i></li> <li>b) <i>Coaching and mentoring, etc.</i></li> </ul>	
<p><b>Give regard for misconceptions and stereotypes, GESI, SEL, ICT, 21<sup>st</sup> century skills, etc.</b></p>	<p>1.7 Ask teachers to identify at least four possible misconceptions and stereotypes in learning various subjects such as mathematics (NTS 3m).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Mathematics is for learners with very high IQ</i></li> <li>b) <i>Mathematics is for boys and not for girls</i></li> <li>c) <i>Mathematics is not suitable for learners with Special Educational Needs (SEN)</i></li> <li>d) <i>Mathematics is difficult to learn</i></li> <li>e) <i>Mathematics is not an interesting subject</i></li> <li>f) <i>Girls associate mathematics with boys, etc.</i></li> </ul> <p>1.8 Discuss with teachers how these misconceptions about teaching and learning in a subject such as mathematics can be addressed. (NTS 3f, 3i, 3l, 3m and 3p).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Teaching mathematics should be made practical and interesting</i></li> <li>b) <i>Female teachers should be encouraged to teach mathematics</i></li> <li>c) <i>Invite role models/resource persons that have overcome these stereotypes and have achieved success in</i></li> </ul>	<p>1.7 Identify at least four possible misconceptions and stereotypes in learning various subjects such as mathematics (NTS 3m).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Mathematics is for learners with very high IQ</i></li> <li>b) <i>Mathematics is for boys and not for girls</i></li> <li>c) <i>Mathematics is not suitable for learners with Special Educational Needs (SEN), etc.</i></li> </ul> <p>1.8 Discuss how these misconceptions about teaching and learning in a subject such as mathematics can be addressed (NTS 3f, 3i, 3l, 3m and 3p).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Teaching mathematics should be made practical and interesting</i></li> <li>b) <i>Female teachers should be encouraged to teach mathematics, etc.</i></li> </ul>	10 mins

	<p><i>mathematics in the society to share their experiences to encourage the learners</i></p> <p>d) <i>Play a pre-recorded video of persons who have defied these stereotypes and have achieved success in the society for learners to watch and discuss, etc.</i></p> <p>1.9 Ask teachers to identify at least four activities that promote Gender Equality and Social Inclusion (GESI) and Social and Emotional Learning (SEL) responsiveness in the classroom (NTS 3a, 3c).</p> <p><i>E.g.</i></p> <p>a) <i>Pay attention to all learners especially girls and learners with Special Educational Needs (SEN) by ensuring they are making progress</i></p> <p>b) <i>Employ teaching strategies appropriate for mixed-ability, multi-lingual and multi-age classes</i></p> <p>c) <i>Ensure equal participation of all learners during role play</i></p> <p>d) <i>Be patient with all learners who may be shy or afraid to speak</i></p> <p>e) <i>All learners should have equal access to teaching and learning resources during lessons</i></p> <p>f) <i>Check to see if all learners understand the lesson</i></p> <p>g) <i>Assign all learners leadership roles during groupwork, etc.</i></p> <p>1.10 Ask teachers to identify at least two ways of incorporating ICT in their lessons taking into consideration different learning styles (NTS 3i, 3j).</p>	<p>1.9 Identify at least four activities that promote Gender Equality and Social Inclusion (GESI) and Social and Emotional Learning (SEL) responsiveness in the classroom (NTS 3a, 3c).</p> <p><i>E.g.</i></p> <p>a) <i>Pay attention to all learners especially girls and learners with Special Educational Needs (SEN) by ensuring they are making progress</i></p> <p>b) <i>Employ teaching strategies appropriate for mixed ability, multi-lingual and multi-age classes</i></p> <p>c) <i>Ensure equal participation of all learners during role play, etc.</i></p> <p>1.10 Identify at least two ways of incorporating ICT into your lessons taking into consideration different learning styles (NTS 3i, 3j).</p>	
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	<p>E.g.</p> <p>a. <i>Surfing Open Educational Resources and other Internet sources for information</i></p> <p>b. <i>Teaching using different presentation formats including Microsoft PowerPoint, Microsoft Excel, Microsoft Word, etc.</i></p> <p>1.11 Ask teachers to discuss at least four possible strategies they would adopt to develop 21<sup>st</sup> century skills in their learners (NTS 3a, 3b, 3c and 3d).</p> <p><b>Note:</b> <b>Communication skills</b> E.g.</p> <p>a) <i>Group discussion</i> b) <i>Role-Play</i> c) <i>Presentation, etc.</i></p> <p><b>Collaboration</b> E.g.</p> <p>a) <i>Group discussion</i> b) <i>Project/Research</i> c) <i>Role-play</i> d) <i>Hands-on activities, etc.</i></p> <p><b>Observation and enquiry skills</b> E.g.</p> <p>a) <i>Group discussion</i> b) <i>Project/research</i> c) <i>Role-play</i> d) <i>Hands-on activities, etc.</i></p> <p><b>Creativity and innovation</b> E.g.</p> <p>a) <i>Group discussion</i> b) <i>Project/research</i> c) <i>Role-play</i> d) <i>Hands-on activities</i> e) <i>Presentation, etc.</i></p> <p><b>Personal development</b> E.g.</p> <p>a) <i>Group discussion</i> b) <i>Project/research</i></p>	<p>E.g.</p> <p><i>Surfing Open Educational Resources and other Internet sources for information, etc.</i></p> <p>1.11 Discuss at least four possible strategies you would adopt to develop 21<sup>st</sup> century skills in your learners (NTS 3a, 3b, 3c and 3d).</p> <p><b>Note:</b> <b>Communication skills</b> E.g.</p> <p>a) <i>Group discussion</i> b) <i>Presentation, etc.</i></p> <p><b>Collaboration</b> E.g.</p> <p>a) <i>Group discussion</i> b) <i>Hands-on activities, etc.</i></p> <p><b>Observation and enquiry skills</b> E.g.</p> <p>a) <i>Project/research</i> b) <i>Role-play, etc.</i></p> <p><b>Creativity and innovation</b> E.g.</p> <p>a) <i>Project/research</i> b) <i>Role-play, etc.</i></p> <p><b>Personal development</b> E.g.</p> <p>a) <i>Role-play</i> b) <i>Presentation, etc.</i></p>	
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	<p>c) <i>Role- play</i> d) <i>Hands-on activities</i> e) <i>Presentation, etc.</i></p> <p><b>Cultural identity and global citizenship</b> E.g. <i>Providing opportunities for teachers to engage in discussions on national and international issues through the use of:</i></p> <p>a) <i>Group work</i> b) <i>Project/research</i> c) <i>Role-play</i> d) <i>Hands-on activities</i> e) <i>Presentation, etc.</i></p> <p><b>Critical thinking and problem solving</b> E.g.</p> <p>a) <i>Group discussion</i> b) <i>Project/research</i> c) <i>Role-play</i> d) <i>Hands-on activities</i> e) <i>Presentation</i> f) <i>Appreciation, etc.</i></p>	<p><b>Cultural identity and global citizenship</b> E.g. <i>Providing opportunities for teachers to engage in discussions on national and international issues through the use of:</i></p> <p>a) <i>Group work</i> b) <i>Presentation, etc.</i></p> <p><b>Critical thinking and problem solving</b> E.g.</p> <p>a) <i>Hands-on activities</i> b) <i>Appreciation, etc.</i></p>	
<p><b>2. Planning for teaching, learning and assessment activities for the lesson/s making <u>links to the relationship between the Basic School Curriculum and the NTS</u></b></p>	<p>2.1 Ask teachers to discuss samples of their lesson plans based on the Pre-Tertiary Curriculum (Standards-based curriculum) in their respective subjects and link them to the NTS (NTS 3a, 3e, 3g and 3j).</p> <p>Refer to Appendix 5.1 for a sample lesson plan in mathematics Basic 4. Refer to Appendix 5.2 for a sample lesson plan in mathematics Basic 7.</p> <p>2.2 Ask teachers to tease out the learning outcomes and learning indicators from their sample lesson plan.</p> <p>E.g. LO: <i>Demonstrate understanding of perimeter of</i></p>	<p>2.1 Discuss samples of their lesson plans based on Pre-Tertiary Curriculum (Standards-based curriculum) in your respective subjects and link them to the NTS (NTS 3a, 3e, 3g and 3j).</p> <p>Refer to Appendix 5.1 for a sample lesson plan in mathematics Basic 4. Refer to Appendix 5.2 for a sample lesson plan in mathematics Basic 7.</p> <p>2.2 Tease out the learning outcomes and learning indicators from your sample lesson plan.</p> <p>E.g. LO: <i>Demonstrate understanding of perimeter of</i></p>	10 mins

	<p><i>regular and irregular shapes (NTS 2c, 3i)</i></p> <p><i>LI 1 Estimate perimeters using referents for centimeter or meter</i></p> <p><i>LI 2 Measure and record perimeters for regular and irregular shapes in “cm” and “m”</i></p>	<p><i>regular and irregular shapes (NTS 2c, 3i)</i></p> <p><i>LI 1 Estimate perimeters using referents for centimeter or meter</i></p> <p><i>LI 2 Measure and record perimeters for regular and irregular shapes in “cm” and “m”</i></p>	
<p><b>3. Teaching, learning, resources and assessment</b></p>	<p>3.1 Ask teachers to identify at least five activities that promote SEL and GESI responsiveness in their sample lesson plans (NTS 3c, 3e, 3f and 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) Classroom arrangement that facilitates interaction between all learners</i></li> <li><i>b) Mixed-ability/gender group activities</i></li> <li><i>c) Positive feedback to all learners especially SEN learners</i></li> <li><i>d) Assigning learners differentiated tasks</i></li> <li><i>e) Downloading pictures of varied shapes (Regular shapes: square, triangle, and rectangle. Irregular shapes: scalene triangle, trapezium) using ICT tools to show to learners</i></li> <li><i>f) Downloading video(s) on the teaching of perimeters for learners, etc.</i></li> </ul> <p>3.2 Ask teachers to identify at least four resources that can be used to deliver the lesson (NTS 3j, 3k).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) Cut-out shapes</i></li> <li><i>b) Graph sheets</i></li> <li><i>c) 10cm x 10cm grid</i></li> <li><i>d) Projectors</i></li> <li><i>e) Exercise books</i></li> </ul>	<p>3.1 Identify at least five activities that promote GESI and SEL responsiveness in your sample lesson plans (NTS 3c, 3e, 3f and 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) Classroom arrangement that facilitates interaction between all learners</i></li> <li><i>b) Mixed-ability/gender group activities</i></li> <li><i>c) Positive feedback to all learners especially SEN learners, etc.</i></li> </ul> <p>3.2 Identify at least four resources that can be used to deliver the (NTS 3j, 3k).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) Cut-out shapes</i></li> <li><i>b) Projectors</i></li> <li><i>c) Exercise books, etc.</i></li> </ul>	<p>10 mins</p>

	<p>f) <i>Floor tiles</i> g) <i>Mathematical set, etc.</i></p> <p>3.3 Ask teachers to discuss how the lesson plan is linked to the use of formative assessment tools and practices. For instance, assessment <i>for</i> learning and assessment <i>as</i> learning (NTS 3k, 3l and 3m). E.g.</p> <p>a) <i>Assessment as:</i></p> <ul style="list-style-type: none"> <li>i. <i>Learners calculate the perimeter for given irregular shapes</i></li> <li>ii. <i>Ask learners to reflect on what they have learned</i></li> </ul> <p>b) <i>Assessment for:</i></p> <ul style="list-style-type: none"> <li>i. <i>Learners estimate the lengths of their desks</i></li> <li>ii. <i>Learners measure the lengths of their desks using a non-standard measure and record their answers</i></li> </ul> <p>3.4 Ask a teacher to model a teaching activity in the sample lesson (EXTENSION ACTIVITY).</p>	<p>3.3 Discuss how the lesson plan 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.</p> <p>a) <i>Assessment as:</i> <i>Ask learners to reflect on what they have learned</i></p> <p>b) <i>Assessment for:</i> <i>Learners estimate the lengths of their desks</i></p> <p>3.4 Model a sample activity in the sample lesson (EXTENSION ACTIVITY).</p>	
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<p><b>4. Evaluation and review of session:</b></p> <ul style="list-style-type: none"> <li>○ <b>Identifying and addressing any outstanding issues relating to the lesson/s for clarification</b></li> <li>○ <b>Noting that teachers need to identify critical friends to observe lessons and report at next session</b></li> </ul>	<p>4.1 Ask teachers to reflect individually and write what they have learned in the session (NTS 1a, 1b).</p> <p>4.2 Ask teachers to share what they have written with the larger group (NTS 1a, 1b).</p> <p>4.3 Remind teachers to identify a colleague to observe them while they teach their lesson in relation to PLC Session 5 and provide feedback to them (NTS 3l).</p> <p>4.4 Remind teachers to read Session 6 of the PLC Handbook and come along with both the NTS Guide and a sample lesson plan in preparation for the next session (NTS 3a).</p> <p>4.5 Remind teachers that they may come along with areas they find challenging in their teaching and also a sample lesson plan (NTS 3a).</p>	<p>4.1 Reflect individually and write what you have learned in the session (NTS 1a, 1b).</p> <p>4.2 Share what you have written with the larger group (NTS 1a, 1b).</p> <p>4.3 Identify a colleague to observe your lessons in relation to PLC Session 5 and provide feedback to you (NTS 3l).</p> <p>4.4 Remember to read Session 6 of your PLC Handbook and come along with both your NTS Guide and a sample lesson plan in preparation for the next session (NTS 3a).</p> <p>4.5 You may come along with areas you find challenging in your teaching and also a sample lesson plan (NTS 3a).</p>	<p>10 mins</p>
<p><b>Appendix 5.1</b></p>	<p><i>Sample lesson plan in mathematics (Basic 4).</i></p> <p><i>An example of an outline for teaching Geometry and Measurement from the Standard Based Curriculum</i></p> <p><b>a) Strand 3: Geometry and Measurement</b></p> <p><b>b) Sub-strand 3: Measurement (Perimeter and Area)</b></p> <p><b>c) Content Standard:</b> <i>B4.3.3.1: Demonstrate understanding of perimeter of regular and irregular shapes</i></p> <p><b>d) Indicators: B4.3.3.1.1:</b> <i>Estimate perimeter using</i></p>	<p><i>Sample lesson plan in mathematics (Basic 4).</i></p> <p><i>An example of an outline for teaching Geometry and Measurement from the Standard Based Curriculum</i></p> <p><b>a) Strand 3: Geometry and Measurement</b></p> <p><b>b) Sub-strand 3: Measurement (Perimeter and Area)</b></p> <p><b>c) Content Standard:</b> <i>B4.3.3.1: Demonstrate understanding of perimeter of regular and irregular shapes</i></p> <p><b>d) Indicators: B4.3.3.1.1:</b> <i>Estimate perimeter using</i></p>	

	<p>referents for centimeter or metre, B4.3.3.1.2: Measure and record perimeter for regular and irregular shapes in centimeter and meter</p> <p><b>e) Performance indicator:</b> Learners can estimate perimeter using referents for centimeter or metre.</p> <p><b>f) Core competencies:</b> Problem solving skills, critical thinking, collaborative learning and personal development</p> <p><b>g) T.L.R.(s):</b> Mathematical set, ruler, learner’s desk</p> <p><b>h) Reference:</b> MOE (2019) Mathematics Curriculum for primary schools (4-6), p. 39</p> <p><b>i) Phase 1/Starter:</b> Engage learners in the ‘double-up game’. E.g. teacher call out 3 and learners must call out the double (2x) of 3</p> <p><b>j) Phase 2/Main:</b></p> <ol style="list-style-type: none"> <li><b>i.</b> Engage learners to compare a mathematical set and an exercise book to find out which one has the larger perimeter</li> <li><b>ii.</b> Engage learners to measure with a ruler and calculate the actual perimeter and compare their answers</li> <li><b>iii.</b> Learners use graph sheet/10cm x 10cm grid to explore the perimeter of irregular cut-out shapes</li> <li><b>iv.</b> Give regular/ irregular shapes with side lengths and ask learners to sum up the side lengths to obtain the perimeter</li> </ol>	<p>referents for centimeter or metre, B4.3.3.1.2: Measure and record perimeter for regular and irregular shapes in centimeter and meter</p> <p><b>e) Performance indicator:</b> Learners can estimate perimeter using referents for centimeter or metre.</p> <p><b>f) Core competencies:</b> Problem solving skills, critical thinking, collaborative learning and personal development</p> <p><b>g) T.L.R.(s):</b> Mathematical set, ruler, learner’s desk</p> <p><b>h) Reference:</b> MOE (2019) Mathematics Curriculum for primary schools (4-6), p. 39</p> <p><b>i) Phase 1/Starter:</b> Engage learners in the ‘double-up game’. E.g. teacher call out 3 and learners must call out the double (2x) of 3</p> <p><b>j) Phase 2/Main:</b></p> <ol style="list-style-type: none"> <li><b>i.</b> Engage learners to compare a math set and an exercise book to find out which one has the largest perimeter</li> <li><b>ii.</b> Engage learners to measure with a ruler and calculate the actual perimeter and compare their answers</li> <li><b>iii.</b> Learners use graph sheet/10cm x 10cm grid to explore the area of irregular cut-out shapes</li> <li><b>iv.</b> Give regular/ irregular shapes with side lengths and ask learners to sum up the side lengths to obtain the perimeter</li> </ol>	
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	<p><b>Assessment:</b> Learners to practise with more examples</p> <p><b>k) Phase 3/Reflection:</b> Review lesson with learners by giving them a task to solve in their workbooks.</p>	<p><b>Assessment:</b> Learners to practise with more examples</p> <p><b>k) Phase 3/Reflection:</b> Review lesson with learners by giving them a task to solve in their workbooks.</p>	
<b>Appendix 5.2</b>	<p>Sample lesson plan in mathematics (Basic 7).</p> <p>An example of an outline for teaching Number from the Basic School Curriculum</p> <p><b>a) Strand 1:</b> Number</p> <p><b>b) Sub-strand 4:</b> Ratio and Proportion</p> <p><b>c) Content Standard:</b> B7.1.4.1: Demonstrate understanding of the concept of ratios and its relationship to fractions and use it to solve problems that involve rates, ratios, and proportional reasoning</p> <p><b>d) Indicator:</b> B7.1.4.1.3: Make tables of equivalent ratios (written as common fractions) relating quantities that are proportional</p> <p><b>e) Performance Indicator:</b> Learners can use ratio language to describe relationship between two quantities</p> <p><b>f) Core competencies:</b> Problem solving skills, critical thinking, collaborative learning and personal development</p> <p><b>g) T.L.R.(s):</b> Table of Equivalent Ratio, etc.</p> <p><b>h) Reference:</b> MOE (2021) Mathematics Curriculum for Basic 7-10(CCP), pp. 22-23</p> <p><b>i) Phase 1/ Starter:</b> Revise with learners on the previous lesson.</p>	<p>Sample lesson plan in mathematics (Basic 7).</p> <p>An example of an outline for teaching Number from the Basic School Curriculum</p> <p><b>a) Strand 1:</b> Number</p> <p><b>b) Sub-strand 4:</b> Ratio and Proportion</p> <p><b>c) Content Standard:</b> B7.1.4.1: Demonstrate understanding of the concept of ratios and its relationship to fractions and use it to solve problems that involve rates, ratios, and proportional reasoning</p> <p><b>d) Indicator:</b> B7.1.4.1.3: Make tables of equivalent ratios (written as common fractions) relating quantities that are proportional</p> <p><b>e) Performance Indicator:</b> Learners can use ratio language to describe relationship between two quantities</p> <p><b>f) Core competencies:</b> Problem solving skills, critical thinking, collaborative learning and personal development</p> <p><b>g) T.L.R.(s):</b> Table of Equivalent Ratio, etc.</p> <p><b>h) Reference:</b> MOE (2021) Mathematics Curriculum for Basic 7-10(CCP), pp. 22-23</p> <p><b>i) Phase 1/ Starter:</b> Revise with learners on the previous lesson.</p>	

	<p>Call volunteer learners to the board to solve sample questions. Introduce the lesson by sharing performance indicators.</p> <p><b>j) Phase 2/Main:</b> In pairs/groups guide learners to use application of proportion in solving problems in mathematics.</p> <p><b>i.</b> Find the total ratio. The ratio <math>x:y</math> gives you <math>(x+y)</math>. For instance, 2:3 gives you <math>(2+3)</math></p> <p><b>ii.</b> Find what one part is. Thus, the part corresponding to <math>x</math>, <math>y</math> or <math>z</math>. Each share corresponding to <math>x</math> can be found by using the fraction <math>= \frac{x}{x+y}</math>. Similarly, <math>= \frac{y}{x+y}</math></p> <p><b>iii.</b> Find the total ratio. The ratio <math>x:y:z</math> gives you <math>(x+y+z)</math>. For instance, 2:3:4 gives you <math>(2+3+4)</math></p> <p>E.g.</p> <p><b>i.</b> Question: A woman shares her money between her son Qwasi and daughter Fadila in the ratio 1:2 respectively. If the amount to shared is GH¢120.00. What is Fadila's share?</p> <p>Solution:</p> <ul style="list-style-type: none"> <li>○ First write down their ratios; Qwasi: Fadila = 1:2</li> <li>○ Find their total ratio <math>1+2 = 3</math></li> <li>○ Now find their individual fractions: Qwasi = <math>\frac{1}{3}</math> and Fadila <math>= \frac{2}{3}</math></li> </ul>	<p>Call volunteer learners to the board to solve sample questions. Introduce the lesson by sharing performance indicators.</p> <p><b>j) Phase 2/Main:</b> In pairs/groups guide learners to use application of proportion in solving problems in mathematics.</p> <p><b>i.</b> Find the total ratio. The ratio <math>x:y</math> gives you <math>(x+y)</math>. For instance, 2:3 gives you <math>(2+3)</math></p> <p><b>ii.</b> Find what one part is. Thus, the part corresponding to <math>x</math>, <math>y</math> or <math>z</math>. Each share corresponding to <math>x</math> can be found by using the fraction <math>= \frac{x}{x+y}</math>. Similarly, <math>= \frac{y}{x+y}</math></p> <p><b>iii.</b> Find the total ratio. The ratio <math>x:y:z</math> gives you <math>(x+y+z)</math>. For instance, 2:3:4 gives you <math>(2+3+4)</math></p> <p>E.g.</p> <p><b>i.</b> Question: A woman shares her money between her son Qwasi and daughter Fadila in the ratio 1:2 respectively. If the amount to shared is GH¢120.00. What is Fadila's share?</p> <p>Solution:</p> <ul style="list-style-type: none"> <li>○ First write down their ratios; Qwasi: Fadila = 1:2</li> <li>○ Find their total ratio <math>1+2 = 3</math></li> <li>○ Now find their individual fractions: Qwasi = <math>\frac{1}{3}</math> and Fadila <math>= \frac{2}{3}</math></li> </ul>	
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- The amount to be shared = GH¢120.00
- Find two-third of the amount to be shared  

$$\text{Fadila's share} = \frac{2}{3} \times \text{GH¢120}$$

$$\text{Fadila's share} = \text{GH¢80.00}$$

**ii. Question:**  
 Bayuo, Adoley and Jantuah shared an amount of money in the ratio of their ages. Bayuo is 36 years old, Adoley is 48 years and Jantuah is 24 years old. If Jantuah received GH¢24000, how much money did they share?

