

SOCIAL STUDIES

FOR TTCs

TUTOR'S GUIDE

YEAR 2

OPTION: LE & SME

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FOREWORD

Dear Tutor,

Rwandan Basic Education philosophy intends to ensure that young people at every level of education achieve their full potential in terms of relevant knowledge, competences, skills and appropriate attitudes that prepare them to be well integrated in world society and exploit employment opportunities.

In view of that philosophy, the Rwanda Basic Education Board is honoured to avail the Social Studies Tutor's book for Teacher Training Colleges (TTCs) in Science and Mathematics Education & Languages Education which serves as official guide to teaching, learning and assessing Social Studies.

The ambition to develop a knowledge-based society and the growth of regional and global competition in the job market has necessitated the shift to a competence-based curriculum. After such a curriculum successful shift, in general education, TTC curriculum also was revised to align it to the Competence Based Curriculum prepare teachers who are competent and confident to implement in pre-primary and primary education. The rationale of the changes is to ensure that TTC leavers are qualified for job opportunities and further studies in higher education in different programs under education career advancement.

I wish to sincerely express my appreciation to the people who contributed towards the development of this document particularly, REB staff, UR-CE lecturers, TTC Tutors, Teachers from general education.

Dr MBARUSHIMANA Nelson

Director General REB

ACKNOWLEDGEMENT

I wish to sincerely express my special appreciation to the people who played a major role in development of the tutor's guide for Science and Mathematics Education & Languages Education options. It would not have been successful without the support from different education stakeholders.

I wish also to thank Rwanda Basic Education Board (REB) leadership who took over and supervised the textbook writing. I wish to extend my appreciation to REB staff, Lecturers from UR-CE, TTC Principals, TTC Directors of Studies, Deputy Principals, Tutors and Teachers from General Education.

MURUNGI Joan,

Head of Curriculum Teaching and Learning Resources Department/REB

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PART I: GENERAL INTRODUCTION

1.0. Introduction

The purpose of this teacher's guide is to help you implement the Social Studies syllabus in the option of L.E and SME. It is designed to stimulate you to create exciting and meaningful lessons by enabling you to choose relevant and purposeful activities and teaching strategies. It will encourage you to research and look for new and challenging ways of facilitating students' learning. The tutor guide and the syllabus must be used side by side. The syllabus states the learning objectives for the subject and each unit, and outlines the content and skills that students will learn, and the assessment requirements.

The tutor's guide provides direction for you in using the outcomes approach in your classroom using a step by step approach. This tutor's guide provides examples of teaching and learning strategies for Social Studies in the option of LE and SME, elaboration of suggested activities and content, detailed information on how to make assessment tasks and the resources needed to teach Social Studies in the option of L.E and SME.

1.1. The structure of the guide

This section presents the overall structure, the unit and sub-heading structure to help tutors to understand the different sections of this guide and what they will find in each section.

Overall structure

The whole guide has three main parts as follows:

Part I: General Introduction

This part provides general guidance on how to develop the generic competences, how to integrate cross cutting issues, how to cater for learners with special educational needs, active methods and techniques of teaching Social Studies in LE and SME and guidance on assessment.

Part II: Sample lesson plan

This part provides a sample lesson plan developed and designed to help the tutor to develop their own lesson plans.

School Name:

Tutor's Name:

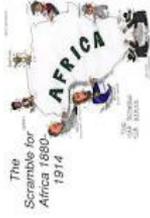
Term :	Date:	Subject	Class	Unit No	Lesson Number	Duration	Timing	Class size
.....	.../.../...	Social Studies for LE&SME	Year 2 LE	2	1/6	80min/...
Types/category/number of special Educational need to be catered for in this lesson.								
Unit title	European domination and the exploitation of Africa in the 19 th century.							
Key Unit Competence	The student teacher should be able to describe the European domination, exploitation in Africa and its consequences in the 19 th century.							
Title of the lesson	The Scramble for Africa							
Instructional Objective	In small groups, student teachers will be able to examine any 5 causes of the European Scramble and Partition of Africa in the 19 th Century perfectly.							
Plan for this class	In the classroom							
Learning materials	World map/map of Africa, text books, photos (Otto von Bismarck), Videos (Berlin conference), Projector, Computer/Smart phone/Tablet and loud speaker							
References	Nturo, C. (2017), <i>History for Rwandan schools learner's book</i> , Fountain, Kigali, pages 77-81							

Timing for each step	Brief description of teaching and learning activities		Generic competences and cross-cutting issues to be addressed
	Tutor's Activities	Student teachers' Activities	
Introduction: 10 minutes	<p>To present the story for introduction.</p> <p>Story: One day Mr. Ngango bought one small bread for his 12 children. He failed to share it because it was too small. Children started to struggle/ conflict amongst themselves for the bread. Their mother came and requested them to sit down and share the bread without fighting.</p> <p>To ask questions about the story.</p> <p>-What was the cause of conflicts among children?</p> <p>-How this conflict was resolved</p> <p>Who can guess the event in History related to the above story?</p> <p>To announce the topic</p> <p>Topic: Scramble and partition of Africa</p> <p>To share learning objectives</p>	<p>To follow tutor's presentation</p> <p>To answer to Tutor's questions</p> <p>To discover the new lesson</p> <p>To answer to tutor's questions</p> <ul style="list-style-type: none"> - Because it was too small - They sat down and shared peacefully <ul style="list-style-type: none"> - The story is related to Scramble and partition of Africa - To follow the topic - To follow the objective shared 	<p>cross-cutting issue :</p> <p>Gender education: both boys and girls will be enabled to exploit their full potential and talents without any discrimination</p> <p>PVE: Through story student teachers will acquire peaceful way of conflicts management</p>

Development of the lesson: 60 minutes

Analysis 1

- To form small groups
- To provide topics for discussion



**Describe the event shown on this image.
Explain the causes of the European Scramble and Partition of Africa in the 19th Century.

- -To give instructions
- -To move around
- To request students present group findings

- To form groups of 6 for discussion
- To get topics in small groups for discussion

Inclusive Education:

In group formulation student teacher with physical disabilities will be helped to reach His/her assigned group

- To get instructions
- To share ideas about the Provided topics
- To present group findings

Expected findings

** In the early 19th century, Africa was divided and shared by the scrambling powers of Europe which were mainly Britain, France, Germany, Belgium, Italy, Portugal, and Spain*

** Factors for the Scramble and Partition of Africa:*

- *The need for market*
- *The need for areas where to invest European surplus capital*

Generic competences:

Critical thinking through group work discussion student teachers will think critically

Communication: through discuss in groups, during and answer questions communication will be developed

<p>Synthesis 1</p> <ul style="list-style-type: none"> - To give added comments. - To ask series of questions summarising the causes of scramble e.g. <p>Q. Identify the causes for scramble and partition of Africa.</p> <ul style="list-style-type: none"> - To present video of Berlin conference and the photo of Otto Von Bismarck. <p>To ask questions about the role of Berlin conference in solving scramble for Africa.</p>	<ul style="list-style-type: none"> • <i>The discovery of minerals in some parts of Africa, etc.</i> - To react and comment on their work. - To ask questions. - To follow tutor's added comments. 	<p>Research and problem solving</p> <p>Through observation of the map, learners are making research</p> <p>PVE: Through group work activities peace will be developed by respecting ideas of one another.</p>
<p>Analysis 2</p>	<p>To watch the movie.</p> <ul style="list-style-type: none"> - To answer to tutor's questions. <p>The role of the Berlin conference in the partition of Africa.</p> <ul style="list-style-type: none"> - <i>It legalized the scramble and partition of Africa.</i> - <i>It speeded up the acquisition of colonies in Africa.</i> - <i>The conference left Congo in the hands of Leopold II.</i> 	

<p>General synthesis</p>	<p>- To ask series of questions summarising the lesson e.g. Q. Differentiate Scramble from partition. What were the contributions of Berlin conference to colonisation of Africa?</p>	<p>- <i>It forced European powers to develop trade in Africa.</i> - <i>It forced European powers to introduce colonial rule in Africa.</i> - To make the summary In early 19th century, Africa was divided and shared by the scrambling powers of Europe. This scramble was so intense that there were fears that it could lead to inter-imperialist conflicts and even wars. To prevent this, the German chancellor Otto von Bismarck convened the Berlin Conference, which provided guideline for sharing Africa.</p>	
<p>Evaluation: 10 minutes</p>	<p>To help students to summarize the lesson. To ask questions for evaluation. Q. Examine the any 5 causes of the European Scramble and Partition of Africa in the 19th Century.</p>	<p>To answer to evaluation questions. <i>Expected answers.</i> <i>The following some factors for the Scramble and Partition of Africa:</i> - <i>The need for market of European manufactured goods.</i> - <i>The need for areas where to invest European surplus capital.</i></p>	<p>Generic competences Critical thinking will be developed through answering questions.</p>

		<ul style="list-style-type: none"> - <i>The discovery of minerals in some parts of Africa.</i> <i>The need to control strategic areas in Africa.</i> - <i>British occupation of Egypt in 1882.</i> 	
Tutor's self evaluation			

PART II: UNIT DEVELOPMENT

This is the core part of the tutor's guide. Each unit is developed following the structure below. The guide ends with references.

Structure of a unit

Each unit is made of the following sections:

- Unit title: From the syllabus.
- Key unit competence: From the syllabus.
- Prerequisites (knowledge, skills, attitudes and values).

This section indicates knowledge, skills and attitudes required for the success of the unit. The competence-based approach calls for connections between units/topics within a subject and interconnections between different subjects. The teacher will find an indication of those prerequisites and guidance on how to establish connections.

Cross-cutting issues to be addressed

This section suggests cross-cutting issues that can be integrated depending on the unit content. It provides guidance on how to come up with the integration of the issue.

Note that the issue indicated is a suggestion; tutors are free to take another crosscutting issue taking into consideration the learning environment.

Guidance on the introductory activity

Each unit starts with an introductory activity in the learner's book. This section of the tutor's guide provides guidance on how to conduct this activity and related answers.

Note that learners may not be able to find the right solution but they are invited to predict possible solutions or answers. Solutions are provided by learners gradually through discovery activities organized at the beginning of lessons or during the lesson.

List of lessons/sub-heading

This section presents in a table suggestion on the list of lessons, lesson objectives copied or adapted from the syllabus and duration for each lesson. Each lesson/subheading is then developed.

End of each unit

At the end of each unit the tutor's guide provides the following sections:

Summary of the unit which provides the key points of content developed in the student's book.

Additional information which provides additional content compared to the student's book for the tutor to have a deeper understanding of the topic.

End unit assessment which provides the answers to questions of end unit assessment in the textbook and suggests additional questions and related answers to assess the key unit competence.

Additional activities: remedial, consolidation and extended activities. The purpose of these activities is to accommodate each learner (average and gifted) based on end unit assessment results.

Structure of each-sub heading

Each lesson/sub-heading is made of the following sections:

- Lesson /Sub-heading title.
- Prerequisites/Revision/Introduction:

This section gives a clear instruction to teacher on how to start the lesson

Teaching resources: This section suggests the teaching aids or other resources needed in line with the activities to achieve the learning objectives.

Tutors are encouraged to replace the suggested teaching aids by the ones available in their respective TTCs and based on learning environment.

Learning activities: This section provides a short description of the methodology and any important aspect to consider. It provides also answers to learning activities with cross reference to text book.

Exercises/application activities: This provides questions and answers for exercises/ application activities.

1.2. Methodological guidance

1.2.1. Developing competences

Since 2015, Rwanda shifted from a knowledge based to competence based curriculum for pre-primary, primary and general secondary education. This review comes as response to the needs of learners, society and the labour market. With a holistic learner-centered approach, it demands major changes in teaching methodology and the use of a wider range of assessment techniques focusing more on formative or on-going continuous assessment. This has implications for teacher education and the necessary provision of support and guidance provided to colleges to ensure effective implementation. Since 2016 up to 2018, TTC curriculum have been revised to be competence-based in line with the basic education curriculum. The review was to align the pre-service teacher education programs to the new National Basic Education competence-based curriculum.

This called for changing the way of learning by shifting from teacher centered to a learner-centered approach. Teachers are not only responsible for knowledge transfer but also for fostering student's learning achievement, and creating safe and supportive learning environment. It implies also that a student has to demonstrate what he/she is able to do using the knowledge, skills, values and attitude acquired in a new or different or given situation.

The competence-based curriculum employs an approach of teaching and learning based on discrete skills rather than dwelling on only knowledge or the cognitive domain of learning. It focuses on what learner can do rather than what learners know. Learners develop basic competences through specific subject unit competences with specific learning objectives broken down into knowledge, skills and attitudes. These competences are developed through learning activities disseminated in learner-centered rather than the traditional didactic approach. The student is evaluated against set standards to achieve before moving on.

In addition to specific subject competences, learners also develop generic competences which are transferable throughout a range of learning areas and situations in life.

Below are examples of how generic competences can be developed in the subject of Social Studies in the option of LE and SME.

- **Critical Thinking:** Learners analyse their environment or community for problems or challenges faced and the causes. After, they suggest possible remedies to the identified problem.
- **Research and problem solving:** Learners collect data using interviews, questionnaires and any other tool, analyze the data gathered and suggest solutions to the problems identified.
- **Creativity and Innovation:** Learners analyse resources such as waste materials existing in the community or environment. They develop or come up with new ways of utilizing such resources or how they can be put to use.
- **Communication Skills:** Learners can present themselves and their abilities by writing application letters or CVs to potential employers. Can write different documents such Memos, Notices in a clear and understandable language to convey on information effectively during interpersonal communication.
- **Teamwork, Cooperation, Personal and Interpersonal management and life skills:** Learners in teams complete different tasks where each may take on a different role while complementing each other's strengths and weaknesses in team leadership.

- **Lifelong Learning:** Learners lead a problem solving and decision making process in a team. Does a self-evaluation to identify own areas of strengths, areas of weaknesses and propose strategies for enhancing and improving in a team leadership. Alternatively, learners analyze a scenario involving conflicts at a workplace, identify the causes, suggest solutions and propose how they will apply the learned lessons to similar situations in real situations.

1.2.2. Addressing cross-cutting issues

Among the changes in the competence-based curriculum is the integration of cross cutting issues as an integral part of the teaching learning process-as they relate to and must be considered within all subjects to be appropriately addressed. There are eight cross cutting issues identified in the national curriculum framework.

Some cross-cutting issues may seem specific to particular learning areas/ subjects but the teacher need to address all of them whenever an opportunity arises. In addition, learners should always be given an opportunity during the learning process to address these crosscutting issues both within and out of the classroom.

Below are examples on how crosscutting issues can be addressed in Social Studies subject:

- **Gender education:** Remind learners that both males and females have similar opportunities, rights and obligations in the workplace, and therefore need to be treated fairly and equally when dealing with contracts or resolving conflicts. People’s opinion of gender roles should not deny or hinder one’s right or responsibilities to meet his or her contractual obligations while teaching Social Studies.
- **Environment and sustainability:** During the teaching of Social Studies, learners need to acknowledge the importance of protecting the environment in which we live in. So, throughout the unit/lesson there is need to appreciate and take great care for environment as it is paramount.
- **Inclusive education:** Learners all need to realize that universal laws do not discriminate as they apply to all regardless of social, economic, political, physical background. Emphasis should be on how we all have the same rights. During the lessons of Social Studies, learners may discuss and appreciate the need to respect and advocate for employer’s and worker’s rights and responsibilities at workplace.
- **Peace and Values:** Right before the lesson begins; there are quite a lot of opportunities for tutors to promote peace and values among learners. Being punctual for activities (time management), involvement in various activities (teamwork), keeping their school environment clean

(responsibility), greeting one another are among such opportunities (empathy).

In a lesson, encourage learners to greet one another, create a conducive learning environment, clean the chalkboard, and arrange the classroom, books, class work, among others. Also in case of conflicts within a lesson, take time to address the conflicts and discuss with learners the need to resolve conflicts amicably. You may also give learners an opportunity to participate in conflict resolution and decision making.

- **Comprehensive sexuality education (HIV/AIDS, STI, Family planning, Gender equality and reproductive health):** During the lessons/activities, learners should be given an opportunity to discuss freely about the various changes they are undergoing, as they are adolescents. They should be aware of how to manage the changes in their bodies, discuss HIV/AIDS without stigmatization, STIs and how to control them, family planning, gender equality and reproductive health. Learners should be encouraged to seek for appropriate help whenever needed. This may not directly fit or come in the lessons but utilize opportunities observed among the learners both in and outside of the class.
- **Financial Education:** For example in setting personal goals, learners may be requested to make a plan of what they plan to save, how much and when they plan to achieve their saving goals. Learners may describe strategies to reduce spending and increase savings to become financially fit. In every lesson, learners can share briefly their progress towards their goals: how much, strategies that worked and what needs to improve on.
- **Standardization Culture:** In every lesson take an opportunity to share with learners that standards should be respected since they are part and parcel of our lives. From school uniform, to class size, to lesson duration, language of instruction, among others. So always create opportunities to have learners discuss where standards apply and when they need to be cautious about standards during their everyday life. Throughout the unit, Standardization will be the opportunity to learn all concepts related to standardization Culture and to see how it can apply in different area.
- **Genocide Studies:** Learners need to become aware that all human beings are equal and have equal rights. At the work place they should avoid and denounce all instances that result into other's rights being violated. Give learners opportunities to share how Social Studies in the option of LE and SME can promote the fight against genocide ideologies. During rights and responsibilities session, learners relate the genocide of 1994 against the Tutsi and violation of human rights.

1.2.3 Attention to special educational needs and inclusive education

In the classroom, learners learn in different way depending to their learning pace, needs or any other special problem they might have. However, a tutor has the responsibility to know how to adopt his/her methodologies and approaches in order to meet the learning need of each student in the classroom. Also tutors need to understand that learners with special needs; need to be taught differently or need some accommodations to enhance the learning environment. This will be done depending to the unit and the nature of the lesson.

In order to create a well-rounded learning atmosphere, tutors need to:

- Remember that learners learn in different ways so they have to offer a variety of activities. For example role-play, music and singing, word games and quizzes, and outdoor activities.
- Maintain an organized classroom and limits distraction. This will help learners with special needs to stay on track during lesson and follow instruction easily.
- Vary the pace of teaching to meet the needs of each learner. Some learners process information and learn more slowly than others.
- Break down instructions into smaller, manageable tasks. Learners with special needs often have difficulty understanding long-winded or several instructions at once. It is better to use simple, concrete sentences in order to facilitate them understand what you are asking.
- Use clear consistent language to explain the meaning (and demonstrate or show pictures) if you introduce new words or concepts.
- Make full use of facial expressions, gestures and body language.
- Pair a learner who has a disability with a friend. Let them do things together and learn from each other. Make sure the friend is not over protective and does not do everything. Both learners will benefit from this strategy.
- Use multi-sensory strategies. As all learners learn in different ways, it is important to make every lesson as multi-sensory as possible. Learners with learning disabilities might have difficulty in one area, while they might excel in another. For example, use both visual and auditory cues.

Below are general strategies related to each main category of disabilities and how to deal with every situation that may arise in the classroom. However, the list is not exhaustive because each learner is unique with different needs and that should be handled differently.

Strategy to help a learner with developmental impairment

- Use simple words and sentences when giving instructions.
- Use real objects that the learner can feel and handle; rather than just working abstractly with pen and paper.
- Break a task down into small steps or learning objectives. The learner should start with an activity that s/he can do already before moving on to something that is more difficult.
- Gradually give the learner less help.
- Let the learner work in the same group with those without disability.

Strategy to help a learner with visual impairment:

- Help learners to use their other senses (hearing, touch, smell and taste) to play and carry out activities that will promote their learning and development.
 - Use simple, clear and consistent language.
 - Use tactile objects to help explain a concept.
 - If the learner has some sight difficulties, ask them what they can see.
 - Make sure the learner has a group of friends who are helpful and who allow the child to be as independent as possible.
 - Plan activities so that learners work in pairs or groups whenever possible
- #### **Strategy to help a learner with hearing impairment**
- Always get the learner's attention before you begin to speak.
 - Encourage the learner to look at your face.
 - Use gestures, body language and facial expressions.
 - Use pictures and objects as much as possible.
 - Keep background noise to a minimum.

Strategies to help learners with physical disabilities or mobility difficulties

- Adapt activities so that learners who use wheelchairs or other mobility aids can participate. Ask parents/caregivers to assist with adapting furniture e.g. The height of a table may need to be changed to make it easier for a learner to reach it or fit their legs or wheelchair under.
- Encourage peer support.
- Get advice from parents or a health professional about assistive devices.

Adaptation of assessment strategies

Each unit in the tutor's guide provides additional activities to help learners achieve the key unit competence. Results from assessment inform the teacher which learner needs remedial, consolidation or extension activities. These

activities are designed to cater for the needs of all categories of learners; slow, average and gifted learners respectively.

1.2.4. Guidance on assessment

Assessment is an ongoing process of identifying, gathering and interpreting information about students' achievement of the learning outcomes and can be integrated into the students' normal learning activities. Assessment is an important part of teaching and learning. It is used to:

- Evaluate and improve teaching and learning
- Report achievement
- Provide feedback to students on their progress.

Types of Assessment

- **Assessment for learning (Continuous/ formative assessment):** Assessment for learning is often called formative assessment and is assessment that gathers data and evidence about student learning during the learning process. It enables you to see where students are having problems and to give immediate feedback, which will help your students learn better. It also helps you plan your lessons to make student learning and teaching more effective. Often it is informal and students can mark their own work or their friends. An example is a quick class quiz to see if students remember the important points of the previous lesson.
- **Assessment of learning (Summative assessment):** Assessment of learning is often called summative assessment. It is used to obtain evidence and data that shows how much learning has occurred, usually at the end of the term or unit.

End of year examinations are examples of summative assessment. It is usually done for formal recording and reporting purposes.

Assessing Social Studies units

In the Social Studies syllabus, the key unit competences, which link to the broad learning outcomes, are assessed through specified assessment tasks using a range of assessment methods. Assessment criteria for each unit outcome provide clear indications of how, and to what extent, the achievement of the learning outcomes may be demonstrated. Performance standards, marking guides and assessment criterion help teachers with the marking process and this ensures that assessment is consistent across schools.

When you set a task, make sure that;

- The requirements of the task are made as clear as possible to the student.
- The assessment criteria and performance standards or marking guides

are provided to the student so that they know what it is that they have to do.

- Any sources or stimulus material used are clear and appropriate to the task.
- Instructions are clear and concise.
- The language level is appropriate for the grade.
- It does not contain gender, cultural or any other bias.
- Materials and equipment needed are available to students.
- Adequate time is allowed for completion of the task.

Feedback

When you assess the task, remember that feedback will help the student understand why he/she received the result and how to do better next time.

Feedback should be:

- Constructive so that students feel encouraged and motivated to improve.
- Timely so that students can use it for subsequent learning.
- Prompt so that students can remember what they did and thought at the time. Focused on achievement and effort of the student.
- Specific to the unit learning outcomes so that assessment is clearly linked to learning.

Feedback can be:

- **Informal or indirect** – such as verbal feedback in the classroom to the whole class, or person to person.
- **Formal or direct** – In writing, such as checklists or written commentary to individual student either in written or verbal form.
- **Formative** – given during the topic with the purpose of helping the student know how to improve for example use of portfolios as a tool of assessment during, after or at end of the lesson.
- **Summative** – Given at the end of the unit with the purpose of letting the students know what they have achieved for example use of portfolios as a form of end of unit assessment.

Tests

A test is a formal and structured assessment of student achievement and progress which the tutor administers to the class. Tests are an important aspect of the teaching and learning process if they are integrated into the regular class routine and not treated merely as a summative strategy. They allow students to monitor their progress and provide valuable information for you in planning further teaching and learning activities.

Tests assist student learning if they are clearly linked to the outcomes. Evidence has shown that several short tests are more effective for student progress than one long test. It is extremely important that tests are marked and that students are given feedback on their performance.

There are many different types of tests. Tests should be designed to find out what students know and about the development of thinking processes and skills. Open questions provide more detailed information about achievement than a question to which there is only one answer.

Principles of designing classroom tests

Tests allow a wide variety of ways for students to demonstrate what they know and can do. Therefore:

- Students need to understand the purpose and value of the test
- The test must assess intended outcomes
- Clear directions must be given for each section of the test
- The questions should vary from simple to complex
- Marks should be awarded for each section
- The question types (true/false, full-in-the-blank, multiple choice, extended response, short answer, matching) should be varied.

Tests should;

- Be easy to read (and have space between questions to facilitate reading and writing)
- Reflect an appropriate reading level
- Involve a variety of tasks
- Make allowance for students with special needs
- Give students some choice in the questions they select
- Vary the levels of questions to include gathering, processing and applying information
- Provide sufficient time for all students to finish.

Tutor assessment

Assessment is a continuous process. You should:

- Always ask questions that are relevant to the outcomes and content.
- Use frequent formative tests or quizzes.
- Check understanding of the previous lesson at the beginning of the next lesson through questions or a short quiz.
- Constantly mark/check the students' written exercises, class tests, homework activities

- Use appropriate assessment methods to assess the tasks.

Self-assessment and peer assessment

Self and peer assessment helps students to understand more about how to learn. Students should be provided with opportunities to assess their own learning (self-assessment) and the learning of others (peer assessment) according to set criteria.

Self and peer assessment

- Continues the learning cycle by making assessment part of learning.
- Shows students their strengths and areas where they need to improve.
- Engages students actively in the assessment process.
- Enables students to be responsible for the learning.
- Helps students understand the assessment criteria and performance standards.

1.2.5 Students' learning styles and strategies to conduct teaching and learning process

- How students learn
- What I hear I forget.
- What I hear and see I remember a little.
- What I hear, see and discuss I begin to understand.
- What I hear, see, discuss and do, I acquire knowledge and skills.
- What I teach to another, I master.

(Active Learning Credo statement by Silberman 1996).

In support of this are the findings that we remember.

- 20% of what we hear
- 40% of what we see
- 90% of what we see, hear, say and do or what we discover for ourselves.

A student-centered approach to learning

Different students learn in different ways. Some students learn best by writing, others by talking and discussing, others by reading and others by listening. Most students learn by using a combination of those. All students learn skills through practicing and repetition. You need to use a variety of teaching strategies to cater for the different ways your students learn.

The selection of teaching method should be done with the greatest care and some of the factors to be considered are: the uniqueness of subjects; the type of lessons; the particular learning objectives to be achieved; the allocated time

to achieve the objective; instructional materials available; the physical/sitting arrangement of the classroom, individual students' needs, abilities and learning styles.

Teaching and learning strategies

In order to cater for different students' learning styles and to assist and encourage students to learn, teachers need to perform certain tasks. These are teaching strategies.

You need to engage students directly in learning but there are times when you have to take charge of the learning in the class and teach particular concepts or ideas.

Teaching strategies include;

- Group work.
- Skills lab.
- Research/inquiry.
- Class discussions/debates.
- Problem-solving activities.
- Teacher talk, instructions, explanations, lectures or reading aloud.
- Directed question and answer sessions.
- Audio-visual presentations.
- Text books or worksheets.
- Directed assignments.
- Demonstration and modeling.
- Guest speakers.
- Classroom displays.



i) Use of Present Boards and Portfolios during Skills Lab

Present boards are boards made by learners using locally available resources that contain learners' work/achievements. When learners finish their work

from presentations as a group, it's hang on the present board. This can be used by both the teacher and students for reference.

The biggest sign of a successful skills lab is the activities students complete. And how do we know whether students completed their group activity? It's through **Present Boards**. Each team has their own board to display all the work they completed during the Skills Lab. At the end of each Skills lab, each team makes a verbal presentation to the class and shows their Present Board.

	When?	How?	Where?
Present Boards	Last activity of each Skills Lab. Each lab team/group has their own 1 Present Board.	Made by students. Boards have cool designs to showcase the notes and work product of each lab.	Boards are hung on the walls of classroom and kept there for others to see.

ii) Relationship between Portfolios and Present Boards.

What is a Student Portfolio?

A portfolio is a collection of student work for individual assessment. Learners fill their portfolios by completing a series of assignments. These individual assignments are the evidence that students have mastered a learning objective. Each assignment requires learners to apply the skill they learned in that unit practically.

Portfolios are the basis for Skills Lab. First, teachers create the portfolio assessment for students to complete.

Skills Lab is when students will work on group activities to prepare for completing the portfolio assessment individually. Skills Lab is one of your teacher's normal lessons (no extra time is needed) that are especially designated for the purpose of students working in groups to complete their activities. Skills Lab prepares students to complete portfolio assignments on their own after classes. So, the classroom activity should connect directly to the portfolio assignment.

For example, they set goals as a group in class, and set individual goals as portfolio assignment.

	Done by?	When?	Where?
Present boards	Groups	During Skills Lab	On Present Boards
Portfolios	An Individual	As an Assignment	In Portfolio Folder

1.2.6. Steps for a lesson in active learning approach

Generally, the lesson is divided into three main parts whereby each one is divided into smaller steps to make sure that learners are involved in the learning process. Below are those main part and their small steps.

1) Introduction

Introduction is a part where the teacher makes connection between the previous and current lesson through appropriate techniques. The teacher opens short discussions to encourage learners to think about the previous learning experience and connect it with the current instructional objective. The teacher reviews the prior knowledge, skills and attitudes which have a link with the new concepts to create good foundation and logical sequencings.

Development of the new lesson

The development of a lesson that introduces a new concept will go through the following small steps: discovery activities/prediction, presentation of learners' findings, exploitation, synthesis/summary and exercises/application activities, explained below:

- **Discovery activity/prediction**

Step 1

- The teacher discusses with students to take responsibility of their learning.
- He/she distributes the task/activity, necessary resources and gives instructions related to the tasks (working in groups, pairs, or individual to instigate collaborative learning, to discover knowledge to be learned).

Step 2

- The teacher let the students work collaboratively on the task.
- During this period the teacher refrains to intervene directly in the working of activity or results/findings of the task.
- He/she then monitors how the students are progressing towards the results, output, results, and expectations knowledge to be learned and boost those who are still behind (but without communicating to them the knowledge).

- **Presentation of learners' productions**

- In this period, the teacher invites representatives of groups to share their productions/findings.
- After three/four or an acceptable number of presentations, the teacher decides to engage the class into exploitation of the students' productions.
- Exploitation of learner's productions.

- The teacher asks the students to evaluate the productions: which ones are correct, incomplete or false.
- Then the teacher judges the logic of the students' products, corrects those, which are false, completes those, which are incomplete, and confirms those, which are correct.

Institutionalization (summary/conclusion/ and examples)

The teacher summarizes the learned knowledge and gives examples, which illustrate the learned content. Then links the activities to the learning objectives, and guide learners to make notes.

2) Exercises/Application activities

- Exercises of applying processes and products/objects related to learned unit/sub-unit.
- Exercises in real life contexts.
- Teacher guides learners to make the connection of what they learnt to real life situations. At this level, the role of teacher is to monitor the fixation of process and product/object being learned.

3) Assessment.

In this step, the teacher asks some questions to assess achievement of instructional objective. During assessment activity, learners work individually on the task/activity.

The teacher avoids intervening directly. In fact, results from this assessment inform the teacher on next steps for the whole class and individuals. In some cases, the teacher can end with a homework assignment, or additional activities.

UNIT 1

EXPLORATION OF AFRICA

1.1. Key unit competence

The student-teacher should be able to explain the components of social studies and evaluate its importance.

1.2. Prerequisite of this unit

As prerequisites to facilitate the teaching and learning of this unit, the following elements should have been learned before:

- Different European explorers and their routes.
- Different causes of exploration.
- Consequences of exploration of Africa.
- Problems faced by explorers in Africa.
- Colonization of Rwanda by Germany and Belgium.

1.3. Cross cutting issues to be addressed

- **Peace and values education:** To address this cross cutting issues in the process of the teaching and learning, the tutor will recall the causes of conflict, greed for wealth, stealing, disharmony and their effects to the whole community. The teacher will encourage the student-teachers to work hard to be self-reliant, to avoid greed for wealth or taking classmates' materials. Better, they should live in harmony with neighbors.
- **Genocide studies:** The tutor will address this cross cutting issue in all lessons of Social studies. Tutor will remind the effects of colonization in Rwanda. The divisions in Rwanda which led to genocide against Tutsi, had roots in colonial period. The tutor will remind student-teacher that they should always analyze what they are asked to do and not accept blindly whatever they are asked to do. The teacher will take the opportunity to always recall the root causes of genocide and the effects of genocide against the Tutsi.
- **Gender education:** This cross cutting issue will be addressed through different activities which involve equally both girls and boys. The tutor will emphasize on the importance of working together.

- **Inclusive education** is also here addressed as students with different disabilities are encouraged to participate actively in different activities.

1.4. Guidance on the introductory activity

The tutor will ask students to read the introductory activity in the student book. The student-teachers, at their best, using different resources, will try to find the answer to the questions asked. From student-teacher's answers, the tutor will collaborate with Student-teachers to find the right answers or complete the Student-teachers' findings while teaching.

1.5. List of lessons

#	Lesson title	Learning objectives	Number of periods
1	Different European explorers and their routes.	The student –teachers should be able to identify different Europeans who explored Africa.	4
2	Different causes exploration of Africa.	The student –teachers should be able to explain different causes of exploration.	3
3	The consequences of exploration of Africa.	The student –teachers should be able to explain different effects of exploration.	2
4	The problems encountered by explorers in Africa.	The student –teachers should be able to explain the problems encountered by explorers in Africa.	2
	End unit assessment		1

Lesson 1: Different European explorers and their routes

a) Learning objective: identify different Europeans who explored Africa.

b) Prerequisites/revision/introduction

To start the lesson, the tutor will ask student-teachers to find out explorers who traveled to Africa in the 19th Centuries. As this is a continuation of what they learnt in senior 2, they provide some information about exploration and the lesson proceeds.

c) Teaching resources

This lesson will use different resource including the internet, the textbook of social studies, history and atlases of geography and other reference book related to social studies.

d) Learning activity

Better, the activities will be done in groups, where student-teachers will use available resources to identify European explorers and their routes through research and discussions. Student- teachers will make a class presentation of their findings in front of their classmates. The activity will end up with the harmonization of the findings and the checking of understanding by the teacher.

For the answer to the learning activity of this lesson, refer to map describing the explorers' routes in the student book unit 1

e) Application activity

Questions and suggested answers to assess the lesson learning objective

Question

Consider five explorers and describe their routes of exploration in Africa.

Answer

Exploration is the act of searching for the purpose of obtaining information or resources. An **explorer** is a person who travels in various areas in search of information about various things and in different places. European explorers in Africa were seekers of information on geographical features, trade possibilities and agricultural potentials.

Mungo Park:

- In 1799, a Scottish doctor, Mungo Park, set out from the Gambia.
- He travelled through Medina and Karantaba and eventually reached the Niger at Segu.
- His only success was to establish that the Niger flowed from the west to the east.
- No one knew, yet, where the Niger ended. Park was sent on a second trip in 1805, this time accompanied by 45 Europeans.
- Many of his companions died of sickness.

Heinrich Barth:

- Heinrich Barth was a German traveler in the service of the British Government.

- Between 1849 and 1855, he journeyed from Tripoli across the Sahara to Western Sudan.
- His mission was to survey old trade routes and make treaties on behalf of the British government, with a view to exploring the possibility of developing the Sahara trade and to destroy the slave trade.
- Unfortunately the treaties he made were not followed up, and his mission proved worthless on threat score.
- But Barth also pursued other interests and copiously recorded in his Travels and Discoveries a great deal of the complicated history and analogy of these regions.

Speke and Burton:

- In 1856 The Royal Geographical Society picked two army officers, Richard Burton and John Hanning Speke, to lead an expedition from Zanzibar to trace the source of the Nile.
- With the aid of two experienced Yao guides, Sidi Bombay and Mwinyi Mabruk they travelled inland along the trade route to Tabora present day Tanzania.
- Early in 1858, they reached Lake Tanganyika but were unable to continue much further owing to illness. Returning to Tabora, Speke decided to go north to examine stories of a great lake in that direction.
- Speke alone found the lake and named it after the Queen of England, Victoria.
- He was convinced, though without sufficient proof, that it was the source of the Nile.

Speke and Grant:

- A second Royal Geographical Society expedition came out in 1860, with Speke in command accompanied by Grant.
- Travelling north – west round the shores of Lake Victoria they eventually reached Buganda and were welcomed by Kabaka Mutesa.
- Leaving Grant behind, Speke then travelled east and came across the place where the Nile leaves the Lake, the modern site of Jinja Town- Uganda.
- Grant rejoined him and together they travelled north following the river to a place called Gondokoro.
- To Speke the matter was settled, and he sent a telegram to this effect to London from Khartoum.

Joseph Thomson:

- Joseph Thomson travelled between 1883-1884 through Maasai land, across the Rift Valley and into Western Kenya where he saw Mount Elgon.

- This was essentially a scientific expedition whose purpose was to gather geological and biological information about this part of Africa.

Lesson 2: Different causes of exploration of Africa

a) Learning objective: Explain different causes of exploration.

b) Prerequisites/revision/introduction

To start the lesson, the tutor will ask question about explorers and their routes in Africa. As student-teachers already know the explorers and the areas they explored, the tutor will ask them to find out the cause of the exploration Africa in the 19th Centuries.

c) Teaching resources

This lesson will use different resource including the internet, the textbook of social studies, history and other reference book related to social studies.

d) Learning activity

The tutor will ask the student-teachers to brainstorm about the causes of exploration of Africa. Brainstorming will be followed by group activities for students to share ideas in groups. Student- teachers will make a class presentation of their findings in front of their classmates. The activity will end up with the harmonization of the findings and the checking of understanding by the teacher.

Expected answer to the learning activity 2

Many reasons were advanced to explain the invasion and sharing-up of the African continent. “Humane” reasons are mixed up with economic and diplomatic causes, without forgetting scientific curiosities and the spirit of adventure.

i) Reasons of a “human” nature

- *Some of the explorers had humanitarian reasons and feelings. They wanted to stop slave trade and cure various diseases such as malaria that were affecting lives of Africans. The best example in this case was Dr. David Livingstone.*
- *Some explorers such as Rebmann were Christian missionaries. They came partly to spread Christianity to Africa. They believed that Africans were primitive. They also wanted to counter the influence of Islam in Africa.*

ii) The Economic reasons

- *Need of raw materials in Africa (agricultural produce, like cotton, coffee, sugar cane, cocoa, palm oil; ores like gold, diamond, silver, iron, etc.) for their industries.*

- **Explorers** came in Africa in search of market of their finished products.
- The explorers were looking for an alternative safe trade route this was due to political tensions and frequent fights on the way from European countries to India (in Asia). Usual path passing through Suez Canal was clouded with political instabilities and frequent fights. It was also becoming less and less safe for trade purposes.

iii) Politico-diplomatic reasons

- The competitions in the Balkans and the Ottoman Empire were likely to lead the European countries towards the war.
- National prestige and the balance of the forces of the European States thus explain this greed for the African continent. The desire for respect and prestige attracted many European explorers to Africa. This was because those who would discover new things were given titles such as sir and many other rewards. A country with many colonies was also highly respected hence the exploration of Africa.
- Some explorers are believed to have been sent by their home countries to prepare Africa for colonization. This explains why they did the mapping and tracing minerals and fertile soils.
- The technological improvement also encouraged Europeans to explore Africa. Europeans began to build stronger and faster sailing ships such as a caravel.

iv) Scientific curiosities and the spirit of adventure

- Until the beginning of the 16th century, Africa was a terra incognita, which pushed many explorers and scientists to going there to collect interesting ethnographic, sociological, linguistic and historic data, unfortunately, a certain number of them gave of this continent a black image which seemed to justify colonization.
- Many people who attempted the African continent were pushed by the spirit of adventure. Some other explorers were full of excitement to travel to new places beyond their continent, especially Africa.
- They also came to discover the sources of African rivers. The source of River Nile, the longest African river, was unknown to all. This created the need to come and find its source.
- Most of the explorers were scientists and geographers who desired to research about African societies and their organization, for example, Thomas Fowell Buxton.

e) Application activity

Questions and suggested answers to assess the lesson learning objective

Question

To what extent were the economic reasons were responsible for the exploration of Africa by the Europeans by 19th century?

Answer

The explorers were people who came from Europe to discover more about man and universe in which man lived. The economic factors contributed much in exploration of Africa in the following way.

The industrial revolution operated in Western Europe from the beginning of the 19th century needed raw materials (agricultural produce, like cotton, coffee, sugar cane, cocoa, palm oil; ores like gold, diamond, silver, iron, etc) which Europeans came to seek in Africa.

The explorers came in Africa in search of market of their finished products. They were also looking for an alternative safe trade route this was due to political tensions and frequent fights on the way from European countries to India (in Asia). Usual path passing through Suez Canal was clouded with political instabilities and frequent fights.

However, there were other reasons why the European came to explore Africa by the Europeans by 19th century.

Humanitarians wanted to stop slave trade and cure various diseases such as malaria that were affecting lives of Africans. The best example in this case was Dr David Livingstone.

Some explorers such as Rebmann were Christian missionaries. They came partly to spread Christianity to Africa. They believed that Africans were primitive. They also wanted to counter the influence of Islam in Africa.

The Darwin theory also influenced the European exploration. This theory described the white as superior race which had to dominate others races.

The desire for respect and prestige attracted many European explorers to Africa. This was because those who would discover new things were given titles such as sir and many other rewards. A country with many colonies was also highly respected hence the exploration of Africa.

Some explorers are believed to have been sent by their home countries to prepare Africa for colonization. This explains why they did the mapping and tracing minerals and fertile soils.

The technological improvement also encouraged Europeans to explorer Africa. Europeans began to build stronger and faster sailing ships such as a

caravel and this helped them to reach as far as they wanted.

Many people who attempted the African continent were pushed by the spirit of adventure. Some other explorers were full of excitement to travel to new places beyond their continent, especially Africa. They believed that Africa was dark and uninhabited.

They also came to discover the sources of African rivers. The source of River Nile, the longest African river, was unknown to all. This created the need to come and find its source. It influenced the coming of explorers such as Richard Burton, Speke, etc.

In conclusion, to a certain extent the economic factors were responsible for the exploration of Africa by the Europeans by the 19th century such as need for raw materials for industries, the need for market, etc. However, other factors such as need to stop slave trade, to spread Christianity, colonial motive, among others to a greater extent contributed to the Exploration of Africa as explained above.

Lesson 3: The consequences of exploration of Africa

a) Learning objective: Explain different effects of exploration.

b) Prerequisites/revision/introduction

To start the lesson, the tutor will ask student-teachers the questions about the previous lesson. Having full knowledge of the causes of exploration, the student-teachers will find the effects of exploration of Africa in the 19th Centuries.

c) Teaching resources

This lesson will use different resource including the internet, the textbook of social studies, history and other reference book related to social studies.

d) Learning activity

The lesson activities will be done in group activities. The student-teachers will use available resources to describe the effects of European explorers in Africa. Through discussions, Student- teachers will make a class presentation of their findings in front of their classmates. The activity will end up with the harmonization of the findings. Through questions the tutor will check the level of understanding of the student-teachers.

For the answer to this learning activity, refer to application activity 1.3 of unit 1

e) Application activity

Questions and suggested answers to assess the lesson learning objective

Question

“The exploration of Africa by Europeans had both positive and negative impact”. Discuss.

Answer

The explorers were people who came from Europe to discover more about man and universe in which man lived. The Explorers had one or more of several motives: scientific curiosity, economic gain, religious conversion, or political domination. Their movements have had great impact on Africa as it is described below.