**Solution:**

- First write down their ratios;  
 Bayuo: Adoley: Jantuah = 36:48:24

Names	Equivalent Ratios			
Bayuo	36	18	9	3
Adoley	48	24	12	4
Jantuah	24	12	6	2

- Using Table of Equivalent Ratio, their equivalent ratio will be = 3:4:2
- Find their total ratio  
 $3+4+2 = 9$
- Now find what one part is: Jantuah = 24000  
 that is 2:24000. Let **a** be the amount shared.  

$$\text{Bayuo's share} = \frac{3}{9} a,$$

$$\text{Adoley's share} = \frac{4}{9} a \text{ and}$$

$$\text{Jantuah's share} = \frac{2}{9} a$$

$$\text{Bayuo's share} = \frac{3}{9} \times a = 24000$$

- The amount to be shared = GH¢120.00
- Find two-third of the amount to be shared  

$$\text{Fadila's share} = \frac{2}{3} \times \text{GH¢120}$$

$$\text{Fadila's share} = \text{GH¢80.00}$$

**ii. Question:**  
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- Using Table of Equivalent Ratio, their equivalent ratio will be = 3:4:2
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 $3+4+2 = 9$
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$$\text{Bayuo's share} = \frac{3}{9} a,$$

$$\text{Adoley's share} = \frac{4}{9} a \text{ and}$$

$$\text{Jantuah's share} = \frac{2}{9} a$$

$$\text{Bayuo's share} = \frac{3}{9} \times a = 24000$$

	$a = \frac{9 \times 24000}{3} =$ <p><b>GH¢72000</b> Learners go ahead to find Jantuah's and Adoley's share <b>Assessment:</b> Learners practice with more examples</p> <p>E.g.</p> <ol style="list-style-type: none"> <li>i. A man shares his money between his sons Dapilah and Kwaku in the ratio 2:3. If Dapilah's share is 100, find the amount shared and Kwaku's share.</li> <li>ii. A green paint is mixed from blue and yellow paint in the ratio 3:5. How much of each colour is needed to make 40liters of his green paint?</li> </ol> <p><b>k) Phase 3/ Reflection:</b> Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson</p>	$a = \frac{9 \times 24000}{3} =$ <p><b>GH¢72000</b> Learners go ahead to find Jantuah's and Adoley's share <b>Assessment:</b> Learners practice with more examples</p> <p>E.g.</p> <ol style="list-style-type: none"> <li>i. A man shares his money between his sons Dapilah and Kwaku in the ratio 2:3. If Dapilah's share is 100, find the amount shared and Kwaku's share.</li> <li>ii. A green paint is mixed from blue and yellow paint in the ratio 3:5. How much of each colour is needed to make 40liters of his green paint?</li> </ol> <p><b>k) Phase 3/ Reflection:</b> Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson</p>	
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## PLC Session for Topic 6: Community of Practice

<p><b>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</b></p>	<p><b>Guidance notes on Leading the session.</b> <i>What the PLC Coordinator will have to say during each stage of the session</i></p>	<p><b>Guidance Notes on Teacher Activity during the PLC Session.</b> <i>What teachers will do during each stage of the session.</i></p>	<p><b>Time in session</b></p>
<p><b>1. Introduction to session</b></p>	<p>1.1 Ask a teacher to read the purpose, Learning Outcomes (LOs) and Learning Indicators (LIs) of the session.</p> <p><b>Purpose:</b> The purpose of this session is to support teachers to become aware of and be guided by the Code of Conduct that regulates the teaching profession and the need to actively participate in activities of their community of practice.</p> <p>LO 1: Demonstrate knowledge and understanding of how the teacher is guided by the Code of Conduct in their development as a professional teacher (NTS 1d).</p> <p>LI 1.1 List at least five dos and five don'ts in the Code of Conduct in the professional development of a teacher.</p> <p>LI 1.2 Discuss at least three dos and three don'ts in the Code of Conduct pertaining to the professional development of the teacher.</p>	<p>1.1 Read the purpose, Learning Outcomes (LOs) and Learning Indicators (LIs) of the session.</p> <p><b>Purpose:</b> The purpose of this session is to support teachers to become aware of and be guided by the Code of Conduct that regulates the teaching profession and the need to actively participate in activities of their community of practice.</p> <p>LO 1: Demonstrate knowledge and understanding of how the teacher is guided by the Code of Conduct in their development as a professional teacher (NTS 1d).</p> <p>LI 1.1 List at least five dos and five don'ts in the Code of Conduct in the professional development of a teacher.</p> <p>LI 1.2 Discuss at least three dos and three don'ts in the Code of Conduct pertaining to the professional development of the teacher.</p>	<p>10 mins</p>

	<p>LI 1.3 Discuss at least three implications/penalties prescribed by the Code of Conduct.</p> <p>LO 2: Collaborate positively with colleagues, learners, parents, SMC, PTA and wider public as part of community of practice (NTS 1e, 1g).</p> <p>LI 2.1 Discuss the need for teachers to actively participate and sensitize stakeholders in school meetings, PTA, SMC, etc., appropriately.</p> <p>LI 2.2 Enumerate and analyse at least two benefits of knowing the teacher's community of practice and the background of learners.</p> <p>1.2 Ask teachers to use think-pair-share (think on their own, compare ideas and share with the whole group) to list at least five items in the teacher's Code of Conduct in their professional development (NTS 1d).</p> <p><i>E.g.</i>  <i>Regarding the dos, a teacher shall;</i></p> <ul style="list-style-type: none"> <li><i>a) prepare relevant and adequate lesson notes</i></li> <li><i>b) set and mark adequate amount of exercises</i></li> <li><i>c) report for duty regularly and punctually</i></li> <li><i>d) take part in approved co-curricular activities</i></li> <li><i>e) serve as role model to learners, etc.</i></li> </ul> <p><i>Regarding the don'ts, a teacher shall not;</i></p> <ul style="list-style-type: none"> <li><i>a) make derogatory remarks in exercise books of a learner</i></li> </ul>	<p>LI 1.3 Discuss at least three implications/penalties prescribed by the Code of Conduct.</p> <p>LO 2: Collaborate positively with colleagues, learners, parents, SMC, PTA and wider public as part of community of practice (NTS 1e, 1g).</p> <p>LI 2.1 Discuss the need for teachers to actively participate and sensitize stakeholders in school meetings, PTA, SMC, etc., appropriately.</p> <p>LI 2.2 Enumerate and analyse at least two benefits of knowing the teacher's community of practice and the background of learners.</p> <p>1.2 Use think-pair-share (think on your own, compare ideas and share with the whole group) to list at least five items in the teacher's Code of Conduct in their professional development (NTS 1d).</p> <p><i>E.g.</i>  <i>Regarding the dos, a teacher shall;</i></p> <ul style="list-style-type: none"> <li><i>a) prepare relevant and adequate lesson notes</i></li> <li><i>b) set and mark adequate amount of exercises, etc.</i></li> </ul> <p><i>Regarding the don'ts, a teacher shall not;</i></p> <ul style="list-style-type: none"> <li><i>a) make derogatory remarks in exercise books of a learner</i></li> </ul>	
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	<p>b) <i>make a pupil/student copy exercises/notes on the chalkboard/white board while he/she is present or absent</i></p> <p>c) <i>deprive a pupil/student the right to participate in a school-related activity without just cause</i></p> <p>d) <i>leave the school or office during working hours without the permission of the head of the institution</i></p> <p>e) <i>cause a deliberate damage to the property of his/her Employer, etc.</i></p> <p>1.3 Ask teachers in pairs/groups to derive and discuss at least three dos and don'ts from the Code of Conduct pertaining to the professional development of the teacher (NTS 1d).</p> <p><i>E.g. Derive and discuss at least three dos and three don'ts in the Code of Conduct stated in Activity 1.2</i></p> <p>1.4 Ask teachers in pairs/groups to discuss at least three implications/penalties prescribed by the Code of Conduct (NTS 1d).</p> <p><i>E.g. Warning, forfeiture of salary, stoppage of increment, suspension with loss of pay, deferment of increment, reduction in rank/salary, termination of appointment, withdrawal of certificates/licence, etc.</i></p> <p>1.5 Ask teachers to discuss the need to actively participate and sensitize stakeholders in school</p>	<p>b) <i>make a pupil/student copy exercises/notes on the chalkboard/white board while he/she is present or absent, etc.</i></p> <p>1.3 In pairs/groups discuss at least three dos and don'ts in the Code of Conduct pertaining to the professional development of the teacher (NTS 1d).</p> <p><i>E.g. Derive and discuss at least three dos and three don'ts in the Code of Conduct stated in Activity 1.2</i></p> <p>1.4 In pairs/groups discuss at least three implications/penalties prescribed by the Code of Conduct (NTS 1d).</p> <p><i>E.g. Warning, forfeiture of salary, stoppage of increment, suspension with loss of pay, deferment of increment, etc.</i></p> <p>1.5 Discuss the need to actively participate and sensitize stakeholders in school</p>	
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	<p>meetings, PTA, SMC, etc., appropriately (NTS 1e).</p> <p><i>E.g.</i></p> <p><i>Participation helps to;</i></p> <ul style="list-style-type: none"> <li><i>a) contribute positively to PTA and SMC meetings</i></li> <li><i>b) engage in community sensitization</i></li> <li><i>c) develop friendly relationships</i></li> <li><i>d) share useful information and ideas with the community of practice, etc.</i></li> </ul> <p>1.6 Ask teachers to use thought-shower (generate new ideas and discuss them) to enumerate and analyse at least two benefits of knowing their community of practice, background of learners and encouraging parents to support their wards in education (NTS 1g, 1f and 2f).</p> <p><i>E.g.</i></p> <p><i>Knowing the community of practice;</i></p> <ul style="list-style-type: none"> <li><i>a) enhances community cooperation</i></li> <li><i>b) helps to identify qualified resource persons</i></li> <li><i>c) helps to gain support from the community</i></li> <li><i>d) builds trust between school and community, etc.</i></li> </ul> <p><i>Knowing the learner's background;</i></p> <ul style="list-style-type: none"> <li><i>a) helps to structure lessons to meet the needs of learners</i></li> <li><i>b) informs the choice of activities to select for the lessons</i></li> <li><i>c) guides the learner's career choices</i></li> <li><i>d) helps to structure appropriate remediation</i></li> </ul>	<p>meetings, PTA, SMC, etc., appropriately (NTS 1e).</p> <p><i>E.g.</i></p> <p><i>Participation helps to;</i></p> <ul style="list-style-type: none"> <li><i>a) contribute positively to PTA and SMC meetings</i></li> <li><i>b) engage in community sensitization, etc.</i></li> </ul> <p>1.6 Use thought-shower (generate new ideas and discuss them) to enumerate and analyse at least two benefits of knowing your community of practice, background of learners and encouraging parents to support their wards in education (NTS 1g, 1f and 2f).</p> <p><i>E.g.</i></p> <p><i>Knowing the community of practice;</i></p> <ul style="list-style-type: none"> <li><i>a) enhances community cooperation</i></li> <li><i>b) helps to identify qualified resource persons, etc.</i></li> </ul> <p><i>Knowing the learner's background;</i></p> <ul style="list-style-type: none"> <li><i>a) helps to structure lessons to meet the needs of learners</i></li> <li><i>b) informs the choice of activities to select for the lessons, etc.</i></li> </ul>	
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	<p><i>activities to support their learning</i></p> <p><i>e) helps to motivate learners appropriately, etc.</i></p>		
<p><b>Give regard for misconceptions and stereotypes, GESI, ICT, 21<sup>st</sup> century skills, etc.</b></p>	<p>1.7 Ask teachers to identify possible misconceptions and stereotypes in learning various subjects such as English language (NTS 3m).</p> <p><i>E.g.</i></p> <p><i>a) English language is not meant to be studied</i></p> <p><i>b) English language is a subject for women</i></p> <p><i>c) English language is a difficult subject meant for academic talented learners</i></p> <p><i>d) One would need a large vocabulary to speak English well</i></p> <p><i>e) It takes a long time to learn to speak English</i></p> <p><i>f) English language requires a lot of reading, etc.</i></p> <p>1.8 Ask teachers to discuss how these misconceptions about teaching and learning various subjects such as English language in the classroom can be addressed (NTS 3m).</p> <p><i>E.g.</i></p> <p><i>a) English language lessons should be activity-based</i></p> <p><i>b) Learners should be introduced to reading at their early stages of mental development</i></p> <p><i>c) Teachers must emphasize that English language can be studied by anyone irrespective of their gender</i></p> <p><i>d) Provide examples of where low achievers have succeeded in studying English language</i></p> <p><i>e) Teachers should make use of a lot of reinforcement and resources in the language classroom</i></p>	<p>1.7 Identify possible misconceptions and stereotypes in learning various subjects such as English language (NTS 3m).</p> <p><i>E.g.</i></p> <p><i>a) English language is not meant to be studied</i></p> <p><i>b) English language is a subject for women, etc.</i></p> <p>1.8 Discuss how these misconceptions about teaching and learning various subjects such as English language in the classroom can be addressed (NTS 3m).</p> <p><i>E.g.</i></p> <p><i>a) English language lessons should be activity-based</i></p> <p><i>b) Learners should be introduced to reading at their early stages of mental development, etc.</i></p>	<p>10mins</p>

	<p>f) <i>Learners should not be ridiculed when they make mistakes as they use the language</i></p> <p>g) <i>Simplify teaching of English language as much as possible</i></p> <p>h) <i>Use fun methods to teach English language, etc.</i></p> <p>1.9 Ask teachers to identify at least three activities that promote GESI and SEL responsiveness in the classroom (NTS 2e, 2f, 3f, 3g, 3h, 3i, 3j, 3k, 3l, 3m, 3n and 3o).</p> <p>E.g.</p> <p>a) <i>Encourage mixed sex groupings</i></p> <p>b) <i>Ensure equal participation of both males and females during role play, dialogues and so on</i></p> <p>c) <i>Employ teaching strategies appropriate for mixed ability, multi-lingual and multi-aged classes and allow for self-reflection</i></p> <p>d) <i>Females and males should have equal access to teaching and learning resources during learning</i></p> <p>e) <i>Use differentiated learning approaches to support learners with Special Educational Needs (SEN), i.e. catering for different learning styles of learners</i></p> <p>f) <i>Promote self-evaluation and peer support</i></p> <p>g) <i>Involve learners in decision making processes in the classroom</i></p> <p>h) <i>Encourage learners to accept other learners' views and treat them well</i></p> <p>i) <i>Assign differentiated tasks to learners, etc.</i></p>	<p>1.9 Identify at least three activities that promote GESI and SEL responsiveness in the classroom (NTS 2e, 2f, 3f, 3g, 3h, 3i, 3j, 3k, 3l, 3m, 3n and 3o).</p> <p>E.g.</p> <p>a) <i>Encourage mixed sex groupings</i></p> <p>b) <i>Ensure equal participation of both males and females during role play, dialogues and so on</i></p> <p>c) <i>Involve learners in decision making processes in the classroom, etc.</i></p>	
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	<p>1.10 Ask teachers to identify at least three ways of incorporating ICT in their lessons taking into consideration different learning styles (NTS 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Surfing Open Educational Resources and other Internet sources for information</i></li> <li>b) <i>Teaching using visual and audio-visual aids like smart phones, tablets and Apps to support teaching and learning of rhymes, songs, pronunciations and so on for listening and speaking activities. For instance, using Jolly Phonics App to enhance teaching and learning</i></li> <li>c) <i>Using ICT tools to conduct assessment tasks, etc.</i></li> </ul> <p>1.11 Ask teachers to discuss at least three possible strategies they would adopt to develop 21<sup>st</sup> century skills in their learners (NTS 3a, 3b, 3c and 3d).</p> <p><i>Note:</i> <b>Communication skills</b></p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Group discussion</i></li> <li>b) <i>Role-play</i></li> <li>c) <i>Presentation, etc.</i></li> </ul> <p><b>Collaboration</b></p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Group discussion</i></li> <li>b) <i>Project/research</i></li> <li>c) <i>Role-play</i></li> <li>d) <i>Hands-on activities, etc.</i></li> </ul> <p><b>Observation and enquiry skills</b></p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Group discussion</i></li> <li>b) <i>Project/research</i></li> <li>c) <i>Role-play</i></li> </ul>	<p>1.10 Identify at least three ways of incorporating ICT into your lessons taking into consideration different learning styles (NTS 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Surfing Open Educational Resources and other Internet sources for information</i></li> <li>b) <i>Using ICT tools to conduct assessment tasks, etc.</i></li> </ul> <p>1.11 Discuss at least three possible strategies you would adopt to develop 21<sup>st</sup> century skills in your learners (NTS 3a, 3b, 3c and 3d).</p> <p><i>Note:</i> <b>Communication skills</b></p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Group discussion</i></li> <li>b) <i>Role-play, etc.</i></li> </ul> <p><b>Collaboration</b></p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>c) <i>Group discussion</i></li> <li>a) <i>Project/research, etc.</i></li> </ul> <p><b>Observation and enquiry skills</b></p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Group discussion</i></li> <li>b) <i>Project/research, etc.</i></li> </ul>
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	<p>d) <i>Hands-on activities, etc.</i></p> <p><b>Creativity and innovation</b> E.g. a) <i>Group discussion</i> b) <i>Project/research</i> c) <i>Role-play</i> d) <i>Hands-on activities</i> e) <i>Presentation, etc.</i></p> <p><b>Personal development</b> E.g. a) <i>Group discussion</i> b) <i>Project/research</i> c) <i>Role-play</i> d) <i>Hands-on activities</i> e) <i>Presentation, etc.</i></p> <p><b>Global citizenship</b> E.g. <i>Providing opportunities for teachers to engage in discussions on national and international issues through the use of:</i> a) <i>Groupwork</i> b) <i>Project/research</i> c) <i>Role-play</i> d) <i>Hands-on activities</i> e) <i>Presentation, etc.</i></p>	<p><b>Creativity and innovation</b> E.g. a) <i>Group discussion</i> b) <i>Project/research, etc.</i></p> <p><b>Personal development</b> E.g. a) <i>Group discussion</i> b) <i>Project/research, etc.</i></p> <p><b>Global citizenship</b> E.g. <i>Providing opportunities for teachers to engage in discussions on national and international issues through the use of:</i> a) <i>Groupwork</i> b) <i>Project/research, etc.</i></p>	
<p><b>2. Planning for teaching, learning and assessment activities for the lesson/s making links to the relationship between the Basic School Curriculum and the NTS</b></p>	<p>2.1 Ask teachers to discuss samples of their lesson plan based on the Pre-Tertiary Education Curriculum (Standards-based curriculum) in their respective subjects and link them to the NTS (NTS 3a, 3e, 3g and 3j).</p> <p>Refer to Appendices 6.1 for Basic 5 and 6.2 for Basic 7 for sample lesson plans on English language.</p> <p>2.2 Ask teachers to tease out the LOs and the LIs from the sample lesson plan. (NTS 3a, 3e, 3g and 3j)</p> <p>E.g. LO: <i>Apply the knowledge of verbs in communication</i></p>	<p>2.1 Discuss samples of your lesson plan based on the Pre-Tertiary Education Curriculum (Standards-based curriculum) in your respective subjects and link them to the NTS (NTS 3a, 3e, 3g and 3j).</p> <p>Refer to Appendices 6.1 for Basic 5 and 6.2 for Basic 7 for sample lesson plans on English language.</p> <p>2.2 Tease out the LOs and the LIs from the sample lesson plan. (NTS 3a, 3e, 3g and 3j)</p> <p>E.g. LO: <i>Apply the knowledge of verbs in communication</i></p>	10mins

	<p><i>LI 1 Use subject verb agreement appropriately in speech</i></p> <p><i>LI 2 Use subject verb agreement appropriately in writing</i></p>	<p><i>LI 1 Use subject verb agreement appropriately in speech</i></p> <p><i>LI 2 Use subject verb agreement appropriately in writing</i></p>	
<p><b>3. Teaching, learning, resources and assessment</b></p>	<p>3.1 Ask teachers to identify at least two activities that promote GESI and SEL responsiveness in their sample lesson plans (NTS 3c, 3e, 3f and 3g).</p> <p><i>E.g.</i></p> <p>a) <i>Learners complete sentences with verbs in pairs (males and females)</i></p> <p>b) <i>The use of names like Ama, Kofi, Ajuba and Maame Attaa to depict cultural identity</i></p> <p>c) <i>Learners reflect on their own learning at the end of the lesson, etc.</i></p> <p>3.2 Ask teachers to identify at least three resources that can be used to deliver the lesson (NTS 3j).</p> <p><i>E.g.</i></p> <p>a) <i>sentence cards</i></p> <p>b) <i>word cards</i></p> <p>c) <i>flash cards</i></p> <p>d) <i>letter cards, etc.</i></p> <p>3.3 Ask teachers to discuss how the session is linked to the use of formative assessment purposes and practices for assessment <i>for</i> learning and assessment <i>as</i> learning (NTS 3k, 3l and 3m).</p> <p><i>E.g.</i></p> <p>a) <i>Assessment as;</i></p> <p>i. <i>the review of subjects and verbs in simple sentences by individual learners</i></p> <p>ii. <i>asking learners to reflect on what they have learned</i></p>	<p>3.1 Identify at least two activities that promote GESI and SEL responsiveness in your sample lesson plans (NTS 3c, 3e, 3f and 3g).</p> <p><i>E.g.</i></p> <p><i>Learners complete sentences with verbs in pairs (males and females), etc.</i></p> <p>3.2 Identify at least three resources that can be used to deliver the lesson (NTS 3j).</p> <p><i>E.g.</i></p> <p>a) <i>sentence cards</i></p> <p>b) <i>word cards, etc.</i></p> <p>3.3 Discuss how the session is linked to the use of formative assessment purposes and practices for assessment <i>for</i> learning and assessment <i>as</i> learning (NTS 3k, 3l and 3m).</p> <p><i>E.g.</i></p> <p>a) <i>Assessment as; the review of subjects and verbs in simple sentences by individual learners</i></p>	

	<p><i>b) Assessment for;</i></p> <p><i>i. writing the correct forms of verbs to agree with subjects</i></p> <p><i>ii. learners do class exercises</i></p> <p><i>iii. learners to do an assignment on subject verb agreement, etc.</i></p> <p>3.4 Ask a teacher to model a teaching activity in the sample lesson (EXTENSION ACTIVITY).</p>	<p><i>b) Assessment for;</i></p> <p><i>writing the correct forms of verbs to agree with subjects, etc.</i></p> <p>3.4 Model a sample activity in the sample lesson (EXTENSION ACTIVITY).</p>	
<p><b>4. Evaluation and review of session:</b></p> <p>○ <b>Identifying and addressing any outstanding issues relating to the lesson/s for clarification</b></p> <p>○ <b>Noting that teachers need to identify critical friends to observe lessons and report at next session</b></p>	<p>4.1 Ask teachers to reflect individually and write what they have learned in the session (NTS 1a, 1b).</p> <p>4.2 Ask teachers to share what they have written with the larger group (NTS 1a, 1b).</p> <p>4.3 Remind teachers to identify a colleague to observe them while they teach their lesson in relation to PLC Session 7 and provide feedback to them.</p> <p>4.4 Remind teachers to read Session 8 of the PLC Handbook and come along with both their NTS Guide and a sample lesson plan in preparation for the next session.</p> <p>4.5 Remind teachers that they may come along with areas they find challenging in their teaching (NTS 3a).</p>	<p>4.1 Reflect individually and write what you have learned in the session (NTS 1a, 1b).</p> <p>4.2 Share what you have written with the larger group (NTS 1a, 1b).</p> <p>4.3 Identify a colleague to observe your lesson in relation to PLC Session 7 and provide feedback to you.</p> <p>4.4 Remember to read Session 8 of the PLC Handbook and come along with both their NTS Guide and a sample lesson plan in preparation for the next session.</p> <p>4.5 You may come along with areas you find challenging in your teaching (NTS 3a).</p>	10 mins

<p><b>5. Appendix 6.1</b></p>	<p><i>(E.g. sample lesson plan in English language: Refer to English Language curriculum: B5 pg. 112)</i>  <i>An example of an outline for teaching conversation/everyday discourse.</i></p> <p><b>a) Strand:</b> <i>Grammar and Usage at Word and Phrase Levels</i></p> <p><b>b) Sub-strand:</b> <i>Verb</i></p> <p><b>c) Content Standard:</b> <i>B5.3.5.1: Apply the knowledge of verbs in communication</i></p> <p><b>d) Indicator:</b> <i>B5.3.5.1.2. Use subject verb agreement appropriately</i></p> <p><b>e) Performance Indicator:</b> <i>Learners can construct simple sentences in which subjects agree with their verbs</i></p> <p><b>f) Core Competencies:</b> <i>Communication and Collaboration, Personal Development and Leadership, Creativity and Innovation, Critical Thinking and Problem-Solving</i></p> <p><b>g) Key words:</b> <i>First person, second person, third person, agreement, etc.</i></p> <p><b>h) Resources:</b> <i>Sentence cards and word cards.</i></p> <p><b>i) Phase 1: Starter</b>  <i>Review subjects and verbs in simple sentences. Learners pick sentence cards and identify the SV elements in them. e.g.</i></p> <ol style="list-style-type: none"> <li><i>i. Ama gave Kofi a pencil.</i></li> <li><i>ii. I like mangoes.</i></li> <li><i>iii. He came here yesterday.</i></li> <li><i>iv. I hate dogs.</i></li> </ol>	<p><i>(E.g. sample lesson plan in English language: Refer to English Language curriculum: B5 pg. 112)</i>  <i>An example of an outline for teaching conversation/everyday discourse.</i></p> <p><b>a) Strand:</b> <i>Grammar and Usage at Word and Phrase Levels</i></p> <p><b>b) Sub-strand:</b> <i>Verb</i></p> <p><b>c) Content Standard:</b> <i>B5.3.5.1: Apply the knowledge of verbs in communication</i></p> <p><b>d) Indicator:</b> <i>B5.3.5.1.2. Use subject verb agreement appropriately</i></p> <p><b>e) Performance Indicator:</b> <i>Learners can construct simple sentences in which subjects agree with their verbs</i></p> <p><b>f) Core Competencies:</b> <i>Communication and Collaboration, Personal Development and Leadership, Creativity and Innovation, Critical Thinking and Problem-Solving</i></p> <p><b>g) Key words:</b> <i>First person, second person, third person, agreement, etc.</i></p> <p><b>h) Resources:</b> <i>Sentence cards and word cards.</i></p> <p><b>i) Phase 1: Starter</b>  <i>Review subjects and verbs in simple sentences. Learners pick sentence cards and identify the SV elements in them. e.g.</i></p> <ol style="list-style-type: none"> <li><i>i. Ama gave Kofi a pencil.</i></li> <li><i>ii. I like mangoes.</i></li> <li><i>iii. He came here yesterday.</i></li> <li><i>iv. I hate dogs.</i></li> </ol>	
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	<p>Invite learners to write their own sentences on the chalkboard/whiteboard and identify the SV elements in them.</p> <p><b>j) Phase 2: New Learning</b> Show sentence cards to learners and ask them which ones are correct or wrong. Ask for their reasons. E.g.</p> <ul style="list-style-type: none"> <li>i. We eats food every day.</li> <li>ii. Ajuba has a nice mobile phone.</li> <li>iii. They goes to school.</li> <li>iv. We wash our uniforms.</li> <li>v. She have a new book.</li> <li>vi. My father have a car.</li> </ul> <p>Use examples to introduce and explain subject-verb agreement. E.g.</p> <ul style="list-style-type: none"> <li>i. You have a nice smile.</li> <li>ii. He has a nice smile.</li> </ul> <p>The verb must always agree with its subject: Singular subject agrees with singular verb and plural subject agrees with plural verb Present sentences for learners (in pairs; mixed-gender) to complete with the appropriate verb.</p> <ul style="list-style-type: none"> <li>i. He ... (am, is) going to school.</li> <li>ii. Ama ... (has, have) a black pen.</li> </ul> <p>Present sentences for learners (in pairs) to complete with the appropriate subjects.</p> <ul style="list-style-type: none"> <li>i. .... is going to hospital.</li> <li>ii. The ..... have money.</li> </ul> <p>Give more examples for learners to practice</p>	<p>Invite learners to write their own sentences on the chalkboard/whiteboard and identify the SV elements in them.</p> <p><b>j) Phase 2: New Learning</b> Show sentence cards to learners and ask them which ones are correct or wrong. Ask for their reasons. E.g.</p> <ul style="list-style-type: none"> <li>i. We eats food every day.</li> <li>ii. Ajuba has a nice mobile phone.</li> <li>iii. They goes to school.</li> <li>iv. We wash our uniforms.</li> <li>v. She have a new book.</li> <li>vi. My father have a car.</li> </ul> <p>Use examples to introduce and explain subject-verb agreement. E.g.</p> <ul style="list-style-type: none"> <li>i. You have a nice smile.</li> <li>ii. He has a nice smile.</li> </ul> <p>The verb must always agree with its subject: Singular subject agrees with singular verb and plural subject agrees with plural verb Present sentences for learners (in pairs; mixed-gender) to complete with the appropriate verb.</p> <ul style="list-style-type: none"> <li>i. He ... (am, is) going to school.</li> <li>ii. Ama ... (has, have) a black pen.</li> </ul> <p>Present sentences for learners (in pairs) to complete with the appropriate subjects.</p> <ul style="list-style-type: none"> <li>i. .... is going to hospital.</li> <li>ii. The ..... have money.</li> </ul> <p>Give more examples for learners to practice</p>	
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	<p><b>Assessment:</b> Write the correct form of each of the underlined verb so that it agrees with its subject.</p> <ol style="list-style-type: none"> <li>Yaw <u>go</u> to school early.</li> <li>Maame Attaa <u>pound</u> fufu every evening.</li> <li>I <u>has</u> money in my purse.</li> <li>Kofi <u>have</u> finished his work.</li> <li>She <u>sing</u> at church</li> </ol> <p><b>k) Phase 3: Reflection</b> What have we learned today? Expected answers</p> <ol style="list-style-type: none"> <li>A sentence must have a subject and a verb.</li> <li>The subject must agree with the verb.</li> </ol>	<p><b>Assessment:</b> Write the correct form of each of the underlined verb so that it agrees with its subject.</p> <ol style="list-style-type: none"> <li>Yaw <u>go</u> to school early.</li> <li>Maame Attaa <u>pound</u> fufu every evening.</li> <li>I <u>has</u> money in my purse.</li> <li>Kofi <u>have</u> finished his work.</li> <li>She <u>sing</u> at church</li> </ol> <p><b>k) Phase 3: Reflection</b> What have we learned today? Expected answers</p> <ol style="list-style-type: none"> <li>A sentence must have a subject and a verb.</li> <li>The subject must agree with the verb.</li> </ol>	
6. Appendix 6.2	<p>(E.g. sample lesson plan in English language: refer to English Language curriculum: B7 pg. 12) An example of an outline for teaching Grammar.</p> <ol style="list-style-type: none"> <li><b>Strand:</b> Grammar usage</li> <li><b>Sub Strand:</b> Types of pronouns (personal pronouns)</li> <li><b>Content Standard:</b> B7.3.1.1: Apply the knowledge of pronouns and their functions in Communication.</li> <li><b>Indicator:</b> B7.3.1.1.6. Use pronouns accurately to link ideas in everyday discourse</li> <li><b>Performance Indicator:</b> Learners can use personal pronouns accurately to link ideas in everyday discourse</li> <li><b>Core Competencies:</b> Communication and Collaboration, Personal Development and Leadership, Creativity and Innovation, Critical Thinking and Problem-Solving</li> <li><b>Key words:</b> Pronouns, personal, possessive,</li> </ol>	<p>(E.g. sample lesson plan in English language: refer to English Language curriculum: B7 pg. 12) An example of an outline for teaching Grammar.</p> <ol style="list-style-type: none"> <li><b>Strand:</b> Grammar usage</li> <li><b>Sub Strand:</b> Types of pronouns (personal pronouns)</li> <li><b>Content Standard:</b> B7.3.1.1: Apply the knowledge of pronouns and their functions in Communication.</li> <li><b>Indicator:</b> B7.3.1.1.6. Use pronouns accurately to link ideas in everyday discourse</li> <li><b>Performance Indicator:</b> Learners can use personal pronouns accurately to link ideas in everyday discourse</li> <li><b>Core Competencies:</b> Communication and Collaboration, Personal Development and Leadership, Creativity and Innovation, Critical Thinking and Problem-Solving</li> <li><b>Key words:</b> Pronouns, personal, possessive,</li> </ol>	

	<p><i>reciprocal, reflexive, repetition</i></p> <p><b>h) Resources:</b> <i>Tape recorder, short story on manila card, and sentence card.</i></p> <p><b>i) Phase 1: Starter</b> <i>Revise learner’s knowledge on previous lesson. Share performance indicators with learners.</i></p> <p><b>j) Phase 2: New learning</b> <i>Learners listen attentively to a recorded audio on a short story and write the nouns in that story. Paste the short story on the manila card on the board which contains repetitions of nouns. E.g.</i> <i>Awo and Ama are friends. Awo and Ama live at Pakro with Awo and Ama’s parents. Pakro is a big town. One day Mr. Nti decided to visit Awo and Ama’s parents. Mr. Nti brought a lot of gifts for Ama. Ama was so overjoyed that Ama run to inform Ama’s friend. Learners read the story aloud in pairs (male/female). Ask learners questions on their opinions of the story. Expected answer: Repetition makes the story boring. Ask learners what can be done to avoid the repetition of the nouns. Through discussion introduce the concept of pronoun. Pronouns are words used in place of nouns Ask learners which pronouns can be used to</i></p>	<p><i>reciprocal, reflexive, repetition</i></p> <p><b>h) Resources:</b> <i>Tape recorder, short story on manila card, and sentence card.</i></p> <p><b>i) Phase 1: Starter</b> <i>Revise learner’s knowledge on previous lesson. Share performance indicators with learners.</i></p> <p><b>j) Phase 2: New learning</b> <i>Learners listen attentively to a recorded audio on a short story and write the nouns in that story. Paste the short story on the manila card on the board which contains repetitions of nouns. E.g.</i> <i>Awo and Ama are friends. Awo and Ama live at Pakro with Awo and Ama’s parents. Pakro is a big town. One day Mr. Nti decided to visit Awo and Ama’s parents. Mr. Nti brought a lot of gifts for Ama. Ama was so overjoyed that Ama run to inform Ama’s friend. Learners read the story aloud in pairs (male/female). Ask learners questions on their opinions of the story. Expected answer: Repetition makes the story boring. Ask learners what can be done to avoid the repetition of the nouns. Through discussion introduce the concept of pronoun. Pronouns are words used in place of nouns Ask learners which pronouns can be used to</i></p>	
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	<p>replace the repeated nouns in the short story.</p> <p>Expected answers: She, they, he, their, her</p> <p>Introduce the types of pronouns to learners and discuss personal pronouns with them</p> <p>Personal, possessive, reciprocal, reflexive, etc.</p> <p>Personal pronouns are categorized by person.</p> <p>There are three-person categories:</p> <ol style="list-style-type: none"> <li>1. First person: Singular – I, me Plural – we, us</li> <li>2. Second person: singular – you plural – you</li> <li>3. Third person: Singular – He, she, it, Plural – they, them, her, him,</li> </ol> <p>Use examples of the personal pronouns in sentences to bring out the understanding.</p> <ol style="list-style-type: none"> <li>1. He gave me a pen.</li> <li>2. I normally eat in the morning.</li> <li>3. She was not with us yesterday.</li> <li>4. We are late for school.</li> </ol> <p>Ask learners in groups to replace the underlined nouns with personal pronouns on the sentence cards shown them.</p> <ol style="list-style-type: none"> <li>1. Abena visited <u>Kweku and Akuvi</u>.</li> <li>2. Fati and <u>Osei are friends</u>.</li> <li>3. The teacher punished <u>the whole class</u>.</li> <li>4. <u>My dog</u> likes big bones.</li> <li>5. <u>Kodua and Ataa</u> are playing.</li> <li>6. <u>Esi and I</u> are travelling to Wa next week.</li> </ol>	<p>replace the repeated nouns in the short story.</p> <p>Expected answers: She, they, he, their, her</p> <p>Introduce the types of pronouns to learners and discuss personal pronouns with them</p> <p>Personal, possessive, reciprocal, reflexive, etc.</p> <p>Personal pronouns are categorized by person.</p> <p>There are three-person categories:</p> <ol style="list-style-type: none"> <li>1. First person: Singular – I, me Plural – we, us</li> <li>2. Second person: singular – you plural – you</li> <li>3. Third person: Singular – He, she, it, Plural – they, them, her, him,</li> </ol> <p>Use examples of the personal pronouns in sentences to bring out the understanding.</p> <ol style="list-style-type: none"> <li>1. He gave me a pen.</li> <li>2. I normally eat in the morning.</li> <li>3. She was not with us yesterday.</li> <li>4. We are late for school.</li> </ol> <p>Ask learners in groups to replace the underlined nouns with personal pronouns on the sentence cards shown them.</p> <ol style="list-style-type: none"> <li>1. Abena visited <u>Kweku and Akuvi</u>.</li> <li>2. Fati and <u>Osei are friends</u>.</li> <li>3. The teacher punished <u>the whole class</u>.</li> <li>4. <u>My dog</u> likes big bones.</li> <li>5. <u>Kodua and Ataa</u> are playing.</li> <li>6. <u>Esi and I</u> are travelling to Wa next week.</li> </ol>	
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	<p><b>Assessment</b> Ask learners to write five sentences and identify the personal pronouns in them.</p> <p><b>k) Phase 3: Reflection</b> Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.</p>	<p><b>Assessment</b> Ask learners to write five sentences and identify the personal pronouns in them.</p> <p><b>k) Phase 3: Reflection</b> Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.</p>	
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## PLC Session for Topic 7: Knowledge of Educational Frameworks and Curriculum

<p><b>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</b></p>	<p><b>Guidance notes on Leading the session.</b> <i>What the PLC Coordinator will have to say during each stage of the session</i></p>	<p><b>Guidance Notes on Teacher Activity during the PLC Session.</b> <i>What teachers will do during each stage of the session.</i></p>	<p><b>Time in session</b></p>
<p><b>1. Introduction to new session</b></p>	<p>1.1 Ask a teacher who observed a lesson of a colleague to share their findings with the group.</p> <p>1.2 Ask a teacher to read the purpose, Learning Outcomes (LOs) and Learning Indicators (LIs) of the session.</p> <p><b>Purpose:</b> The purpose of the session is to help teachers demonstrate understanding of the <i>knowledge of educational frameworks and curriculum</i> in the NTS.</p> <p>LO 1: Demonstrate knowledge and understanding of the structure of the Standards-Based Curriculum (SBC) (NTS 2b, 2c and 2d).</p> <p>LI 1.1 List the components of the SBC. LI 1.2 State at least two challenges with the implementation of the SBC.</p> <p>LO 2: Demonstrate knowledge and understanding of subject matter for the effective classroom</p>	<p>1.1 Share the findings of a lesson observed with the whole group.</p> <p>1.2 Read the purpose, Learning Outcomes (LOs) and Learning Indicators (LIs) of the session.</p> <p><b>Purpose:</b> The purpose of the session is to help teachers demonstrate understanding of the <i>knowledge of educational frameworks and curriculum</i> in the NTS.</p> <p>LO1: Demonstrate knowledge and understanding of the structure of the Standards-Based Curriculum (SBC) (NTS 2b, 2c and 2d).</p> <p>LI 1.1 List the components of the SBC. LI 1.2 State at least two challenges with the implementation of the SBC.</p> <p>LO 2: Demonstrate knowledge and understanding of subject matter for the effective classroom</p>	<p>15 mins</p>

	<p>delivery (NTS 2b, 2c, 3a 3d and 3e).</p> <p>LI 2.1 List the strands of any subject of the SBC.</p> <p>LI 2.2 Mention four structures of the SBC.</p> <p>LI 2.3 State at least five strategies that can be used to facilitate the implementation of the content of any subject.</p> <p>1.3 Ask teachers in groups/pairs to discuss and come out with the components of the SBC and share with the whole group (NTS 2b, 2c and 2d).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Structure</i></li> <li>b) <i>Content</i></li> <li>c) <i>Expected outcomes</i></li> </ul> <p>1.4 Ask teachers to use think-pair-share (think individually, share with a colleague and together share with the whole group) to come out with the structure of the SBC (NTS 2a, 2b and 2d ).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Strands</i></li> <li>b) <i>Sub-strands</i></li> <li>c) <i>Core competencies</i></li> <li>d) <i>Indicators</i></li> <li>e) <i>Performance Indicators</i></li> <li>f) <i>Content Standards</i></li> <li>g) <i>Exemplars</i></li> </ul> <p>1.5 Ask teachers to use think-pair-share to state at least four challenges with the implementation of the SBC and then share with the larger group (NTS 2b).</p>	<p>delivery (NTS 2b, 2c, 3a 3d and 3e).</p> <p>LI 2.1 List the strands of any subject of the SBC.</p> <p>LI 2.2 Mention four structures of the SBC.</p> <p>LI 2.2 State at least five strategies that can be used to facilitate the implementation of the content of any subject.</p> <p>1.3 In groups/pairs discuss and come out with the components of the SBC and share with the whole group (NTS 2b, 2c and 2d).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Structure</i></li> <li>b) <i>Content, etc.</i></li> </ul> <p>1.4 Use think-pair-share (think individually, share with a colleague and together share with the whole group) to come out with the structure of the SBC (NTS 2a, 2b and 2d ).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Strands</i></li> <li>b) <i>Sub-strands</i></li> <li>c) <i>Core competencies</i></li> <li>d) <i>Indicators, etc.</i></li> </ul> <p>1.5 Use think-pair-share to state four challenges with the implementation of the SBC and then share with the larger group (NTS 2b).</p>	
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	<p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Lack of textbooks</i></li> <li>b) <i>Inadequate training on the SBC</i></li> <li>c) <i>Inadequate knowledge of teachers on aspects of the curriculum for instance core and transferable skills i.e. 21<sup>st</sup> century skills</i></li> <li>d) <i>Unconducive learning environment in some schools</i></li> </ul> <p>1.6 Ask teachers in groups /pairs to discuss and come out with the strands of any subject such as science in the SBC (NTS 2b, 2c, 3a, 3d and 3e).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Diversity of matter</i></li> <li>b) <i>Cycles</i></li> <li>c) <i>Systems</i></li> <li>d) <i>Forces and energy</i></li> <li>e) <i>Humans and the environment</i></li> </ul> <p>1.7 Ask teachers to mention five strategies that can be used to facilitate the teaching of the subject (NTS 2b, 2c, 3a, 3c, 3d, 3e, 3i, and 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Groupwork</i></li> <li>b) <i>Discussions</i></li> <li>c) <i>Radio reporting</i></li> <li>d) <i>Think-pair-share</i></li> <li>e) <i>Role play</i></li> <li>f) <i>Use of audio visuals</i></li> <li>g) <i>Singing</i></li> <li>h) <i>Story telling</i></li> <li>i) <i>Draw and colour</i></li> <li>j) <i>Games, etc.</i></li> </ul>	<p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Lack of textbooks</i></li> <li>b) <i>Inadequate training on the SBC, etc.</i></li> </ul> <p>1.6 In groups/pairs, state the strands of any subject such as science in the SBC (NTS 2b, 2c, 3a, 3d and 3e).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Diversity of matter</i></li> <li>b) <i>Cycles</i></li> <li>c) <i>Systems, etc.</i></li> </ul> <p>1.7 Mention five strategies that can be used to facilitate the teaching of the subject (NTS 2b, 2c, 3a, 3c, 3d, 3e, 3i, and 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Groupwork</i></li> <li>b) <i>Discussions</i></li> <li>c) <i>Radio reporting, etc.</i></li> </ul>	
<p><b>Give regard for misconceptions and stereotypes, GESI, ICT, 21<sup>st</sup> century skills, etc.</b></p>	<p>1.8 Ask teachers to identify possible misconceptions and stereotypes in the learning of various subjects such as science (NTS 2c, 2d and 2e).</p>	<p>1.8 Identify possible misconceptions and stereotypes in the learning of various subjects such as science (NTS 2c, 2d and 2e).</p>	

	<p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Science is difficult to learn</i></li> <li>b) <i>Science is meant for males</i></li> <li>c) <i>It is extremely difficult to manipulate science apparatus</i></li> <li>d) <i>Science is for learners from rich homes</i></li> <li>e) <i>Science is not interesting</i></li> <li>f) <i>Science is for brilliant learners</i></li> <li>g) <i>Learners of science are better than learners of other courses, etc.</i></li> </ul> <p>1.9 Discuss with teachers how these misconceptions about the teaching and learning of various subjects such as science can be addressed (NTS 2c, 2d and 2e).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Adopt the right strategies. For instance, making the teaching of science more practical</i></li> <li>b) <i>Provide career guidance to learners</i></li> <li>c) <i>Engage role models to interact with the learners on the benefits of science</i></li> <li>d) <i>Use 21<sup>st</sup> century skills to support the teaching of science</i></li> <li>e) <i>Encourage teachers to engage in continuous professional development to learn about how to deal with misconceptions</i></li> <li>f) <i>Encourage female teachers to teach science, etc.</i></li> </ul> <p>1.10 Ask teachers to identify strategies and activities that promote GESI responsiveness in the classroom (NTS 3a, 3c).</p>	<p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Science is difficult to learn</i></li> <li>b) <i>Science is meant for males</i></li> <li>c) <i>It is extremely difficult to manipulate science apparatus, etc.</i></li> </ul> <p>1.9 Discuss with teachers how these misconceptions about the teaching and learning of various subjects such as science can be addressed (NTS 2c, 2d and 2e).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Adopt the right strategies. For instance, making the teaching of science more practical</i></li> <li>b) <i>Provide career guidance to learners</i></li> <li>c) <i>Engage role models to interact with the learners on the benefits of science, etc.</i></li> </ul> <p>1.10 Identify strategies and activities that promote GESI responsiveness in the classroom (NTS 3a, 3c).</p>	
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	<p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Use non-discriminatory practices within the learning environment</i></li> <li>b) <i>Use mixed-ability groupings</i></li> <li>c) <i>Use gender responsive pedagogies</i></li> <li>d) <i>Assign leadership roles to both girls and boys</i></li> <li>e) <i>Avoid the use of derogatory remarks, etc.</i></li> </ul> <p>1.11 Ask teachers to identify two ways of incorporating ICT in their lessons taking into consideration different learning styles (NTS 3i, 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a. <i>Surfing Open Educational Resources and other Internet sources for information, etc.</i></li> <li>b. <i>Teaching using different presentation formats including Microsoft PowerPoint, Microsoft Excel, Microsoft Word and so on</i></li> <li>c. <i>Use of recorded videos, YouTube, audio-visuals, etc.</i></li> </ul> <p>1.12 Ask teachers to discuss at least three possible strategies they would adopt to develop 21<sup>st</sup> century skills in their learners (NTS 3a, 3b, 3c and 3d).</p> <p><i>Note:</i> <b>Communication skill</b></p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Group discussion</i></li> <li>b) <i>Role-play</i></li> <li>c) <i>Radio reporting, etc.</i></li> </ul>	<p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Use non-discriminatory practices within the learning environment</i></li> <li>b) <i>Use mixed-ability groupings</i></li> <li>c) <i>Use gender responsive pedagogies, etc.</i></li> </ul> <p>1.11 Identify two ways of incorporating ICT in your lessons taking into consideration different learning styles (NTS 3i, 3j).</p> <p><i>E.g.</i></p> <p><i>Surfing Open Educational Resources and other Internet sources for information, etc.</i></p> <p>1.12 Discuss at least three possible strategies you would adopt to develop 21<sup>st</sup> century skills in your learners (NTS 3a, 3b, 3c and 3d).</p> <p><i>Note:</i> <b>Communication skill</b></p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Group discussion</i></li> <li>b) <i>Role-play, etc.</i></li> </ul>	
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	<p><b>Collaboration</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Discussion in groups /pairs</li> <li>b) Project/research</li> <li>c) Role-play</li> <li>d) Hands-on activities, etc.</li> </ul> <p><b>Observation and enquiry skills</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research</li> <li>c) Role-play</li> <li>d) Hands-on activities, etc.</li> </ul> <p><b>Creativity and innovation</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research</li> <li>c) Role-play</li> <li>d) Hands-on activities, etc.</li> </ul> <p><b>Personal development</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research</li> <li>c) Role-play</li> <li>d) Hands-on activities, etc.</li> </ul> <p><b>Cultural identity and Global citizenship:</b> Providing opportunities for teachers to engage in discussions on national and international issues through the use of; E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research</li> <li>c) Role-play</li> <li>d) Hands-on activities, etc.</li> </ul>	<p><b>Collaboration</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Discussion in groups /pairs</li> <li>b) Project/research, etc.</li> </ul> <p><b>Observation and enquiry skills</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research, etc.</li> </ul> <p><b>Creativity and innovation</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research</li> <li>c) Role-play, etc.</li> </ul> <p><b>Personal development</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research</li> <li>c) Role-play, etc.</li> </ul> <p><b>Cultural identity and Global citizenship:</b> Providing opportunities for teachers to engage in discussions on national and international issues through the use of; E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research</li> <li>c) Role-play, etc.</li> </ul>	
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<p><b>2. Planning for teaching, learning and assessment activities for the lesson/s making Links to the relationship between the Basic School Curriculum and the NTS</b></p>	<p>2.1 Ask teachers to discuss samples of their lesson plans based on the SBC in their respective subjects and link them to the NTS (NTS 3a, 3e, 3g and 3j).</p> <p>Refer to Appendices 6.1 and 6.2 for a sample lesson plan in science</p> <p>2.2 Ask teachers to tease out the LO and LIs from the sample lesson plan.</p> <p><i>E.g.</i>  <i>LO: Recognise that different parts of the human body work interdependently to perform a specific function</i></p> <p><i>LI 1.1 Identify the external human body parts by their appropriate names (e.g., eyes, ears, mouth, nose, legs, hands, shoulders, knees, fingers, toes and chest)</i></p> <p><i>LI 1.2 State the function of at least two parts of the human body.</i></p>	<p>2.1 Discuss samples of your lesson plans based on the SBC in your respective subjects and link them to the NTS (NTS 3a, 3e, 3g and 3j).</p> <p>Refer to Appendices 6.1 and 6.2 for a sample lesson plan in science</p> <p>2.2 Tease out the LO and LIs from the sample lesson plan.</p> <p><i>E.g.</i>  <i>LO: Recognise that different parts of the human body work interdependently to perform a specific function</i></p> <p><i>LI 1.1 Identify the external human body parts by their appropriate names (e.g., eyes, ears, mouth, nose, legs, hands, shoulders, knees, fingers, toes and chest)</i></p> <p><i>LI 1.2 State the function of at least two parts of the human body.</i></p>	<p>20 mins</p>
<p><b>3. Teaching, learning, resources and assessment</b></p>	<p>3.1 Ask teachers to identify at least four strategies and activities that promote SEL and GESI responsiveness in their sample lesson plans (NTS 3c, 3e, 3f and 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) Mixed - gender grouping</i></li> <li><i>b) Classroom arrangement that facilitates interaction among all learners</i></li> <li><i>c) Giving positive feedback to all learners especially SEN</i></li> <li><i>d) Respect for the opinions and background of the learners as a guide in the class</i></li> <li><i>e) Using videos in lessons</i></li> <li><i>f) Using pictures in lessons</i></li> </ul>	<p>3.1 Identify at least four strategies and activities that promote SEL and GESI responsiveness in your sample lesson plans (NTS 3c,3e,3f, 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) Mixed - grouping</i></li> <li><i>b) Classroom arrangement that facilitates interaction among all learners, etc.</i></li> </ul>	<p>10 mins</p>

	<p><i>g) Using charts showing both female and male body parts, etc.</i></p> <p>3.2 Ask teachers to identify the resources that can be used to deliver their sample lesson.</p> <p><i>E.g.</i></p> <p><i>a) Pictures/ flashcards of parts of the human body</i>  <i>b) An outline drawing of the human body</i>  <i>c) Pencils</i>  <i>d) Crayons</i>  <i>e) Erasers</i>  <i>f) Cello tape</i>  <i>g) Broadsheets, etc.</i></p> <p>3.3 Ask teachers to discuss how the session is linked to the use of formative assessment tools and practices, for example, assessment <i>for</i> learning and assessment <i>as</i> learning (NTS 3k, 3l and 3m).</p> <p><i>E.g.</i></p> <p><i>a) Self-assessment-assessment as learning, for instance peer-assessment</i>  <i>b) Assessment for learning, for instance portfolio building</i>  <i>c) Assessment of learning, for instance project and portfolio</i></p> <p>3.4 Ask a teacher to model a teaching activity in their sample lesson (EXTENSION ACTIVITY).</p>	<p>3.2 Identify four resources that can be used to deliver the sample lesson.</p> <p><i>E.g.</i></p> <p><i>a) Pictures/ flashcards of parts of the human body</i>  <i>b) An outline drawing of the human body, etc</i></p> <p>3.3 Discuss how the session is linked to the use of formative assessment tools and practices, for example, assessment <i>for</i> learning and assessment <i>as</i> learning (NTS 3k, 3l and 3m).</p> <p><i>E.g.</i></p> <p><i>a) Self-assessment-assessment as learning, for instance peer-assessment</i>  <i>b) Assessment for learning, for instance portfolio building</i>  <i>c) .....</i></p> <p>3.4 Model a teaching activity in your sample lesson (EXTENSION ACTIVITY).</p>	
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<p><b>4. Evaluation and review of session:</b></p> <ul style="list-style-type: none"> <li>○ <b>Identifying and addressing any outstanding issues relating to the lesson/s for clarification</b></li> <li>○ <b>Noting that teachers need to identify critical friends to observe lessons and report at next session</b></li> </ul>	<p>4.1 Ask teachers to reflect and write what they have learned in the session (NTS 1a)</p> <p>4.2 Ask teachers to share what they have written with the larger group (NTS 1a).</p> <p>4.3 Remind teachers to identify a colleague to observe them while they teach their lesson in relation to PLC Session 7 and provide feedback to them.</p> <p>4.4 Remind teachers to read Session 8 of the PLC Handbook and come along with both their NTS Guide and a sample lesson plan in preparation for the next session.</p> <p>4.5 Remind teachers that they may come along with areas they find challenging in their teaching.</p>	<p>4.1 Reflect and write what you have learned in the session (NTS 1a).</p> <p>4.2 Share what you have written with the larger group (NTS 1a).</p> <p>4.3 Identify a colleague to observe your lessons in relation to PLC Session 7 and provide feedback to them.</p> <p>4.4 Remember to read session 8 of the PLC Handbook and come along with both your NTS Guide and a sample lesson plan in preparation for the next session.</p> <p>4.5 You may come along with areas you find challenging in your teaching.</p>	<p>10 mins</p>
<p><b>5. Appendix 7.1</b></p>	<p><i>See appendices 6.1 and 6.2 for a sample lesson plan in Science</i>  <i>An example of an outline for teaching the human body system in the 2019 Science standards-based curriculum*</i></p> <p><b>a) Strand:</b> Systems  <b>b) Sub-strand:</b> The human body system  <b>c) Content Standard:</b> B1.3.1.1 Recognize that different parts of the human body work interdependently to perform a specific function  <b>d) Indicator:</b> B1.3.1.1.1 Identify the external human body parts by their appropriate names (e.g., eyes, ears, mouth, nose, legs, hands, shoulders, knees, fingers, toes and chest)  <b>e) Lesson:</b> 1  <b>f) Performance Indicator:</b> Learners can identify the human body parts with their appropriate names and</p>	<p><i>See appendices 6.1 and 6.2 for a sample lesson plan in Science</i>  <i>An example of an outline for teaching the human body system in the 2019 Science standards-based curriculum *</i></p> <p><b>a) Strand:</b> Systems  <b>b) Sub-strand:</b> The human body system  <b>c) Content Standard:</b> B1.3.1.1 Recognize that different parts of the human body work interdependently to perform a specific function  <b>d) Indicator:</b> B1.3.1.1.1 Identify the external human body parts by their appropriate names (e.g., eyes, ears, mouth, nose, legs, hands, shoulders, knees, fingers, toes and chest)  <b>e) Lesson:</b> 1  <b>f) Performance Indicator:</b> Learners can identify the human body parts with their appropriate names and</p>	