Positive side,

- *Exploration of Africa led to the introduction of Christianity. Some explorers were missionaries. For example Dr. Livingstone and Rebmann were instrumental in this. Christianity taught people how to love and forgive one another hence creating peace among the African communities.*
- *It led to introduction of plantation agriculture and keeping of exotic breeds of livestock. The Portuguese introduced maize which was grown in large plantations. Other crops that were introduced by Europeans were sugarcane, tea, cocoa and tobacco. Livestock breeds that were introduced were those of among others, pigs, horses, sheep and cattle.*
- *It led to the discovery of the sea route to India by Vasco da Gama (1497-1499). This increased trade links between Europe and the East.*
- *It contributed to the stopping of slave trade. The explorers reported evils of slave trade in Europe and campaigned against this inhuman trade. They insisted that slave trade be replaced with legitimate trade which was more profitable and acceptable in Africa.*
- *Many trading posts in West Africa and in many other parts of Africa developed. For example, Timbuktu in Mali, South of the Sahara.*
- *Exploration led to the rise of capitalism Economic system in which private individuals and business firms carry on the production and exchange of goods and services through a complex network of prices and markets). Rise of capitalism resulted from the growth of town and city life and the expansion of trade.*
- *Exploration led to introduction of commercial revolution because it ushered in trade involving Asia, America and Europe. Europe became the center of world trade. Etc.*

Negative side,

- *They discovered physical features in Africa: e.g. the source of river Nile, mountain Kenya, etc. and they gave new name to some physical features: Mount Kenya, lake Nalubaale or ukerewe to Arabs was named lake Victory by Speke after Victoria the Queen of England.*
- *Africans adopted a new culture. Aspects of this culture included language, dressing, feeding and religion. This was responsible for the weakening or disappearing of the traditions among the communities that interacted with the Europeans.*
- *The exploration led to the drawing of the map of Africa. Explorers drew more accurate maps of Africa on paper which eased the coming of many more Europeans in Africa due to the geographical discoveries made by their predecessors.*
- *Explorers led to the colonization of Africa. This was through a number of activities such as signing misleading treaties with local African chiefs and cooperating with other colonial agents like missionaries. Africa was finally colonized by Europe. It made Europeans to increase their political ambitions to create colonial empires for prestige. For example, Britain was able to expand her wealth and power.*
- *It turned Africa to be a source of raw materials and market for European manufactured goods such as clothes and guns which were too expensive for the Africans to buy even when the raw materials were taken for free from Africa.*
- *Loss of property such as land to the white man which deprived the Africans of their wealth hence remain in total poverty until now.*
- *During skirmishes many people died. Many people had embraced Islam yet missionary explorers wanted to stop it. They wanted to replace it with Christianity. This led to wars where many perished, consequently slowing down the work of explorers.*

In conclusion, the European exploration of Africa registered both positive and negative effects. Among the positives include spread of Christianity, introduction of modern agriculture, stopping slave trade among others. The negatives were undermining African culture, pain way for the colonisation of Africans, among others as discussed above.

Lesson 4: Problems faced by explorers in Africa

a) Prerequisites/revision/introduction/learning objective

To start the lesson, the tutor will ask student-teachers to sum up first the impact of exploration on Africa. With their prior knowledge of Africa, the

tutor will ask them to discuss the problems the explorers who traveled to Africa faced in Africa by 19th Centuries. The next stages of the lesson will be built on student-teachers findings.

b) Teaching resources.

This lesson will use different resource including the internet, the textbook of social studies, history, and videos of movies about exploration and atlases of geography and other reference book related to social studies.

c) Learning activity

As we did, in the previous lessons, the activities will be done in groups. This will help every student to contribute or learn from peers. The tutor will provide resources which will help student-teachers to find out the problems the explorers faced in Africa. After discussions in group, the student-teachers will make a class presentation of their findings in front of their classmates. The activity should always end up with conclusion and checking for understanding to be sure if the lesson was successful or not.

d) Application activity

Questions and suggested answers to assess the lesson learning objective

Question

Discuss the main problems the explorers faced during their journey in Africa.

Answer

The explorers faced a number of challenges during the exploration. Some of them have been discussed below:

Poor communication and transport: Generally the whole of pre-colonial Africa had no established railways and water canals. Most rivers and lakes were not navigable.

Harsh climatic conditions: Africa had different climatic conditions as compared to what the explorers were used to in Europe. It was sometimes too hot or too cold.

Hostility from slave dealers: Most Europeans explorers claimed to have come to stop slave trade on African soil. This drew them into hostility with Arab slave dealers who disliked missionary explorers for attacking their business. This led to constant attacks and alliances with resisters to frustrate Europeans.

Limited manpower: The explorers lacked enough manpower. This was due to coming in of few professionals compared to the big tasks they had. Some also died or were sick and unable to work.

The problem of language barrier: This was another challenge that was faced by the European explorers. They spoke European languages that were not known in Africa. Europeans spoke languages such as English, German and French. In Africa, there was no uniform language because even Swahili was not known to all. Etc.

1.6. Summary of the unit

This unit dealt with exploration of Africa. Within this unit, we developed different lessons such as European explorers and their routes, causes of exploration of Africa, consequences of exploration of Africa and problems encountered by explorers in Africa.

1.7. Additional Information for tutors

The student book was not exhaustive. This means that we did not provide all information about exploration in Africa. We give some explorers not all of them. The causes, effects and problems the explorers faced were not all given in the student's book. We left a room for student-teachers to research and come up with new ideas. However, it is fundamental for a tutor to know the following explorers:

- **James Bruce**, Scotland 1770-1771 AD, visited source of Blue Nile, then followed river to its confluence with White Nile.
- **Verney Lovett Cameron**, England 1875 AD, First European to traverse equatorial Africa, from E to W
- **May French Sheldon (1847-1936)** was an American explorer and best-selling author, who was one of the first white women to visit parts of eastern and central Africa. She was born in Beaver, Pennsylvania. After finishing school, she worked in the publishing business in London, England. In 1876 she married American businessman Eli Lemon Sheldon. Inspired by the writings of her friend, Anglo-American explorer and journalist Sir Henry Morton Stanley, Sheldon set out for Mombasa, a city on the coast of present-day Kenya, in 1891. Financed by her husband, she was accompanied by more than 100 porters, servants, and guides. After British authorities in Mombasa refused to help with her travel plans, Sheldon went to nearby Zanzibar, where the sultan of Zanzibar gave her porters and a letter of safe conduct for her journey into the interior of what is now Tanzania. Sheldon first visited the area around Kilimanjaro, Africa's highest peak.

Frederick Lugard: The full name Frederick John Dealtry Lugard, 1st Baron Lugard (1858-1945), British soldier, explorer, and diplomat, who played an important role in Britain's colonial development in Africa. He

was instrumental in setting up the British policy of indirect rule, in which colonial governments ruled through indigenous institutions. In 1890 he led an expedition for the British East Africa Company to Uganda, which resulted in British hegemony in the area. Lugard served as governor of Hong Kong from 1907 until 1912, when he returned to Africa. He worked for the unification of Nigeria and was the united colony's first governor (1914-1919). From 1922 to 1936 he was a member of the Permanent Mandates Commission of the League of Nations

- **Richard Lemon Lander (1804-1834)**, British explorer of West Africa, who determined the true course of the Niger River. Before Lander discovered the river flowed to the Atlantic Ocean, geographers believed that the Niger was a tributary of the Nile River.
- **Harry H. Johnston**, full name Harry Hamilton Johnston (1858-1927), British botanist, explorer, and colonial administrator. He made two botanical expeditions to Africa—to Angola and the Congo River region (1882-83) and to Kilimanjaro (1884)—where he not only collected valuable scientific data but also strengthened British interests in East Africa. After joining the British consular service in 1885, Johnston helped establish the Nyasaland Districts Protectorate in 1891. He served as the British commissioner of the area from 1891 until 1895. In 1893 it was renamed British Central Africa Protectorate, and in 1907 it became Nyasaland Protectorate (present-day Malawi). Johnston also served as a special commissioner in Uganda from 1899 until 1901. He wrote more than 40 books on Africa.

1.8. End unit assessment

For the answers, see the student's book for detailed information and most of the questions of this unit have been answered in this teacher's guide.

- 1) Identify different European explorers who came to African continent and the areas they explored.
- 2) Account for the European exploration of the African continent.
- 3) Discuss the challenges faced by Europeans explorers in Africa.
- 4) Explain the impact of the European exploration in Africa.

1.9. Additional activities

1.9.1. Remedial activities

Question:

- 1) List five explorers

2) Explain two causes of exploration of Africa by 19th century.

Possible answers

- 1) Mungo Park, David Livingston, Von Gotzen, Oscar Baumann, Samuel Baker,
- 2) Explorers came to look for market and the raw materials.

1.9.2. Consolidation activities

Question:

What are the problems the explorers faced in Africa?

Answer:

Lack of accommodation, fear of wild animals, lack of clean water..

1.9.3. Extended activities

Question:

Explain the contribution of the explorers in political and economic problems Africa has today.

Answer:

- Explorers located African resources (minerals, forest,..) which were later exploited by their home countries
- They monopolized trade in Africa
- They introduced cash crops to feed their industries and sell finished products to Africans at high cost
- They exploited labour force of Africa
- They overtaxed Africans for the benefits of their home country
- In some countries they occupied African land (in Zimbabwe, Kenya and Algeria.)
- The reports of explorers attracted their home countries to colonize Africa.
- The colonialists divided Africa without consulting Africans and the problems related to country borders are still there.

UNIT 2

EUROPEAN DOMINATION AND THE EXPLOITATION OF AFRICA IN THE 19TH CENTURY

2.1. Key Unit competence:

The student teacher should be able to describe the European domination, exploitation in Africa and its consequences in the 19th century.

2.2. Prerequisite (knowledge, skills, attitudes and values)

The student-teachers are expected to have mastered the content of unit 8 of S2, where they studied European colonization of Africa. This unit of senior two greatly provides strong foundation that student-teachers can use to understand better the content of this unit 2 of Year two. It's very important to note that, they already have necessary knowledge, skills, attitudes and values. The difference is that, at this level the content as that in the student-teacher's book is more detailed and goes beyond what the ordinary level program demanded.

These already acquired knowledge, skills, attitudes and values should be used by the tutor to conduct diagnostic assessment as a way of measuring each student-teacher's abilities.

2.3. Cross-cutting issues to be addressed

There are many cross-cutting issues that can be applied in this lesson. In the student-teacher's book, the writers or authors used activities to integrate the crossing-cutting issues. The most highlighted one is that of peace and values education.

Even though, the writers used few cross-cutting issues that should not limit the creativity and innovativeness of the tutor. The activities used were just a sample. This calls for the tutor to take note of the cross-cutting issues that he or she is interested in. What is important to note, is that the following list of cross-cutting issues can be applied.

- **Gender Education:** both boys and girls will be enabled to exploit their full potential and talents without any discrimination or prejudice.
- **Financial Education** can be integrated in learning activities when studying the relationship between soils and human activities. For example, the tutor can remind his /her student-teachers using typical examples on

how economic impacts of African colonisation, can help them to generate money through mining, cash crops growing, legitimate trade, transport activities, etc.

- **Inclusive education** care must be given to all student-teachers including special education needs cases. All student-teachers should be given a quality and equitable education that meets their basic learning needs and caters for the diversity of their backgrounds and abilities. It can be integrated in classroom situation where the tutor pays attention on student-teachers with special needs such as student-teachers with physical disabilities, hearing disabilities or communication difficulties and visual impairment. For the student-teachers with physical disabilities, the tutor will refer to video clip, or bringing some samples in classroom. For student-teachers with hearing disabilities or communication difficulties, in different learning activities the tutor will use enough illustrations, photos and sign languages where possible. For student-teachers with visual impairment, the tutor will help them to use their other senses like hearing and touch because these senses can help them to play and carry out learning activities thus promoting their learning and development. This cross-cutting issue can be integrated in all lessons.
- **Peace and values education:** can be integrated using the classroom situation, games and group discussions where student-teachers socialize and develop some values like sharing, honesty, cooperation, respect, etc. Furthermore, the violation of human rights during colonisation of Africa should be condemned.
- **Genocide studies:** with this unit, the tutor with direct student-teachers to pre-empting the roots causes of genocide through criticizing colonial policies like divide and rule, forced labour, land alienation which raised conflicts between colonialists and some African societies. Thus via-conflicts resolution genocide is pre-empted at its early stage.

2.4. Guidance on the introductory activity

The introductory activity in this unit, in the student teacher's book, is a basic tool used as orientation activity that enables the student teachers to connect the knowledge, skills, attitudes and values already acquired in other subjects. The answers for this introductory activity are arranged in a hierarch order from simple to complex. Hence the student-teachers are requesting to think out of the box. That is, they should relate it with the studied topics in S2 under unit 8. Therefore, student-teachers will be able to define the scramble and partition of Africa, identify different reasons for scramble and partition of Africa. Student-teachers may not be able to find the right answers but they are invited to predict possible answers. In case the student-teachers fail to come up with

right answers to questions, the tutor may not immediately provide the possible answers but he/she should allow student-teachers to discover themselves the right answers through the learning and teaching process.

2.5. List of lessons

#	Lesson title	Learning objectives	Number of periods
1	The Scramble for Africa	<p>Student-teacher will be able to:</p> <ul style="list-style-type: none"> - Identify different causes of scramble for Africa amongst European countries in Africa in the 19th Century. - Analyse causes of scramble for Africa amongst European political, social and economic domination in the 19th Century. - Evaluate the different causes of scramble for Africa amongst Europeans in domination of Africa. 	4
2	Methods of colonial conquest in Africa	<p>Student-teacher will be able to:</p> <ul style="list-style-type: none"> - Identify different ways of domination used by the different European countries in Africa in the 19th Century. - Analyse the different means of the European political, social and economic domination in the 19th Century. - Evaluate the different means used by the Europeans in domination of Africa and indicate how it gave rise to the African nationalists. 	4
3	Colonial systems of administration	<p>Student-teacher will be able to:</p> <ul style="list-style-type: none"> - Explain the colonial systems of administration used by Europeans during colonisation of Africa. - Assess the colonial systems of administration used by Europeans during colonisation of Africa. - Evaluate the colonial systems of administration used by Europeans during colonisation of Africa. 	4

4	Methods of African exploitation.	Student-teacher will be able to: - Explain the methods of the African exploitation by the colonialists. - Assess the methods used by the Europeans in the exploitation of Africa. - Evaluate the methods used in the exploitation of Africa, showing their impacts. Examine the consequences of the European domination and the exploitation of Africa in the 19 th Century.	4
5	Impact of European domination and exploitation of Africa in the 19 th century.	Student-teacher will be able to: - Identify the consequences of the European domination and the exploitation of Africa. - Discuss the consequences of the European domination and exploitation. - Evaluate the methods used in the exploitation of Africa, showing its impact. Examine the consequences of the European domination and the exploitation of Africa in the 19 th Century.	5
6	Skills lab	Student-teacher will be able to: - Role play on how the European powers scrambled and partitioned Africa	2
7	Assessment		1

The above table highlights all the lessons that have been created in relation to dividing the unit content into 5 lessons (lesson 1,2,3 and 4 having 4 periods each and lesson 5 that should be covered within 5 periods). The unit will be completed with a skills lab which shall cover 2 periods. Below is the guidance on how to go about each lesson or sub heading.

Lesson 1: The Scramble for Africa

a) Learning objective

- Identify different causes of Scramble for Africa amongst European countries in Africa in the 19th Century.
- Analyse causes of Scramble for Africa amongst European political, social and economic domination in the 19th Century.

- Evaluate the different causes of Scramble for Africa amongst Europeans in domination of Africa.

b) Teaching resources

- | | | |
|--------------------------------|-----------------|----------------|
| - Maps. | - Internet. | - Computer. |
| - Manila papers. | - Photos. | - Smart phone. |
| - Print outs for the activity. | - Videos/films. | - Tablet. |
| - Text books. | - Projector. | - Etc. |

c) Prerequisites/Revision/Introduction

There is a direct link of Activity 2.1, intended to introduce the lesson with what the student-teachers studied in senior 2. Therefore, the activity supports diagnostic assessment (Formative assessment) to see how much the student-teachers know about the colonial conquest of Africa at the same time, preparing the student-teachers for the lesson.

d) Learning activity

i) Guidance to learning activity

- Basing on activity 2.1. Put student-teachers in groups of 6 and ask them to explain and share their views on this given activity. Tutor moves around in different groups to check on how best they are progressing, guiding them where they are stranded. In this case they rely on the knowledge and skills gained in the prerequisites for the unit. Allow them to freely interact so as to gain more knowledge and understanding of activity requirements.
- After their findings, tutor samples some groups of student teachers (one at a time) to present their findings in plenary. This inculcates in them the spirit of public speaking skills and self-confidence.
- The tutor sums up the student-teacher's findings to have a general consensus on explanation of scramble and partition of Africa and the causes of scramble and partition of Africa.

ii) Answers to learning activity

Question 1:

*Between the 1870s and 1900s, Africa faced European imperialist aggression, diplomatic pressures, military invasions, and eventual conquest and colonisation. The word “**scramble**” means the rush and the struggle for, while “**partition**” means dividing up or sharing. In the early 19th century, Africa was divided and shared by the scrambling powers of Europe which were mainly*

Britain, France, Germany, Belgium, Italy, Portugal, and Spain were competing for power within European power politics. The image shown in student-teacher's book is showing how European powers shared African land amongst themselves.

Question 2:

Causes of scramble and partition of Africa

The following factors are responsible for the Scramble and Partition of Africa:

- *The need for market of European manufactured goods.*
- *The need for areas where to invest European surplus capital.*
- *The need to control economically strategic areas to improve European trade.*
- *The discovery of minerals in some parts of Africa.*
- *The need to give protection to European traders and trading companies that were operating in Africa.*
- *The need to resettle high population from Europe and provide them with jobs.*
- *The need to control strategic areas in Africa.*
- *British occupation of Egypt in 1882.*
- *French occupation of Tunisia and Morocco.*
- *Growth of nationalism and jingoism in Europe.*
- *Compensation for major losses: e.g. Britain had lost America after the American war of independence in 1776 so that they wanted to conquer new land in Africa for compensation.*
- *Activities of King Leopold II of Belgium in Congo.*
- *The activities of Pierre Savroigna de Brazza in Congo and Ivory Coast.*
- *The influence of the 1884–1885 Berlin Conference: It had given a green light to colonisation by outlining procedures for the partition of Africa.*
- *Humanitarian factors: Humanitarians in Europe urged their countries to occupy territory in Africa to stop slave trade and improve the way of living for Africans.*
- *The need to civilize Africans.*
- *Desire to spread Christianity.*

For more explanations, refer to the student-teacher's book under the causes of scramble and partition of Africa.

e) Application Activity

Question 1:

Explain the term Scramble.

*The word “**scramble**” means the rush and the struggle for. It was applied in the early 19th century, where European powers were scrambling (struggling) amongst themselves for conquering Africa. Those European powers were mainly Britain, France, Germany, Belgium, Italy, Portugal, and Spain; they were competing for power within European power politics.*

Question 2:

Identify the European countries that Scrambled and partitioned Africa.

The European powers that scrambled and partitioned Africa were mainly Britain, France, Germany, Belgium, Italy, Portugal, and Spain.

Question 3:

a) Briefly explain how conflicts during Scramble for Africa were resolved.

*The struggle amongst European powers was resolved by **Berlin conference**. This was an international conference which sat in Berlin in Germany called by Otto Von Bismarck, the chancellor of Germany at that time, to try to solve the conflicts among European countries in scramble of African colonies, among which the most crucial was Congo which was claimed by most European countries. This conference started on 15th November 1884 and ended on 30th February 1885.*

b) What were the aims and Objectives of Berlin conference?

- a) The conference was meant to provide guidelines for future partition of the African continent.*
- b) It was to work out ways through which the African continent could be partitioned among European powers without going to war.*
- c) The Berlin conference was to change monopoly over Niger and Congo Rivers which were important to all European countries.*
- d) On the agenda, there was abolition of slave trade in favor of legitimate trade.*
- e) It was also called to increase the moral and material welfare of the Africans. The role of the Berlin conference in the partition of Africa.*

c) Discuss role of the Berlin conference in the colonisation of Africa.

- 1) It legalized the Scramble and Partition of Africa.*
- 2) It speeded up the acquisition of colonies in Africa.*
- 3) The conference left Congo in the hands of Leopold II.*
- 4) It forced European powers to develop trade in Africa.*

- 5) *It forced European powers to introduce colonial rule in Africa.*
- 6) *It rendered Africans defenseless by passing the arms embargo to Africans.*
- 7) *Berlin conference encouraged European powers to cooperate in the partition of Africa.*
- 8) *The conference prevented war among European powers so that the partition of Africa was done peacefully.*

Question 4:

Explain the causes for the European Scramble and partition of Africa.

The following factors are responsible for the scramble and partition of Africa:

- *The need for market of European manufactured goods.*
- *The need for areas where to invest European surplus capital.*
- *The need to control economically strategic areas to improve European trade.*
- *The need to discover minerals in most parts of Africa.*
- *The need to give protection to European traders and trading companies that were operating in Africa.*
- *The need to resettle high population from Europe and provide them with jobs.*
- *The need to control strategic areas in Africa.*
- *British occupation of Egypt in 1882.*
- *French occupation of Tunisia and Morocco.*
- *Growth of nationalism and jingoism in Europe.*
- *Compensation for major losses: e.g. Britain had lost America after the American war of independence in 1776 so that they wanted to conquer new land in Africa for compensation, France had also lost Alsace and Lorraine to Prussia during the Franco- Prussian war of 1870-1871.*
- *Activities of King Leopold II of Belgium in Congo.*
- *The activities of Pierre Savroigna de Brazza in Congo and Ivory Coast.*
- *The influence of the 1884–1885 Berlin Conference: It had given a green light to colonisation by outlining procedures for the partition of Africa.*
- *Humanitarian factors: Humanitarians in Europe urged their countries to occupy territory in Africa to stop slave trade and improve the way of living for Africans.*

For more explanations refer to the student-teacher's book under the causes of scramble and partition of Africa. The student-teachers are expected to discuss the above causes.