	<p><i>understand the interdependency of the parts.</i></p> <p><b>g) Core Competencies/Values:</b> <i>Personal Development, Leadership, Digital Literacy, Critical Thinking and Problem Solving, Creativity and Innovation</i></p> <p><b>h) Keywords:</b> <i>External, eyes, ears, mouth, nose, legs, hands, shoulders, knees, fingers, toes and chest</i></p> <p><b>i) References:</b> <i>Science curriculum for B1- B3, pg.</i></p> <p><b>j) Starter:</b> <i>learners sing a song involving the parts of the body and show actions. E.g., “my head, my shoulders, my knees, my toes”</i></p> <p><b>k) Phase 1:</b> <i>Have the learners stand and form a circle, sing the following words, have them use body actions to do the movements in the song. Teacher models, and leads the movements throughout the song. E.g., “my head, my shoulders, my knees and toes” or “show me your head, show me your eyes”</i></p> <p><b>l) Phase 2: Main (new learning including assessment)</b></p> <p><i>i) Have learners get into pairs and identify external parts of the human body on each other.</i></p> <p><i>ii) Teacher uses videos; charts/pictures to guide learners identify the external parts of the human body</i></p> <p><i>iii) Put learners into groups and give each group flash cards of parts of the human body.</i></p> <p><i>iv) Asks learners in their groups to arrange the</i></p>	<p><i>understand the interdependency of the parts.</i></p> <p><b>g) CoreCompetencies/Values:</b> <i>Personal Development, Leadership, Digital Literacy, Critical Thinking and Problem Solving. Creativity and Innovation</i></p> <p><b>h) Keywords:</b> <i>External, eyes, ears, mouth, nose, legs, hands, shoulders, knees, fingers, toes and chest</i></p> <p><b>i) References:</b> <i>Science curriculum for B1- B3, pg.</i></p> <p><b>j) Starter:</b> <i>learners sing a song involving the parts of the body and show actions. E.g., “my head, my shoulders, my knees, my toes”</i></p> <p><b>k) Phase 1:</b> <i>Have the learners stand and form a circle, sing the following words, have them use body actions to do the movements in the song. Teacher models, and leads the movements throughout the song. E.g., “my head, my shoulders, my knees and toes” or “show me your head, show me your eyes”</i></p> <p><b>l) Phase 2: Main (new learning including assessment)</b></p> <p><i>i) Have learners get into pairs and identify external parts of the human body on each other.</i></p> <p><i>ii) Teacher uses videos; charts/pictures to guide learners identify the external parts of the human body</i></p> <p><i>iii) Put learners into groups and give each group flash cards of parts of the human body.</i></p> <p><i>iv) Asks learners in their groups to arrange the</i></p>	
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	<p><i>flash cards of body parts to form the human body on a cardboard.</i></p> <p>v) <i>Ask each group to display their work for discussion.</i></p> <p>vi) <i>Ask each learner to draw an outline of the human body, put in the eyes, ears, mouth, nose, and chest, and use a colour of their choice to colour their drawing.</i></p> <p>vii) <i>Learners display their work for discussion</i></p> <p>viii) <i>Learners build a human body using clay or blue tack.</i></p> <p><b>Assessment</b> <i>Why is it good to have all the parts of the human body working well?</i></p> <p><b>m. Phase 3:</b> <b>Plenary/Reflections (Learner and teacher):</b> <i>Teacher moves round the groups to find out the progress learners are making with respect to the task given them and where necessary ask questions to guide them. Teacher facilitates the presentations and sum up the learning outcomes.</i></p> <p><b>n. Resources:</b> <i>Pictures/ flashcards of parts of the human body, an outline drawing of the human body, pencils, crayons, erasers, cello tape, broadsheets of paper</i></p>	<p><i>flash cards of body parts to form the human body on a cardboard.</i></p> <p>v) <i>Ask each group to display their work for discussion.</i></p> <p>vi) <i>Ask each learner to draw an outline of the human body, put in the eyes, ears, mouth, nose, and chest, and use a colour of their choice to colour their drawing.</i></p> <p>vii) <i>Learners display their work for discussion</i></p> <p>viii) <i>Learners build a human body using clay or blue tack.</i></p> <p><b>Assessment</b> <i>Why is it good to have all the parts of the human body working well?</i></p> <p><b>m. Phase 3:</b> <b>Plenary/Reflections (Learner and teacher):</b> <i>Teacher moves round the groups to find out the progress learners are making with respect to the task given them and where necessary ask questions to guide them. Teacher facilitates the presentations and sum up the learning outcomes.</i></p> <p><b>n. Resources:</b> <i>Pictures/ flashcards of parts of the human body, an outline drawing of the human body, pencils, crayons, erasers, cello tape, broadsheets of paper</i></p>	
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<p><b>6. Appendix 7.2</b></p>	<p><b>a) Strand:</b> Systems  <b>b) Sub-strand:</b> Materials  <b>c) Content Standard:</b> Show an understanding of the concept of food, the process of digestion and appreciate its importance in humans  <b>d) Indicator(s) B7.3.1.1.1</b>  Explain the concept of food and the needs for humans to eat  <b>e) Performance indicator:</b>  Learner can explain the concept of food and the needs for humans to eat.  <b>f) Core competencies:</b>  E.g.  Collaborative problem solving, Leadership, creativity and innovation, critical thinking, communication, digital literacy  <b>g) Key words/Vocabulary:</b>  Carbohydrates, proteins, fats and oils, fibre, vitamins  <b>h) References:</b> Science curriculum for B7, pg  <b>i) Phase 1: Starter (preparing the brain for learning)</b>  Let learners discuss what food is and mention the nutrients such as proteins, vitamins, carbohydrate (starch and sugars), minerals etc.  <b>j) Phase 2: Main (new learning including assessment)</b>  i. Engage learners to identify food nutrients in common food substances such as cassava, bread, ground nuts, beans, meat etc.  ii. Put learners in groups or in pairs for them to discuss the importance of food.  iii. Let learners compare and contrast the</p>	<p><b>a) Strand:</b> Systems  <b>b) Sub-strand:</b> Materials  <b>c) Content Standard:</b> Show an understanding of the concept of food, the process of digestion and appreciate its importance in humans  <b>d) Indicator(s) B7.3.1.1.1</b>  Explain the concept of food and the needs for humans to eat  <b>e) Performance indicator:</b>  Learner can explain the concept of food and the needs for humans to eat.  <b>f) Core competencies:</b>  E.g.  Collaborative problem solving, Leadership, creativity and innovation, critical thinking, communication, digital literacy  <b>g) Key words/Vocabulary:</b>  Carbohydrates, proteins, fats and oils, fibre, vitamins  <b>h) References:</b> Science curriculum for B7, pg  <b>i) Phase 1: Starter (preparing the brain for learning)</b>  Let learners discuss what food is and mention the nutrients such as proteins, vitamins, carbohydrate (starch and sugars), minerals etc.  <b>j) Phase 2: Main (new learning including assessment)</b>  <b>k) Engage learners to identify food nutrients in common food substances such as cassava, bread, groundnuts, beans, meat etc.</b>  <b>l) Put learners in groups or in pairs for them to discuss the importance of food.</b>  <b>m) Let learners compare and contrast the appearance of people in pictures who have</b></p>	
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	<p><i>appearance of people in pictures who have been starved with those who eat well.</i></p> <p><b>iv.</b> <i>Ask learners to do group presentation based on their comparisons.</i></p> <p><b>Homework/project work/community engagement suggestions</b></p> <p><b>Let learners do the following as homework:</b></p> <ol style="list-style-type: none"> <li><b>1.</b> <i>Explain what food is.</i></li> <li><b>2.</b> <i>Identify food nutrients in the following: meat, orange, yam, “kontomire”, water and palm oil.</i></li> <li><b>3.</b> <i>Write down four importance of food.</i></li> <li><b>4.</b> <i>Identify the minerals on the following brands of bottled water (Standard, Voltic, Verna, Bell Aqua,)</i></li> </ol> <p><b>NB: The minerals are listed on the labels of the bottle water</b></p> <p><b>Phase 3: Plenary/Reflections (Learner and teacher)</b> <i>Allow one learner from each group to tell the class what they have learnt. Encourage learners not to repeat already mentioned responses.</i></p> <p><b>Cross-curriculum links/ Cross-cutting issues</b></p> <p><b>E.g.</b> <i>Career technology: Learners will use their knowledge in nutrients to draw meals menu based on food nutrient requirement of persons</i></p>	<p><i>been starved with those who well.</i></p> <p><b>n)</b> <i>Ask learners to do group presentation based on their comparisons.</i></p> <p><b>Homework/project work/community engagement suggestions</b></p> <p><b>Let learners do the following as homework:</b></p> <ol style="list-style-type: none"> <li><b>1.</b> <i>Explain what food is.</i></li> <li><b>2.</b> <i>Identify food nutrients in the following: meat, orange, yam, “kontomire”, water and palm oil.</i></li> <li><b>3.</b> <i>Write down four importance of food.</i></li> <li><b>4.</b> <i>Identify the minerals on the following brands of bottled water (Standard, Voltic, Verna, Bell Aqua,)</i></li> </ol> <p><b>NB: The minerals are listed on the labels of the bottle water</b></p> <p><b>Phase 3: Plenary/Reflections (Learner and teacher)</b> <i>Allow one learner from each group to tell the class what they have learnt. Encourage learners not to repeat already mentioned responses.</i></p> <p><b>Cross-curriculum links/ Cross-cutting issues</b></p> <p><b>E.g.</b> <i>Career technology: Learners will use their knowledge in nutrients to draw meals menu based on food nutrient requirement of persons</i></p>	
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	<p><b>Potential misconceptions/student learning difficulties</b>  <b>E.g.</b>  <i>The misconception that water is not food must be cleared; its nutrients are the minerals found in it</i></p> <p><b>Resources/Equipment</b>  <i>Pictures of real food items e.g. meat, palm oil, cassava, animal fat etc. Charts of classes of food nutrients, Pictures of lean and fat people</i></p>	<p><b>Potential misconceptions/student learning difficulties</b>  <b>E.g.</b>  <i>The misconception that water is not food must be cleared; its nutrients are the minerals found in it</i></p> <p><b>Resources/Equipment</b>  <i>Pictures of real food items e.g. meat, palm oil, cassava, animal fat etc. Charts of classes of food nutrients, Pictures of lean and fat people</i></p>	
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## PLC Session 8: Knowledge of Learners

<p><b>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</b></p>	<p><b>Guidance notes on Leading the session.</b> <i>What the PLC Coordinator will have to say during each stage of the session</i></p>	<p><b>Guidance Notes on Teacher Activity during the PLC Session.</b> <i>What teachers will do during each stage of the session.</i></p>	<p><b>Time in session</b></p>
<p><b>1. Introduction to session</b></p>	<p>1.1 Introduce Session 8 and ask a teacher to read the purpose, Learning Outcomes (LOs) and Learning Indicators (LIs) of the unit.</p> <p><b>Purpose:</b> This session aims at equipping the teacher with the required knowledge of the developmental stages of learners and their implications for teaching and learning.</p> <p>LO 1: Demonstrate understanding of how learners develop and learn in different contexts and apply this in teaching (NTS 2e).</p> <p>LI 1.1 List the developmental stages of learners (NTS 2e). LI 1.2 Explain the developmental stages of learners (NTS 2e). LI 1.3 Explain at least three types of learning styles (NTS 2b, 2c, 2e, 2f, 3a and 3d). LO 2: Identify and respect learners' culture, linguistic, socio-economic and educational backgrounds</p>	<p>1.1 Read the purpose, learning outcomes (LOs) and learning indicators (LIs) of Session 8 for this unit.</p> <p><b>Purpose:</b> This session aims at equipping the teacher with the required knowledge of the developmental stages of learners and their implications for teaching and learning.</p> <p>LO 1: Demonstrate understanding of how learners develop and learn in different contexts and apply this in teaching (NTS 2e).</p> <p>LI 1.1 List the developmental stages of learners (NTS 2e). LI 1.2 Explain the developmental stages of learners (NTS 2e). LI 1.3 Explain at least three types of learning styles (NTS 2b, 2c, 2e, 2f, 3a and 3d). LO 2: Identify and respect learners' culture, linguistic, socio-economic and educational background in</p>	<p>10 mins</p>

	<p>in planning and teaching (NTS 2f).</p> <p>LI 2.1 Mention at least three socio-economic backgrounds of learners (NTS 2f).</p> <p>LI 2.2 Classify the learner's educational background (NTS 2f, 3a).</p> <p>LI 2.3 Explain the effect of the learner's cultural and linguistic background on planning and teaching (NTS 2f, 3a and 3g).</p> <p>1.2 Ask teachers in pairs/groups to list the developmental stages of learners (NTS 2e).</p> <p><i>E.g.</i>  <i>Piaget's developmental stages:</i></p> <ul style="list-style-type: none"> <li>a) <i>Sensory motor</i></li> <li>b) <i>Pre-operational</i></li> <li>c) <i>Concrete operational</i></li> <li>d) <i>Formal</i></li> </ul> <p>1.3 Ask teachers in pairs/groups to explain the developmental stages of learners in their class (NTS 2e).</p> <p><i>E.g.</i>  <i>Piaget's developmental stages-</i></p> <ul style="list-style-type: none"> <li>a) <i>Sensory motor stage: Between 0-2 years. Learners learn through sensory experiences. Learners develop language at a later stage</i></li> <li>b) <i>Pre-operational: Between 2-7 years. Learners are egocentric and cannot do complex task. They learn through imitation</i></li> <li>c) <i>Concrete operational: Between 7-12 years. Learners develop concept through manipulation of objects. They can do 2-3 multi task activities</i></li> <li>d) <i>Formal stage: 12 years and above. Learners can</i></li> </ul>	<p>planning and teaching (NTS 2f).</p> <p>LI 2.1 Mention at least three socio-economic backgrounds of learners (NTS 2f).</p> <p>LI 2.2 Classify the learner's educational background (NTS 2f, 3a).</p> <p>LI 2.3 Explain the effect of learner's cultural and linguistic background on planning and teaching (NTS 2f, 3a and 3g).</p> <p>1.2 In pairs / groups, list the developmental stages of learners (NTS 2e).</p> <p><i>E.g.</i>  <i>Piaget's developmental stages:</i></p> <ul style="list-style-type: none"> <li>a) <i>Sensory motor</i></li> <li>b) <i>Pre-operational</i></li> <li>c) <i>.....</i></li> <li>d) <i>.....</i></li> </ul> <p>1.3 In pairs/groups, explain the developmental stages of learners in your class (NTS 2e).</p> <p><i>E.g.</i>  <i>Piaget's developmental stages-</i></p> <ul style="list-style-type: none"> <li>a) <i>Sensory motor stage: Between 0-2 years. Learners learn through sensory experiences. Learners develop language at a later stage</i></li> <li>b) <i>Pre-operational: Between 2-7 years. Learners are egocentric and cannot do complex task. They learn through imitation</i></li> <li>c) <i>.....</i></li> <li>d) <i>.....</i></li> </ul>	
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	<p><i>do complex tasks and learn in abstract</i></p> <p>1.4 Ask teachers to list and explain at least three types of learning styles in their classroom (NTS 2b, 2c, 2e, 2f, 3a and 3d).</p> <p><i>E.g.</i></p> <p>a) <i>Auditory: Learning through hearing. It involves explanations, group discussions and reading. These learners prefer reading out aloud to themselves</i></p> <p>b) <i>Exploratory: learners explore and experiment to uncover relationships</i></p> <p>c) <i>Visual: Learning is done through seeing. This involves spatial visualization of concepts. The use of visual aids to eliminate potential distractions</i></p> <p>d) <i>Kinaesthetic-tactile: Learning is done through movement or manipulation or touching of materials</i></p> <p>e) <i>Verbal: Learners learn by reading and listening. It involves both written and spoken words, etc.</i></p> <p>1.5 Ask teachers to use think-pair-share to discuss at least three socio-economic backgrounds of their learners (NTS 2f, 3a and 3g).</p> <p><i>E.g.</i></p> <p>a) <i>Living with single parent: A child living with one parent who takes care of them</i></p> <p>b) <i>Child labour: The exploitation of children through any form of work that deprives them of their</i></p>	<p>1.4 List and explain at least three types of learning styles in your classroom (NTS 2b, 2c, 2e, 2f, 3a and 3d).</p> <p><i>E.g.</i></p> <p>a) <i>Auditory: Learning through hearing. It involves explanations, group discussions and reading. These learners prefer reading out aloud to themselves</i></p> <p>b) <i>Exploratory: learners explore and experiment to uncover relationships, etc.</i></p> <p>1.5 Use think-pair-share to discuss at least three socio-economic backgrounds of your learners (NTS 2f, 3a and 3g).</p> <p><i>E.g.</i></p> <p>a) <i>Living with single parent: A child living with one parent who takes care of them</i></p> <p>b) <i>Child labour: The exploitation of children through any form of work that deprives them of their</i></p>	
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	<p><i>childhood, interference with their ability to attend regular school and is mentally, physically and morally harmful</i></p> <p>c) <i>Financial status of parents: Parents' inability to provide the basic needs of their wards</i></p> <p>d) <i>Broken homes: A family in which one parent is absent, usually due to divorce or desertion, etc.</i></p> <p>1.6 Ask teachers to classify learners' performance in their previous class for planning, teaching and grouping them according to their performance (NTS 3f, 3g, 3h and 3j).</p> <p><i>E.g.</i></p> <p>a) <i>High achiever: A learner who gets high marks and good grades consistently over a long period of time</i></p> <p>b) <i>Average achiever: A learner who scores average grades consistently over a long period of time and keeps pushing forward to better opportunities</i></p> <p>c) <i>Low achiever: A learner who often has poor self- perceptions of ability and low self-esteem, typically is reluctant to seek help in class and gets low marks consistently over a long period of time</i></p> <p>1.7 Ask teachers in pairs/groups to discuss at least three effects of learner's cultural and linguistic backgrounds on planning and teaching (NTS 2f, 3a and 3g).</p> <p><i>E.g.</i> <i>There is a demand on the teacher to gather and use</i></p>	<p><i>childhood, interference with their ability to attend regular school and is mentally, physically and morally harmful, etc.</i></p> <p>1.6 Classify your learners' performance in their previous class for planning, teaching and grouping them according to their performances (NTS 3f, 3g, 3h and 3j).</p> <p><i>E.g.</i></p> <p>a) <i>High achiever: A learner who gets high marks and good grades consistently over a long period of time</i></p> <p>b) <i>Average achiever: A learner who scores average grades consistently over a long period of time and keeps pushing forward to better opportunities</i></p> <p>c) <i>.....</i></p> <p>1.7 In pairs/groups, discuss at least three effects of learner's cultural and linguistic backgrounds on planning and teaching (NTS 2f, 3a and 3g).</p> <p><i>E.g.</i> <i>There is a demand on the teacher to gather and use</i></p>	
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	<p>a) <i>appropriate Teaching and Learning Resources (TLRs) to support all manner of learners</i></p> <p>b) <i>multi-languages and code-switching during lessons: Code switching occurs when a speaker alternates between two or more (or varieties of) languages, in context of a single conversation or situation</i></p> <p>c) <i>activity-based methods as well as vary teaching strategies in a lesson</i></p> <p>d) <i>appropriate assessment activities to cater for learners' backgrounds, etc.</i></p>	<p>a) <i>appropriate Teaching and Learning Resources (TLRs)</i></p> <p>b) <i>appropriate assessment activities to cater for learners' backgrounds, etc.</i></p>	
<p><b>Give regard for misconceptions and stereotypes, GESI, ICT, 21<sup>st</sup> century skills, etc.</b></p>	<p>1.8 Ask teachers to mention at least three possible misconceptions and stereotypes in learning various subjects such as mathematics (NTS 3m).</p> <p><i>E.g.</i></p> <p>a) <i>Boys are better in mathematics than girls</i></p> <p>b) <i>Mathematics is not creative</i></p> <p>c) <i>Most mathematics topics are not related to real life</i></p> <p>d) <i>Mathematics is for high achievers</i></p> <p>e) <i>Mathematics is very difficult and not an interesting subject, etc.</i></p> <p>1.9 Ask teachers to mention at least three ways these misconceptions about teaching and learning (e.g., in mathematics classroom) can be addressed (NTS 3m).</p>	<p>1.8 Mention at least three possible misconceptions and stereotypes in learning various subjects such as mathematics (NTS 3m).</p> <p><i>E.g.</i></p> <p>a) <i>Boys are better in mathematics than girls</i></p> <p>b) <i>Mathematics is not creative, etc.</i></p> <p>1.9 Mention at least three ways these misconceptions about teaching and learning (e.g., in mathematics classroom) can be addressed (NTS 3m).</p>	10 mins

	<p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) Give equal opportunities to both boys and girls in solving mathematics problems</i></li> <li><i>b) Use hands-on activities to make mathematics more creative</i></li> <li><i>c) Use real life and culturally related examples in mathematics lessons</i></li> <li><i>d) Provide examples of cases where low achievers have been successful in mathematics</i></li> <li><i>e) Use games to make mathematics interesting to learners, etc.</i></li> </ul> <p>1.10 Ask teachers to mention at least three activities that promote GESI and SEL responsiveness in the classroom (NTS 3a, 3b, 3c, 3d, 3e and 3f).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) Use mixed-gender and mixed-ability groupings and allow self-reflection</i></li> <li><i>b) Be patient with stutterers</i></li> <li><i>c) Use tactile or braille for the visually challenged</i></li> <li><i>d) Provide peer support for those who might need help</i></li> <li><i>e) Pay attention to all learners, etc.</i></li> </ul> <p>1.11 Ask teachers to identify at least two ways of incorporating ICT in their lessons taking into consideration different learning styles (NTS 3i, 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a. Surfing Open Educational Resources and other Internet sources for information</i></li> </ul>	<p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) Give equal opportunities to both boys and girls in solving mathematics problems</i></li> <li><i>b) Use hands-on activities to help learners explore and construct their learning, etc.</i></li> </ul> <p>1.10 Mention at least three activities that promote GESI and SEL responsiveness in the classroom (NTS 3a, 3b, 3c, 3d, 3e and 3f).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) Use mixed-gender and mixed-ability groupings and allow self-reflection</i></li> <li><i>b) Use patient with stutterers, etc.</i></li> </ul> <p>1.11 Identify at least two ways of Incorporating ICT into your lessons taking into consideration different learning styles (NTS 3i, 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>Surfing Open Educational Resources and other Internet sources for information, etc.</i></li> </ul>	
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	<p><i>b. Teaching using different presentation formats including Microsoft PowerPoint, Microsoft Excel, Microsoft Word, etc.</i></p> <p>1.12 Ask teachers to discuss at least three possible strategies they would adopt to develop 21<sup>st</sup> century skills in their learners (NTS 3a, 3b, 3c and 3d).</p> <p>Note: <b>Communication skills</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Games/play</li> <li>b) Group discussion</li> <li>c) Role-play</li> <li>d) Presentation</li> <li>e) Leadership role, etc.</li> </ul> <p><b>Collaboration skills</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research</li> <li>c) Role-play</li> <li>d) Hands-on activities, etc.</li> </ul> <p><b>Observation and enquiry skills</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research</li> <li>c) Role-play</li> <li>d) Hands-on activities, etc.</li> </ul> <p><b>Creativity and innovation skills</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research</li> <li>c) Role-play</li> <li>d) Hands-on activities</li> <li>e) Presentation, etc.</li> </ul> <p><b>Personal development skills</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Games/play</li> <li>b) Group discussion</li> <li>c) Project/research</li> </ul>	<p>1.12 Discuss at least three possible strategies you would adopt to develop 21<sup>st</sup> century skills in your learners (NTS 3a, 3b, 3c and 3d).</p> <p>Note: <b>Communication skills</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Games/play</li> <li>b) Group discussion, etc.</li> </ul> <p><b>Collaboration skills</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research, etc.</li> </ul> <p><b>Observation and enquiry skills</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research, etc.</li> </ul> <p><b>Creativity and innovation skills</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Role-play, etc.</li> </ul> <p><b>Personal development skills</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Games/play</li> <li>b) Project/research, etc.</li> </ul>	
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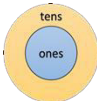
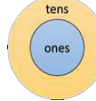
	<p>d) Role- play e) Hands-on activities f) Presentation, etc.</p> <p><b>Global citizenship skills</b> E.g. Providing opportunities for teachers to engage in discussions on national and international issues through the use of:</p> <p>a) Groupwork b) Project/research c) Role-play d) Hands-on activities e) Presentation, etc.</p>	<p><b>Global citizenship skills</b> E.g. Providing opportunities for teachers to engage in discussions on national and international issues through the use of:</p> <p>a) Groupwork b) Role-play, etc.</p>	
<p><b>2. Planning for teaching, learning and assessment activities for the lesson/s making Links to the relationship between the Basic School Curriculum and the NTS</b></p>	<p>2.1 Ask teachers to discuss samples of their lesson plans based on the Pre-tertiary curriculum (Standards- based curriculum) in line with a particular subject and link them to the NTS (NTS 3a, 3e, 3g and 3j).</p> <p>Refer to Appendix 8.1 (BS1-BS6) Refer to Appendix 8.2 (BS7-BS9)</p> <p>2.2 Ask teachers to tease out the LOs and LIs from the sample lesson plan. E.g. From Appendix 8.1 LO: Demonstrate understanding of addition and subtraction of algebraic expression</p> <p>LI 1 Add and subtract algebraic expressions</p> <p>LI 2 Create algebraic expressions from real life situations</p> <p>LI 3 Solve word problems involving algebraic expressions</p>	<p>2.1 Discuss samples of your lesson plans based on the Pre-tertiary curriculum (Standards-based curriculum) in line with a particular subject and link them to the NTS (NTS 3a, 3e, 3g and 3j).</p> <p>Refer to Appendix 8.1 (BS1-BS6) Refer to Appendix 8.2 (BS 7-BS9)</p> <p>2.2 Tease out the LOs and LIs from the sample lesson plan. E.g. From Appendix 8.1 LO: Demonstrate understanding of addition and subtraction of algebraic expression</p> <p>LI 1 Add and subtract algebraic expressions</p> <p>LI 2 Create algebraic expressions from real life situations</p> <p>LI 3 Solve word problems involving algebraic expressions</p>	10 mins