Lesson 2: Methods of colonial conquest in Africa

This is the second lesson under unit 2 of Year two. It concerns with various methods used by colonial masters for acquiring land in Africa.

a) Learning objectives

- Identify different ways of domination used by the different European countries in Africa in the 19th Century.
- Analyse the different means of the European political, social and economic domination in the 19th Century.
- Evaluate the different means used by the Europeans in domination of Africa and indicate how it gave rise to the African nationalists.

b) Teaching resources

- | | | |
|---|-------------------------------|----------------|
| -Maps. | -Print outs for the activity. | -Videos/films. |
| -Manila papers/Flip charts and markers. | -Internet. | -Etc. |
| -Text books. | -Photos. | |

c) Prerequisites/Revision/Introduction

This activity is intended to introduce the lesson two and link it with lesson 1 studied before. The activity 2.2 requests student-teachers to recall the knowledge and skills gained from previous lesson in senior two about colonial Africa.

d) Learning activity

i) Guidance to learning activities

For the activity 6.2, the tutor will give student-teachers an opportunity to read critically the given question and give them time so that students can give correct answers. The tutor is requested to try to integrate some generic competencies as well as cross-cutting issues but he/she is free to choose a cross-cutting issue or generic competence taking into consideration the learning environment. In addition to this, the tutor will remember to manage time.

ii) Answers to learning activity

Question:

Analyze various methods used by colonial masters for acquiring land in Africa.

The following are various methods used by colonial masters for acquiring land in Africa.

- 1) **Treaty signing:** *these were treaties of protection against their local and foreign rivals. E.g. in Malawi the Portuguese agents signed treaties with local chiefs, which attracted the British to send Sir. Harry Johnston to negotiate with the chief of Malawi and the country was declared a British protectorate.*
- 2) **Collaboration:** *collaboration with Africans was also common and this helped the colonial master to achieve their objectives. For example, Kabaka Mutesa of Buganda, Noah Mbaguta the Prime Minister of Ankole Kingdom, Sir Apollo Kagwa of Buganda, Lenana Mumia of the Wanga kingdom, Sultan Hammed Mohammed in Zanzibar etc. Collaboration with Africans was also common and this helped the colonial masters to achieve their objectives to grab large lands in Africa.*
- 3) **The colonialists built social and economic infrastructures:** *industries, plantations, to protect their claims, schools and churches for brain washing Africans, roads and railways for reinforcement.*
- 4) **Use of explorers:** *these worked through discoveries as they opened the interior of Africa to European countries which later led to colonization.*
- 5) **In some instances colonial masters employed missionaries paving way for establishment of colonial rule:** *missionaries came in Africa disguising that they are spreading Christianity and stopping slave trade, but in their mission they came to soften the minds of Africans thus preparing Africans for easy introduction for colonial rule.*
- 6) **Direct military confrontation:** *this was used against African resisters leading to establishment of colonial rule. For example, Samoure Toure of Mandinka empire, the Nandi of Kenya, Abushiri in Tanzania, Omukama Kabarega of Bunyoro, and so on.*
- 7) **The use of chartered companies.**
- 8) **Material benefits:** *Some African rulers were lured into accepting Europeans through presents such as beads, clothes, weapons and intoxicating drinks.*

For more details, refer to the student-teacher's book under the methods of colonial conquest in Africa

c) Application activity

Question 1:

Analyse the role played by explorers and missionaries in facilitating colonialists to acquire land in Africa.

In some instances colonial masters employed missionaries paving way for establishment of colonial rule: missionaries came in Africa disguising that they are spreading Christianity and stopping slave trade, but in their mission they came to soften the minds of Africans thus preparing Africans for easy introduction for colonial rule. On the other hand they used of explorers: these worked through discoveries as they opened the interior of Africa to European countries which later led to colonization.

Question 2:

Explain the role of European gifts in the process of acquiring Africa land by colonialists.

Some African rulers were lured into accepting Europeans through presents such as beads, clothes, weapons and intoxicating drinks. Others were made chiefs while some were promised western education, for example, Semei Kakungulu of Uganda.

Lesson 3: Colonial systems of administration

This is the third lesson under unit 2 of Year two. It will be covering all concerning with colonial systems of administration.

a) Learning objectives

- Explain the colonial systems of administration used by Europeans during colonisation of Africa.
- Assess the colonial systems of administration used by Europeans during colonisation of Africa.
- Evaluate the colonial systems of administration used by Europeans during colonisation of Africa.

b) Teaching resources

- | | | |
|---------------------|---------------------|----------------|
| -Maps. | -Print outs for the | -Videos/films. |
| -Manila papers/Flip | activity. | -Etc. |
| charts and markers. | -Internet. | |
| -Text books. | -Photos. | |

c) Prerequisites/Revision/Introduction

The present lesson has only one activity 2.3 and one application 2.3. These activities intend to assess the level of student-teachers' understanding and achievement.

d) Learning activity

i) Guidance to learning activities

Tutor presents activity 2.3 to student teachers in groups of 6; they share ideas and answer the questions asked there amongst them. Briefly, tutor samples out some groups for presentation, thereafter he/she concludes by harmonizing the student teacher's views.

ii) Answers to learning activities

Question:

Describe various colonial systems of administration applied in Africa by the 19th century.

There were several systems of administration used by colonialists after successfully colonising Africans. The main ones are discussed below:

- i) Indirect rule by the British.*
- ii) Assimilation by the French.*
- iii) Direct rule by the Germans.*

For further description, refer to student-teacher's book under colonial administrative policies.

e) Application activity

Question 1:

Distinguish British Indirect Rule from French Assimilation policy of administration used in Africa.

Differences between Indirect rule and assimilation policies

- a) Indirect rule preserved African institutions while the French destroyed them.*
- b) The French system was too authoritarian and highly centralized. Orders were directly from France.*
- c) The British system allowed some degree of African participation in some matters.*
- d) The French considered colonies as integral part of France while the British colonies were separate entities and governed separately.*
- e) With assimilation policy, revenue collected from eight colonies of French*

West Africa was put into central treasury at Dakar. While in British colonies each colony collected its revenue.

- f) The French system regarded African system as too inferior and too poor but the British respected African form of leadership.*
- g) The French aimed at making Africans become French citizens, but the British did not attempt turn blacks into British.*
- h) Indirect rule was cheap because the African chiefs were not paid but assimilation was expensive because most of administrators were French and were paid.*
- i) The two colonial systems were different because they were applied by two different colonial power (France and Britain) which had different philosophy.*

Furthermore, the following are similarities between indirect rule and Assimilation policies.

- a) British and French systems were similar because administrative policies for the colonies were made in their home countries.*
- b) Both systems were racist in nature and tried to destroy African practices. E.g. polygamy.*
- c) Both systems overthrew African leaders in position of leadership.*
- d) With both systems Africans lost their independence.*
- e) Both methods used direct military conquest and intrigue as they acquired territories in Africa. The British used Kakungulu against the Banyoro and the French used Tieba to fight Samoure Toure.*
- f) Both systems caused rebellions in Africa like in Mandinka with Samoure Toure and Temne and Mende in British territories.*
- g) Both systems aimed at exploiting maximum of Africa resources.*
- h) Both systems failed to implement their policies.*

Question 2

Account for the British use of indirect rule system in their African colonies.

Reasons why indirect rule was used in British colonies

- There was shortage of skilled manpower.*
- Indirect rule was financially cheap.*
- The British used indirect rule because Africans knew well their fellow Africans.*
- Indirect rule had been used elsewhere and it had succeeded. E.g. In India, Nigeria, Ghana.*

- *The British used indirect rule because of the centralized nature of African countries.*
- *The British used indirect rule because they assumed that the African population was backward, conservative and hated change.*
- *Indirect rule was used to solve the problem of language barrier.*
- *With indirect rule, the British could avoid going to remote and tsetse fly infested areas.*
- *The British used indirect rule to save time for exploiting African resources*
- *The British used indirect rule because they believe that the system of administration would not attract rebellion since it was implemented by local chiefs.*
- *The British used indirect rule because, there was no transport means in Africa, and the British officials could not reach rural areas.*

Furthermore the following were weaknesses of indirect rule.

This system had many weaknesses and was criticized by educated African and nationalists.

- *The British misunderstood African societies. They thought that African societies were static and their system of government fixed and unchanging. They thought that, African people were conservative and did not like changes.*
- *Indirect rule made the British neglect the introduction of western style of democracy in West Africa. It denied educated Africans. They violated the rights of African elites to participate in government of their own people.*
- *British hated western educated Africans because they criticized British policies especially indirect rule.*
- *Indirect rule was a clever way of ruling Africans directly.*
- *The chiefs performed legal duties which would otherwise costly and inconvenient to colonial administration.*
- *When chiefs were presented with unpopular colonial laws to enforce, it was the chief who received the full weight of local African hostility. He was a shock absorber.*
- *Indirect rule could not be applied uniformly in all British territories. In other word, it could be applied only to centralized societies such as northern Nigeria. It could not be applied to communities that lacked centralized administration such as Igbo. In such areas, they created chiefs but who were rejected by people to whom they were appointed to rule.*

- *The system was exploitative: African rulers were paid salaries by colonial government from the collection of African revenues. This shows that they had changed African leaders into British servants.*

Question 3:

Discuss the reasons why Germany used direct rule system of administration in her African colonies.

Reasons why the Germans applied direct rule

- *It was used because the Germans believed that it was the only system through which they could effectively administer their colonies.*
- *They also believed the system would enable them to exploit and benefit from African resources. For example, they believed that they could raise enough revenue through taxation.*
- *With direct rule, the Germans would ensure that the Africans grow enough cash crops to feed their home industries.*
- *The Germans had used force to take over many parts of Tanganyika. Soldiers had to be used; otherwise Africans could revolt at the slightest opportunity.*
- *The Germans had suffered early revolts and therefore had to bring in the harsh leaders to avoid more riots.*
- *The Germans wanted to promote their superior culture over Africans. This would involve imposing their culture on them.*
- *In many societies, there were no chiefs. Where the chiefs existed, they were not faithful or powerful enough. The Germans therefore had no one to entrust authority with.*
- *They opted for this system because they had enough manpower to man all departments. There was no need of recruiting or using Africans.*
- *They feared the expense of training Africans before they could take over administration. They thought that it could strain their budget.*
- *Like other powers, the Germans did not want to use a system that was used by their rivals (British). This would intensify competition and rivalry among them.*

Lesson 4: Methods of African exploitation

This is the fourth lesson under unit 2 of Year two. It will be covering all concerning with various methods used by European exploitation of African.

a) Learning objectives

- Explain the methods of the African exploitation by the colonialists.
- Assess the methods used by the Europeans in the exploitation of Africa.

- Evaluate the methods used in the exploitation of Africa, showing their impacts. Balance the consequences of the European domination and the exploitation of Africa in the 19th Century.

b) Teaching resources

- | | | |
|---|-------------------------------|----------------|
| -Maps. | -Print outs for the activity. | -Videos/films. |
| -Manila papers/Flip charts and markers. | -Internet. | -Etc. |
| -Text books. | -Photos. | |

c) Prerequisites/Revision/Introduction

The present lesson has only one activity 2.4 and one application 2.4. These activities intend to assess the level of student-teachers' understanding and achievement.

d) Learning activity

i) Guidance to learning activity

To start the lesson, the tutor will ask student-teachers to sum up first various colonial systems of administration. With their prior knowledge, the tutor will ask them to discuss the methods of African exploitation.

The next stages of the lesson will be built on student-teachers findings. Facilitate student teachers to discuss these challenges themselves.

ii) Answers to learning activity

Question:

Explain the European colonial methods of exploitation in the process of colonization of Africa.

Answers:

The following were the methods used by European colonialists for acquiring lands in Africa.

Taxation, forced cash crop growing, forced labour, land alienation, development of legitimate trade, discouraged industrialization, development of road and railway transport, Education system, etc.

For further explanations, refer to student-teacher's book under colonial exploitation methods.

e) Application activity

Question:

Examine the methods used by the Europeans in the economic exploitation of African countries.

The following were the methods used by European colonialists for acquiring lands in Africa.

Taxation, forced cash crop growing, forced labour, land alienation, development of legitimate trade, discouraged industrialization, development of road and railway transport, Education system, etc.

For further explanations, refer to student-teacher's book under colonial exploitation methods.

Lesson 4: Impact of European domination and exploitation of Africa in the 19th century

This is the fifth and last lesson under unit 2 of Year two. It will be covering all concerning with the impact of European domination and exploitation of Africa in the 19th century.

a) Learning objectives.

- Identify the consequences of the European domination and the exploitation of Africa.
- Discuss the consequences of the European domination and exploitation.
- Evaluate the methods used in the exploitation of Africa, showing its impact. Balance the consequences of the European domination and the exploitation of Africa in the 19th Century.

b) Teaching resources

- | | | |
|---|-------------------------------|----------------|
| -Maps. | -Print outs for the activity. | -Videos/films. |
| -Manila papers/Flip charts and markers. | -Internet. | -Etc. |
| -Text books. | -Photos. | |

c) Prerequisites/Revision/Introduction

The present lesson has only one activity 2.5 and one application 2.5. These activities intend to assess the level of student-teachers' understanding and achievement.

d) Learning activity

i) Guidance to learning activities

Put student teachers in two groups, let them debate the positive and negative effects colonization of Africa and help them to reach the conclusion.

ii) Answers to learning activity

Question:

Examine the impacts of European domination and exploitation of Africa.

The following are the impacts of European domination and exploitation of Africa.

Economic impact/effects

Positive effects

- The colonial government improved the colony infrastructure: roads, bridges, ports, etc.
- They introduced cash crops: tea, coffee, and sisal, cocoa.
- Colonization increased the value of land, because it could be sold a lot of money.
- Colonization increased purchasing power of Africans.
- Colonization introduced money which facilitated the exchange.
- Colonization introduced modern technology where people started using machines in their activities.

Negative effects

- Roads built helped colonialists to exploit African resources not to develop Africa.
- Regions which had no resources were ignored.
- To avoid competition, colonialists discouraged the development of industries in Africa.
- African artisans stopped pottery, basketry etc.
- Colonial rule neglected food crops and emphasized on cash crops which caused famine in some part of Africa.
- The commercialization of land led to illegal sell of communal lands which led to poverty and social conflict.
- Colonialists monopolized external trade.
- Economic exploitation of Africa: minerals (gold, diamond, etc.), land and labor.
- The death of many people working in mining and plantations of Europeans in Africa.

Social effects

Positive effects

- Urbanization was accelerated: Cairo, Enugu, Abidjan, etc.

- Introduction of modern medicine to fight tropical diseases: malaria, typhoid, etc.
- Improvement of the quality of life by introducing hospitals, clinics, safe ware, sanitary equipment, etc.
- The spread of Christianity and western education in Africa. They trained the first African elite.
- They introduced new languages: French, English, Latin, Portuguese etc.
- Abolition of slave trade and introduction of legitimate trade.
- Introduction of western culture: cloths, buildings, houses, etc.

Negative effects

- Rural-urban migration and associated problems like prostitution.
- Hostility between Africans and Europeans because these foreigners had occupied fertile lands of the natives.
- Africans identity and civilization disappeared with colonization.
- Division of Africans due to divide and rule policy.
- Uneven distribution of social services: they were established only for white minority.
- In education the curricula did not meet the need of Africans.
- Neglect women social status: women were excluded in some jobs like mining.
- Racial discrimination promoted by the white settlers.
- Land alienation: fertile land was occupied by European settlers.
- Colonization created a new class of intellectual which conflicted with illiterate people.
- Many people were killed during the war of conquest.

Political impacts

Positive impact

- The colonialism created peace and stability in some areas because expansionist wars ended.
- It created independent states in Africa: there are more than 50 states in Africa.
- Colonialism introduced new institutions like high courts in judiciary system.
- Europeans introduced new administrative structure. E.g. province, district, sector, cell.
- Colonialism gave birth to African nationalism and Pan Africanism.

Negative impact

- Colonization was oppressive, discriminatory and exploitative.
- Colonialists divided up Africa without considering tribal boundaries. The Bakongo are in Angola, DRC, Gabon and Congo.
- It weakened indigenous system of government where African chiefs were replaced by Europeans.
- The colonization created the idea that public property belongs to the colonialists not the people and that idea is still there.
- The Europeans created a permanent army which will cause insecurity after decolonization of Africa.
- Loss of independence; Africa lost the sovereignty and freedom. They lost control of their own affairs.

e) Application activity

Question:

Examine the social, economic and political impacts of European domination in Africa.

The answers for this activity are given above in learning activities. The tutor can refer to student-teacher's book under the impacts of European domination in Africa.

2.6. Summary of the unit

The unit 2 of year two deals with European domination and the exploitation of Africa in the 19th century. The key points of content to be highlighted in the unit are listed as follow: Definition of scramble and partition of Africa, the scramble for Africa, methods used by Europeans in acquiring land in Africa, colonial administrative policies, methods of the European domination and consequences of the European domination and the exploitation of Africa in the 19th century.

This unit content gives more details about the above points compared to what student-teacher have learnt in previous classes.

2.7. Additional information for tutor

Reaction of African societies towards colonial rule

The term “**response**” means **reaction**. In Africa, people responded or reacted towards colonial rule in three ways; by **resisting**, by **collaborating and remaining indifferent (passive or neutrality)**.

1) Collaboration

In Africa, many people allied and cooperated with colonial rulers. For example, Kabaka Mutesa of Buganda, Lenana of the Maasai etc. collaboration was done in two ways:

- **Collaborators:** These were local people who worked for the colonial governments. Those were mainly **chiefs** who invited colonialists for support as the only way of preserving their political independence.
- **Career Collaborators:** These were local individuals (who were not leaders) who collaborated in order to enhance their social-political situation in order to get important positions with colonial governments. E.g. Semei Kakungulu of Buganda.

General reasons for collaboration

- 1) Some African societies collaborated because their enemies had resisted. For example, Kabaka Mutesa of Buganda collaborated because his enemy Omukama Kabarega of Bunyoro had resisted.
- 2) Some Africans collaborated because of fear of the strength of European guns. E.g. Lenana of the Maasai.
- 3) Collaboration was out of ignorance where some Africans regarded the white man as a visitor who was about to go away.
- 4) Some African societies collaborated because colonization could save them from slavery. E.g. in Malawi.
- 5) Some Africans collaborated because they were economically weak like the Maasai and they could not finance the war for a long time.
- 6) Some Africans collaborated because of gifts they had received from the white. E.g. cloths, money, etc.
- 7) Some societies collaborated in order to overcome European imperialism that is they hoped at reducing the rate of exploiting African resources.
- 8) Some societies collaborated because they were decentralized like Igbo, Teso, Kikuyu, etc. They lacked organized leadership to fight the white.
- 9) Some societies collaborated because they wanted to get guns from the whites: e.g. the Baganda.
- 10) The influence of mission forced some kingdoms to collaborate.
- 11) Some societies collaborated because they were facing famine, diseases like small pox etc. e.g. Chagga.
- 12) Presence of opportunists or schemers e.g. Kakungulu of Buganda.

- 13) The diplomatic methods: e.g. use of treaties and tricks used to establish the colonial rule led to collaboration.
- 14) Some societies collaborated because they had tried to resist but had been defeated. E.g. Hehe and coastal Arabs in Tanganyika.

2) Resistances

Resistance is a term to mean an attempt by Africans to destroy colonial rule. Resisters were the Africans who never worked with the colonialists but instead organized themselves to fight them. Resisters were divided primary resisters, that is, those who resisted colonial rule at the beginning, for example:

- Samoure Toure of Mandinka Empire against the French.
- Abushiri resistance in Tanzania against the Germans.
- Kabalega of Bunyoro against the Germans.

While **secondary resisters** included the Africans that got fed up with the policies of the colonialists and decided to rise up against them and these included:

- **The Bambata rebellion** of Zulu against the British.
- **Shona-Ndebere rebellion** in Zimbabwe against the British.
- **Mau Mau rebellion** of Kenya against the British.
- **Nama Herero rebellion** of Namibia against Germany.
- **Maji Maji rebellion** in Tanganyika against Germany.

Reasons for the resistance

- 1) Some Africans resisted because their enemies had collaborated. E.g. Kabarega resisted because Kabaka Muteesa had collaborated.
- 2) Some Africans resisted because they wanted to preserve their independence.
- 3) Some Africans resisted because they regarded themselves militarily strong. E.g. Samoure Toure.
- 4) Some Africans resisted because they understood the interest of the colonialists; that was exploitation of Africans resources.
- 5) Some Africans resisted because they were economically strong and they knew that they would manage to sponsor a prolonged struggle against the white. E.g. Kabarega.
- 6) They resisted because they were encouraged by African traditional religion which made many people to resist. E.g. prophecy of Kinjekitile Ngwale of the Matumbi hills forced many people in Tanzania to join Maji

Maji rebellion which was against the German mal administration.

- 7) Some Africans resisted because of pressure of Islam. Islam was a traditional enemy to Christianity which forced some societies that were Islamic in nature to resist against European Christianity. E.g. Samoure Toure Mandinka empire in West Africa.
- 8) Some society resisted because of ignorance of military strength of Europeans they underestimated the strength of Europeans.
- 9) Some resisted because of the effects of economic policies used by the colonialist: forced labor, land alienation, over taxation, forced cash crops growing, etc.
- 10) Some Africans resisted because they were struggling to keep and guard their trade monopolies.
- 11) Some African chiefs resisted because they had a long standing enmity with the white developed by the explorers, missionaries and traders.
- 12) Some Africans resisted because earlier collaborators were mistreated and so no need of welcoming the whites.
- 13) African kings were overthrown and their authority torn apart.

2.8. Skills lab

Topic: Scramble and partition of Africa

Duration: 80minutes

Materials required: Manila paper, masks, clothes (military uniform, suits, etc.), weapons, big map of the world clearly showing Europe and Africa etc.

Tutor preparation: prepare audio describing scramble and partition of Africa (the tutor can write and read aloud the story to the class) find out enough place for facilitating the movement of actors, etc.

Learning objectives (s): Student-teachers will be able to:

- Role play on how the European powers scrambled and partitioned Africa
- Mention the impacts of colonisation to Africa.

Instructional objective: Through role play, student-teachers will be able to mention the causes and impacts of European domination in Africa perfectly.

Activity 1: Build (20 minutes)

- Tutor starts by asking the student-teachers to define the term scramble and partition of Africa.
- Tutor present pictures, video or a story narrating colonisation of Africa.

- Ask some questions about the story: e.g. What were the causes of scramble and partition of Africa? How European colonialists shared Africa? Summarize the impacts of European domination of Africa.
- Demonstrate how European powers scrambled for Africa and how this impacted Africa.

Activity 2: Practice (30 minutes)

- Tutor guides student-teachers to discuss and plan for the role play.
- Divide class into 4 skills lab teams (*this depends to the class size*).
- Ensures all student-teachers are involved.
- Responds to questions if any.
- Ensure that gender balance and inclusion is catered for.
- Ask student-teachers to determine which actors they will need to put in the role play E.g. Otto Von Bismarck, King Leopold II of Belgium, etc.
- Let each group share roles according to their talent but make sure that all participate.
- Student-teachers will wear the clothes related to the assigned role.

Activity 3: Present (30 minutes)

- Each group delivers their role play.
- Tutor asks follow up / probing questions.
- Give feedback to each group.
- Encourage note taking.
- Conclude, supplement what has been presented.

Portfolio Assessment:

- Give an individual portfolio assignment. - Connect it to the Key unit competence; it should be a practical activity that will require a student-teacher to move out of class.

Visit the community around the college, your fellow student-teachers, or school community. Talk to them about colonisation and come up with the impacts of colonisation of Africa. Take note on the dialogue and submit to the tutor (the assessment should be given enough time for research i.e. at least the findings are submitted after four days).

Expected Answers:

- Introduction of Christianity.
- Introduction of cash crops.
- Introduction of new ruling system.
- Civilization of Africa.
- Construction of basic infrastructures.
- Introduction of modern farming.

Evidences:

- Moving out around of the college.
- Names of people of visited people.
- Telephone number of the people visited.
- Name of Village visited.
- Originality.

Knowledge, Skills, attitudes and values:

- Interview, problem solving, citizenship, networking, respect, etc.

2.9. End unit assessment

- 1) Explain the term scramble in the context of African colonisation.
- 2) Identify the causes of scramble and partition of Africa by European powers.
- 3) Examine the role of European missionaries in the acquisition of land in Africa.
- 4) Explain the colonial administrative systems used in Africa.
- 5) Examine the methods used by the Europeans in the economic exploitation of African countries.
- 6) Assess the impact of European domination in Africa.

Possible suggested answers to the end unit assessment are the following:

- 1) The word “**scramble**” means the rush and the struggle for, while “**partition**” means dividing up or sharing. In the early 19th century, Africa was divided and shared by the scrambling powers of Europe which were mainly Britain, France, Germany, Belgium, Italy, Portugal, and Spain were competing for power within European power politics.
- 2) Refers to the content in the student-teacher’s book under causes of scramble and partition of Africa
- 3) Refers to the content in the student-teacher’s book under the Role of European missionaries in the acquisition of land in Africa.
- 4) Refers to the content in the student-teacher’s book under colonial administrative systems.
- 5) Refers to the content in the student-teacher’s book under colonial methods of exploitation.
- 6) Refers to the content in the student-teacher’s book under the impact of European domination in Africa.

2.10. Additional activities

2.10.1 Remedial activities

Questions

- 1) Give the main countries which scrambled for Africa.
- 2) Identify the main the colonial administrative systems.
- 3) Identify any 3 positive impacts of European domination of Africa.

Answers

- 1) Europe which were mainly Britain, France, Germany, Belgium, Italy, Portugal, and Spain.
- 2) Indirect rule for British, Assimilation policy for French and Direct rule for Germany.
- 3) The following are some of the positive impacts of colonization in Africa.
 - The colonial government improved the colony infrastructure: roads, bridges, ports.
 - They introduced cash crops: tea, coffee, and sisal, cocoa.
 - Colonization increased the value of land, because it could be sold a lot of money.

2.10.2. Consolidation activities

Question:

Show the similarities between British indirect rule and French assimilation policy.

Answer

- a) British and French systems were similar because administrative policies for the colonies were made in their home countries.
- b) Both systems were racist in nature and tried to destroy African practices. E.g. polygamy.
- c) Both systems overthrew African leaders in position of leadership.
- d) With both systems Africans lost their independence.
- e) Both methods used direct military conquest and intrigue as they acquired territories in Africa. The British used Kakungulu against Banyoro and the French used Tieba to fight Samoure Toure.
- f) Both systems caused rebellions in Africa like in Mandinka with Samoure Toure and Temne and Mende in British territories.

- g) Both systems aimed at exploiting maximum of Africa resources.
- h) Both systems failed to implement their policies.

2.10.3. Extended activities

Questions

- 1) Explain Maji Maji rebellion.
- 2) Describe any 3 causes of African nationalism.

Answers

- 1) The word Maji Maji is a Swahili word meaning” **magic water**”.

Maji Maji rebellion was a resistance organized by people of South East Tanganyika against German colonization. It involved tribes such as Pogolo, Ngoni, Zaramo, Luguru, Nyindo and Bena. The rebellion covered the areas of Matumbi, Kilosa, Kilwa, Lindi, Songea, etc.

It was inspired by the prophet **Kinjekitile Ngwale** who convinced his fellow Africans that they would become **bullet-proof** against German bullets. Kinjekitile used a mixture of millet flour, sorghum, herbs and magic water from Rufigi and sprinkled it to his fighters. Some fighters drunk the mixture and others bathed it to obtain maximum protection (**immunity**). The war started in July 1905 and Tanganyika people were defeated by German army hence effective colonisation.

- 2) The following are some causes responsible for the rise of African nationalism:
 - **The oppressive and exploitative colonial policies:** During the 19th century and early 20th c, the whole of Africa, except Ethiopia and Liberia was brought under colonial rule. Europeans grabbed African land, pushed African into over –crowded reserves, introduced high taxes, and forced Africans to work in mines and on plantations. All for the white man’s benefit while at work, Africans were often abused or even lagged. These who failed to pay taxes were treated in similar way or even imprisoned. All this annoyed Africans and led to strong feelings of nationalism.
 - **Missionaries’ activities in Africa:** they introduced western education and taught at subjects like history which exposed Africans to the liberation struggle of various people for example the French revolution of 1789, they also emphasized to the equality of all people which incited Africans to fight for rights including political rights.

- **The formation of political parties in Africa:** these included united gold coast convention (UGCC) and the Convention of People's Party (CPP) in Ghana, African National Congress (ANC) in South Africa, the Uganda National Congress (UNC), the Kenya African National Union (KANU) and others Leaders of these parties were elites who inculcated a spirit of nationalism amongst party members.

UNIT 3

UNIVERSE AND THE SOLAR SYSTEM

3.1. Key Unit competences

By the end of this unit, the student teacher should be able to differentiate the components of the universe and solar system, and explain the effects of the earth movements.

3.2. Prerequisite (knowledge, skills, attitudes and values).

In order to study this unit the student teachers should have knowledge, skills and competences on the following issues:

- Meaning of the universe.
- Components of the universe.
- The solar system.
- The peculiar elements of the earth.
- Earth movements.

In addition, the student teacher should have an understanding on the effects of earth rotation and revolution. He should display thorough knowledge of how to calculate time difference between two places given longitudes.

3.3. Cross-cutting issues to be addressed

Environment and sustainability. In this unit, the student teacher should be guided to appreciate the universe and how to protect the planet earth as it is the only planet in the solar system that supports life. Emphasis should also be made on how to protect the peculiar elements of the earth like hydrosphere, lithosphere and the biosphere.

- **Inclusive education:** Through learning and teaching process of this unit, care will be given to all learners including Special Education Needs cases. At this time, all student teachers will be given a quality and equitable education that meets their basic learning needs, and understands the diversity of their backgrounds and abilities.
- **Peace and values education:** In this unit of the earth and the universe, student teachers should be reminded about peaceful coexistence using an example of how planets live in harmony in the solar system.

3.4. Guidance on introductory activity

At the beginning of this *Unit 3*, the introductory activity creates awareness to student teachers to know what happens or will happen in this unit and help them to be passionate to know by the end of the unit what they did not know before. This activity will help them discover the heavenly bodies in the universe as they go through the questions.

3.5. List of lessons/sub-heading

#	Lesson title	Learning objectives	Number of periods
1	Definition of the universe and components of the universe.	To identify the components of the universe.	1
2	The solar system: The sun and the planets.	To identify the planets in the solar system.	2
3	The Earth's movements. The peculiar elements of the earth.	To describe rotation and revolution of the earth. To describe the peculiar elements of the earth.	2
4	Effects of the earth's movements.	To State the effects of the earth's movements.	1
5	Skills lab.	To identify the planets of the solar system. To develop a chart showing the planets of the solar system and to explain the characteristics of the planets.	2
6	End of unit assessment.		1

Lesson 1: Definition of the universe and components of the universe.

a) Learning objective

The student teachers should be able to identify the components of the universe and their characteristics.

b) Teaching resources

The following materials will help you during the lessons; Year two social studies

student teacher's Book, internet, posters, video clips, talking globes, tactile maps and braille materials for learners who are visually impaired. Sign language should be used when teaching student teachers with hearing impairment.

c) Prerequisites/Revision/Introduction

To begin this lesson, a tutor can start the lesson by projecting a downloaded video clip about the universe and its heavenly bodies. The tutor can then ask questions from the clip watched by the student teachers. The tutor should have thorough knowledge about the universe and its components.

d) Learning activity

- Let the student teachers sit down in small groups and do the introductory activity 3.1. They can use student teacher's text books to research about the heavenly bodies.
- The group leader can present their findings to the class.

Answers to introductory Activity 3.1

- 1) A meteor is a small matter from outer space that enters the earth's atmosphere, becoming incandescent as a result of friction and appearing as a streak of light.
- 2) Sun and moon.
- 3) Planets, stars, natural satellite, asteroids, comets etc.

Answers to Learning Activity 3.1

- 1) The diagram represents the solar system.
- 2) Universe is the name that we use to describe the collection of all the things that exist in space.
- 3) Components of the Universe are; galaxy, cluster, stars and the sun, and the planets.

e) Answers to Application Activity 3.1

- 1) The three types of Galaxies found in the universe are;
 - Spiral galaxy (e.g. Milky Way).
 - Irregular galaxy.
 - Elliptical galaxy.
- 2) Planet Earth is found in the Milky Way galaxy.

Lesson 2: The solar system: The sun and the planets

a) Learning objective

The student teachers should be able to identify the planets in the solar system.

b) Teaching resources

The following materials will help you during the lessons; Year two social studies student teacher's Book, internet, Video clips, posters, tactile maps and braille materials for learners who are visually impaired. Sign language should be used when teaching student teachers with hearing impairment.

c) Prerequisites/Revision/Introduction

To begin this lesson, a tutor can start the lesson by projecting a downloaded video clip of the solar system and the planets. The tutor can then ask questions from the clip watched. The tutor should have thorough knowledge about the solar system and the planets.

d) Learning activity

Let the student teachers sit down in small groups and do the Learning Activity 3.1. They can use student teacher's text books to research about the heavenly bodies. Let them choose the group leader to present their findings to the class.

Answers to Learning Activity 3.2

- 1) The term solar system is defined as the arrangement of the sun and planets that revolve around it.

Components of the solar system are the sun, planets including the earth, the moon and other heavenly bodies such as asteroids, comets, meteorites, meteors, etc.

- 2) The sun as any other heavenly body, has characteristics that distinguish it from the rest of other components of the solar system. These include;
 - It makes or emits its own light/heat.
 - It has the diameter of 139,200 km.
 - Its temperature ranges from 4000-9000 degrees Celsius.
 - Its mass stands at 1.98892×10^{30} kilograms.
 - It has a density of 1.4 grams per cubic centimeters.
 - The sun is made up of hydrogen and helium.
 - Its radius is estimated to be at 695,500 kilometers.
 - It takes 25 days to turn once on its axis

For the characteristics of other planets, the tutor can refer to the characteristics of mercury, Earth, Venus, Saturn, Uranus, Jupiter, Neptune and Mars as given in the student teacher's text book.

Answers to Learning Application 3.2

- 1) The inner planets are those that are close to the sun as they orbit the sun while the outer planets are those that are far from the sun.
- 2) The inner planets include, Mercury, Earth, Venus and Mars. The outer planets include, Jupiter, Uranus, Neptune and Saturn.

Lesson 3: The earth: Peculiar elements of the earth

a) Learning objective.

The student teachers should be able to identify the peculiar elements of the earth and explain their characteristics.

b) Teaching resources

The following materials will help you during the lessons; Year two social studies student teacher's Book, internet, posters, video clips, and braille materials for learners who are visually impaired. Sign language should be used when teaching student teachers with hearing impairment.

c) Prerequisites/Revision/Introduction

To begin this lesson, a tutor can start the lesson by asking learners to brainstorm about what they consider special about the earth. He can then lead them to research about the elements of the earth. These include, the lithosphere, hydrosphere, biosphere and atmosphere.

d) Learning activity

The tutor should guide the learners to discuss in small groups and present their findings through their group leaders.

Answers to introductory Activity 3.1

- **Hydrosphere:** This stands for all the waters found on the earth surface. It covers 71% of the earth's surface. It includes: Lakes, Seas, Oceans, Wetlands, Rivers, Wells, Streams and Clouds.
- **Biosphere:** This is known as ecosphere. It is a part of the earth that includes the totality of life on the earth (Animals, Plants and Man).
- **Lithosphere:** This is the solid part of the exterior area of the earth. It is made up of the crust and a small percentage of the upper mantle (Land, Rocks, Soils and Minerals).

- **Atmosphere:** It describes the zone occupied by air or gasses that surround the earth. This zone is composed of gasses such as: Nitrogen, Oxygen, Argon, Water vapour, Carbon dioxide, Helium and Methane.

e) Answer to Application Activity 3.3

Accept a well labelled diagram showing the four peculiar elements of the earth. These are;

- Biosphere.
- Hydrosphere.
- Atmosphere.
- Lithosphere.

Lesson 4: The Earth's movements

a) Learning objective

The student teachers should be able to describe rotation and revolution of the earth.

b) Teaching resources

The following materials will help you during the lessons; Year two social studies student teacher's Book, internet, posters, video clips, and globe and braille materials for learners who are visually impaired. Sign language should be used when teaching student teachers with hearing impairment.

c) Prerequisites/Revision/Introduction

To begin this lesson, a tutor can start the lesson by using the globe and spin it to illustrate the rotation of the earth on its axis. Alternatively, he can download some animations from the internet that illustrate rotation and revolution and show it to the student teachers.

d) Learning activities

The tutor should guide the learners to discuss in small groups and present their findings through their group leaders.

Answers to learning Activity 3.1

The two types of movements are rotation and revolution.

- **Rotation** of the Earth is defined as the movement of the Earth spinning on its own axis. This movement of the Earth on its own axis is in an anticlockwise direction.
- **Revolution** is the second type of motion of the earth. It is the movement of the earth around the Sun in a fixed path or orbit.

Application

Lesson 5: Effects of the earth's movements.

a) Learning objective

The student teachers should to explain the effects of the earth's movements.

b) Teaching resources

The following materials will help you during the lessons; Year two social studies student teacher's Book, internet, posters, video clips, globe, lamp, tactile maps and braille materials for learners who are visually impaired. Sign language should be used when teaching student teachers with hearing impairment.

c) Prerequisites/Revision/Introduction

To begin this lesson the tutor can use a lamp and a globe to illustrate the effects of rotation and revolution. He can place the lamp on a fixed stand indicating the sun and then spins and the globe and ask the learners to identify the side of the globe that might be illuminated by the lamp. This can illustrate day and night. The tutor can also ask learners to brainstorm why there is time difference between different places on the earth.

d) Learning activity

- Let the student teachers sit down in small groups and do the introductory activity 3.1.They can use student teacher's text books to research about the heavenly bodies.
- The group leader can present their findings to the class.

Answers to Learning Activity 3.4

1) i) **Solstice** is either of two times of the year at which the sun reaches its highest or lowest point in the sky at midday, marked by the longest and shortest days over the tropics. Solstice occurs on 21st June and 22nd December when the sun's overhead position is either at the tropical of Cancer or Capricorn.

ii) **Equinox** occurs two times in the year (around 21st March and 23rd September) when the sun is above the Equator, day and night have equal length.

2) The major latitudes are;

- Equator.
- Tropical of Capricorn.
- Tropical of Cancer.

- Arctic Circle.
- Antarctic Circle.

Tropical regions (Between the tropical of Cancer and Capricorn) receive direct insolation from the Sun. Sun's rays reach these areas vertically. However, areas in temperate region are cooler because the sun's rays reach the earth obliquely. In temperate and polar regions.

Polar Regions or areas near the north and South Pole receive perpetual ice cover because of the long distance sun's rays take to reach the earth surface in these regions.

e) Answer to Application Activity

- 1) Calculate the difference in latitudes i.e. $30^{\circ} - 15^{\circ} = 15^{\circ}$

Convert degrees into minutes i.e. $1^{\circ} = 4$ minutes, therefore $15^{\circ} = 1 \times 4 = 60$ minute which is 1 hour.

Since Kigali is in the East of Brazzaville, 1 hour is added on 8:00 am, to become 9:00 at Kigali.

- 2) The difference between two places is 4 hours.

Convert hours into degrees i.e. $4 \times 15 = 60^{\circ}$

The time at Greenwich is ahead of place Y. therefore Place Y is 60° W of Greenwich Meridian.

3.6. Skills lab: The solar system: The sun and the planets

Topic:

Duration: 80minutes.

Materials required: Manilla papers, permanent markers, masking tape.

Tutor preparation: Display pictures of the solar system and planets to give an idea of what the student teachers can develop.

Learning objectives (s): Student-teachers will be able to:

- identify the planets of the solar system.
- Draw a diagram of the solar system.
- Describe the characteristics of the planets.

Instructional objective: By using Manilla papers and markers student-teachers will be able to make an impressive poster of the solar system perfectly.

Activity 1: Build (20 minutes).

- Tutor starts by asking the student-teachers to define the solar system and identify the planets of the solar system.
- Student-teachers list them down and then the tutor introduces the objectives of the lesson.

Activity 2: Practice (30 minutes)

- Divide class into 5 skills lab teams with a group of 8 members, each representing a planet. (*This depends to the class size*).
- Ensures all students are involved.
- Responds to questions if any.
- Ensure that gender balance and inclusion is catered for.
- Ask student-teachers to determine the colours they are going to use for each planet.
- Each group researches on the characteristics of each planet.
- Each group should then draw their own poster.

Activity 3: Present (30 minutes)

- Groups will display their posters on the wall.
- They will then choose each member in the group to present the characteristics of each planet.
- Tutor asks follow up / probing questions (sample questions for the tutor).
- Give feedback to each group.
- Encourage note taking.
- Conclude, supplement what has been presented.

Portfolio Assessment:

- Give an individual portfolio assignment. - Connect it to the Key unit competence; it should be a practical activity that will require a student to move out of class.

E.g. organize a field trip to Kigali Institute of Technology and the Department of Astronomy. Guide the learners to view the universe using a telescope or any other institution where you can find a big telescope. Each student teacher should note down what they have viewed in the telescope. Discuss with the Professors teaching Astronomy about the characteristics of these planets. Take note on the dialogue and submit to the tutor (the assessment should be given enough time for research i.e. at least the findings are submitted after one week).

Expected Answers:

The answers given should be in line with the characteristics of planets given in the Year two student teachers social studies text book.

Evidences:

- Moving out of the college.
- Names of people of visited people.
- Telephone number of the people visited.

- Name of the Institution.

- Originality.

Knowledge, Skills, attitudes and values:

- Interview, problem solving, citizenship, networking, respect, networking, etc.

3.7 Answers to End of Unit Assessment

- 1) Universe is the name that we use to describe the collection of all the things that exist in space. The components of the universe include, the sun and stars, planets, galaxy and clusters.
- 2) The term solar system is defined as the sun and planets that revolve around it. Planets of the solar system include, mercury, Venus, Uranus, Earth, Mars, Neptune, Jupiter and Saturn.
- 3) Pluto is considered a dwarf planet. Pluto's orbit is erratic. The planets in our solar system all orbit the sun in a relatively flat plane. Pluto, however, orbits the sun at a 17-degree angle to this plane. In addition, its orbit is exceptionally elliptical and crosses Neptune's orbit. It is also too small to be considered a planet.
- 4) The peculiar elements of the earth include the following;
 - Hydrosphere.
 - Lithosphere.
 - Atmosphere.
 - Biosphere.
- 5) It has liquid water, plate tectonics, and an atmosphere that shelters it from the worst of the sun's rays.
- 6) **Rotation** of the Earth is defined as the movement of the Earth spinning on its own axis, while **Revolution** is the movement of the earth around the Sun in a fixed path or orbit.
- 7) The effects of earth rotation include;
 - It causes day and night.
 - It causes tides.
 - It causes deflection of winds due to Coriolis force.
 - It causes time difference between longitudes.

The effects of revolution are;

- Changes in seasons.
- Varying length of days and night.
- Climatic zones.

3.8. Unit summary

- The term universe is used to describe the collection of all the things that exist in space
- The components of the universe are the galaxy, cluster, sun and stars and the planets
- There are eight planets that orbit the sun, they include, Venus, Mercury, Earth, Mars, Uranus, Saturn, Jupiter and Neptune
- The earth is composed of peculiar elements that is biosphere, hydrosphere, atmosphere and lithosphere
- There are two types of earth movement, namely; rotation and revolution
- Rotation of the earth is the movement or spinning of the earth along its axis
- Rotation of the earth causes day and night, rise and fall in tides and time difference between longitudes
- Revolution of the earth is the movement of the earth on its orbit around the sun.
- Revolution of the earth causes differences in seasons, varying length of day and night and climatic zones

3.9. Additional information to the tutor

There are other many heavenly bodies in the universe, these include the moon, asteroids, meteorites, comets etc.