<p><b>3. Teaching, learning, resources and assessment</b></p>	<p>3.1 Ask teachers to identify from their sample lesson plans, at least two activities that promote GESI and SEL responsiveness (NTS 3a, 3b, 3c, 3e, 3f and 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a. Using mixed-ability and mixed- gender groupings</i></li> <li><i>b. Giving positive feedback to all learners especially SEN learners</i></li> <li><i>c. Assigning differentiated tasks to learners, etc.</i></li> </ul> <p>3.2 Ask teachers in pairs/groups to identify at least three resources that can be used to deliver the lesson (NTS 3j, 3k).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) Phones/laptops</i></li> <li><i>b) Projectors</i></li> <li><i>c) Pictures of market scene</i></li> <li><i>d) Exercise books, etc.</i></li> </ul> <p>3.3 Ask teachers to discuss how the lesson plan is linked to the use of formative assessment tools (assessment ‘for’ and assessment ‘as’) and practices (NTS 3k, 3l and 3m).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) Assessment as: <ul style="list-style-type: none"> <li><i>i. Giving self-reflective class exercises on algebraic expression</i></li> <li><i>ii. Giving problem-posing class exercises based on algebraic expression, etc.</i></li> </ul> </i></li> <li><i>b) Assessment for: <ul style="list-style-type: none"> <li><i>i. Learners in groups, work on more</i></li> </ul> </i></li> </ul>	<p>3.1 Identify from your sample lesson plan, at least two activities that promote GESI and SEL responsiveness (NTS 3a, 3b, 3c, 3e, 3f and 3g).</p> <p><i>E.g.</i></p> <p><i>Using mixed-ability and mixed- gender groupings, etc.</i></p> <p>3.2 In pairs/groups, identify at least three resources that can be used to deliver the lesson (NTS 3j, 3k).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) Phones/laptops</i></li> <li><i>b) Projectors, etc.</i></li> </ul> <p>3.3 Discuss how the lesson plan is linked to the use of formative assessment tools (assessment ‘for’ and assessment ‘as’) and practices NTS 3k, 3l and 3m).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) Assessment as: <ul style="list-style-type: none"> <li><i>i. Giving self-reflective class exercise on algebraic expression, etc.</i></li> </ul> </i></li> <li><i>b) Assessment for: <ul style="list-style-type: none"> <li><i>i. Learners in groups, work on more</i></li> </ul> </i></li> </ul>	<p>10 mins</p>
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	<p><i>examples on algebraic expressions</i></p> <p>ii. <i>Learners peer reflect examples worked on by their colleagues, etc.</i></p> <p>3.4 Ask a teacher to model a teaching activity in the sample lesson (EXTENSION ACTIVITY).</p>	<p><i>examples on algebraic expressions, etc.</i></p> <p>3.4 Model teaching activity in the sample lesson (EXTENSION ACTIVITY).</p>	
<p><b>4. Evaluation and review of session:</b></p> <ul style="list-style-type: none"> <li>○ <b>Identifying and addressing any outstanding issues relating to the lesson/s for clarification</b></li> <li>○ <b>Noting that teachers need to identify critical friends to observe lessons and report at next session</b></li> </ul>	<p>4.1 Ask teachers to reflect individually and write what they have learned in the session (NTS 1a, 1b and 3e).</p> <p>4.2 Ask teachers to share what they have written with the larger group (NTS 1a, 1b).</p> <p>4.3 Remind teachers to identify a colleague to observe them while they teach their lesson in relation to PLC Session 8 and provide feedback to them (NTS 3I).</p> <p>4.4 Remind teachers to read Session 10 of the PLC Handbook and come along with both NTS Guide and a sample lesson plan in preparation for the next session (NTS 3a).</p> <p>4.5 Remind teachers that they may come with areas they find challenging in their teaching (NTS 3a).</p>	<p>4.1 Reflect individually and write what you have learned in the session (NTS 1a, 1b and 3e).</p> <p>4.2 Share your reflections with the larger group (NTS 1a, 1b).</p> <p>4.3 Identify a colleague to observe your lesson in relation to PLC Session 8 and provide feedback to your lesson (NTS 3I).</p> <p>4.4 Remember to read Session 10 of the PLC Handbook and come along with both NTS Guide and a sample lesson plan in preparation for the next session (NTS 3a).</p> <p>4.5 You may come along with areas you find challenging in your teaching (NTS 3a).</p>	10 mins
<p><b>5. Appendix 8.1</b></p>	<p><i>An example of a sample lesson plan for teaching counting, representation, cardinality and ordinality from the Standards-Based Curriculum (*Teachers would be guided to tease out the LOs and the LIs from the sample lesson plan)</i></p> <p>a) <b>Strand:</b> Number</p> <p>b) <b>Sub-Strand:</b> Counting, Representation, Cardinality &amp; Ordinality from 0 to 10,000 in equivalent ways using</p>	<p><i>An example of an outline for teaching algebraic expressions from the Standards-Based Curriculum (*Teachers would be guided to tease out the LOs and the LIs from the sample lesson)</i></p> <p>a) <b>Strand:</b> Number</p> <p>b) <b>Sub-Strand:</b> Counting, Representation, Cardinality &amp; Ordinality from 0 to 10,000 in equivalent ways using the place value concept.</p>	

	<p><i>the place value concept.</i></p> <p>c) <b>Content standard:</b> Count and estimate quantities from 0-10,000 (B3.1.1.1).</p> <p>d) <b>Indicator:</b> Describe numbers and the relationship between numbers from 0 to 10,000 in equivalent ways using the place value concept (B3.1.1.1.3).</p> <p>e) <b>Core Competences:</b></p> <ol style="list-style-type: none"> <li>i. Collaboration</li> <li>ii. Observation and enquiry skills</li> <li>iii. Critical thinking and problem solving</li> </ol> <p>f) <b>Reference:</b> Mathematics Curriculum for B1-B3, pg. 43</p> <p>g) <b>Key Vocabulary:</b> Place value, number wheel, relationship, equivalent</p> <p>h) <b>Teaching learning Resources(TLRs):</b></p> <ol style="list-style-type: none"> <li>i. Phones/Laptops</li> <li>ii. Projectors</li> <li>iii. Number wheel</li> <li>iv. Place value chart</li> <li>v. Multi-base block</li> </ol> <p>i) <b>Phase 1(Starter):</b> Guide learners to skip count in twos, threes, tens, and so on backward and forward.</p> <p>j) <b>Phase 2 (Tasks/activities):</b></p> <ol style="list-style-type: none"> <li>i. Demonstrate a combination of bundles of sticks and loose ones or multi-base blocks to learners and ask them to identify and mention their values. E.g. 1. 3 bundles of bundles, 4 bundles and 2 loose ones representing three hundred and forty-two (342)</li> </ol>	<p>c) <b>Content standard:</b> Count and estimate quantities from 0-10,000 (B3.1.1.1).</p> <p>d) <b>Indicator:</b> Describe numbers and the relationship between numbers from 0 to 10,000 in equivalent ways using the place value concept (B3.1.1.1.3).</p> <p>e) <b>Core Competences:</b></p> <ol style="list-style-type: none"> <li>i. Collaboration</li> <li>ii. Observation and enquiry skills</li> <li>iii. Critical thinking and problem solving</li> </ol> <p>f) <b>Reference:</b> Mathematics Curriculum for B1-B3, pg. 43</p> <p>g) <b>Key Vocabulary:</b> Place value, number wheel, relationship, equivalent</p> <p>h) <b>Teaching learning Resources(TLRs):</b></p> <ol style="list-style-type: none"> <li>i. Phones/Laptops</li> <li>ii. Projectors</li> <li>iii. Number wheel</li> <li>iv. Place value chart</li> <li>v. Multi--base block</li> </ol> <p>i) <b>Phase 1(Starter):</b> Guide learners to skip count in twos, threes, tens, and so on backward and forward.</p> <p>j) <b>Phase 2 (Tasks/activities):</b></p> <ol style="list-style-type: none"> <li>i) Demonstrate a combination of bundles of sticks and loose ones or multi-base blocks to learners and ask them to identify and mention their values. E.g. 1. 3 bundles of bundles, 4 bundles and 2 units representing three hundred and forty-two (342)</li> </ol>	
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	<p>2. 4 flats, 5 longs and 9 cubes representing four hundred and fifty-nine (459)</p> <p>ii. Guide learners to identify the relationship between ones, tens and hundreds using bundles of sticks and loose ones or multi-base blocks</p> <p>E.g.</p> <ol style="list-style-type: none"> <li>How many hundreds and ones are in 309</li> <li>How many tens and ones are in 45</li> </ol> <p>iii. Show a video on how to play the number wheel game for learners to appreciate.</p> <p>iv. Guide learners in groups to play a game by casting marbles on the number wheel and represent the outcome on the place value chart.</p> <p>E.g.</p>  <table border="1"> <thead> <tr> <th>Hundreds</th> <th>Tens</th> <th>Ones</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Move round to observe the learners' activities and provide support where necessary</p> <p>v. Guide learners to write the expanded forms of given numbers between 0 and 10,000.</p> <p>E.g.</p> <ol style="list-style-type: none"> <li>Write the expanded form of 7,209</li> <li>Write the expanded form of 5,634</li> </ol> <p>k) <b>Assessment:</b> Learners to solve problem Write the place values of</p>	Hundreds	Tens	Ones				<p>2. 4 flats, 5 longs and 9 cubes representing four hundred and fifty-nine (459)</p> <p>ii. Guide learners to identify the relationship between ones, tens and hundreds using bundles of sticks and loose ones or multi-base blocks</p> <p>E.g.</p> <ol style="list-style-type: none"> <li>How many hundreds and ones are in 309</li> <li>How many tens and ones are in 45</li> </ol> <p>iii. Show a video on how to play the number wheel game for learners to appreciate.</p> <p>iv. Guide learners in groups to play a game by casting marbles on the number wheel and represent the outcome on the place value chart.</p> <p>E.g.</p>  <table border="1"> <thead> <tr> <th>Hundreds</th> <th>Tens</th> <th>Ones</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Move round to observe the learners' activities and provide support where necessary</p> <p>v. Guide learners to write the expanded forms of given numbers between 0 and 10,000.</p> <p>E.g.</p> <ol style="list-style-type: none"> <li>Write the expanded form of 7,209</li> <li>Write the expanded form of 5,634</li> </ol> <p>k) <b>Assessment:</b> Learners to solve problem Write the place values of</p>	Hundreds	Tens	Ones				
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	<p>the underlined digits in</p> <ol style="list-style-type: none"> <li>1. <u>8</u>97</li> <li>2. 4<u>5</u>,201</li> <li>3. 20,<u>04</u>2</li> </ol> <p>l) <b>Phase 3</b> <b>(Plenary/Reflection):</b> Recap the lesson by asking learners to come out with what they have learned from the lesson</p>	<p>the underlined digits in</p> <ol style="list-style-type: none"> <li>1. <u>8</u>97</li> <li>2. 4<u>5</u>,201</li> <li>3. 20,<u>04</u>2</li> </ol> <p>l) <b>Phase 3</b> <b>(Plenary/Reflection):</b> Recap the lesson by asking learners to come out with what they have learned from the lesson</p>	
6. Appendix 8.2	<p>An example of an outline for teaching algebraic expressions from the 2020 Common Core Programme curriculum (Teachers would be guided to tease out the LOs and the LIs from the sample lesson)</p> <ol style="list-style-type: none"> <li>a) <b>Strand:</b> Algebra</li> <li>b) <b>Sub-Strand:</b> Algebraic expressions</li> <li>c) <b>Indicator:</b> <ol style="list-style-type: none"> <li>i. Group Algebraic expressions of like terms correctly</li> <li>ii. B7.2.2.1.2 Perform addition and subtraction of algebraic expressions</li> </ol> </li> <li>d) <b>Core Competences:</b> <ol style="list-style-type: none"> <li>i. Collaboration</li> <li>ii. Observation and enquiry skills</li> <li>iii. Critical thinking and problem solving</li> <li>iv. Personal development, etc.</li> </ol> </li> <li>e) <b>Reference:</b> Mathematics Curriculum for B1-B3, pg. 43</li> <li>f) <b>Key vocabulary:</b> like terms, expression, algebra</li> <li>g) <b>Teaching Learning Resources(T.L.R):</b> <ol style="list-style-type: none"> <li>i. Phones/Laptop</li> <li>ii. Projector</li> </ol> </li> </ol>	<p>An example of an outline for teaching algebraic expressions from the 2020 Common Core Programme curriculum (Teachers would be guided to tease out the LOs and the LIs from the sample lesson)</p> <ol style="list-style-type: none"> <li>a) <b>Strand:</b> Algebra</li> <li>b) <b>Sub-Strand:</b> Algebraic expressions</li> <li>c) <b>Indicator:</b> <ol style="list-style-type: none"> <li>i. Group Algebraic expressions of like terms correctly</li> <li>ii. B7.2.2.1.2 Perform addition and subtraction of algebraic expressions</li> </ol> </li> <li>d) <b>Core Competences:</b> <ol style="list-style-type: none"> <li>i. Collaboration</li> <li>ii. Observation and enquiry skills</li> <li>iii. Critical thinking and problem solving</li> <li>iv. Personal development, etc.</li> </ol> </li> <li>e) <b>Reference:</b> Mathematics Curriculum for B1-B3, pg. 43</li> <li>f) <b>Key vocabulary:</b> like terms, expression, algebra</li> <li>g) <b>Teaching Learning Resources(T.L.R):</b> <ol style="list-style-type: none"> <li>i. Phones/Laptop</li> <li>ii. Projector</li> </ol> </li> </ol>	

	<p>iii. Pictures of market scene</p> <p>h) <b>Phase 1(Starter):</b> Project videos or pictures of market scenes and ask learners to tell items they would want to buy from the market while their partner provides the algebraic expression orally</p> <p>i) <b>Phase 2 (Tasks/activities):</b></p> <p>i. Ask learners to identify the terms and group the like terms in given algebraic expressions</p> <p>E.g.  <math>4x+7y-3x + 8z + y - 3z</math>  <math>= 4x-3x+7y+y+8z-3z</math>  Let learners peer review their work</p> <p>ii. Guide learners to add / subtract like terms within a given algebraic expression</p> <p>E.g.  <math>4x+7y-3x + 8z + y - 3z</math>  <math>= 4x-3x+7y+y+8z-3z</math>  <math>= x +8y+5z</math>  Move round to observe the learners' activities and provide support where necessary</p> <p>iii. Guide learners to sum two or more algebraic expressions</p> <p>E.g.</p> <ol style="list-style-type: none"> <li>Find the sum of  <math>3a +2b -5a + 4b</math>  and <math>7b-6a+b-9a +1</math></li> <li>Subtract  <math>7x-6y+5x-2y</math> from  <math>2x+6y- 5y+3x</math></li> </ol> <p>j) <b>Assessment:</b>  Solve the algebraic problems</p> <ol style="list-style-type: none"> <li>Find the sum of <math>2m +</math></li> </ol>	<p>iii. Pictures of market scene</p> <p>h) <b>Phase 1(Starter):</b> Project videos or pictures of market scenes and ask learners to tell items they would want to buy from the market while their partner provides the algebraic expression orally</p> <p>i) <b>Phase 2 (Tasks/activities):</b></p> <p>i. Ask learners to identify the terms and group like terms in given algebraic expressions</p> <p>E.g.  <math>4x+7y-3x + 8z + y - 3z</math>  <math>= 4x-3x+7y+y+8z-3z</math>  Let learners peer review their work</p> <p>ii. Guide learners to add / subtract like terms within a given algebraic expression</p> <p>E.g.  <math>4x+7y-3x + 8z + y - 3z</math>  <math>= 4x-3x+7y+y+8z-3z</math>  <math>= x +8y+5z</math>  Move round to observe the learners' activities and provide support where necessary</p> <p>iii. Guide learners to sum two or more algebraic expressions</p> <p>E.g.</p> <ol style="list-style-type: none"> <li>Find the sum of  <math>3a +2b -5a + 4b</math>  and <math>7b-6a+b-9a +1</math></li> <li>Subtract  <math>7x-6y+5x-2y</math> from  <math>2x+6y- 5y+3x</math></li> </ol> <p>j) <b>Assessment:</b>  Solve the algebraic problems</p> <ol style="list-style-type: none"> <li>Find the sum of <math>2m +</math></li> </ol>	
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	<p><math>3n + 9m - 3n, 13m - 12n - 5m + 7</math> and <math>2m - 5n + 19m - 4n</math></p> <p>2. Subtract <math>4a - 3b - 16b + 13a</math> from <math>9 + 4a - 16b - 3a + b</math></p> <p>k) <b>Phase 3</b> <b>(Plenary/Reflection):</b> Recap the lesson by asking learners to come out with what they have learned from the lesson</p>	<p><math>3n + 9m - 3n, 13m - 12n - 5m + 7</math> and <math>2m - 5n + 19m - 4n</math></p> <p>2. Subtract <math>4a - 3b - 16b + 13a</math> from <math>9 + 4a - 16b - 3a + b</math></p> <p>k) <b>Phase 3</b> <b>(Plenary/Reflection):</b> Recap the lesson by asking learners to come out with what they have learned from the lesson</p>	
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## PLC Session 9: Managing the Learning Environment

<p><b>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</b></p>	<p><b>Guidance notes on Leading the session.</b> <i>What the PLC Coordinator will have to say during each stage of the session</i></p>	<p><b>Guidance Notes on Teacher Activity during the PLC Session.</b> <i>What teachers will do during each stage of the session.</i></p>	<p><b>Time in session</b></p>
<p><b>1. Introduction to session</b></p>	<p>1.1 Ask teachers to describe how the previous PLC impacted their lessons and to read the purpose, Learning Outcomes (LOs) and Learning Indicators (LIs) of this session.</p> <p><b>Purpose:</b> This session aims at equipping the teacher with the requisite knowledge and skills for managing the learners’ learning environment so as to understand and apply the appropriate content, pedagogy, teaching learning resources, motivations and all needed inputs that ensure effective teaching and learning.</p> <p>LO : Demonstrate the ability to create a safe learning environment taking into consideration GESI and SEL issues (NTS 1b,1d ,1e ,2e, 2f, 3a , 3b , 3c , 3d , 3e and 3f).</p> <p>LI 1.1 Describe a safe learning environment, taking into consideration GESI and SEL issues.</p>	<p>1.1 Describe how the previous PLC impacted your lessons and to read the purpose, Learning Outcomes (LOs) and Learning Indicators (LIs) of this session.</p> <p><b>Purpose:</b> This session aims at equipping the teacher with the requisite knowledge and skills for managing the learners’ learning environment so as to understand and apply the appropriate content, pedagogy, teaching learning resources, motivations and all needed inputs that ensure effective teaching and learning.</p> <p>LO : Demonstrate the ability to create a safe learning environment taking into consideration GESI and SEL issues (NTS 1b,1d ,1e ,2e, 2f, 3a , 3b , 3c , 3d , 3e and 3f).</p> <p>LI 1.1 Describe a safe learning environment, taking into consideration GESI and SEL issues.</p>	<p>10 mins</p>



	<p>LI 1.2 Mention at least three learning resources found in a GESI and SEL responsive classroom.</p> <p>LI 1.3 Analyse at least two challenges in managing a GESI and SEL responsive classroom.</p> <p>1.2 Ask teachers to describe at least three ways to ensure a safe GESI and SEL responsive environment in the classroom (NTS 2e, 2f, 3c, 3d, 3e, 3f and 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Provide suitable seating arrangements to meet all types of learners' needs</i></li> <li>b) <i>Establish guidelines for the setting and implementation of classroom rules to protect all learners</i></li> <li>c) <i>Provide culturally relevant examples</i></li> <li>d) <i>Respect the views of every learner</i></li> <li>e) <i>Maintain a healthy relationship among learners</i></li> <li>f) <i>Address learners by their official names, etc.</i></li> </ul> <p>1.3 Ask teachers in pairs /groups to mention at least three activities that promote GESI and SEL responsiveness in the classroom (NTS 3a, 3b, 3c and 3n).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Using mixed-gender and mixed-ability groupings</i></li> <li>b) <i>Being patient with stutterers, using tactile or braille for visually challenged</i></li> </ul>	<p>LI 1.2 Mention at least three learning resources found in a GESI and SEL responsive classroom.</p> <p>LI 1.3 Analyse at least two challenges in managing a GESI and SEL responsive classroom.</p> <p>1.2 Describe at least three ways to ensure a safe GESI and SEL responsive environment in the classroom (NTS 2e, 2f, 3c, 3d, 3e, 3f and 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Provide suitable seating arrangements to meet all types of learners needs</i></li> <li>b) <i>Establish guidelines for the setting and implementation of classroom rules to protect all learners, etc.</i></li> </ul> <p>1.3 In pairs/groups, mention at least three activities that promote GESI and SEL responsiveness in the classroom (NTS 3a, 3b, 3c and 3n).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Using mixed- gender and mixed-ability groupings</i></li> <li>b) <i>Using different methods in a lesson to maximize understanding, etc.</i></li> </ul>	
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	<p>c) <i>Using different methods in a lesson to maximize understanding</i></p> <p>d) <i>Providing peer support for those who might need help while paying attention to all learners</i></p> <p>e) <i>Create opportunities for learners to take leadership roles</i></p> <p>f) <i>Encouraging learners to solve problems with peers, etc.</i></p> <p>1.4 Ask teachers in pairs/groups to analyse at least three GESI and SEL responsive resources and how they are used in lessons (NTS 3c, 3d, 3e, 3f and 3j).</p> <p><i>E.g.</i></p> <p>a) <i>Games: Integrate games or play to foster friendly environment and help children control their anger and manage disappointments</i></p> <p>b) <i>Screen magnifier: Use screen magnifier to enlarge font texts for learners with visual impairment as this will help them to shorten the time they will spend on tasks without such aids</i></p> <p>c) <i>Gender friendly resources : Use pictures that are devoid of stereotypes (for instance pictures showing careers for both genders) to reduce gender biases</i></p> <p>d) <i>Speakers: Use speakers to provide sound and other audio messages</i></p>	<p>1.4 In pairs/groups, analyse at least three GESI and SEL responsive resources and demonstrate how they are used in lessons (NTS 3c, 3d, 3e, 3f and 3j).</p> <p><i>E.g.</i></p> <p>a) <i>Games: Integrate games or play to foster friendly environment and help children control their anger and manage disappointments</i></p> <p>b) <i>Screen magnifier: Use screen magnifier to enlarge font texts for learners with visual impairment as this will help them to shorten the time they will spend on tasks without such aids, etc.</i></p>	
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	<p><i>to help learners learn with joy</i></p> <p>e) <i>Hearing aids: Provide support for learners with hearing impairment to shorten the time they will spend on tasks without such aids, etc.</i></p> <p>1.5 Ask teachers to analyse at least three challenges in managing GESI and SEL responsive classrooms (NTS 2f, 3c, 3d, 3f and 3g).</p> <p><i>E.g.</i> Managing GESI and SEL responsive classrooms is:</p> <p>a) <i>Tedious because one will have to focus on content alongside learners' socio-culture, religion, anger, disappointment and linguistic background</i></p> <p>b) <i>Challenging as a result of unavailability of appropriate resources. Also meeting social and emotional needs is not easily predictable for advance preparation</i></p> <p>c) <i>Difficult because it demands lots of research as one will have to know the background of issues related to gender disparities, disability, emotions and social needs</i></p> <p>d) <i>Requires the choice of appropriate methods of delivering a lesson and this becomes difficult since it demands multi-tasking skills</i></p> <p>e) <i>Involving and requires managing learners' behaviour such as</i></p>	<p>1.5 Analyse at least three challenges in managing GESI and SEL responsive classrooms (NTS 2f, 3c, 3d, 3f and 3g).</p> <p><i>E.g.</i> Managing GESI and SEL responsive classrooms is:</p> <p>a) <i>Tedious because one will have to focus on content alongside learners' socio-culture, religion, anger, disappointment and linguistic background</i></p> <p>b) <i>Challenging as a result of unavailability of appropriate resources. Also meeting social and emotional needs is not easily predictable for advance preparation, etc.</i></p>	
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	<p><i>chronic absenteeism which delays target achievement</i></p> <p>f) <i>Time consuming since it requires a series of activities in order to meet every learner's needs, etc.</i></p>		
<p><b>Give regard for misconceptions and stereotypes, GESI, ICT, 21<sup>st</sup> century skills, etc.</b></p>	<p>1.6 Ask teachers to mention at least three possible misconceptions and stereotypes in learning various subjects such as mathematics (NTS 3m).</p> <p>E.g.</p> <p>a) <i>It is bad to count your fingers during mathematics lesson</i></p> <p>b) <i>You must always know how you got the answer</i></p> <p>c) <i>Boys are better in mathematics than girls</i></p> <p>d) <i>Mathematics is not creative but just number crunching</i></p> <p>e) <i>Most mathematics topics are not related to real life situations</i></p> <p>f) <i>Mathematics is for high achievers, etc.</i></p> <p>1.7 Ask teachers to discuss how these misconceptions about teaching and learning in various subjects such as mathematics can be addressed (NTS 3m).</p> <p>E.g.</p> <p>a) <i>Allow learners to explore different strategies of solving problems including finger counting.</i></p> <p>b) <i>Use instrumental learning such as mental drills to foster speed and memorization of facts and formulae</i></p> <p>c) <i>Give equal opportunities to both</i></p>	<p>1.6 Mention at least three possible misconceptions and stereotypes in learning various subjects such as mathematics (NTS 3m).</p> <p>E.g.</p> <p>a) <i>It is bad to count your fingers during mathematics lesson</i></p> <p>b) <i>You must always know how you got the answer, etc.</i></p> <p>1.7 Discuss how these misconceptions about teaching and learning in various subjects such as mathematics can be addressed (NTS 3m).</p> <p>E.g.</p> <p>a) <i>Allow learners to explore different strategies of solving problems including finger counting.</i></p> <p>b) <i>Use instrumental learning such as mental drills to foster speed and memorization of facts and formulae, etc.</i></p>	