The moon is an astronomical body that orbits the earth and it's the only natural satellite. It is the fifth largest satellite in the solar system

Asteroids are minor planets of the inner solar system

A meteorite is a solid piece of debris from an object, such as a comet, asteroid or meteoroid that originates in outer space and survives its passage through the atmosphere to reach the surface of a planet or moon.

3.10. Additional Activities

3.10.1 Remedial Activities.

- 1) Mention any four components of the universe.
- 2) Mention any six planets of the solar system.

- 3) Identify any four seasons of the year.

Answers to Remedial Activity 3.6.1

- 1) The components of the universe are; the sun and the stars, planets, cluster, galaxy.
- 2) The planets of the solar system include; Mars, Neptune, Mars, Mercury, Jupiter, Saturn, Earth and Venus.
- 3) The four seasons of the year are, summer, winter, autumn and spring.

3.10.2 Consolidation Activities

- 1) Mention and explain the four peculiar elements of the earth.
- 2) With use of a diagram, identify the planets of the earth.
- 3) Separate the inner planets from the outer planets of the earth.

Answers to consolidation Activities

- 1) The peculiar elements of the earth are;

Biosphere. This biosphere is made up of the part of the earth where life exists. It is also called ecosphere

Lithosphere. On earth, it is composed of the crust and part of the mantle. It is comprised of rocks, soils and minerals.

Hydrosphere. This is the total amount of water on planet earth's surface. The hydrosphere includes water that is on the surface of the planet, underground and in the air. Hydrosphere can be liquid, vapour or ice. 71% of the earth's surface is covered by water.

Atmosphere .This is a layer of layers of gases surrounding a planet that is held in space by gravity. This zone is composed of gasses such as: Nitrogen, Oxygen, Argon, Water vapour, Carbon dioxide, Helium, Methane, etc.

- 2) Student teachers are expected to draw and label the planets correctly.
- 3) The inner planets are those that are close to the sun, they are; mercury, Earth, Venus and Mars while the outer planets are Jupiter, Saturn, Uranus and Neptune.

3.10.3 Extended Activities

- 1) Discuss the effects of rotation and revolution of the earth.

Suggested answer to the extended question 3.63

The question requires the student teacher to give effects of both rotation and revolution. They should therefore explain the key terms, i.e. rotation and revolution and then give the effects for each. For answers, check the student teachers' text book.

UNIT 4

FORMATION OF RELIEF FEATURES OF RWANDA

4.1. Key Unit competence

The student-teacher should be able to explain the formation of relief regions of Rwanda and evaluate their effects on human activities.

4.2. Prerequisite of this unit

As prerequisites to facilitate the teaching and learning of this unit, the following elements should have been learned before:

- Physical features of Rwanda which are taught in Primary six.
- Landforms evolution.

4.3. Cross cutting issues to be addressed

- **Environment and sustainability:** To address Environment and sustainability issue the teacher will try to familiarize learners with the management, the proper use and conservation of local environment. For instance, social studies teachers have to help the learners to know that they have to plant trees for fighting soil erosion on steep slopes.
- **Gender education:** This cross cutting issue will be addressed through different activities which involve equally both girls and boys.
- **Inclusive education** is also here addressed as students with different disabilities are encouraged to participate actively in different activities.

4.4. Guidance on the introductory activity

The tutor will ask students to read the introductory activity in the student book. The student-teachers will use different resources to find the answer to the questions asked. The tutor will facilitate Student-teachers to find the right answers in this lesson. The role of student-teachers is valuable in teaching and learning process.

4.5. List of lessons

#	Lesson title	Learning objectives	Number of periods
1	General presentation of Rwanda.	The student –teachers should be able to locate Rwanda on the map of Africa, state the area of Rwanda in terms of land and water surface area, describe the population composition and the administrative divisions of Rwanda.	2
2	The relief regions of Rwanda.	The student –teachers should be able to locate the major relief regions of Rwanda	2
3	The major relief features of Rwanda.	The student –teachers should be able to identify the major relief features of Rwanda using a map.	1
4	Problems related to the relief features of Rwanda.	The student –teachers should be able to explain major problems related to the relief features of Rwanda and suggest solutions	1
5	Importance of the relief features to the development of Rwanda.	The student –teachers should be able to give the importance of the relief features of Rwanda.	1
6.	Skills Lab.	- Identify the relief features of Rwanda - The student –teachers should be able to mold a map of Rwanda using any local materials and indicate different relief features.	
	End unit assessment		1

Lesson 1: General presentation of Rwanda

a) Learning objective

Locate Rwanda in Africa, state the area of Rwanda in terms of land and water surface area, describe the population composition and the administrative divisions of Rwanda.

b) Prerequisites/revision/introduction

To start the lesson, the tutor will ask student-teachers to read the introductory activity. Use a map and atlases to locate Rwanda and use other resources to describe a general presentation of Rwanda. As this unit is related to unit six of primary six, the student-teachers have enough information about the lesson.

c) Teaching resources

This lesson will use different resource including the internet, the textbook of social studies, history and atlases of geography, maps, ICT tools, manila papers and other reference book related to social studies.

d) Learning activity

The activities will be done in groups, where student-teachers will use available resources to locate Rwanda on the map of African using latitudes and longitudes. Find the area of Rwanda, population aspects and others. Student- teachers will make a class presentation of their findings in front of their classmates. The activity will end up with a summary of the findings and the checking of understanding by the teacher.

Expected answers to this learning activity

Questions:

- a) Show the location of Rwanda on the map of Africa above.
- b) Rwanda is a landlocked country. What does this mean?
- c) What is the total area covered by Rwanda in square kilometers.

Answers:

- a) Show the location of Rwanda on the map of Africa above.

The answer of this question, refer to student book, learning activity 4.1

- b) Rwanda is a landlocked country. What does this mean?

- *A land locked country is a country which is surrounded by other countries all over. It is a country without direct access to the sea or ocean.*
- *It is a country by without a sea port.*

- c) What is the total area covered by Rwanda in square kilometers?

The total area of Rwanda is 26,338 Sq. km.

d) Application activity

Questions and suggested answers to assess the lesson learning objective

Question;

- 1) Make a brief presentation of Rwanda with a special focus on latitudinal and longitudinal location, the area, population and the economic aspects.
- 2) Draw a sketch map of Rwanda and locate provinces and their districts.

Answer

- Rwanda is a landlocked country situated in central Africa. Also known as 'The Land of a Thousand Hills. Rwanda is a landlocked country because it is not directly connected to the sea of ocean. It is surrounded by countries all over hence not bordering the ocean. The capital, Kigali, is located near the Centre of Rwanda.

- **The location of Rwanda**

The country lies 75 miles south of the equator in the Tropic of Capricorn, 880 miles 'as the crow flies' west of the Indian Ocean and 1,250 miles east of the Atlantic Ocean - literally in the heart of Africa.

Rwanda is bordered by Uganda to the north, Tanzania to the east, Burundi to the south and the Democratic Republic of Congo to the west. According to latitudes, Rwanda is located between **1° 04' and 2° 51'** south of the Equator and in terms of Longitudes, Rwanda is between **28°53' and 30°53'** of longitude east of the Greenwich or Prime meridian.

- **The Relief.** Geographically Rwanda is dominated by mountains in the north mainly volcanoes and bordered by Lake Kivu to the west. The Eastern region is flat dominated with plains.
- **The vegetation and flora.** Much of Rwanda's natural rainforest - once covering a third of the country - has been cut down to make way for its ever-burgeoning population. The only remaining large stands of forest remain at the Nyungwe Forest National Park and, to a lesser degree, the Volcanoes National Park a mountainous area more dominated by rank vegetation and bamboo forest. The forest at Nyungwe is a true rainforest (receiving more than 2 000mm of rain a year) and is one of Africa's oldest. It has a very high biodiversity with at least 200 species of tree and a similar number of orchids.

Mountain grassland and moorland traditionally covered much of Rwanda's rolling highlands but terraced agriculture now dominates. This has led to serious soil erosion in some areas.

The poorer soils of the flatter east support typical open savannah and broad-leafed woodland species, acacias and grasses, similar to the classic savannahs and open woodland of East Africa. The wetlands of the Akagera National Park are fringed by riverine forest and papyrus swamp.

In Rwanda the great animals of the wild are protected from poachers and roam free in the vast national parks. The Volcanoes National Park in the Virunga volcanic mountains with its high altitude forests is world famous for mountain gorillas - timid and passive family oriented giants. The Park is teeming with wildlife both large and small, while Lake Kivu to the west offers beautiful beaches, jutting peninsulas and an archipelago of islands.

- **Climate.** The climate of Rwanda is not truly equatorial in spite of the country being located only 2° south of the equator. The climate is greatly influenced by the hilly and mountainous landscape making the relief of the country the main determining factor. The relief has modified the climate to a temperate tropical highland climate. It has lower temperatures than those typical for equatorial countries due to its high elevation. The climate of Rwanda is defined by two rainy seasons; February to May and September to December. Other months form dry seasons. During the rainy seasons, heavy downpours occur almost daily, alternating with sunny weather. The annual rainfall averages 800 millimeters and is generally heavier in the western and northwestern mountains than in the eastern savannas. Rainfall ranges from about 900 millimeters in the east and southeast to 1500 millimeters in the north and northwest volcanic highland areas. The Northern rainfall is heavier due to the orographic rainfall received. This is influenced by the mountains and highlands that have dense vegetation.
- **The total area and size of Rwanda.** At 26,338 square kilometers, Rwanda is the world's 149th largest country and the fourth smallest on the African mainland after Gambia, Swaziland, and Djibouti. Comparatively, Rwanda is 86 times smaller than the Democratic Republic of Congo, 35 times smaller than Nigeria, 90 times smaller than Algeria and 323 times smaller than Brazil. It is comparable in size to Burundi, Lesotho, Haiti and Albania.
- **Total population.** The fourth Population and Housing Census conducted in August 2012 (2012 RPHC), revealed that the total population of Rwanda was at that moment 10,515,973 persons.

Females were 5,451,105 or 51.8% and males were 5,064,868 or 48.2% of the total population. The total numbers of foreigners were 87,346 of which 70% were DRC citizens.

At the same time, the 2012 RPHC counted 511,738 elderly persons (60 years and above) corresponding to 4.9% of the total population with 207,239 men

and 304,499 women, while the youth, i.e. persons whose age is between 14 years and 35 years, were 4,166,777; corresponding to 40% of the total population. Among them, females were 2,033,130 and males were 2,133,647.

Overall, the 2012 RPHC counted 446,453 persons aged 5 years and above, with disabilities in Rwanda. Among them, females were 225,303 and males totalized the number of 221,150.

In the previous Census conducted in 2002, the total population of Rwanda was 8,128,553 persons. With the current numbers, according to experts; the population of Rwanda is expected to double towards 2047.

Rwanda is an overpopulated country whose production is mainly based on agriculture, and does not meet the needs of the population.

The population of the provinces and districts of Rwanda by census years.

Name	Status	Population Census 2002-08-16	Population Census 2012-08-15
Eastern	Province	1,700,137	2,595,703
Bugesera	District	266,775	361,914
Gatsibo	District	283,456	433,020
Kayonza	District	209,723	344,157
Kirehe	District	229,468	340,368
Ngoma	District	235,109	336,928
Nyagatare	District	255,104	465,855
Rwamagana	District	220,502	313,461
Kigali	City	765,325	1,132,686
Gasabo	District	320,516	529,561
Kicukiro	District	207,819	318,564
Nyarugenge	District	236,990	284,561
Northern	Province	1,560,862	1,726,370
Burera	District	320,759	336,582
Gakenke	District	322,043	338,234
Gicumbi	District	359,716	395,606
Musanze	District	307,078	368,267

Name	Status	Population Census 2002-08-16	Population Census 2012-08-15
Rulindo	District	251,266	287,681
Western	Province	2,043,555	2,471,239
Karongi	District	278,944	331,808
Ngororero	District	282,249	333,713
Nyabihu	District	268,367	294,740
Nyamasheke	District	325,032	381,804
Rubavu	District	292,653	403,662
Rusizi	District	331,950	400,858
Rutsiro	District	264,360	324,654
Southern	Province	2,058,674	2,589,975
Gisagara	District	262,128	322,506
Huye	District	265,446	328,398
Kamonyi	District	261,336	340,501
Muhanga	District	287,219	319,141
Nyamagabe	District	280,007	341,491
Nyanza	District	225,209	323,719
Nyaruguru	District	231,496	294,334
Ruhango	District	245,833	319,885
Rwanda	Republic	8,128,553	10,515,973

Source: National Institute of Statistics Rwanda (web).

- **The Soil and Substratum:** The land exploitation workforce is 89.6% of the active population (from the National Institute of Statistics report 2006). Over a total area of 26,338sq km, only 52% is exploitable i.e. about 1,385,000ha. Marshlands suitable for farming would add about 100,000ha to this area. At present available arable lands are about 0.60ha per household. Rwanda's substratum holds **minerals such as tin, wolfram, gold, Colombo-Tantalite and quarries**. Its land surface is 24,668 sq. km while its water surface is 1,670 sq. km.

Water Resources: Rwanda has a dense hydrological network. It is split up into two basins by a water divide line – the ‘Congo Nile Ridge.’ To the east of the Congo Nile Ridge there is the Nile Basin covering up to 67% of the national territory and at the west there is the Congo Basin covering 33%.

Rwanda is covered by diverse ecosystems – natural ecosystems, mountainous humid forests, savannah, wetlands, and planted forests. All these host a rich variety of flora and fauna species.

Economically, Rwandan economy is still agrarian, largely supported by the earnings from the export of coffee and tea, after tourism. Rwanda ranks among the poorest nations of the world. The agriculture sector contributes significantly to the GDP (Gross Domestic Product).

- **Administrative divisions of Rwanda**

Politically, the country is divided into 5 administrative divisions known as provinces. They include; Northern Province, Eastern Province, Southern Province, Western Province and Kigali City. These provinces are further portioned into 30 districts. The districts are then narrowed down to 416 sectors. Each of the provinces is headed by a governor. The districts are headed by mayors and the sectors are headed by the executive secretaries.

Lesson 2: The relief regions of Rwanda

a) Learning objective:

Locate the major relief regions of Rwanda.

b) Prerequisites/revision/introduction

To start the lesson, the tutor will ask student-teacher to make a field work tour around the school; they observe and record the major relief features they observed.

From filed visit, in groups, the student-teachers will sum up the physical features observed. Using available resources, they explain what relief features are and explain the relief regions of Rwanda.

c) Teaching resources

This lesson will use different resource including the internet, the textbook of social studies, atlas, environment, geography books and other reference books related to social studies.

d) Learning activity

The tutor will ask the student-teachers to make a field visit around the school. They will collect and record information about physical features. Back to

classroom, they will write down the features they recorded. Using a map of Rwanda, they will describe characteristics and structural configuration of different areas of Rwanda. The group presentation will follow in front of the class. It is up to the teacher to supplement the work of student-teachers and make a harmonized conclusion. However, a short the checking for understanding by the teacher is mandatory.

Answers:

- 1) Explain the meaning of relief.

The term relief refers to the nature of the landscape or the topographical set up of an area.

- 2) Describe the main relief regions of Rwanda.

The answer to question 2, refer to the application activity 4.2

c) Application activity

Questions and suggested answers to assess the lesson learning objective.

Question

Make a brief description of topographic units of Rwanda

Answer

1) Congo-Nile Watershed(CNW)

- CNW describes the highlands of the Western part that compose the divide of River Nile and River Congo.
- The CNW (Congo-Nile Watershed) stretches from the north to the south on a length of about 160km and a width varying between 20km and 50km.
- The CNW culminates on Mount Muhungwe the north (3000m), decreases to 1200m at Rugabano in Kibuye and ends at the south in Nyungwe Forest, where its altitude can reach 2750m.
- The mean altitude of this CNW can be estimated at 2500m. It is a mountainous chain with sides highly dissected by a lot of valleys, with steep slopes and pointed tops. In the north, the CNW is limited by volcanic mountains.
- At the south west of the CNW we find Bugarama plain which an extension of Imbo plain belonging to Burundi. This is a tectonic ditch filled of deposits. With its 900m of altitude, Bugarama is the lowest region of the country.

2) The Central Plateau

- Extending from the south of Musanze to the border of Burundi, the central plateau is made of hills separated by large valleys are rich in alluvial deposits.
- This topographic unit is large – about 80km – nearly half the country.
- The altitude varies between 1500 and 2000m.
- This region is made up of many flat-topped hills and it is the reason why Rwanda is nominated “The Land of 1000 Hills.” This hilly region is dominated at the north by highlands of Buberuka and Gicumbi at an altitude of 2000m.
- This region covers areas such as Muhanga, Ruhango, Nyanza, Bugesera, Huye, Gisagara and Kigali.

3) The Eastern Plains

- These plains extend from the east of Akanyaru – Kigali – Gicumbi to the border of Tanzania. These develop basins of Umutara and Bugesera.
- Its altitude generally varies between 1000m and 1500m. This is a flat area occupied by many lakes. They include Lakes Cyohoha, Lake Sake, Lake Mugesera, Lake Muhazi and others. Rivers include River Akagera, River Nyabarongo and their tributaries.
- The swamps or marshlands are located near the lakes and rivers.

4) Slopes and borders of Lake Kivu

- This relief region is located along the shores of Lake Kivu.
- The average altitude ranges between 1460 and 3000 meters above sea level.
- The landscape of this area was greatly formed by tectonic forces.
- The region has steep escarpments that have been severely eroded.

5) Rusizi region (Bugarama plains)

- This is the lowest region in Rwanda.
- It is also the hottest part of the country.
- It is located to the southwest of the country close to the border with Burundi and the Democratic Republic of Congo.
- It is an extension of Imbo plain in Burundi.

6) Virunga Region (Volcanoes)/Birunga region

- This is the relief region of Rwanda that is associated with the presence of volcanic ranges, hence the name volcanic region.
- The chain of Virunga extends for 90km and 5 volcanoes are located in

Rwanda, while another 3 are located in DRC. The volcanic activity of that chain is complex. The fluid lava emitted has diverted the Nyabarongo River from South-North direction to South-East direction.

Lesson 3: The major relief features of Rwanda

a) Learning objective

Identify the major relief features of Rwanda using a map.

b) Prerequisites/revision/introduction.

This lesson is linked to relief regions of Rwanda. To start the lesson, the tutor will ask student-teachers move around the school. They observe and record everything they are seeing and they go back to class. In classroom they will share physical features they found.

c) Teaching resources

This lesson will use different resource including the internet, the textbook of social studies, atlas, environment, geography books and other reference books related to social studies.

d) Learning activity

The tutor will ask the student-teachers to make a field visit around the school. They will collect and record information about physical features. Back to classroom, they will write down the features they recorded. Using different resources, they will describe relief features and explain how they are formed. They will make a class presentation to share findings. They work together to harmonize the content of the day followed by evaluation.

For the answer to this activity, refer to the application activity 4.3

e) Application activity

Questions and suggested answers to assess the lesson learning objective

Question

Describe the physical features found in Rwanda.

Answer

Physical features are things that are naturally created features. They are found on the earth's surface or form in ocean basins (marine relief features). They include mountains, valleys, rivers, lakes, hills, escarpments, plains and plateaus.

- 1) Mountains:** Mountains are very large and high landforms rising to great elevation of height above the sea level and bounded by steep slopes. To

be called a mountain, it should have above 2000 meters. Examples of mountains found in Rwanda are: Mount Karisimbi, Mount Sabyinyo etc. The mountains are formed internal landform forming processes such as vulcanicity and folding.

- 2) **Hills:** A hill is a raised part of the land which is lower than a mountain. Examples of hills include the hills of Nyamahura, Bugamba, hills of Gishwati and others. The hills result from folding and denudation processes.
- 3) **Valleys:** Valleys are low-lying areas between hills. Valleys usually contain a stream or river flowing along the valley floor. The sides of large valleys in low-lying areas are usually gently sloping with an average slope of just a few degrees. Every valley is separated from adjacent valleys by a ridge called a drainage divide. An example is Bugarama Valley. Both valleys and hills are either as a result of erosion, folding, faulting or warping. In folding synclines represent the valleys while the anticlines represent the hill.
- 4) A **plain** is a low and nearly flat land. Plains are extensive areas consisting of gently sloping valleys separated by low hills. Plains occur in central and eastern Rwanda. Along rivers (Nyabarongo, Akanyaru and Akagera), there are alluvial (flood) plains which are formed by the gradual accumulation of silt brought down by rivers. However, some plains were formed due to peneplanation process where a prolonged period of erosion have worn down lands that were once much higher.
- 5) **Plateau:** A plateau is a raised land that is almost flat at the top, slopes gentle on all sides to the lower ground. It is an elevated plain. In Rwanda, a plateau covers the central part and the eastern province. The plateaus were formed due to large scale compression that formed the basin and consequent upward of the surrounding area.
- 6) **Escarpment:** An escarpment is a steep step like face produced by fracturing of the rock, followed by the displacement of one block on the opposite of the fault line. These are landforms found around Lake Kivu. They are formed as a result of faulting.
- 7) **Rivers:** A River is anybody of fresh water flowing from the source to its mouth which may either be a large lake or to the sea. Sources of rivers include; Mountains of uplands, lakes, springs and tributary streams. There are many rivers in Rwanda: Akanayaru, Nyabarongo, Rusizi, Sebeya, Akagera and many others. The largest river in Rwanda is Akagera.

Lesson 4: Problems related to the relief features of Rwanda

a) Learning objective

Explain major problems related to the relief features of Rwanda and suggest solutions.

b) Prerequisites/revision/introduction

To start the lesson, the tutor will ask student-teacher to make a field work tour around the school; they observe the environment and suggest possible problems linked the observed environment.

c) Teaching resources

This lesson will need different resources including the internet, the textbook of social studies, atlas, environment, geography books and other reference books related to social studies.

d) Learning activity

The tutor will ask the student-teachers to make a field visit around the school. They try to suggest possible problems related to the environment. They use different books, internet and other relevant documents to find other problems which are no found in the surrounding environment. The student-teachers will then present their findings. The tutor will help to harmonize the content of the day and evaluation.