	<p><i>boys and girls in solving mathematics problems</i></p> <p>d) <i>Use hands-on activities to make mathematics more creative</i></p> <p>e) <i>Use real life situation and culturally related examples in teaching and learning, etc.</i></p> <p>1.8 Ask teachers to identify at least three ways of incorporating ICT in their lessons taking into consideration different learning styles (NTS 3i, 3j)</p> <p><i>E.g.</i></p> <p>a) <i>Surfing Open Educational Resources and other Internet sources for information</i></p> <p>b) <i>Teaching using different presentation formats including Microsoft PowerPoint, Microsoft Excel, Microsoft Word.</i></p> <p>c) <i>Using cell phones to take pictures from the community for lessons</i></p> <p>d) <i>Using videos in lesson presentation, etc.</i></p> <p>1.9 Ask teachers to use think-pair-share to discuss at least three possible activities they would adopt to develop 21<sup>st</sup> century skills in their learners (NTS 3a, 3b, 3c and 3d).</p> <p>Note: <b>Communication skill</b></p> <p><i>E.g.</i></p> <p>a) <i>Games/play</i></p> <p>b) <i>Group discussion</i></p> <p>c) <i>Role-play</i></p> <p>d) <i>Radio-reporting</i></p> <p>e) <i>Presentation</i></p> <p>f) <i>Think-pair-share, etc.</i></p>	<p>1.8 Identify at least three ways of incorporating ICT into your lessons taking into consideration different learning styles (NTS 3i, 3j).</p> <p><i>E.g.</i></p> <p>a) <i>Surfing Open Educational Resources and other Internet sources for information</i></p> <p>b) <i>Teaching using different presentation formats including PowerPoint, Microsoft Excel, Microsoft Word, etc.</i></p> <p>1.9 Using think-pair-share, discuss at least three possible activities you would adopt to develop 21<sup>st</sup> century skills in your learners (NTS 3a, 3b, 3c and 3d).</p> <p>Note: <b>Communication skill</b></p> <p><i>E.g.</i></p> <p>a) <i>Games/play</i></p> <p>b) <i>Presentation, etc.</i></p>	
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	<p><b>Collaboration</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research</li> <li>c) Role-play</li> <li>d) Hands-on activities, etc.</li> </ul> <p><b>Observation and enquiry skills</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research</li> <li>c) Role-play</li> <li>d) Hands-on activities, etc.</li> </ul> <p><b>Creativity and innovation</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research</li> <li>c) Role-play</li> <li>d) Hands-on activities, etc.</li> </ul> <p><b>Leadership and Personal development</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research</li> <li>c) Role-play</li> <li>d) Hands-on activities</li> <li>e) Presentation, etc.</li> </ul> <p><b>Cultural identity and global citizenship</b> Providing opportunities for teachers to engage in discussions on national and international issues through the use of: E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research</li> <li>c) Role-play</li> <li>d) Hands-on activities</li> <li>e) Presentation, etc.</li> </ul>	<p><b>Collaboration</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Hands-on activities, etc.</li> </ul> <p><b>Observation and enquiry skills</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Project/research</li> <li>b) Hands-on activities, etc.</li> </ul> <p><b>Creativity and innovation</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research, etc.</li> </ul> <p><b>Leadership and Personal development</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Hands-on activities</li> <li>b) Project/research, etc.</li> </ul> <p><b>Cultural identity and global citizenship</b> Providing opportunities for teachers to engage in discussions on national and international issues through the use of: E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research, etc.</li> </ul>	
<p><b>2. Planning for teaching, learning and assessment activities for the lesson/s making Links</b></p>	<p>2.1 Ask teachers to discuss samples of their lesson plans based on the Pre-tertiary curriculum (Standards-based curriculum) (NTS 3a, 3e, 3g and 3j).</p>	<p>2.1 Discuss samples of your lesson plans based on the Pre-tertiary curriculum (Standards-based curriculum) (NTS 3a, 3e, 3g and 3j).</p>	<p>10 mins</p>

<p><b>to the relationship between the Basic School Curriculum and the NTS</b></p>	<p>Refer to Appendix 9.1 (BS1-BS6) Refer to Appendix 9.2 (BS7-BS9)</p> <p>2.2 Ask teachers to tease out LOs and LIs from their sample lesson plan.</p> <p><i>E.g.</i> <i>From Appendix 9.2</i> <i>LO: Demonstrate knowledge and understanding of data collection</i></p> <p><i>LI 1 Develop a question form</i></p> <p><i>LI 2 Collect data using appropriate tools</i></p>	<p>Refer to Appendix 9.1 (BS1-BS6) Refer to Appendix 9.2 (BS7-BS9)</p> <p>2.2 In pairs or groups, tease out LOs and LIs from your sample lesson plan.</p> <p><i>E.g.</i> <i>From Appendix 9.2</i> <i>LO: Demonstrate knowledge and understanding of data collection</i></p> <p><i>LI 1 Develop a question form</i></p> <p><i>LI 2 Collect data using appropriate tools</i></p>	
<p><b>3. Teaching, learning, resources and assessment</b></p>	<p>3.1 Ask teachers to identify from their sample lesson plans at least three activities that promote GESI and SEL responsiveness (NTS 3c, 3e, 3f and 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>i. The use of mixed-gender groupings</i></li> <li><i>ii. Sharing roles fairly across all gender and abilities</i></li> <li><i>iii. Giving positive feedback to all learners, especially, SEN learners</i></li> <li><i>iv. Creating reflective space in the classroom, etc.</i></li> </ul> <p>3.2 Ask teachers to identify at least three GESI and SEL responsive resources that can be used to deliver the lesson.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) Camera</i></li> <li><i>b) Braille for the visually challenged</i></li> <li><i>c) Resource person (interpreter) to sign for the hearing impaired</i></li> <li><i>d) Pictures and videos, etc.</i></li> </ul>	<p>3.1 Identify from your sample lesson plans at least three activities that promote GESI and SEL responsiveness (NTS 3c, 3e, 3f and 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>i. The use of mixed-gender groups</i></li> <li><i>ii. Sharing roles fairly across all gender and abilities, etc.</i></li> </ul> <p>3.2 Identify at least three GESI and SEL responsive resources that can be used to deliver the lesson.</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) Camera</i></li> <li><i>b) Braille for the visually challenged, etc.</i></li> </ul>	<p>10 mins</p>

	<p>3.3 Ask teachers to discuss how the lesson plan is linked to the use of formative assessment tools (assessment ‘for’ and assessment ‘as’) and practices (NTS 3k, 3l and 3m).</p> <p><i>E.g.</i></p> <p>a) <i>Assessment for:</i></p> <p>i. <i>Giving class exercises on positioning and transformation</i></p> <p>ii. <i>Learners undertake project to collect information on data from their class, etc.</i></p> <p>b) <i>Assessment as</i></p> <p>i. <i>Giving project works and learners building their portfolios</i></p> <p>ii. <i>Learners peer reflect examples worked on by their colleagues, etc.</i></p> <p>3.4 Ask a teacher to model an activity in the sample lesson plan, taking into consideration GESI, SEL, ICT and 21<sup>st</sup> century competencies (EXTENSION ACTIVITY).</p>	<p>3.3 Discuss how the lesson plan is linked to the use of formative assessment tools (assessment ‘for’ and assessment ‘as’) and practices (NTS 3k, 3l and 3m).</p> <p><i>E.g.</i></p> <p>a) <i>Assessment for:</i></p> <p><i>Giving class exercises on positioning and transformation, etc.</i></p> <p>b) <i>Assessment as :</i></p> <p>i. <i>Giving project works and learners building their portfolios, etc.</i></p> <p>3.4 Model an activity in the sample lesson plan, taking into consideration GESI, SEL, ICT and 21<sup>st</sup> century competencies (EXTENSION ACTIVITY).</p>	
<p><b>4. Evaluation and review of session:</b></p> <ul style="list-style-type: none"> <li>○ <b>Identifying and addressing any outstanding issues relating to the lesson/s for clarification</b></li> <li>○ <b>Noting that teachers need to identify critical friends to observe lessons and report at next session</b></li> </ul>	<p>4.1 Ask teachers to reflect and write what they have learned in the session (NTS 1a, 1b and 3e).</p> <p>4.2 Ask teachers to share what they have written with the larger group (NTS 1a, 1b).</p> <p>4.3 Remind teachers to identify a colleague to observe them while they teach their lesson in relation to PLC Session 9 and provide feedback to them (NTS 3l).</p> <p>4.4 Remind teachers to read Session 10 of the PLC Handbook and come along with both the NTS Guide and a</p>	<p>4.1 Reflect and write what you have learned in the session (NTS 1a, 1b and 3e).</p> <p>4.2 Share what you have written with the larger group (NTS 1a, 1b).</p> <p>4.3 Identify a colleague to observe your lessons in relation to PLC Session 9 and provide feedback to them (NTS 3l).</p> <p>4.4 Remember to read Session 10 of the PLC Handbook and come along with both the NTS Guide and a sample lesson plan</p>	<p>10 mins</p>



	<p>sample lesson plan in preparation for the next session (NTS 3a).</p> <p>4.5 Remind teachers that they may come with areas they find challenging in their teaching (NTS 3a).</p>	<p>in preparation for the next session (NTS 3a)</p> <p>4.5 You may come along with areas you find challenging in your teaching and a sample lesson plan (NTS 3a).</p>	
<b>5. Appendix 9.1</b>	<p><i>An example of an outline for teaching understanding positions / transformation from the Common Core Programme curriculum (Teachers would be guided to tease out the LOs and the LIs from the sample lesson).</i></p> <p><b>a) Strand:</b> Geometry and Measurement</p> <p><b>b) Sub-strand:</b> Positions / Transformation</p> <p><b>c) Content Standard:</b> B4.3.2.1 Describe the position of objects in space using the cardinal points</p> <p><b>d) Indicator:</b></p> <ol style="list-style-type: none"> <li>i. Tell sitting position with respect to that of a friend in the classroom using columns and rolls.</li> <li>ii. B4.3.2.1.1- Tell the position and motion of objects in space using the cardinal points, North, South, East and West</li> </ol> <p><b>e) Core Competences:</b></p> <ol style="list-style-type: none"> <li>i. Collaboration</li> <li>ii. Observation and enquiry skills</li> <li>iii. Critical thinking and problem solving</li> <li>iv. Personal development</li> <li>v. Justification of ideas, etc.</li> </ol> <p><b>f) Reference:</b> Mathematics curriculum for B4-B6, pg. 38</p> <p><b>g) Key Vocabulary:</b> position, transformation, cardinal points, North, South, East and West</p>	<p><i>An example of an outline for teaching understanding positions / transformation from the Common Core Programme curriculum (Teachers would be guided to tease out the LOs and the LIs from the sample lesson).</i></p> <p><b>a) Strand:</b> Geometry and Measurement</p> <p><b>b) Sub-strand:</b> Positions / Transformation</p> <p><b>c) Content Standard:</b> B4.3.2.1 Describe the position of objects in space using the cardinal points</p> <p><b>d) Indicator:</b></p> <ol style="list-style-type: none"> <li>i. Tell sitting position with respect to that of a friend in the classroom using columns and rolls.</li> <li>ii. B4.3.2.1.1- Tell the position and motion of objects in space using the cardinal points, North, South, East and West</li> </ol> <p><b>e) Core Competences:</b></p> <ol style="list-style-type: none"> <li>i. Collaboration</li> <li>ii. Observation and enquiry skills</li> <li>iii. Critical thinking and problem solving</li> <li>iv. Personal development</li> <li>v. Justification of ideas, etc.</li> </ol> <p><b>f) Reference:</b> Mathematics curriculum for B4-B6, pg. 38</p> <p><b>g) Key Vocabulary:</b> position, transformation, cardinal points, North, South, East and West</p>	10 mins

	<p><b>h) Teaching Learning Resources:</b></p> <ul style="list-style-type: none"> <li>i. Graph/grid sheets</li> <li>ii. Graph board</li> <li>iii. Classroom tables</li> </ul> <p><b>i) Phase 1 (Starter):</b> Learners respond to the action song “Posi, Posi, Position; to the right Posi - Posi, Posi, Position; to the left Posi - Posi, Posi, Position”</p> <p><b>j) Phase 2 (Tasks/Activities):</b></p> <ul style="list-style-type: none"> <li>i. Guide learners to identify the columns and rows in the classroom arrangement or on a grid paper (columns are the vertical and rows the horizontal arrangement).</li> <li>ii. Ask learners to describe their sitting positions in terms of columns and rolls.</li> <li>iii. Guide learners in their mix-gender and mixed-level groups to describe their sitting with respect to that of their friends in the classroom using columns and rolls.</li> <li>iv. Provide learners in groups with graph sheets and guide them to identify positions of points on the graph using the cardinal points: North, South, East and West</li> <li>v. Guide learners in pairs/ groups to describe positions of points on the graph using coordinates of the point.</li> </ul> <p><b>k) Assessment:</b> Learners to (1) describe the positions of</p>	<p><b>h) Teaching Learning Resources:</b></p> <ul style="list-style-type: none"> <li>i. Graph/grid sheets</li> <li>ii. Graph board</li> <li>iii. Classroom tables</li> </ul> <p><b>i) Phase 1 (Starter):</b> Learners respond to the action song “Posi, Posi, Position; to the right Posi - Posi, Posi, Position; to the left Posi - Posi, Posi, Position”</p> <p><b>j) Phase 2 (Tasks/Activities):</b></p> <ul style="list-style-type: none"> <li>i. Guide learners to identify the columns and rows in the classroom arrangement or on a grid paper (columns are the vertical and rows the horizontal arrangement).</li> <li>ii. Ask learners to describe their sitting positions in terms of columns and rolls.</li> <li>iii. Guide learners in their mix-gender and mixed-level groups to describe their sitting with respect to that of their friends in the classroom using columns and rolls.</li> <li>iv. Provide learners in groups with graph sheets and guide them to identify positions of points on the graph using the cardinal points: North, South, East and West</li> <li>v. Guide learners in pairs/ groups to describe positions of points on the graph using coordinates of the point.</li> </ul> <p><b>k) Assessment:</b> Learners to (1) describe the positions of</p>	
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	<p>points P and Q in the plane in terms of coordinates. (2) draw on a graph sheet the x-y axes and plot the points A(2,3) and B(-4, 1)</p> <p><b>1) Phase 3</b> <b>(Plenary/Reflection):</b> Recap the lesson by asking learners to come out with what they have learned from the lesson.</p>	<p>points P and Q in the plane in terms of coordinates. (2) draw on a graph sheet the x-y axes and plot the points A(2,3) and B(-4, 1)</p> <p><b>1) Phase 3</b> <b>(Plenary/Reflection):</b> Recap the lesson by asking learners to come out with what they have learned from the lesson.</p>	
<b>6. Appendix 9.2</b>	<p>An example of an outline for teaching understanding Data collection from the 2018 basic school curriculum (Teachers would be guided to tease out the LOs and the LIs from the sample lesson).</p> <p><b>a) Strand:</b> Handling Data <b>b) Sub-strand:</b> Data <b>c) Content Standard:</b> B7.4.1.1 Select, justify, and use appropriate methods to collect data (quantitative and qualitative), display and analyze the data (grouped/ungrouped) presented in frequency tables, line graphs, pie graphs, bar graphs or pictographs and use these to solve and/or pose problems <b>d) Indicator:</b></p> <ol style="list-style-type: none"> <li>i. State at least three methods of collecting data.</li> <li>ii. B7.4.1.1.2- Design and administer a questionnaire for collecting data to answer questions and record the results.</li> </ol> <p><b>e) Core Competences:</b></p> <ol style="list-style-type: none"> <li>i. Collaboration</li> <li>ii. Observation and enquiry skills</li> <li>iii. Critical thinking and problem solving</li> <li>vi. Personal development,</li> </ol>	<p>An example of an outline for teaching understanding Data collection from the 2018 basic school curriculum (Teachers would be guided to tease out the LOs and the LIs from the sample lesson).</p> <p><b>a) Strand:</b> Handling Data <b>b) Sub-strand:</b> Data <b>c) Content Standard:</b> B7.4.1.1 Select, justify, and use appropriate methods to collect data (quantitative and qualitative), display and analyze the data (grouped/ungrouped) presented in frequency tables, line graphs, pie graphs, bar graphs or pictographs and use these to solve and/or pose problems <b>d) Indicator:</b></p> <ol style="list-style-type: none"> <li>i. State at least three methods of collecting data.</li> <li>ii. B7.4.1.1.2- Design and administer a questionnaire for collecting data to answer questions and record the results.</li> </ol> <p><b>e) Core Competences:</b></p> <ol style="list-style-type: none"> <li>i. Collaboration</li> <li>ii. Observation and enquiry skills</li> <li>iii. Critical thinking and problem solving</li> <li>iv. Personal development,</li> </ol>	

	<p>etc.</p> <p><b>f) Reference:</b> Mathematics curriculum for B7-B9, pg. 71</p> <p><b>g) Key Vocabulary:</b> Questionnaire, form, data, survey, administer</p> <p><b>h) Teaching Learning Resources(T.L.R):</b></p> <ol style="list-style-type: none"> <li>i. Phones or camera</li> <li>ii. Sample question form, etc.</li> </ol> <p><b>i) Phase 1 (Starter):</b> Learners put themselves together based on their birthday and write as many additional information about their group as possible for discussion.</p> <p><b>j) Phase 2 (Tasks/Activities):</b></p> <ol style="list-style-type: none"> <li>i. Ask learners to state the methods they would use to collect data from their school or home environment.</li> <li>ii. Ask learners to think about any information that will be appropriate to be collected using questionnaire, compare with a partner and then share with the whole class.</li> <li>iii. Guide learners in their mix-gender groups to develop question forms for collecting real information from the school environment.</li> <li>iv. Guide learners in their groups to share roles fairly across all gender and abilities and then administer the questionnaire in the school environment as you go round taking</li> </ol>	<p>etc.</p> <p><b>f) Reference:</b> Mathematics curriculum for B7-B9, pg. 71</p> <p><b>g) Key Vocabulary:</b> Questionnaire, form, data, survey, administer</p> <p><b>h) Teaching Learning Resources(T.L.R):</b></p> <ol style="list-style-type: none"> <li>i. Phones or camera</li> <li>ii. Sample question form, etc.</li> </ol> <p><b>i) Phase 1 (Starter):</b> Learners put themselves together based on their birthday and write as many additional information about their group as possible for discussion.</p> <p><b>j) Phase 2 (Tasks/Activities):</b></p> <ol style="list-style-type: none"> <li>i. Ask learners to state the methods they would use to collect data from their school or home environment.</li> <li>ii. Ask learners to think about any information that will be appropriate to be collected using questionnaire, compare with a partner and then share with the whole class.</li> <li>iii. Guide learners in their mix-gender groups to develop question forms for collecting real information from the school environment.</li> <li>iv. Guide learners in their groups to share roles fairly across all gender and abilities and then administer the questionnaire in the school environment as you go round taking</li> </ol>	
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	<p><i>pictures of the various groups.</i></p> <p>v. <i>Guide learners to report on collected data and suggest some ways that the data could be used.</i></p> <p>vi. <i>Ask learners to appreciate the pictures taken with your phone</i></p> <p><b>k) Assessment:</b> <i>Learners to draw any appropriate graph of your choice using the data collected when you go home and submit during the next day's lesson.</i></p> <p><b>l) Phase 3 (Plenary/Reflection):</b> <i>Recap the lesson by asking learners to come out with what they have learned from the lesson.</i></p>	<p><i>pictures of the various groups.</i></p> <p>v. <i>Guide learners to report on collected data and suggest some ways that the data could be used.</i></p> <p>vi. <i>Ask learners to appreciate the pictures taken with your phone</i></p> <p><b>k) Assessment:</b> <i>Learners to draw any appropriate graph of your choice using the data collected when you go home and submit during the next day's lesson.</i></p> <p><b>l) Phase 3 (Plenary/Reflection):</b> <i>Recap the lesson by asking learners to come out with what they have learned from the lesson.</i></p>	
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## PLC Session 10: Teaching and Learning

<p><b>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</b></p>	<p><b>Guidance notes on Leading the session.</b> <i>What the PLC Coordinator will have to say during each stage of the session</i></p>	<p><b>Guidance Notes on Teacher Activity during the PLC Session.</b> <i>What teachers will do during each stage of the session.</i></p>	<p><b>Time in session</b></p>
<p><b>1. Introduction to new session</b></p>	<p>1.1 Ask a teacher to read the purpose, Learning Outcomes (LOs) and Learning Indicators (LIs) of the session.</p> <p><b>Purpose:</b> The purpose of this session is to equip teachers with relevant skills that will bring about meaningful learning through the use of multiple pedagogical strategies and a variety of teaching and learning resources.</p> <p>LO 1: Demonstrate knowledge and understanding of teaching strategies that bring about meaningful learning (NTS 3e, 3g).</p> <p>LI 1.1 State at least three teaching strategies that can be used in teaching at the basic school level.</p> <p>LI 1.2 Analyse at least three benefits of using different teaching strategies in a lesson at the basic school level.</p> <p>LO 2: Explain relevant concepts clearly using a variety of teaching and learning resources to</p>	<p>1.1 Read the purpose, Learning Outcomes (LOs) and Learning Indicators (LIs) of the session.</p> <p><b>Purpose:</b> The purpose of this session is to equip teachers with relevant skills that will bring about meaningful learning through the use of multiple pedagogical strategies and a variety of teaching and learning resources.</p> <p>LO 1: Demonstrate knowledge and understanding of teaching strategies that bring about meaningful learning (NTS 3e, 3g).</p> <p>LI 1.1 State at least three teaching strategies that can be used in teaching at the basic school level.</p> <p>LI 1.2 Analyse at least three benefits of using different teaching strategies in a lesson at the basic school level.</p> <p>LO 2: Explain relevant concepts clearly using a variety of teaching and learning resources to</p>	<p>10 mins</p>