Expected answer to this learning activity

What are the problems associated with settling on steep slopes?

Despite their importance, the relief features of Rwanda also pose the following problems.

- Steep slopes causes mass wasting which can take life living beings where it occurs.
- High mountains are difficult to practice mechanised agriculture.
- Steep slope exposes the land to soil erosion.
- In high slope, the construction of roads it is very expensive.
- The leeward sides of the mountains formed receive very little rainfall etc.

e) Application activity

Questions and suggested answers to assess the lesson learning objective

Question;

Describe the problems related to the relief features of Rwanda.

Answer

Check the student book

Lesson 5: Importance of the relief features to the development of Rwanda

a) Learning objective

Give the importance of the relief features of Rwanda.

b) Prerequisites/revision/introduction

The lesson starts with tutor's posters representing different relief features. The students in group will move around writing the importance of every relief features.

c) Teaching resources

This lesson will use different resource including the internet, the textbook of social studies, history and atlases of geography and other reference book related to social studies.

d) Learning activity

The activities will be done in groups, where student-teachers will move to analyze posters representing physical features. Every group will write one importance to each physical feature and continue to other physical features until they cover all posters. They will need to use different documents to give researched and relevant information. The tutor will pass reading the answers provided by the Student- teachers and harmonize the importance of physical features to be assimilated by all student-teachers. The activity will end up therefore with a summary of the findings and followed by checking of understanding.

The answer to this learning activity, refer to application activity 4.5

e) Application activity

Questions and suggested answers to assess the lesson learning objective

Question

What are the benefits of various relief features in the area where they are found?

Answer

- The plateaus and basins support growth of crops due to the fertile soils.
- Human settlement and the construction of transport and communication

networks is very easy especially on plains.

- The highlands influenced the climate of the areas where they are found especially rainfall formation.
- The formation of lakes in valleys has encouraged fishing and sand harvesting.
- Folding leads to the formation of hills which are tourist attraction sites. Tourists contribute to the economy of the country by bringing in foreign exchange
- Features such as Lake Kivu act as a source of water for River Rusizi. The many rivers and lakes in the country provide water for domestic and industrial uses.
- The escarpments and fault scarps along rivers e.g. River Rusizi are important for the generation of hydroelectric power. etc

4.6. Summary of the unit

This unit dealt with formation of relief features of Rwanda. Within this unit, we developed different lessons such as general presentation of Rwanda, relief regions of Rwanda, relief features, problems and importance of relief features where they are located.

4.7. Additional Information for tutors

The student book does not cover everything about relief regions of Rwanda and the way relief features were formed. As the relief formation is linked to landform evolution, the teacher will need more information it to be able to explain well the process of formation of relief features. This is additional information to the tutor.

Fold is the bending in a rock layer caused by forces within the crust of the earth. The forces that cause folds range from slight differences in pressure in the earth's crust, to large collisions of the crust's tectonic plates. As a result, a fold may be only a few centimeters in width, or it may cover several kilometers. Rock layers can also break in response to these forces, in which case a fault occurs. Folds usually occur in a series and look like waves. If the rocks have not been turned upside down, then the crests of the waves are called anticlines and the troughs are called synclines.

Fault is cracking in the crust of the earth along which there has been movement of the rocks on either side of the crack. A crack without movement is called a *joint*. Faults occur on a wide scale, ranging in length from millimeters to thousands of kilometers. Large-scale faults result from the movement of tectonic plates, continent-sized slabs of the crust that move as coherent pieces

- A watershed is bounded by the ridges or hilltops that divide it from adjacent watersheds, or drainage basins. Basin is an area of relatively low-lying ground surrounded by higher terrain.
- A drainage basin is an area drained by a stream and its tributaries.
- **A river** forms in a watershed, a large area of land from which water contributes to only one stream or river.
- When rain falls onto hillsides or when snow melts, the water runs downhill and accumulates in streams.
- A tributary stream eventually joins the main river channel at a confluence. The amount of rain or snow that falls in different parts of a watershed controls the size of a river.
- In very large rivers, the water comes from rain that may have fallen as far as 6,000 km (4,000 mi) away. During the journey through rills and streams, the water's flow may erode and deposit sediment in the river's channel and on its floodplain.
- The biggest rivers usually carry the largest amount of sediment. Yet some of the largest rivers may carry very little sediment because the watershed may not have a lot of sediment.
- A river carries the most sediment when the flow is the highest. When a river experiences high flows, it fills in (floods) the floodplain, a flat region of a valley surrounding the river channel. As the water first reaches the floodplain, it may erode the sediment on the floodplain. As the flood drains from the floodplain, slower-moving water may deposit sediment onto the floodplain, replacing some of the sediment lost.

4.8. Skills Lab

Topic: Relief features of Rwanda

Duration: 80minutes.

Materials required: Clay or mud, map of Rwanda, gloves, water, board, stones etc.

Tutor preparation: Mold a sample of volcanic chain as an example.

Learning objectives (s): Student-teachers will be able to:

- Identify the relief features of Rwanda.
- The student –teachers should be able to mold a map of Rwanda using any local materials and indicate different relief features.

Instructional objective: Using Clay or mud, map of Rwanda, gloves, colours, water, board and stones, student-teachers will be able to mold effectively a map of Rwanda with different relief features.

Activity 1: Build: (20 minutes)

- Tutor starts by asking the student-teachers to give the different relief features of Rwanda.
- Student-teachers list them down and then the tutor shares the objectives of the lesson.
- Show the different relief features and ask student-teachers to locate them in Rwanda.
- Describe the relief features of Rwanda.

Activity 2: Practice (30 minutes)

- Divide class into 5 skills lab teams (*this depends to the class size*).
- Ensures all students are involved.
- Responds to questions if any.
- Ensure that gender balance and inclusion is catered for.
- Each group should then a map of Rwanda with relief features.

Activity 3: Present (30 minutes)

- Groups will explain to the whole class how they molded the map of Rwanda with relief features.
- Groups will explain the reasons represented relief features are located where they are on the map.
- Tutor asks follow up / probing questions (sample questions for the tutor).
 - Name relief features found in north of Rwanda.
 - Identify common relief features found in east.
- Give feedback to each group.
- Encourage note taking.
- Conclude, supplement what has been presented.

Portfolio Assessment:

- Give an individual portfolio assignment. - Connect it to the Key unit competence; it should be a practical activity that will require a student to move out of class.

E.g. The tutor will ask the student, individually, to mold and describe the molded relief feature which is found in his/her neighborhood.

Expected Answers:

- To mold a hill.
- How is the slope? (Gentle or steep).
- Approximate the altitude of the hill.
- How is the summit of the hill? (Round, flat, pointed).

Evidences:

- What is the name of the relief feature molded?
- Describe types of vegetation found on the hill.
- Telephone number of the people who settle near the hill.
- In which village the relief feature is located?
- Originality.

Knowledge, Skills, attitudes and values:

- Interview, problem solving, citizenship, networking, respect, creativity, etc.

4.9. End unit assessment

For the answers, see the student's book for detailed information and most of the questions of this unit have been answered in this teacher's guide.

- 1) State the location of Rwanda using latitudes and longitudes.
- 2) Name the neighbouring countries of Rwanda.
- 3) Rwanda is a landlocked country. Define the term landlocked.
- 4) Show how the relief of Rwanda has influenced human activities and the economic development of the country.
- 5) With the help of a sketch map of Rwanda, name and indicate the relief regions of Rwanda.
- 6) Analyse the importance of the relief features in the economic development of Rwanda.

Answers

- 1) For the question 1, refer to student book on general presentation of Rwanda.
- 2) For the question 2, Refer to student book on general presentation of Rwanda
- 3) Rwanda is a landlocked country. Define the term landlocked.

A landlocked state or landlocked country is a **sovereign state** entirely enclosed by land.

- 4) Show how the relief of Rwanda has influenced human activities and the economic development of the country.
 - Plains and plateaus influence agricultural activities.
 - Lakes have promoted fishing activities.
 - Mountains like volcanoes harbor gorillas which attract tourists and

they contributed in the country's revenue.

- Rivers and lakes have sand which is mined and sold for money.
 - High landforms in north and western part of Rwanda are responsible for orographic rainfall. This rain encourages the cultivation of crops in all seasons. All these activities led to the development of Rwanda.
- 5) For the question 5, refer to student book on the relief regions of Rwanda.
 - 6) For the question 6, refer to student book on the importance of the relief features in Rwanda.

4.10. Additional activities

4.10.1. Remedial activities.

Question

- 1) List four countries surrounding Rwanda.
- 2) State the area of Rwanda in square kilometers.
- 3) List six topographic units of Rwanda.

Possible answers

- 1) Uganda in North, Tanzania in East, Democratic Republic of Congo in West and Burundi in South of Rwanda
- 2) The area of Rwanda is 26 338sqkm
- 3) Congo Nile crest/ watershed, Central Plateau, Volcanic zone, Eastern plains, borders and slopes of lake Kivu and Bugarama Plain

4.10.2. Consolidation activities

Question

What are the problems associated with the relief features?

Answer

- High mountains cause mass wasting and soil erosion.
- Overflowing river destroys the crops in the floodplain.
- Hills hinders mechanized agriculture.
- Rift valleys hinder transport and communication etc.

4.10.3. Extended activities

Question

"Physical features are responsible for tourism industry development in Rwanda". Discuss.

Answer

In its broadest sense, the tourism industry is the total of all businesses that directly provide goods or services to facilitate business, pleasure and leisure activities away from the home environment.

A big number of tourist attractions of Rwanda are physical features and the resources conserved there. These physical features include.

- Lakes such as Kivu, Burera, Ruhondo.
- Mountain gorillas in the volcanos national parks.
- The national game's park
- Mountains and plateau.
- Waterfall (Rusumo) and the swamps of Rugezi, waterfall of Ndaba and Rusizi.
- National vegetation especially in Nyungwe and Gishwati forest.
- Panoramic sites: mountains (Regama, Kabuye, Mushubati, mountain Kigali, Chain of Huye).
- Cave and Tunnels (Tunnel of Musanze, Busasamana).
- Historic rocks of Nyakabuye (Cyangugu).

However, there are other touristic attractions which are visited and the country get money from them. They include;

- Cultural activities of different people. For example: Traditional dances, drums, traditional and ceremonies
- The king's palace (Home) at Nyanza (Butare)
- The national museum in Butare.
- Genocide memorial sites. For example: at Gisenyi, Nyamata, etc.
- Sports activities for example, CECAFA and other football matches, basketball, volleyball, tennis.
- Sunny and favorable climate.
- Famous sites due to historic events.

Even though, the physical features play a great role in the development of tourism industry, there are other tourist attractions which play a crucial role in tourism of Rwanda.

UNIT 5

ROCKS IN RWANDA

5.1. Key Unit competences

The student-teacher should be able to compare major types of rocks in Rwanda and evaluate their importance.

5.2. Prerequisite (knowledge, skills, attitudes and values)

In order to study this unit the student teachers should have knowledge, skills and competences on the following issues:

- Classification of rocks in Rwanda.
- Characteristics of rocks.
- Importance of rocks.

In addition, the student teacher should have an understanding of where various types of rocks are found in Rwanda and their importance.

5.3. Cross-cutting issues to be addressed

- **Environment and sustainability.** In this unit, the tutor should help student teachers to appreciate the need to conserve and protect some of the rocks as they are part of the environment. Since some of these rocks are crucial resources, they are prone to depletion if not well conserved and protected.
- **Inclusive education:** Through learning and teaching process of this unit, care will be given to all learners including Special Education Needs cases. At this time, all student teachers will be given a quality and equitable education that meets their basic learning needs, and understands the diversity of their backgrounds and abilities
- **Peace and values education:** In this unit of rocks in Rwanda, student teachers should be reminded about peaceful coexistence as some of these rocks are very useful to man sometimes their exploitation may spur conflicts. The tutor should emphasize harmony in trying to utilize some of these rocks among the citizens as these are God given endowments

5.4. Guidance on introductory activity

At the beginning of this *Unit 5*, the introductory activity gives an insight of what is to be covered under this unit.

As they try to research about these questions, it will give them a good background information about this unit.

5.5 List of lessons/sub-heading

#	Lesson title	Learning objectives	Number of periods
1	Definition and classification of rocks in Rwanda Characteristics of rocks	To be able to define a rock and give different types of rocks To explain the characteristics of each category of rocks	2
2	Importance of rocks	To explain the positive and negative importance of rock	1
3	Skills Lab	To identify the types of rocks and explain their characteristics	2
4	End of unit assessment		1

Lesson 1: Classification of rocks in Rwanda

a) Learning objective

The student teachers should be able to define a rock and explain their classification.

b) Teaching resources

The following materials will help you during the lessons; Year two social studies student teacher's Book, internet, video clips, computer, smart phone and different types of rocks, tactile maps and braille materials for learners who are visually impaired. Sign language should be used when teaching student teachers with hearing impairment.

c) Prerequisites/Revision/Introduction

- To begin this lesson, a tutor can start the lesson by showing different rock types collected. Ask learners to arrange them according to their similarities.
- They can discuss in groups their similarities and differences.

d) Learning activity

- Let the student teachers sit in groups and research about different types of rocks. They can use internet or text books.
- The group leader can present their findings to the class.

Answers to introductory Activity 5.1

1) The different types of rocks in Rwanda are

- Igneous
- Sedimentary
- Metamorphic

2) The following are the characteristics of rocks

Characteristics of igneous rocks

- They are formed by cooling of magma which solidifies into or on to the earth's surface.
- They have a lot of minerals.
- They do not have strata or layers.
- They do not contain fossils (fossils are remains of plants and animals fixed in rocks)
- The number of joints increases upwards in any igneous rock
- They have a crystal appearance after cooling and solidification e.g. quartz and dolerite.

Characteristics of sedimentary rocks

- Sedimentary rocks are the product of other rocks that were already formed.
- They appear in the form of layers or strata.
- They are formed from materials from the older rocks, plant and animal remains.
- Sedimentary rocks are found over the largest surface area of the earth.
- Sedimentary rocks have various minerals because they are a product of different sources.
- Most of the sedimentary rocks allow liquids and gases to pass through them (permeable and porous).
- Sedimentary rocks are characterized by different sizes of joints.
- Sedimentation units in the sedimentary rocks having a thickness of greater than one centimetre are called *beds*.
- They have no crystalline look because they do not form under the influence of heat.

Characteristics of metamorphic rocks

- They are harder than the original rocks. Therefore, they are not easily eroded.
- They do not split easily.
- They contain minerals.
- Some are made up of just one mineral, for example, marble.
- They have a different texture or feel from the original rock.

3) Economic importance of rocks

- Used in building and construction.
- Source of minerals.
- Formation of soil.
- Source of water.
- Used in road construction.
- Promotes tourism.
- Source of energy used in research and study purposes.

Lesson 1. Classification and characteristics of rocks in Rwanda

Answers to Learning Activity 5.1

i) Guidance to learning activities

Group learners into pairs and let them do learning activity 5.1, the tutor is expected to move around and assist in group discussion. S/he will ask student teachers to present their ideas from the discussions to the rest of the class while they take notes. Remember to let them write points as they discuss in groups. They should appoint one person to represent them during plenary discussion. They should as well appoint a class secretary to note down points agreed on as one of them leads the presentation. In addition to this, the lesson can be carried out in the field visit to facilitate student teachers to interact with the real world.

ii) Answers to learning activity

- 1) Identify the types of rock given above.

Answer: Pumice

- 2) In which category can it be classified?

Answer: igneous rock

3) Give the characteristics of the rocks identified above.

Answer

Characteristics of igneous rocks

- They are formed by cooling of magma which solidifies into or on to the earth's surface.
- They have a lot of minerals.
- They do not have strata or layers.
- They do not contain fossils (fossils are remains of plants and animals fixed in rocks)
- The number of joints increases upwards in any igneous rock
- They have a crystal appearance after cooling and solidification e.g. quartz and dolerite.

Application activity 5.1

1) Describe the characteristics of metamorphic and sedimentary rocks.

Answer: Refer to student teacher's book under 5.1. (Classification and characteristics of rocks in Rwanda)

2) Identify district of Rwanda where igneous rocks are found.

Answer: Refer to student teacher's book under 5.1. (Classification and characteristics of rocks in Rwanda)

3) Observe rocks found in your environment and explain their characteristics.

Answer: Refer to student teacher's book under 5.1. (Classification and characteristics of rocks in Rwanda)

Lesson 2: Characteristic of rocks

a) Learning objective

The student teachers should be able to identify the characteristics of rocks.

b) Teaching resources

The following materials will help you during the lessons; Year two social studies student teacher's Book, internet, Video clips, and pieces of rocks, tactile maps and braille materials for learners who are visually impaired. Sign language should be used when teaching student teachers with hearing impairment.

c) Prerequisites/Revision/Introduction

To begin this lesson, a tutor can start the lesson by projecting displaying the rock pieces and ask student teachers to identify their characteristics.

d) Learning activity

Guidance to learning activities

Let the student teachers move around and observe the collected samples of the rocks. They can try to compare their characteristics, note them down and make a presentation.

Answers to learning activity

Question

Explain the importance of rocks.

Answer:

Refer to student teacher's book under 5.2. (Classification and characteristics of rocks in Rwanda)

Answers to Application activity 5.2

By discussing the importance of rocks in Rwanda, student teachers need to give both positive importance and negative importance. The question requires learners to display knowledge and understanding of both advantages and disadvantages of rocks. The disadvantages of rocks are explained in the student teachers text book.

Answers to End of unit Assessment

- 1) This question requires the student teacher to explain merits (advantages) and demerits (disadvantages) of rocks in Rwanda.

The merits of rocks include the following;

- Helps in soil formation.
- Contains valuable minerals.
- Some rocks act as tourist attractions.
- Used in construction.
- They are used for research and study purposes.
- Some rocks are source of energy e.g. coal.

The demerits of rocks include;

- Areas with many rocks such as outcrops make it difficult to develop transport and communication infrastructure, especially roads.

- In steep areas, falling rocks lead to serious accidents where houses or homes are destroyed
- It is difficult and expensive to construct houses in rocky areas.
- The formation of sedimentary rocks leads to creation of young soils which barely support agriculture.

5.6. Unit summary

- A Rock is a naturally occurring solid material that is made up of one or more minerals that constitutes a significant part of the earth's crust.
- Rocks in Rwanda are categorized into igneous, sedimentary and metamorphic.
- Igneous rocks don't have strata, have many minerals and have a crystal appearance after cooling and solidification.
- Sedimentary rocks form from other rocks, have layers or strata and they have joints.
- Metamorphic rocks They are harder than the original rocks. Therefore, they are not easily eroded, they do not split easily and they contain minerals.
- Rocks play an integral role in the development of our country because they help in soil formation, contain minerals that help in economic development of Rwanda.

5.7. Additional information to the tutor

Rocks can also be categorized according to their age. We can trace the age of rocks using a process called carbon dating. Using this method, we have Cambrian rocks, Precambrian, Mesozoic, Cenozoic and Paleozoic rocks.

5.8. Skills lab: Classification and characteristics of rocks

Topic: Characteristics of rocks

Duration: 80 minutes

Materials required: Rock pieces of different types, shovel, hammer or mattock, container and hoe

Tutor preparation: Tutor picks rocks of different types from different locations around the school

Learning objectives (s): Student-teachers will be able to:

- Identify different rock types
- Categorize the rocks
- Describe the characteristics of rocks

Instructional objective: By arranging rocks of different types, student teachers will be able to explain their characteristics perfectly.

Activity 1: Build (20 minutes)

- Tutor starts by asking the student-teachers to arrange the rocks collected in their categories based on their similarities.
- Student-teachers break these rocks to look at their structures.
- Student teachers can now observe the rocks.

The tutor introduces the lesson.

Activity 2: Practice (30 minutes)

- Divide class into 5 skills lab teams to observe the rocks and note down their characteristics. (*this depends to the class size*).
- Ensures all students are involved.
- Responds to questions if any.
- Ensure that gender balance and inclusion is catered for.
- Ensure that each member in the group takes notes.

Activity 3: Present (30 minutes)

- Groups will note down the characteristics of rocks in their note books.
- They will then choose a group leader to present the findings of each group.
- Tutor asks follow up / probing questions (sample questions for the tutor).
- Give feedback to each group.
- Encourage note taking.
- Conclude, supplement what has been presented.

Portfolio Assessment:

- Give an individual portfolio assignment. - Connect it to the Key unit competence; it should be a practical activity that will require a student to move out of class.

E.g. organize a field trip to Mines, Petroleum and Gas Board at your District Headquarters. Guide the student teachers about the different types of rocks from the officers. Each student teacher should note down the response from the respondent. Discuss with technical team about the rock types. Take note on the dialogue and submit to the tutor (the assessment should be given enough time for research i.e. at least the findings are submitted after one week).

Expected Answers:

The answers given should be in line with the characteristics of rocks given in the Year two student teachers social studies text book.

Evidences:

- Moving out of the college.
- Names of people of visited.
- Telephone number of the people visited.
- Name of the Institution.
- Originality.

Knowledge, Skills, attitudes and values:

- Interview, problem solving, citizenship, networking, respect, networking, etc.

Answers to End of Unit Assessment

	Type of rock	Location	Characteristics
1	Igneous	Nyabihu, Rubavu, Musanze, Burera	Refer to answers to learning activity 5.1, No.2
2	Sedimentary	Mostly in river valleys and wetlands	Refer to answers to learning activity 5.1, No.2
3	Metamorphic	Mostly in volcanic areas where they were subjected to intense heat and pressure from volcanicity.	Refer to answers to learning activity 5.1, No.2

5.9. Additional Activities

5.9.1 Remedial Activities

- 1) Define a rock.
- 2) Mention any three categories of rocks.
- 3) Mention any four areas in Rwanda where igneous rocks are found.

Answers to remedial activity 5.9.1

- 1) A Rock is a naturally occurring solid that is made up of one or more minerals that constitutes a significant part of the earth's crust.
- 2) The three categories of rocks are igneous, sedimentary and metamorphic.
- 3) Areas in Rwanda where igneous areas are found include, Nyabihu, Musanze, Rubavu, and Burera.