	<p>make learning meaningful (NTS 3g, 3i)</p> <p>LI 2.1 Mention at least three teaching and learning resources used in teaching at the basic school level.</p> <p>LI 2.2 Analyse at least three benefits of using teaching and learning resources at the basic school level.</p> <p>LI 2.3 Discuss at least three ways of improvising teaching and learning resources.</p> <p>1.2 Ask teachers to brain-write (reflecting and writing) at least three teaching strategies used to teach a lesson at the basic school level (NTS 2e, 3a, 3e and 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Think-pair-share</i></li> <li>b) <i>Demonstration</i></li> <li>c) <i>Discussion</i></li> <li>d) <i>Exploration/inquiry</i></li> <li>e) <i>Debate</i></li> <li>f) <i>Games</i></li> <li>g) <i>Research</i></li> <li>h) <i>Groupwork</i></li> <li>i) <i>Role play, etc.</i></li> </ul> <p>1.3 Ask teachers in groups/pairs analyse at least three benefits of using different teaching strategies at the basic school level (NTS 2e, 3a, 3e and 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Motivates learners because using different teaching strategies would provide opportunities for learners with different learning styles to understand the lesson better</i></li> </ul>	<p>make learning meaningful (NTS 3g, 3i)</p> <p>LI 2.1 Mention at least three teaching and learning resources used in teaching at the basic school level.</p> <p>LI 2.2 Analyse at least three benefits of using teaching and learning resources at the basic school level.</p> <p>LI 2.3 Discuss at least three ways of improvising teaching and learning resources.</p> <p>1.2 Brain-write (reflecting and writing) at least three teaching strategies used to teach a lesson at the basic school level (NTS 2e, 3a, 3e and 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Think-pair-share</i></li> <li>b) <i>Demonstration, etc.</i></li> </ul> <p>1.3 In groups/pairs analyse at least three benefits of using different teaching strategies at the basic school level (NTS 2e, 3a, 3e and 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Motivates learners because using different teaching strategies would provide opportunities for learners with different learning styles to understand the lesson better</i></li> </ul>	
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	<p>b) <i>Enables both learners and teachers to stay focused on the appropriate task as each learner is comfortable with a particular strategy and is likely to work for longer periods. This means teachers will also work for longer periods to provide appropriate feedback</i></p> <p>c) <i>Helps in self-monitoring and assessment as self-assessment is a non-threatening assessment method which allows learners to take risks knowing that they will not be penalized for getting things wrong</i></p> <p>d) <i>Provides opportunities for learners to reflect on and compare the different strategies and select the ones that are most appropriate depending on the context</i></p> <p>e) <i>Brings about meaningful and independent learning as learners would be able to learn on their own using the appropriate strategies provided by the teacher</i></p> <p>f) <i>Leads to effective classroom management because learners will be engrossed in the lesson as they will find the lesson interesting. This will prevent any distractive and disruptive behavior and encourage learners to spend good quality time on tasks, etc.</i></p> <p>1.4 Ask teachers to use think-pair-share to come out with at least three teaching and learning resources used at the basic school level (NTS 3e, 3j).</p>	<p>b) <i>Enables both learners and teachers to stay focused on the appropriate task as each learner is comfortable with a particular strategy and is likely to work for longer periods. This means teachers also will work for longer periods to provide appropriate feedback, etc.</i></p> <p>1.4 Use think-pair-share to come out with at least three teaching and learning resources used at the basic school level (NTS 3e, 3j).</p>	
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	<p>E.g.</p> <ul style="list-style-type: none"> <li>a) Radios</li> <li>b) Geoboards</li> <li>c) Laptops</li> <li>d) Projectors</li> <li>e) Globes</li> <li>f) Flashdrives</li> <li>g) Mobile phones</li> <li>h) Manila cards</li> <li>i) Wall charts</li> <li>j) Textbooks, etc.</li> </ul> <p>1.5 Ask teachers to analyse at least four benefits of teaching and learning resources (NTS 3e, 3i and 3j).</p> <p>E.g.</p> <ul style="list-style-type: none"> <li>a) <i>Arouse and sustain learners' interest in the lesson and this will enhance understanding</i></li> <li>b) <i>Make learning easy and interesting and as a result, increase participation and improve learning outcomes</i></li> <li>c) <i>Enable teachers to express concepts easily because the resource itself could be self-explanatory</i></li> <li>d) <i>Ensure learners' active participation in the lesson which is likely to lead to better understanding</i></li> <li>e) <i>Significantly increase learners' achievement by supporting learning</i></li> <li>f) <i>Help lessons to be tailored to individual learning needs and as a result cater for individual differences, etc.</i></li> </ul> <p>1.6 Ask teachers to use questions and answers to identify at least two ways of</p>	<p>E.g.</p> <ul style="list-style-type: none"> <li>a) Radios</li> <li>b) Geoboards, etc.</li> </ul> <p>1.5 Analyse at least four benefits of teaching and learning resources (NTS 3e, 3i and 3j).</p> <p>E.g.</p> <ul style="list-style-type: none"> <li>a) <i>Arouse and sustain learners' interest in the lesson and this will enhance understanding</i></li> <li>b) <i>Make learning easy and interesting and as a result, increase participation and improve learning outcomes, etc.</i></li> </ul> <p>1.6 Use questions and answers to identify at least two ways of improvising resources in</p>
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	<p>improvising resources in teaching and learning (NTS 3e, 3i and 3j).</p> <p><i>E.g.</i></p> <p>a) <i>Substitution:</i></p> <p>i. <i>Use of a laptop in place of a television set</i></p> <p>ii. <i>Use of mobile phone in place of a laptop</i></p> <p>b) <i>Modification:</i></p> <p>i. <i>Modifying empty plastic bottle into a beaker and a funnel</i></p> <p>ii. <i>Use of cotton wool as a filter paper</i></p> <p>c) <i>Construction:</i></p> <p>i. <i>Use of straws and balloons to model the respiratory system</i></p> <p>ii. <i>Use of balls to model atoms</i></p> <p>iii. <i>Use of cardboards to model the solar system, etc.</i></p>	<p>teaching and learning (NTS 3e, 3i and 3j).</p> <p><i>E.g.</i></p> <p>a) <i>Substitution:</i></p> <p><i>Use of a laptop in place of a television set, etc.</i></p> <p>b) <i>Modification:</i></p> <p><i>Modifying empty plastic bottle into a beaker and a funnel</i></p> <p>c) <i>Construction:</i></p> <p><i>Use of straws and balloons to model the respiratory system</i></p>	
<p><b>Give regard for misconceptions and stereotypes, GESI, ICT, 21<sup>st</sup> century skills, etc.</b></p>	<p>1.7 Ask teachers to identify possible misconceptions and stereotypes in teaching and learning various subjects such as English language (NTS 3h, 3m).</p> <p><i>E.g.</i></p> <p>a. <i>Female teachers are associated with the teaching of English language</i></p> <p>b. <i>Fluent English speakers are brilliant</i></p> <p>c. <i>If one doesn't learn English early in life, one can never be fluent in it</i></p> <p>d. <i>Auditory learners mostly study English language</i></p> <p>e. <i>English language is a subject for females, etc.</i></p>	<p>1.7 Identify possible misconceptions and stereotypes in teaching and learning various subjects such as English language (NTS 3h, 3m).</p> <p><i>E.g.</i></p> <p>a) <i>Female teachers are associated with the teaching of English language</i></p> <p>b) <i>Fluent English speakers are brilliant, etc.</i></p>	<p>10 mins</p>

	<p>1.8 Ask teachers to discuss how these misconceptions and stereotypes about teaching and learning various subjects such as English language can be addressed (NTS 3h, 3m).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) Emphasizing that teaching English language requires training irrespective of gender</i></li> <li><i>b) Teaching English language should be made simple, clear and easy</i></li> <li><i>c) Providing access to the study of English language irrespective of when it was first acquired</i></li> <li><i>d) Providing appropriate teaching strategies for everyone to learn English language irrespective of when it was first acquired, etc.</i></li> </ul> <p>1.9 Ask teachers to identify activities that promote GESI and SEL responsiveness in the classroom (NTS 3a, 3c).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) Encourage self-reflection</i></li> <li><i>b) Give activities that will enhance learners' self-concept</i></li> <li><i>c) Encourage peer teaching and learning</i></li> <li><i>d) Use games like treasure hunt to involve all learners when teaching</i></li> <li><i>e) Plan lessons that will take care of SEN</i></li> <li><i>f) Use field trips</i></li> <li><i>g) Use presentation and group work</i></li> <li><i>h) Use practical activities</i></li> <li><i>i) Use appropriate icebreakers</i></li> </ul>	<p>1.8 Discuss how these misconceptions and stereotypes about teaching and learning various subjects such as English language can be addressed (NTS 3h, 3m).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) Emphasizing that teaching English language requires training irrespective of gender</i></li> <li><i>b) Teaching English language should be made simple, clear and easy, etc.</i></li> </ul> <p>1.9 Identify activities that promote GESI and SEL responsiveness in the classroom (NTS 3a, 3c).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) Encourage self-reflection</i></li> <li><i>b) Encourage peer teaching and learning</i></li> <li><i>c) Use field trips</i></li> <li><i>d) Use presentation and group work, etc.</i></li> </ul>	
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	<p><b>j) Use stories in lessons, etc.</b></p> <p>1.10 Ask teachers to identify at least three ways of incorporating ICT in their lessons taking into consideration different learning styles (NTS 3i, 3j). E.g.</p> <ul style="list-style-type: none"> <li>a) <i>Surfing Open Educational Resources and other Internet sources for information</i></li> <li>b) <i>Using different presentation formats including Microsoft PowerPoint, Microsoft Excel, Microsoft Word in teaching</i></li> <li>c) <i>Using Google to provide education on artificial intelligence</i></li> <li>d) <i>Using academia.edu to provide access to academic papers</i></li> <li>e) <i>Using Edulastic to provide access to interactive, formative assessment activities</i></li> <li>f) <i>Encouraging the use of YouTube videos, etc.</i></li> </ul> <p>1.11 Ask teachers to discuss at least three possible strategies they would adopt to develop 21<sup>st</sup> century skills in their learners (NTS 3a, 3b, 3c and 3d).</p> <p><b>Note:</b> <b>Communication skills</b> E.g.</p> <ul style="list-style-type: none"> <li>a) <i>Group discussion</i></li> <li>b) <i>Role-play</i></li> <li>c) <i>Presentation</i></li> <li>d) <i>Think-pair-share, etc.</i></li> </ul> <p><b>Collaboration</b> E.g.</p> <ul style="list-style-type: none"> <li>a) <i>Group discussion</i></li> <li>b) <i>Project/research</i></li> </ul>	<p>1.10 Identify at least three ways of incorporating ICT into their lessons taking into consideration different learning styles (NTS 3i, 3j). E.g.</p> <ul style="list-style-type: none"> <li>a) <i>Surfing Open Educational Resources and other Internet sources for information</i></li> <li>b) <i>Teaching using different presentation formats including Microsoft PowerPoint, Microsoft Excel, Microsoft Word in teaching, etc.</i></li> </ul> <p>1.11 Discuss at least three possible strategies you would adopt to develop 21<sup>st</sup> century skills in your learners (NTS 3a, 3b, 3c and 3d).</p> <p><b>Note:</b> <b>Communication skills</b> E.g.</p> <ul style="list-style-type: none"> <li>a) <i>Group discussion</i></li> <li>b) <i>Presentation, etc.</i></li> </ul> <p><b>Collaboration</b> E.g.</p> <ul style="list-style-type: none"> <li>a) <i>Project/research</i></li> </ul>	
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	<p>c) Role-play d) Hands-on activities e) Think-pair-share f) Games, etc.</p> <p><b>Observation and enquiry skills</b> E.g. a) Group discussion b) Project/research c) Role-play d) Hands-on activities, etc.</p> <p><b>Creativity and innovation</b> E.g. a) Group discussion b) Project/research c) Role-play d) Hands-on activities e) Presentation, etc.</p> <p><b>Personal development</b> E.g. a) Group discussion b) Project/research c) Role-play d) Hands-on activities e) Presentation f) Think-pair-share, etc.</p> <p><b>Cultural identity and global citizenship</b> E.g. Providing opportunities for teachers to engage in discussions on national and international issues through the use of: a) Group discussion b) Project/research c) Role-play d) Hands-on activities e) Presentation, etc.</p>	<p>b) Hands-on activities, etc.</p> <p><b>Observation and enquiry skills</b> E.g. a) Project/research b) Hands-on activities, etc.</p> <p><b>Creativity and innovation</b> E.g. a) Project/research b) Role-play, etc.</p> <p><b>Personal development</b> E.g. a) Presentation b) Project/research, etc.</p> <p><b>Cultural identity and global citizenship</b> E.g. Providing opportunities for teachers to engage in discussions on national and international issues through the use of: a) Role-play b) Group discussion, etc.</p>	
<p><b>2. Planning for teaching, learning and assessment activities for the lesson/s making Links to the</b></p>	<p>2.1 Ask teachers to discuss samples of their lesson plans based on the Pre-tertiary curriculum (Standards-based curriculum) and link them to the NTS (NTS 3a, 3e, 3g and 3j).</p>	<p>2.1 Discuss samples of your lesson plans based on the Pre-tertiary curriculum (Standards-based curriculum) and link them to the NTS (NTS 3a, 3e, 3g and 3j).</p>	

<p><b>relationship between the Basic School Curriculum and the NTS</b></p>	<p>Refer to Appendix 10.1 for a sample lesson plan in English language for basic 7</p> <p>Refer to Appendix 10.2 for a sample lesson plan in English language for basic 4</p> <p>2.2 Ask teachers to tease out the learning outcomes and learning indicators from the sample lesson plan (NTS 2b, 2c and 2f). <i>E.g.</i> <i>LO: Demonstrate knowledge, understanding and skills in academic writing</i></p> <p><i>LI 1 State at least two features of academic writing</i></p> <p><i>LI 2 Identify and select at least three key ideas from a text.</i></p>	<p>Refer to Appendix 10.1 for a sample lesson plan in English language for basic 7</p> <p>Refer to Appendix 10.2 for a sample lesson plan in English language for basic 4</p> <p>2.2 Tease out the learning outcomes and learning indicators from the sample lesson plan (NTS 2b, 2c and 2f). <i>E.g.</i> <i>LO: Demonstrate knowledge, understanding and skills in academic writing</i></p> <p><i>LI 1 State at least two features to consider during academic writing</i></p> <p><i>LI 2 Identify and select at least three key ideas from the text.</i></p>	
<p><b>3. Teaching, learning, resources and assessment</b></p>	<p>3.1 Ask teachers to identify activities that promote GESI and SEL responsiveness in their sample lesson plans (NTS 3c, 3e, 3f and 3g). <i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Even distribution of questions during the lesson</i></li> <li>b) <i>Using mixed-ability groupings</i></li> <li>c) <i>Using peer discussion</i></li> <li>d) <i>Presentation, etc.</i></li> </ul> <p>3.2 Ask teachers to identify the resources that can be used to deliver the lesson (NTS 3e, 3i and 3j). <i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Word cards</i></li> <li>b) <i>Maps/globes</i></li> <li>c) <i>Laptops/phones</i></li> <li>d) <i>Projectors</i></li> <li>e) <i>Manila cards, etc.</i></li> </ul>	<p>3.1 Identify activities that promote GESI and SEL responsiveness in your sample lesson plans (NTS 3c, 3e, 3f and 3g). <i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Even distribution of questions during the lesson</i></li> <li>b) <i>Using mixed-ability grouping, etc.</i></li> </ul> <p>3.2 Identify the resources that can be used to deliver the lesson (NTS 3e, 3i and 3j). <i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Word cards</i></li> <li>b) <i>Sentence cards etc.</i></li> </ul>	<p>10 mins</p>

	<p>3.3 Ask teachers to discuss how the session is linked to the use of formative assessment. For example, assessment <i>for</i> learning and assessment <i>as</i> learning (NTS 3k, 3l and 3m).</p> <p><i>E.g.</i></p> <p>a) <i>Assessment as:</i></p> <p>i. <i>Learners select a topic and write at least five new words they have learned</i></p> <p>ii. <i>Learners reflect on what they have learned</i></p> <p>b) <i>Assessment for:</i>  <i>Ask learners to select a topic and brain-write to generate ideas, etc.</i></p> <p>3.4 Ask a teacher to model a teaching activity in the sample lesson (EXTENSION ACTIVITY).</p>	<p>3.3 Discuss how the session is linked to the use of formative assessment. For example, assessment <i>for</i> learning and assessment <i>as</i> learning (NTS 3k, 3l and 3m).</p> <p><i>E.g.</i>  <i>Assessment as: Learners select a topic and write at least five new words they have learned, etc.</i></p> <p>3.4 Model a sample activity in the sample lesson (EXTENSION ACTIVITY).</p>	
<p><b>4. Evaluation and review of session:</b></p> <ul style="list-style-type: none"> <li>○ <b>Identifying and addressing any outstanding issues relating to the lesson/s for clarification</b></li> <li>○ <b>Noting that teachers need to identify a colleague to observe lessons and report at next session</b></li> </ul>	<p>4.1 Ask teachers to reflect individually and write what they have learned in the session (NTS 1a, 1b).</p> <p>4.2 Ask teachers to share what they have written with the larger group (NTS 1a, 1b).</p> <p>4.3 Remind teachers to identify a colleague to observe their lesson in relation to PLC Session 10 and provide feedback to them.</p> <p>4.4 Remind teachers to read Session 11 of the PLC Handbook and come along with both their NTS Guide and a sample lesson plan in preparation for the next session.</p> <p>4.5 Remind teachers that they may come along with areas they find challenging in their teaching (NTS 3a).</p>	<p>4.1 Reflect and write what you have learned in the session (NTS 1a, 1b).</p> <p>4.2 Share what you have written with the larger group (NTS 1a, 1b).</p> <p>4.3 Identify a colleague to observe your lessons in relation to PLC Session 10 and provide feedback to them.</p> <p>4.4 Remember to read Session 11 of the PLC Handbook and come along with both your NTS Guide and a sample lesson plan in preparation for the next session.</p> <p>4.5 You may come along with areas you find challenging in your teaching (NTS 3a).</p>	<p>10 mins</p>

<p><b>5. Appendix 10.1</b></p>	<p><i>An example of a lesson plan for teaching English Language from the Basic School Curriculum, BS7</i></p> <p><b>a) Strand:</b> Writing</p> <p><b>b) Sub-strand:</b> text types and purposes</p> <p><b>c) Content Standard B7.4.2.2:</b> Apply writing skills to specific life situations</p> <p><b>d) Indicator B7.4.2.2.1:</b> Take notes for academic and other purposes</p> <p><b>e) Resources:</b> Word cards, laptop, projector</p> <p><b>f) Performance Indicator:</b> Learners can write short paragraphs to describe incidents</p> <p><b>g) Core Competencies:</b> Communication and Collaboration, Personal Development and Leadership, Creativity and Innovation, Critical Thinking and Problem-Solving</p> <p><b>h) References:</b> B7-B10 English Language Curriculum Pg. 29</p> <p><b>i) Starter:</b> Revise with learners on the previous lesson. Share learning indicators with learners and introduce the lesson</p> <p><b>j) New learning:</b></p> <ol style="list-style-type: none"> <li><i>i. Ask learners to select a topic and brain-write to generate ideas using the word card.</i></li> <li><i>ii. Put learners into groups to organize the points for the development of paragraphs.</i></li> <li><i>iii. Assign learners individually to develop the points into outlines and then into a draft and let them do self and peer-editing before</i></li> </ol>	<p><i>An example of a lesson plan for teaching English Language from the Basic School Curriculum, BS7</i></p> <p><b>a) Strand:</b> Writing</p> <p><b>b) Sub-strand:</b> text types and purposes</p> <p><b>c) Content Standard B7.4.2.2:</b> Apply writing skills to specific life situations</p> <p><b>d) Indicator B7.4.2.2.1:</b> Take notes for academic and other purposes</p> <p><b>e) Resources:</b> Word cards, laptop, projector</p> <p><b>f) Performance Indicator:</b> Learners can write short paragraphs to describe incidents</p> <p><b>g) Core Competencies:</b> Communication and Collaboration, Personal Development and Leadership, Creativity and Innovation, Critical Thinking and Problem-Solving</p> <p><b>h) References:</b> English Language Curriculum Pg. 29</p> <p><b>i) Starter:</b> Revise with learners on the previous lesson. Share learning indicators with learners and introduce the lesson</p> <p><b>j) New learning:</b></p> <ol style="list-style-type: none"> <li><i>i. Ask learners to select a topic and brain-write to generate ideas using the word card</i></li> <li><i>ii. Put learners into groups to organize the points for the development of paragraphs</i></li> <li><i>iii. Assign learners individually to develop the points into outlines and then into a draft and let them do self and peer-editing before</i></li> </ol>	
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	<p><i>presenting the final work.</i></p> <p><b>iv.</b> <i>Ask learners to present their finished work in groups using the laptop and projector</i></p> <p><b>v.</b> <i>Using a laptop and projector, do a presentation and guide learners to take notes for academic and other purposes.</i></p> <p><b>vi.</b> <i>Ask learners to write notes while listening to the teacher.</i></p> <p><b>vii.</b> <i>Ask learners to identify and record: Source of information (title, author, date etc.), headings to help you identify the key topics (key points, examples, names, new ideas, triggers to make your notes more memorable – such as mnemonics, color or drawings).</i></p> <p><b>viii.</b> <i>Guide learners to identify and select key ideas from a text.</i></p> <p><b>ix.</b> <i>Let learners organize ideas from the information gathered and make connections.</i></p> <p><b>x.</b> <i>Edit/Proofread the writing for sense or meaning, and effect (emotional reaction)</i></p> <p><b>xi.</b> <i>Record in other media and present the write-up to the whole class using the laptop and projector</i></p> <p><b>k) Assessment:</b> <i>Select a topic and write at least five new words they have learned</i></p> <p><b>l) Reflection:</b></p> <p><b>i.</b> <i>Use peer discussion and effective questioning to find out from learners what</i></p>	<p><i>finally presenting the final work</i></p> <p><b>iv.</b> <i>Ask learners to present their finished work in groups using the laptop and projector</i></p> <p><b>v.</b> <i>Using a laptop and projector, do a presentation and guide learners to take notes for academic and other purposes</i></p> <p><b>vi.</b> <i>Ask learners to write notes while listening to the teacher</i></p> <p><b>vii.</b> <i>Ask learners to identify and record: Source of information (title, author, date etc.), headings to help you identify the key points, examples, names, new ideas, triggers to make your notes more memorable – such as mnemonics, color or drawings)</i></p> <p><b>viii.</b> <i>Guide learners to identify and select key ideas from a text</i></p> <p><b>ix.</b> <i>Let learners organize ideas from the information gathered and make connections</i></p> <p><b>x.</b> <i>Edit/Proofread the writing for sense or meaning and effect (emotional reaction).</i></p> <p><b>xi.</b> <i>Record in other media and present the write-up to the whole class</i></p> <p><b>k) Assessment:</b> <i>Select a topic and write at least five new words they have learned</i></p> <p><b>l) Reflection:</b></p> <p><b>i.</b> <i>Use peer discussion and effective questioning to find out from learners</i></p>	
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	<p><i>they have learned during the lesson.</i></p> <p><b>ii.</b> <i>Take feedback from learners and summarize the lesson</i></p>	<p><i>what they have learned during the lesson.</i></p> <p><b>ii.</b> <i>Take feedback from learners and summarize the lesson.</i></p>	
<b>6. Appendix 10.2</b>	<p><i>An example of an outline for teaching writing from the Basic School Curriculum, BS4</i></p> <p><b>a) Strand:</b> <i>Grammar usage at word and phrase levels</i></p> <p><b>b) Sub-strand:</b> <i>Nouns</i></p> <p><b>c) Content Standard B4.3.1.1:</b> <i>Apply knowledge of different types of nouns in communication</i></p> <p><b>d) Indicator:</b> <i>B4.3.1.1.2: Identify and use proper nouns</i></p> <p><b>e) Resources:</b> <i>Word cards, sentence cards, sample sentence on manila card, globe or map and class library</i></p> <p><b>f) Performance indicator:</b> <i>identify and use proper nouns, use simple sentences clearly and correctly</i></p> <p><b>g) Core competencies:</b> <i>communication and collaboration, personal development and leadership, critical thinking and problem solving</i></p> <p><b>h) References:</b> <i>B4-B6 English Language Curriculum, p.33</i></p> <p><b>i) Starter:</b> <i>Ask learners to mention and write on the board, their full names and where they come from. Ask learners the following; some important places in their community, the names of their pets and mention things inside and outside the classroom</i></p> <p><b>j) New learning:</b></p> <p><i>i. Let learners read simple sentences having names of cities and countries from the sentence card</i></p> <p><i>ii. Put learners into groups</i></p>	<p><i>An example of an outline for teaching writing from the Basic School Curriculum, BS4</i></p> <p><b>a) Strand:</b> <i>Grammar usage at word and phrase levels</i></p> <p><b>b) Sub-strand:</b> <i>Nouns</i></p> <p><b>c) Content Standard B4.3.1.1:</b> <i>Apply knowledge of different types of nouns in communication</i></p> <p><b>d) Indicator:</b> <i>B4.3.1.1.2: Identify and use proper nouns</i></p> <p><b>e) Resources:</b> <i>Word cards, sentence cards, sample sentence on manila card, globe or map</i></p> <p><b>f) Performance indicator:</b> <i>identify and use proper nouns, use simple sentences clearly and correctly</i></p> <p><b>g) Core competencies:</b> <i>communication and collaboration, personal development and leadership, critical thinking and problem solving</i></p> <p><b>h) References:</b> <i>B4-B6 English Language Curriculum, p.33</i></p> <p><b>i) Starter:</b> <i>Ask learners to mention and write on the board, their full names and where they come from. Ask learners the following; some important places in their community, the names of their pets and mention things inside and outside the classroom</i></p> <p><b>j) New learning:</b></p> <p><i>i. Let learners read simple sentences having names of cities and countries from the sentence card</i></p> <p><i>ii. Put learners into groups</i></p>	

	<p><i>to identify the names of cities and countries on a globe or map</i></p> <p>iii. <i>Learners form sentences with names of other cities and countries</i></p> <p>iv. <i>Ask learners to identify proper nouns from paragraphs/passages.</i></p> <p>v. <i>Put learners in groups to identify proper nouns using the word cards</i></p> <p><b>k) Assessment:</b> <i>Give learners task for them to identify and underline proper nouns in sentences on the board</i></p> <p><b>l) Reflection:</b></p> <p>i. <i>What have we learned today?</i></p> <p>ii. <i>Ask learners to summarize the main points of the lesson</i></p>	<p><i>to identify the names of cities and countries on a globe or map</i></p> <p>iii. <i>Learners form sentences with names of other cities and countries</i></p> <p>iv. <i>Ask learners identify proper nouns from paragraphs/passages</i></p> <p>v. <i>Put learners in groups to identify proper nouns using the word cards</i></p> <p><b>k) Assessment:</b> <i>Give learners task for them to identify and underline proper nouns in sentences on the board</i></p> <p><b>l) Reflection:</b></p> <p>i. <i>What have we learned today?</i></p> <p>ii. <i>Ask learners to summarize the main points of the lesson</i></p>	
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## PLC Session 11: Assessment

<p><b>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</b></p>	<p><b>Guidance notes on Leading the session.</b> <i>What the PLC Coordinator will have to say during each stage of the session</i></p>	<p><b>Guidance Notes on Teacher Activity during the PLC Session.</b> <i>What teachers will do during each stage of the session.</i></p>	<p><b>Time in session</b></p>
<p><b>1. Introduction to session</b></p>	<p>1.1 Ask a teacher to read the purpose, Learning Outcomes (LOs) and Learning Indicators (LIs) of the session.</p> <p><b>Purpose:</b> The purpose of this session is to help teachers demonstrate understanding of how to administer assessment effectively and use feedback to improve teaching and learning.</p> <p>LO 1: Demonstrate knowledge, understanding and application of assessment (NTS 3k, 3l, 3m, 3n, 3o and 3p).</p> <p>LI 1.1 Explain the concept of assessment.</p> <p>LI 1.2 List any two purposes of assessment.</p> <p>LI 1.3 Explain the two purposes of assessment listed in LI 1.2.</p> <p>LO 2: Be familiar with the appropriate assessment methods applicable to teaching and learning (NTS 3k).</p>	<p>1.1 Read the purpose, Learning Outcomes (LOs) and Learning Indicators (LIs) of the session.</p> <p><b>Purpose:</b> The purpose of this session is to help teachers demonstrate understanding of how to administer assessment effectively and use feedback to improve teaching and learning.</p> <p>LO 1: Demonstrate knowledge, understanding and application of assessment (NTS 3k, 3l, 3m, 3n, 3o and 3p).</p> <p>LI 1.1 Explain the concept of assessment.</p> <p>LI 1.2 List any two purposes of assessment.</p> <p>LI 1.3 Explain the two purposes of assessment listed in LI 1.2.</p> <p>LO 2: Be familiar with the appropriate assessment methods applicable to teaching and learning (NTS 3k).</p>	<p>10mins</p>