5.10.2 Consolidation Activities

- 1) Explain the characteristics of sedimentary rocks.
- 2) Describe the processes that led to the formation of sedimentary rocks

5.9.3 Extended Activity

'Rocks are more of an asset than a liability'. Discuss.

Possible answers to extended activity 5.3.1

This question tests student teachers whether they have knowledge of the meaning of an asset and a liability and how they can be linked to rocks. Assets in this case represent advantages while liabilities represent disadvantages. In such a context, the student teachers should first describe how rocks can be assets (advantages), they should however show how rocks can be liabilities (disadvantages).

The advantages and disadvantages are clearly explained in the student Year two Social Studies text book.

UNIT 6

SOILS IN RWANDA

6.1. Key Unit competence

The student-teacher should be able to compare major types of soil in Rwanda and assess their importance.

6.2. Prerequisite (knowledge, skills, attitudes and values)

The student-teachers are expected to have mastered the content of unit 8 of S2, where they studied the soils in Rwanda. This unit of senior two, greatly provides strong foundation that student-teachers can use to understand better the content of this unit 6 of Year two. It's very important to note that, they already have necessary knowledge, skills, attitudes and values. The difference is that, at this level the content as that in the Pupils' book is more detailed and goes beyond what the ordinary level program demanded. The following are the expected prerequisites to this lesson.

- Types of soils in Rwanda.
- Soil erosion and impoverishment in Rwanda.
- Soil conservation methods in Rwanda.

These already acquired knowledge, skills, attitudes and values should be used by the tutor to conduct diagnostic assessment as a way of measuring each student-teacher's abilities.

6.3. Cross-cutting issues to be addressed

There are many cross-cutting issues that can be applied in this lesson. In the student's book, the writers or authors used activities to integrate the crossing-cutting issues. The most highlighted one is that of environment and sustainability and peace and values education.

Even though, the writers used few cross-cutting issues that should not limit the creativity and innovativeness of the tutor. The activities used were just a sample. This calls for the tutor to take note of the cross-cutting issues that he or she is interested in. What is important to note, is that the following list of cross-cutting issues can be applied.

- **Gender Education:** both boys and girls will be enabled to exploit their full potential and talents without any discrimination or prejudice.
- **Financial Education** can be integrated in learning activities when studying the relationship between soils and human activities. For example, the tutor can remind his /her student-teachers using typical examples on how fertile soil can help them to practice arable farming. Thus, this can generate income/money.
- **Environment and sustainability:** with this cross-cutting issue, student teachers will acquire knowledge, skills, attitudes and values aiming at developing sustainable ways of soil management and conservation.
- **Inclusive education:** care must be given to all student-teachers including special education needs cases. All student-teachers should be given a quality and equitable education that meets their basic learning needs and caters for the diversity of their backgrounds and abilities. It can be integrated in classroom situation where tutor pays attention on student-teachers with special needs such as student-teachers with physical disabilities, hearing disabilities or communication difficulties and visual impairment. For the student-teachers with physical disabilities, the tutor will refer to video clip, or bringing some samples in classroom. For student-teachers with hearing disabilities or communication difficulties, in different learning activities the tutor will use enough illustrations, diagrams and sign languages where possible. For student-teachers with visual impairment, the tutor will help them to use their other senses like hearing and touch because these senses can help them to play and carry out some of learning activities thus promoting their learning and development. This cross-cutting issue can be integrated in all lessons.
- **Standardization Culture:** with this cross-cutting issue, student-teachers will acquire knowledge, attitude and values aiming at developing the culture of analyzing the standards of good soils in relationship with human activities.
- **Peace and values education:** can be integrated using the classroom situation, games and group discussions where student-teachers socialize and develop some values like sharing, honesty, cooperation, respect, etc.

6.4. Guidance on the introductory activity

The introductory activity in this unit, in the student teacher's book, is a basic tool used as orientation activity that enables the student teachers to connect the knowledge, skills, attitudes and values already acquired in other subjects. The answers for this introductory activity are arranged in a hierarch order from simple to complex. Hence the student-teachers are requesting to think out of

the box. That is, they should relate it with the studied topics in S2 under unit 8. Therefore, student-teachers' will be able to define the soil, identify different types of soils and the causes of soil erosion in Rwanda. Student-teachers may not be able to find the right answers but they are invited to predict possible answers. In case the student-teachers fail to come up with right answers to questions, the tutor may not immediately provide the possible answers but he/she should allow student-teachers to discover themselves the right answers through the learning and teaching process.

6.5. List of lessons

#	Lesson title	Learning objectives	Number of periods
1	Definition of soil, types of soils and where they are found.	Student-teacher will be able to: <ul style="list-style-type: none"> - State the different types of soils in Rwanda. - Research on the different types of soils in Rwanda and where they are located. - Appreciate the value of different types of soils in Rwanda. 	<u>2</u>
2	Soil erosion in Rwanda.	Student-teacher will be able to: <ul style="list-style-type: none"> - Identify the causes and the effects of soil erosion in Rwanda. - Explain the causes and effects of soil erosion. - Show concern for the causes and the effects of soil erosion. 	<u>2</u>
3	Soil conservation and the management measures in Rwanda.	Student-teacher will be able to: <ul style="list-style-type: none"> - Outline the appropriate soil conservation measures in Rwanda. - Suggest soil conservation measures. - Appreciate the importance of soil conservation in Rwanda. 	<u>1</u>
<u>4</u>	<u>Skills lab</u>	Student-teacher will be able to: <ul style="list-style-type: none"> - Analyse the texture of different soil samples. 	<u>2</u>

		- Determine which texture is best for growing vegetable crops. - Make a sack/bottle gardens vegetable gardens.	<u>2</u>
<u>5</u>	Assessment		<u>1</u>

The above table highlights all the lessons that have been created in relation to dividing the unit content into 5 lessons (lesson 1, 2 and 4 having 2 periods lesson 3 and 4 that should be covered within 1 period each. Below is the guidance on how to go about each lesson or sub heading.

Lesson 1: Definition of soil, types of soils and where they are found

a) Learning objective

- State the different types of soils in Rwanda.
- Research on the different types of soils in Rwanda and where they are located.
- Appreciate the value of different types of soils in Rwanda.

b) Teaching resources

- | | | |
|-------------------------------|---------------------------|--------------|
| - Flip charts | - Internet | - Tablet |
| - Manila papers | - Sample of types of soil | - Flip chart |
| - Print outs for the activity | - Projector | - Etc. |
| - Text books | Computer | |

c) Prerequisites/Revision/Introduction:

There is a direct link of Activity 6.1, intended to introduce the lesson with what the student-teachers studied in senior 2. Therefore, the activity supports diagnostic assessment (Formative assessment) to see how much the student-teachers know about the types of soils found in Rwanda at the same time, preparing the student-teachers for the lesson.

The student-teachers are expected to have mastered the content of unit 8 of S2, where they studied the soils in Rwanda. This unit of senior two, greatly provides strong foundation that student-teachers can use to understand better the content of this unit 6 of year two. These prerequisites include:

- Types of soils in Rwanda.
- Soil erosion and impoverishment in Rwanda.
- Soil conservation methods in Rwanda.

These already acquired knowledge, skills, attitudes and values should be used by the tutor to conduct diagnostic assessment as a way of measuring each student-teacher's abilities.

d) Learning activity

i) Guidance to learning activity

Group learners into pairs and let them do learning activity 6.1, the tutor is expected to move around and assist in group discussion. S/he will ask student teachers to present their ideas from the discussions to the rest of the class while they take notes. Remember to let them write points as they discuss in groups. They should appoint one person to represent them during plenary discussion. They should as well appoint a class secretary to note down points agreed on as one of them leads the presentation. In addition to this, the lesson can be carried out in the field visit to facilitate student teachers to interact with the real world.

ii) Answers to learning activity

- 1) Refer to the student-teacher's book under the types of soils and where they are found.
- 2) Refer to the student-teacher's book under table describing types of soils in Rwanda.

e) Application Activity

Question 1

Soil is the upper layer of the Earth in which plants grow. It is made up of a mixture of rock particles, organic matter, minerals, gases, liquids, air and living organisms that support life.

Question 2

The student-teachers are expected to draw a sketch map with reference to the map of Rwanda so that they can easily locate different types of soils in west and eastern part of Rwanda.

Question 3

Characteristics of loam soils:

- These are very fertile soil.
- They have the ability to support the growth of crops.
- They have a high content of humus, salt, sand and sometimes clay.
- They are well drained and rarely become waterlogged.

- They have high levels of water moisture which is maintained for a long period of time.
- They are found in the Northern and Western provinces of Rwanda.

Lesson 2: Soil erosion in Rwanda

This is the second lesson under unit 6 of Year two. It concerns with types of soil erosion in Rwanda, causes and effects.

a) Learning objective

Identify the causes and the effects of soil erosion in Rwanda.

Explain the causes and effects of soil erosion.

Show concern for the causes and the effects of soil erosion.

b) Teaching resources

In this lesson soil erosion, tutor is suggested to use photographs, videos, or conducting a short field visit around where probably soil erosion is seen. This will help student-teachers to discover and share findings and suggest possible solution to the destruction of soil.

c) Prerequisites/Revision/Introduction:

This activity is intended to introduce the lesson two and link it with lesson 1 studied before. The activity 6.2 requests student-teachers to recall the knowledge and skills gained from previous lesson in senior two about soil erosion in Rwanda.

d) Learning activities

i) Guidance to learning activities

For the activity 6.2, the tutor will give student-teachers an opportunity to read critically the given question and give them time so that student teachers can give correct answers. The tutor is requested to try to integrate some generic competencies as well as cross-cutting issues but he/she is free to choose a cross-cutting issue or generic competence taking into consideration the learning environment. In addition to this, the tutor will remember to manage time.

ii) Answers to learning activity

- 1) Explain the types of soil erosion in Rwanda.

Answers are found in student-teacher's book under types of soil erosion in Rwanda.

- 2) Discuss the causes of soil erosion in Rwanda.

Answers are found in student-teacher's book under causes of soil erosion in Rwanda.

3) Examine the effects of soil erosion in Rwanda.

Answer: Refer to the student teacher's book under Effects of soil erosion in Rwanda.

e) Application activity

Question 1: Identify the types of erosion in Rwanda.

Types of erosion;

- Splash erosion.
- Sheet erosion.
- Rill erosion.
- Gully erosion.

For more explanations, refer to the learner's book under types of soil erosion in Rwanda.

Question 2: Explain the causes of soil erosion in Rwanda.

Causes of soil erosion in Rwanda

- Relief.
- Climate.
- Destruction of vegetation.
- Bush burning.
- Poor methods of farming.
- Mining and quarrying.
- Overgrazing.

For more explanations, refer to the learner's book under causes of soil erosion in Rwanda.

Question 3: Examine the effects of soil erosion in Rwanda.

Effects of soil erosion

The following are the effects of soil erosion:

- Limited mechanized agriculture.
- Destruction of crops.
- Low soil productivity.
- Famine.
- Change of the Landscape.

- Siltation.
- Flooding.
- Destruction of transport system.

For more explanations, refer to the learner's book under effects of soil erosion in Rwanda.

Lesson 3: Soil conservation and the management measures in Rwanda

This is the third lesson under unit 6 of Year two. It will be covering all concerning with Soil conservation and the management measures in Rwanda

a) Learning objective

- Outline the appropriate soil conservation measures in Rwanda.
- Suggest soil conservation measures.
- Appreciate the importance of soil conservation in Rwanda.

b) Teaching resources

In this lesson soil conservation and the management measures in Rwanda

Tutor is recommended to conducting a short field visit around their where probably soil erosion is seen in order to suggest appropriate solutions. Use of internet is also good, textbook, manila paper, videos, etc.

c) Prerequisites/Revision/Introduction:

The present lesson has only one activity 6.3 and one application 6.3. These activities intend to assess the level of understanding and achievement.

d) Learning activity

i) Guidance to learning activities

- Basing on activity 6.1. Put student-teachers in groups of 6 and ask them to explain and share their views on this given activity. Tutor moves around in different groups to check on how best they are progressing, guiding them where they are stranded. In this case they rely on the knowledge and skills gained in the prerequisites for the unit. Allow them to freely interact so as to gain more knowledge and understanding of activity requirements.
- After their findings, tutor samples some groups of student teachers (one at a time) to present their findings in plenary. This inculcates in them the spirit of public speaking skills and self-confidence.
- The tutor sums up the student-teacher's findings to have a general consensus on explanation of various means of soil conservation.

ii) Answer to learning activity

- 1) Differentiate between soil conservation and soil management.

Answer: Soil conservation refers to the prevention of soils from erosion, degradation or loss of fertility while soil management refers to all the measures put in place to ensure proper use of soils in a sustainable manner.

- 2) Identify soil conservation measures in Rwanda.

Answer:

- Mulching.
- Crop rotation.
- Contour ploughing.
- Terrace farming.
- Intercropping.
- Fallowing.
- Zero grazing.
- Afforestation.
- Growth of cover crops.
- Education and mass mobilization.

e) Application activity

Question 1

- 1) The ways by which mulching and terracing prevent soil from erosion in Rwanda described as follow:

Answer: Mulching: This method consists of covering the bare ground with a layer of organic matter such as straw. This helps to maintain soil moisture and limit rapid evaporation.

Terrace farming: this method is practically used on the steep slopes to avail enough flat land to grow. It is best way to reduce surface run off and soil erosion.

Question 2

The role of education in fighting against soil erosion is discussed below:

Answer: Education and mass mobilization: this can be done through education of farmers and pastoralists about the causes and effects of soil erosion, and how to avoid them. This should also be done through agricultural seminars, radio programs, and demonstration farms.

6.6. Summary of the unit

The unit 6 of year two deals with soils in Rwanda. The key points of content to be highlighted in the unit are listed as follow: Definition of soil, types of soils and where they are found, soil erosion in Rwanda, Soil conservation and the management measures in Rwanda.

This unit content gives more details about the above points compared to what student-teacher have learnt in previous classes.

6.7. Additional information for tutor

Factors that influence soil formation

Soil formation is influenced by both natural and human factors. They are parent rock, climate, living organisms, topography, human activities and time. They are described below.

Parent rock

The parent rock is the rock material that breaks down to form soil particles. Parent rocks differ in terms of structures; some are hard while others are soft. Therefore, they are weathered at different rates. The rate of weathering of a parent rock also differs according to whether it has or does not have joints. Joined rocks are more susceptible to weathering and readily break down to give rise to soil particles.

The colour of the parent rock also determines the rate at which it absorbs heat, expands and contracts and therefore breaks down. Soil formation is likely to be faster on dark coloured rocks, compared to shiny ones which reflect heat. The composition of a rock directly determines the nature of the soil nutrients. For example, a quartz rock leads to the formation of sandy, porous soils, while a limestone rock leads to the formation of soils rich in lime. Weathering of laterite yields thin skeletal and poor laterite soils.

Climate

Through elements of climate mainly rainfall and temperature, climate influences the soil formation. Rain provides water which is the prerequisite for chemical weathering processes which leads to rock decomposition hence the formation of soils. Furthermore, high temperatures speed up the rate of chemical reactions. Because of this, soil formation in hot climates is faster than in cold regions.

Relief or topography

Topography also affects soil formation. It determines the rate of erosion of the surface rocks. Steep slopes are often more susceptible to erosion than gentle ones. This implies that there is a more rapid loss of nutrients on steep slopes

compared to gentle ones. This explains why only shallow, skeletal soils can form on steep slopes. Although steep slopes are associated with thin soils, they are also associated with rapid rates of soil formation because the rate of exposure of the parent rock to agents of weathering is high. Gentle slopes tend to have deep, mature and well developed soils because the rate of removal of soils is low and the rate of deposition is high. Flat landscapes are susceptible to leaching therefore; poor soils tend to develop over such environment.

Living organisms

Vegetation and the activities of animals and bacteria determine the organic content of soil, along with all that is living in soil (algae, fungi, worms, and insects). The chemical composition of the vegetation contributes to the acidity or alkalinity of the soil solution. For example, broadleaf trees when decomposed tend to increase alkalinity whereas needle-leaf trees tend to produce higher acidity. Also decay of plants and animals supply the soil in humus and nutrients. Animals contribute to soil development through breaking down of vegetation and rocks into small particles that form the soil. The figure below represents the diversity of life in fertile soil that contributes to soil formation and recycling.

Time

All of the identified natural factors in soil development (parent rock, climate, biological activity, and topography) require time to operate. If the parent rock has been exposed to weathering for a long time soil formation will be complete compared to another rock that has been exposed to weathering for a comparatively shorter period. This implies that the longer the duration of interaction, the more developed and mature the soils will be.

Human activities

Human intervention has a major impact on soils: The use of fertilizer changes the natural properties of soils. Farming activities by use of heavy machinery causes soil compaction. This hinders water seepage and consequently soil development is hindered. Man cuts the vegetation (deforestation) hence reducing humus formation and consequently affecting the type of soil that develops. Mining activities allow water to percolate deeply hence weathering the bedrock. Reclamation of land leads to formation of waterlogged soils e.g. peat soil. Construction works and settlement require cementing and tarmacking of the foundations. This reduces soil permeability and water seepage thus limiting chemical weathering of the parent rock and premature soils.

6.8. Skills lab

Topic: Types of soils in Rwanda-soil properties

Duration:80minutes

Materials required: Sample of three types of soil, oil plastic bottles, used old sacks, gloves, beakers, soil for bottle/sack garden, siblings of vegetables or flowers, etc.

Tutor preparation: prepare an example of bottle/sack garden collect sufficient soil for the activity, set up chairs in five circle for groups

Learning objectives (s): Student-teachers will be able to:

- Analyse the texture of different soil samples.
- Determine which texture is best for growing vegetable crops
- Make sack/bottle gardens vegetable gardens

Instructional objective: By using samples of soil types, sacks and bottles student-teachers will be able to make a sack/bottle vegetable garden perfectly.

Activity 1: Build (20 minutes)

- Tutor starts by asking the student-teachers to give the different soil types they know about.
- Student-teachers list them down and then the tutor introduces the objectives of the lesson.
- Show the different soil samples and ask student-teachers to identify the physical properties of those soils.
- Demonstrate how sack/bottle gardens are made and explain what to look out for when growing vegetables in them.

Activity 2: Practice (30 minutes)

- Divide class into 5 skills lab teams (*this depends to the class size*).
- Ensures all student-teachers are involved.
- Responds to questions if any.
- Ensure that gender balance and inclusion is catered for.
- Ask student-teachers to determine which soil type is best for growing vegetables, looking at the properties they have identified.
- Each group should then make a sack/plastic bottle garden for growing vegetables.
- Student-teacher will get vegetables seedlings from home or nursery tree and plant vegetables in these sack/bottle gardens they have made after class.

Activity 3: Present (30 minutes)

- Groups will explain to the whole class how they came up with their sack/ plastic portable gardens.
- Groups should also explain also explain why they chose the soils types they used.
- Reflect on which vegetables student-teachers could grow in their student-teachers' environment clubs, make an action plan and assign a leader.
- Tutor asks follow up / probing questions (sample questions for the tutor).
- Give feedback to each group.
- Encourage note taking.
- Conclude, supplement what has been presented.

Portfolio Assessment:

- Give an individual portfolio assignment. - Connect it to the Key unit competence; it should be a practical activity that will require a student-teacher to move out of class.

E.g. Visit the community around the college, observe their vegetable gardens (Akarimak'Igikoni) talk to at least 2 people and learn about how they had made Akarimak'Igikoni. Take note on the dialogue and submit to the tutor (the assessment should be given enough time for research i.e. at least the findings are submitted after one week).

Expected Answers:

To make Akarima k'Igikoni the farmer needs to use good and fertile soil with:

- Soils that have the ability to support the growth of crops.
- Soils that have a high content of humus, salt, sand and sometimes clay.
- Soils that are well drained and rarely become waterlogged.
- Soils that have high levels of water moisture which is maintained for a long period of time.

Evidences:

- Moving out of the college.
- Names of people of visited people.
- Telephone number of the people visited.
- Name of Village visited.
- Originality.

Knowledge, Skills, attitudes and values:

- Interview, problem solving, citizenship, networking, respect, etc.

6.9. End unit assessment

Possible suggested answers to the end unit assessment are the following:

- 1) Explain the types of erosion in Rwanda.

Answer: Refers to the content in the student-teacher's book under types of soil erosion in Rwanda.

- 2) Discuss the causes of soil erosion in Rwanda.

Answer: Refers to the content in the student-teacher's book under causes of soil erosion in Rwanda.

- 3) Examine the effects of soil erosion in Rwanda.

Answer: Refers to the content in the student-teacher's book under effects of soil erosion in Rwanda.

- 4) Describe the soil management and conservation measures in Rwanda.

Answer: Refers to the content in the student-teacher's book under appropriate of soil management and conservation in Rwanda.

6.10. Additional activities

6.10.1 Remedial activities

Questions:

- 1) Describe the types of soil erosion that exist in Rwanda.
- 2) Identify any three methods of soil conservation in Rwanda.

Answers:

- 1) Refer to the student-teacher's book under types of soil erosion in Rwanda
- 2) Implementing reforestation. Digging anti-erosion ditches, Practicing terrace agriculture, Use of manure and chemical fertilizers, Practicing mulching etc.

6.10.2. Consolidation activities

Question: Differentiate Vertisol and Histosol

Answer: Vertisol are rich in minerals but poor in organic matter while Histosol are only composed of organic matter.

6.10.3. Extended activities

Questions

- 1) Identify any five areas with severe soil erosion in Rwanda.
- 2) What is the relationship between soil erosion and weathering?

Answers:

- 1) Erosion is mostly found on all steep slopes and any bare ground. But it is also happening due to some human activities such deforestation, mining poor rain water conservation etc.
- 2) *Weathering* and *erosion* are processes by which rocks are broken down and moved from their original location. Their difference is based on whether a rock's location is changed: *weathering* disintegrates a rock without moving it from the original location, while *erosion* carries the weathered materials away from their original locations.

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