	<p>LI 2.1 State the appropriate methods for assessing learning in the classroom.</p> <p>LI 2.2 Discuss how these assessment methods can be used to improve teaching and learning in the classroom.</p> <p>1.2 Ask teachers to use available resources to search for the meaning of assessment (internet, Standards-based Curriculum, dictionary, etc.) (NTS 3k).</p> <p><i>E.g.</i> <i>Assessment is a process of collecting and evaluating information about learners and using the information to make decisions to improve teaching and learning (Standards-based curriculum pg. xiii).</i></p> <p>1.3 Ask teachers to list any two purposes of assessment (NTS 3l, 3m, 3n and 3o).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Formative assessment - assessment as learning and assessment for learning</i></li> <li>b) <i>Summative assessment (i.e. assessment of learning)</i></li> </ul> <p>1.4 Ask teachers to analyse the two purposes of assessment listed in Activity 1.3 (NTS 3l, 3m, 3n and 3o).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Formative assessment</i> <ul style="list-style-type: none"> <li>i. <i>Assessment as: It relates to engaging learners to reflect on the expectations of their learning. Learners are assisted to know their</i></li> </ul> </li> </ul>	<p>LI 2.1 State the appropriate methods for assessing learning in the classroom.</p> <p>LI 2.2 Discuss how these assessment methods can be used to improve teaching and learning in the classroom.</p> <p>1.2 Use available resources to search for the meaning of assessment (internet, Standards-based Curriculum, dictionary, etc.) (NTS 3k).</p> <p><i>E.g.</i> <i>Assessment is a process of collecting and evaluating information about learners and using the information to make decisions to improve teaching and learning (Standards-based curriculum pg. xiii).</i></p> <p>1.3 List any two purposes of assessment (NTS 3l, 3m, 3n and 3o).</p> <p><i>E.g.</i> <i>Formative assessment - assessment as learning and assessment for learning</i></p> <p>1.4 Analyse the two purposes of assessment listed in Activity 1.3 (NTS 3l, 3m, 3n and 3o).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li>a) <i>Formative assessment - Assessment as: It relates to engaging learners to reflect on the expectations of their learning</i></li> </ul>	
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	<p><i>roles and take responsibility of their own learning to improve. Learners set their own goals and monitor their progress towards them</i></p> <p><i>ii. Assessment for: It is an approach used to monitor learners' progress and to modify teaching and learning. Learners become actively involved in the learning process and gain confidence in what they are expected to learn</i></p> <p><i>b) Summative assessment Assessment of: It describes the levels learners have attained in their learning i.e. what they know and can do over a period of time. The emphasis is to evaluate the learner's cumulative progress and achievement</i></p> <p>1.5 Ask teachers to state at least four appropriate methods of assessment in the classroom (NTS 3k,3l, 3m, 3n, 3o and 3p).</p> <p><i>E.g.</i></p> <p><i>a) Homework</i> <i>b) Project</i> <i>c) Quiz</i> <i>d) Role-play</i> <i>e) Demonstration</i> <i>f) Termly exam</i> <i>g) Presentation</i> <i>h) Portfolio, etc.</i></p> <p>1.6 Ask teachers to discuss how at least three of the methods in Activity 1.5 can be used to improve teaching and learning in the classroom (NTS 3k,3l, 3m, 3n, 3o and 3p).</p>	<p><i>b) Summative assessment - Assessment of: It describes the levels learners have attained in their learning</i></p> <p>1.5 State at least four appropriate methods of assessment in the classroom (NTS 3k,3l, 3m, 3n, 3o and 3p).</p> <p><i>E.g.</i></p> <p><i>a) Homework</i> <i>b) Project, etc.</i></p> <p>1.6 Discuss how at least three of the methods in Activity 1.5 can be used to improve teaching and learning in the classroom (NTS 3k,3l, 3m, 3n, 3o and 3p).</p>	
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	<p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) Homework: Learners are assigned tasks to be completed outside the school to foster independent learning</i></li> <li><i>b) Project: Learners are given a task/problem to engage in as a group/individual to supplement and apply classroom studies</i></li> <li><i>c) Quiz: Learners are given a set of questions to test their knowledge especially as a competition between individuals or teams as a form of learning</i></li> <li><i>d) Role play: Learners are asked to act/imitate the character and behaviour of someone who is different from themselves in order to learn a new concept</i></li> <li><i>e) Demonstration: A teacher shows practical ways and explanations of how something works or is performed to make the understanding of concepts easier</i></li> <li><i>f) Termly exam: Learners are given a set of questions/exercises to assess their skill or knowledge at the end of the term to inform decision-making during future study sessions</i></li> <li><i>g) Presentation: Learners are guided to give a speech or talk in which a new product, idea, or piece of work is shown and explained to an audience to improve their communication skills</i></li> <li><i>h) Portfolio: A set of creative pieces of work are put</i></li> </ul>	<p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) Homework: Learners are assigned tasks to be completed outside the school to foster independent learning</i></li> <li><i>b) Project: Learners are given a task/problem to engage in as a group/individual to supplement and apply classroom studies, etc.</i></li> </ul>	
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	<i>together to serve as one's evidence/record of effort to reflect on and improve one's teaching, etc.</i>		
<b>Give regard for misconceptions and stereotypes, GESI, ICT, 21<sup>st</sup> century skills, etc.</b>	<p>1.7 Ask teachers to identify at least five possible misconceptions and stereotypes in learning various subjects such as English language (NTS 3m).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>g) English language is not meant to be studied</i></li> <li><i>h) English language is a subject for women</i></li> <li><i>i) English language is a difficult subject meant for academically talented learners</i></li> <li><i>j) One would need a large vocabulary to speak English well</i></li> <li><i>k) It takes a long time to learn to speak English</i></li> <li><i>l) English language requires a lot of reading, etc.</i></li> </ul> <p>1.8 Ask teachers to discuss how these misconceptions about teaching and learning various subjects such as English language in the classroom can be addressed (NTS 3m).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>i) English language lessons should be activity-based</i></li> <li><i>j) Learners should be introduced to reading at their early stages of mental development</i></li> <li><i>k) Teachers must emphasize that English language can be studied by anyone irrespective of their gender</i></li> <li><i>l) Provide examples of where low achievers have</i></li> </ul>	<p>1.7 Identify at least five possible misconceptions and stereotypes in learning various subjects such as English language (NTS 3m).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) English language is not meant to be studied</i></li> <li><i>b) English language is a subject for women, etc.</i></li> </ul> <p>1.8 Discuss how these misconceptions about teaching and learning various subjects such as English language in the classroom can be addressed (NTS 3m).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) English lessons should be activity-based</i></li> <li><i>b) Learners should be introduced to reading at their early stages of mental development, etc.</i></li> </ul>	10mins



	<p><i>succeeded in studying English language</i></p> <p><i>m) Teachers should make use of a lot of reinforcement and resources in the language classroom</i></p> <p><i>n) Learners should not be ridiculed when they make mistakes as they use the language</i></p> <p><i>o) Simplify teaching of English language as much as possible</i></p> <p><i>p) Use fun methods to teach English language, etc.</i></p> <p>1.9 Ask teachers to identify at least three activities that promote GESI and SEL responsiveness in the classroom (NTS 2e, 2f, 3f, 3g, 3h, 3m, 3n and 3o).</p> <p><i>E.g.</i></p> <p><i>a) Encourage mixed-gender groupings</i></p> <p><i>b) Ensure equal participation of both males and females during role play, dialogues and so on</i></p> <p><i>c) Employ instructional strategies appropriate for mixed ability, multi-lingual and multi-aged classes</i></p> <p><i>d) Females should have equal access to teaching and learning resources during learning</i></p> <p><i>e) Use differentiated learning approach to support learners with Special Educational Needs (SEN), i.e. catering for different learning styles of students</i></p> <p><i>f) Encourage learners to accept other learners'</i></p>	<p>1.9 Identify at least three activities that promote GESI and SEL responsiveness in the classroom (NTS 2e, 2f, 3f, 3g, 3h, 3m, 3n and 3o).</p> <p><i>E.g.</i></p> <p><i>a) Encourage mixed-gender groupings</i></p> <p><i>b) Ensure equal participation of both males and females during role play, dialogues, etc.</i></p>	
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	<p><i>views and treat them well</i></p> <p><i>g) Acknowledge the efforts of learners and motivate them accordingly</i></p> <p><i>h) Encourage individualized teaching, etc.</i></p> <p>1.10 Ask teachers to identify at least three ways of incorporating ICT in their lessons taking into consideration different learning styles (NTS 3j).</p> <p><i>E.g.</i></p> <p><i>a) Surfing Open Educational Resources and other Internet sources for information</i></p> <p><i>b) Teaching using visual and audio-visual aids like smart phones, tablets and Apps to support teaching and learning of rhymes, songs, pronunciations and so on for listening and speaking activities. For instance, Jolly Phonics App to enhance teaching and learning</i></p> <p><i>c) Using ICT tools to conduct assessment tasks, etc.</i></p> <p>1.11 Ask teachers to discuss activities they would adopt to develop 21<sup>st</sup> century skills in their learners (NTS 3a, 3b, 3c and 3d).</p> <p><i>Note:</i> <b>Communication skills</b></p> <p><i>E.g.</i></p> <p><i>a) Group discussion</i></p> <p><i>b) Role-play</i></p> <p><i>c) Presentation, etc.</i></p>	<p>1.10 Identify at least three ways of incorporating ICT into your lessons taking into consideration different learning styles (NTS 3j).</p> <p><i>E.g.</i></p> <p><i>a) Surfing Open Educational Resources and other Internet sources for information, etc.</i></p> <p>1.11 Discuss activities you would adopt to develop 21<sup>st</sup> century skills in your learners (NTS 3a, 3b, 3c and 3d).</p> <p><i>Note:</i> <b>Communication skills</b></p> <p><i>E.g.</i></p> <p><i>a) Group discussion</i></p> <p><i>b) Role-play, etc.</i></p>	
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	<p><b>Collaboration</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research</li> <li>c) Role-play</li> <li>d) Hands-on activities, etc.</li> </ul> <p><b>Observation and enquiry skills</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research</li> <li>c) Role-play</li> <li>d) Hands-on activities, etc.</li> </ul> <p><b>Creativity and innovation</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research</li> <li>c) Role-play</li> <li>d) Hands-on activities</li> <li>e) Presentation, etc.</li> </ul> <p><b>Personal development</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research</li> <li>c) Role-play</li> <li>d) Hands-on activities</li> <li>e) Presentation, etc.</li> </ul> <p><b>Cultural identity and global citizenship</b> E.g. Providing opportunities for teachers to engage in discussions on national and international issues through the use of:</p> <ul style="list-style-type: none"> <li>a) Groupwork</li> <li>b) Project/research</li> <li>c) Role-play</li> <li>d) Hands-on activities</li> <li>e) Presentation, etc.</li> </ul>	<p><b>Collaboration</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research, etc.</li> </ul> <p><b>Observation and enquiry skills</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research, etc.</li> </ul> <p><b>Creativity and innovation</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research, etc.</li> </ul> <p><b>Personal development</b> E.g.</p> <ul style="list-style-type: none"> <li>a) Group discussion</li> <li>b) Project/research, etc.</li> </ul> <p><b>Cultural identity and global citizenship</b> E.g. Providing opportunities for teachers to engage in discussions on national and international issues through the use of:</p> <ul style="list-style-type: none"> <li>a) Groupwork</li> <li>b) Project/research, etc.</li> </ul>	
<p><b>2. Planning for teaching, learning and assessment activities for the lesson/s</b></p>	<p>2.1 Ask teachers to discuss samples of their lesson plans based on the Pre-Tertiary Curriculum (Standards-based curriculum) in their respective</p>	<p>2.1 Discuss samples of your lesson plans based on the Pre-Tertiary Curriculum (Standards-based curriculum) in your respective subjects and link them to the NTS</p>	<p>10 mins</p>

<p><b>making links to the relationship between the Basic School Curriculum and the NTS</b></p>	<p>subjects and link them to the NTS (NTS 3a, 3e, 3g and 3j).</p> <p>Refer to Appendices 11.1 and 11.2 for sample lesson plans on English language.</p> <p>2.2 Ask teachers to tease out the learning outcomes and learning indicators from the sample lesson plan (NTS 3a, 3e, 3g and 3j). <i>E.g.</i> <i>LO: Demonstrate the use of appropriate language orally in specific situations</i> <i>LI 1 Give accurate direction to familiar places</i></p> <p><i>LI 2 Describe important places in the community (landmarks)</i></p>	<p>(NTS 3a, 3e, 3g and 3j).</p> <p>Refer to Appendices 11.1 and 11.2 for sample lesson plans on English language.</p> <p>2.2 Tease out the learning outcomes and learning indicators from the sample lesson plan (NTS 3a, 3e, 3g and 3j). <i>E.g.</i> <i>LO: Demonstrate the use of appropriate language orally in specific situations</i> <i>LI 1 Give accurate direction to familiar places</i></p> <p><i>LI 2 Describe important places in the community (landmarks)</i></p>	
<p><b>3. Teaching, learning, resources and assessment</b></p>	<p>3.1 Ask teachers to identify at least two activities that promote GESI and SEL responsiveness in their sample lesson plans (NTS 3c, 3e, 3f and 3g).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) In pairs (a boy and a girl) learners direct a friend who is visiting them</i></li> <li><i>b) Using peer discussion to reflect on lesson learned</i></li> <li><i>c) Learners perform a sketch to give directions</i></li> <li><i>d) Individual learners practise giving directions, etc.</i></li> </ul> <p>3.2 Ask teachers to identify at least three resources that can be used to deliver the lesson (NTS 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) word cards</i></li> <li><i>b) sentence cards</i></li> <li><i>c) mobile phones</i></li> </ul>	<p>3.1 Identify at least two activities that promote GESI and SEL responsiveness in your sample lesson plans (NTS 3c, 3e, 3f and 3g).</p> <p><i>E.g.</i></p> <p><i>In pairs (a boy and a girl) learners direct a friend who is visiting them, etc.</i></p> <p>3.2 Identify at least three resources that can be used to deliver the lesson (NTS 3j).</p> <p><i>E.g.</i></p> <ul style="list-style-type: none"> <li><i>a) word cards</i></li> <li><i>b) mobile phones, etc.</i></li> </ul>	<p>10 mins</p>

	<p>d) <i>pictures of landmarks, etc.</i></p> <p>3.3 Ask teachers to discuss how the session is linked to the use of formative assessment methods and practices for example, assessment <i>for</i> learning and assessment <i>as</i> learning (NTS 3k, 3l and 3m).</p> <p><i>E.g.</i>  <i>Assessment as: In pairs (a boy and a girl) learners direct a friend who is visiting them for the first time from the lorry station to their school</i></p> <p><i>Assessment for: In pairs learners role-play giving and obeying or following commands/instruction</i></p> <p>3.4 Ask a teacher to model a teaching activity in the sample lesson (EXTENSION ACTIVITY).</p>	<p>3.3 Discuss how the session is linked to the use of formative assessment methods and practices for assessment <i>for</i> learning and assessment <i>as</i> learning (NTS 3k, 3l and 3m).</p> <p><i>E.g.</i>  <i>Assessment as: In pairs (a boy and a girl) learners direct a friend who is visiting them for the first time from the lorry station to their school</i></p> <p><i>Assessment for: .....</i></p> <p>3.4 Model a sample activity in the sample lesson (EXTENSION ACTIVITY).</p>	
<p><b>4. Evaluation and review of session:</b></p> <ul style="list-style-type: none"> <li>○ <b>Identifying and addressing any outstanding issues relating to the lesson/s for clarification</b></li> <li>○ <b>Noting that teachers need to identify critical friends to observe lessons and report at next session</b></li> </ul>	<p>4.1 Ask teachers to reflect individually and write what they have learned in the session (NTS 1a, 1b).</p> <p>4.2 Ask teachers to share what they have written with the larger group (NTS 1a, 1b).</p> <p>4.3 Remind teachers to identify a colleague to observe them while they teach their lesson in relation to PLC Session 11 and provide feedback to them.</p>	<p>4.1 Reflect individually and write what you have learned in the session (NTS 1a, 1b).</p> <p>4.2 Share what you have written with the larger group (NTS 1a, 1b).</p> <p>4.3 Identify a colleague to observe your lessons in relation to PLC Session 11 and provide feedback to you.</p>	10 mins
<p><b>5. Appendix 11.1</b></p>	<p><i>Example of a sample lesson plan in English language: Refer to English Language curriculum: B7 pg. 2)</i></p>	<p><i>Example of a sample lesson plan in English language: Refer to English Language curriculum: B7 pg. 2)</i></p>	

	<p>An example of an outline for teaching Conversation/everyday discourse.</p> <p><b>a) Strand:</b> Oral language</p> <p><b>b) Sub-strand:</b> Conversation/everyday discourse</p> <p><b>c) Content Standard:</b> B7.1.1.1: Demonstrate use of appropriate language orally in specific situation</p> <p><b>d) Indicator:</b> B7.1.1.1.4. Listen to and give accurate direction to familiar places</p> <p><b>e) Performance Indicator:</b> Learners can use appropriate registers and landmarks in giving directions</p> <p><b>f) Core Competencies:</b> Communication and Collaboration, Personal Development and Leadership, Creativity and Innovation, Critical Thinking and Problem-Solving</p> <p><b>g) Key words:</b> landmarks (mosque, hospitals, church, railways, chief palace) register (behind, in front, adjacent, opposite) google map</p> <p><b>h) Phase 1: Starter</b> In pairs (a boy and a girl), direct a friend who is visiting you for the first time from the lorry station to your school. Expected answers from learners; get down from the car at the station, ‘go aaaaa’, stop, walk small and you see the waakye seller, then go straight, straight and straight</p> <p><b>i) Phase 2: New Learning</b> i. Through whole class discussion, use word cards to treat the</p>	<p>An example of an outline for teaching Conversation/everyday discourse.</p> <p><b>a) Strand:</b> Oral language</p> <p><b>b) Sub-strand:</b> Conversation/everyday discourse</p> <p><b>c) Content Standard:</b> B7.1.1.1: Demonstrate use of appropriate language orally in specific situations</p> <p><b>d) Indicator:</b> B7.1.1.1.4. Listen to and give accurate direction to familiar places</p> <p><b>e) Performance Indicator:</b> Learners can use appropriate registers and landmarks in giving directions</p> <p><b>f) Core Competencies:</b> Communication and Collaboration, Personal Development and Leadership, Creativity and Innovation, Critical Thinking and Problem-Solving</p> <p><b>g) Key words:</b> land marks (mosque, hospitals, church, railways, chief palace) register (behind, in front, adjacent, opposite) google map</p> <p><b>h) Phase 1: Starter</b> In pairs (a boy and a girl), direct a friend who is visiting you for the first time from the lorry station to your school. Expected answers from learners; get down from the car at the station, ‘go aaaaa’, stop, walk small and you see the waakye seller, then go straight, straight and straight</p> <p><b>i) Phase 2: New Learning</b> i. Through whole class discussion, use word cards to treat the</p>	
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	<p><i>appropriate register and landmarks</i></p> <p>ii. <i>Model giving simple directions to places in the school and important places in the community or environment using appropriate register and important landmarks for instance, turn left or right, go straight, negotiate the curve, adjacent, opposite, backwards, behind the Presbyterian church/hospital, meters away from the mosque/shrine</i></p> <p>iii. <i>Show pictures of important places (land marks) in the community to provide situations for learners to practice giving directions</i></p> <p>iv. <i>In pairs, have learners role-play giving and obeying or following commands/instructions for instance, a stranger meets you at the school gate, direct them to the chief's palace, Central Mosque</i></p> <p>v. <i>Use smart phone to demonstrate that Google maps can also be used to show directions, etc.</i></p> <p><b>Assessment</b> <i>Have learners sketch and give the direction to the nearest land mark</i></p> <p><b>j) Phase 3: Reflection</b> <i>Use peer discussion and questioning to find out from learners what they have learned during the lesson</i></p>	<p><i>appropriate register and landmarks</i></p> <p>ii. <i>Model giving simple directions to places in the school and important places in the community or environment using appropriate register and important landmarks for instance, turn left or right, go straight, negotiate the curve, adjacent, opposite, backwards, behind the Presbyterian church/hospital, meters away from the mosque/shrine</i></p> <p>iii. <i>Show pictures of important places (land marks) in the community to provide situations for learners to practice giving directions</i></p> <p>iv. <i>In pairs, have learners role-play giving and obeying or following commands/instructions for instance, a stranger meets you at the school gate, direct them to the chief's palace, Central Mosque</i></p> <p>v. <i>Use smart phone to demonstrate that Google maps can also be used to show directions, etc.</i></p> <p><b>Assessment</b> <i>Have learners sketch and give the direction to the nearest land mark</i></p> <p><b>j) Phase 3: Reflection</b> <i>Use peer discussion and questioning to find out from learners what they have learned during the lesson</i></p>	
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<p><b>Appendix 11.2</b></p>	<p><i>Example of a sample lesson plan in English language: Refer to English Language curriculum: B2 p. 53</i></p> <p><i>An example of an outline for teaching Comprehension</i></p> <p><b>a) Strand 2: Reading</b></p> <p><b>b) Sub Strand:</b> <i>Comprehension (Baby Birds)</i></p> <p><b>c) Content Standard:</b> <i>B2.2.7.2: Use knowledge skills and techniques of reading to understand and interpret text</i></p> <p><b>d) Indicator:</b> <i>B2.2.7.2.4. Read level-appropriate texts with little support</i></p> <p><b>e) Performance Indicator:</b> <i>Learners can read level-appropriate texts with comprehension and answer questions</i></p> <p><b>f) Core Competencies:</b> <i>Critical Thinking and Problem Solving, Communication and Collaboration</i></p> <p><b>g) Key words:</b> <i>Cracked, beak, tapped, broke, little, hole, nest, worm</i></p> <p><b>h) Phase 1: Starter</b> <i>Display the picture of the egg and the cracked egg on the board and ask learners to think-pair-share what they have observed</i> <i>Ask learners to predict what the passage is going to be about</i></p> <p><b>i) Phase 2: New learning</b> <i>Treat the key words using the word cards. Let learners use the words to form simple sentences.</i> <i>Write pre-reading questions to guide</i></p>	<p><i>Example of a sample lesson plan in English language: Refer to English Language curriculum: B2 p. 53</i></p> <p><i>An example of an outline for teaching Comprehension</i></p> <p><b>a) Strand 2: Reading</b></p> <p><b>b) Sub Strand:</b> <i>Comprehension (Baby Birds)</i></p> <p><b>c) Content Standard:</b> <i>B2.2.7.2: Use knowledge skills and techniques of reading to understand and interpret text</i></p> <p><b>d) Indicator:</b> <i>B2.2.7.2.4. Read level-appropriate texts with little support</i></p> <p><b>e) Performance Indicator:</b> <i>Learners can read level-appropriate texts with comprehension and answer questions</i></p> <p><b>f) Core Competencies:</b> <i>Critical Thinking and Problem Solving, Communication and Collaboration,</i></p> <p><b>g) Key words:</b> <i>Cracked, beak, tapped, broke, little, hole, nest, worm</i></p> <p><b>h) Phase 1: Starter</b> <i>Display the picture of the egg and the cracked egg on the board and ask learners to think-pair-share what they have observed</i> <i>Ask learners to predict what the passage is going to be about</i></p> <p><b>i) Phase 2: New learning</b> <i>Treat the key words using the word cards. Let learners use the words to form simple sentences.</i> <i>Write pre-reading questions to guide</i></p>	
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	<p><i>learners in their reading</i></p> <ol style="list-style-type: none"> <li>1. <i>Where do birds live?</i></li> <li>2. <i>What do birds eat?</i></li> </ol> <p><i>Teacher plays a recorded audio of the passage.</i></p> <p><i>Learners answer the pre-reading questions.</i></p> <p><i>Have learners read the passage in groups.</i></p> <p><i>Learners read the passage silently.</i></p> <p><i>Ask while reading questions to enhance learners' understanding of the text.</i></p> <ol style="list-style-type: none"> <li>1. <i>Which animal did the baby bird first meet?</i></li> <li>2. <i>What did the cow promise to give the baby bird?</i></li> </ol> <p><i>Have learners answer questions based on the passage.</i></p> <p><b>Assessment</b></p> <ol style="list-style-type: none"> <li>1. <i>Which animal did the baby bird first meet?</i></li> <li>2. <i>What did the cow promise to give the baby bird?</i></li> <li>3. <i>Who helped the baby bird to help find his mother?</i></li> </ol> <p><b>Phase 3: Reflection</b></p> <p><i>Let learners tell their friends the moral lessons they have learned from the story.</i></p> <p><i>Let learners retell the story to the class</i></p>	<p><i>learners in their reading</i></p> <ol style="list-style-type: none"> <li>1. <i>Where do birds live?</i></li> <li>2. <i>What do birds eat?</i></li> </ol> <p><i>Teacher plays a recorded audio of the passage.</i></p> <p><i>Learners answer the pre-reading questions.</i></p> <p><i>Have learners read the passage in groups.</i></p> <p><i>Learners read the passage silently.</i></p> <p><i>Ask while reading questions to enhance learners' understanding of the text.</i></p> <ol style="list-style-type: none"> <li>1. <i>Which animal did the baby bird first meet?</i></li> <li>2. <i>What did the cow promise to give the baby bird?</i></li> </ol> <p><i>Have learners answer questions based on the passage.</i></p> <p><b>Assessment</b></p> <ol style="list-style-type: none"> <li>1. <i>Which animal did the baby bird first meet?</i></li> <li>2. <i>What did the cow promise to give the baby bird?</i></li> <li>3. <i>Who helped the baby bird to help find his mother?</i></li> </ol> <p><b>Phase 3: Reflection</b></p> <p><i>Let learners tell their friends the moral lessons they have learned from the story.</i></p> <p><i>Let learners retell the story to the class</i></p>	
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