AFRICA 2000 NETWORK

Empowering Communities for Sustainable Livelihoods

Environmental Education Guide

For Primary Schools

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dwb ecology

Kyambogo University
Knowledge and Skills for Service

MAKERERE UNIVERSITY

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Foreword

Uganda is an agricultural country with over 70% of its population deriving food security and livelihoods from the agricultural sector. Furthermore, 75% of the workforce and 55% of the youths in Uganda are engaged in the agriculture sector. Uganda is addressing youth unemployment, in part, by creating more opportunities to involve rural youths in the agricultural sector[1].

Worth noting as well is Uganda's Nationally Determined Contribution to carbon emissions that is estimated to reach 140 million metric tons by the year 2030 if appropriate mitigation and adaptation measures are not put in place. Agriculture, livestock, and other land uses contribute 85% of these emissions. This challenge to addressing climate change requires prioritization of investments in environmental education for the young population in and out of school, given that young people are impressionable and open to forming positive behaviors and attitudes that last a lifetime.

The MWARES consortium partners have contributed to addressing this challenge by developing this Environmental Education guide which is a tool for facilitating the creation of awareness among primary and secondary school learners in the Manafwa watershed. The guide helps to educate them about the need for responsible utilization of natural resources, both in schools and in their communities, using an integrated farm planning approach known as the PIP approach.

The guide has been adapted to the real situation in the watershed and organized in such a way that will permit incremental practical learning and experience among learners. This will be made possible through activities like tree planting, waste management, community environmental sensitization and conservation, and processing as well as applying organic manure. It is our expectation that this guide will facilitate learners with lifelong knowledge, skills and attitudes. This will nurture them into responsible future environmental leaders and conservation-minded people who will guide their parents and communities to embrace resilience and stewardship principles for protecting and restoring their environment for future generations.

We therefore invite the Government of Uganda and other development agencies to embrace this tool for facilitating environmental education among the young generation in Uganda. This is complementary to the efforts of the Government of Uganda in teaching environmental education in schools.

Dr. Christopher Kyeswa

Executive Director

Africa 2000 Network-Uganda

[1] *National Strategy for Youth Employment in Agriculture, 2017, www.agriculture.go.ug*

Acronyms

BDLG	Bududa District Local Government
EE	Environmental Education
MWARES	Manafwa Watershed Restoration and Stewardship Project
PIP	Integrated Farm Plan (from the French 'Plan Intégré du Paysan')

Introduction Information for Teachers

Introduction to this Guide

This guide is intended for teachers to use when guiding Environmental clubs in primary schools in Uganda. There are 41 session plans in this guide, which teachers can use for one or two Environmental Education (EE) sessions per week of the school year. In addition, three termly activity ideas are provided so that the Environmental club members can engage with the wider school community on a showcase project at the end of each school term.

General Overview of the PIP Approach

The PIP approach was central to the development of this guide. The Integrated Farm Plan (PIP, from the French 'Plan Intégré du Paysan') was first used in Burundi in 2014. The PIP approach aims to build a solid foundation for sustainable change towards enhanced food production and good land stewardship.

The PIP approach is based on three foundational principles:

1. **Motivation** – Motivation is an inspiration to act. In the PIP approach, learners become inspired to care for the environment. They don't need any external handouts (money, rewards) to do this, but instead they are intrinsically motivated and want to take care of the environment because they believe that it is the best thing for themselves and their community over the long-term. When people are motivated, positive change is possible and sustainable.

2. **Stewardship** – Stewardship is the responsibility to manage and protect the land and its natural heritage. Learners become stewards when they take care of the environment for someone/ something bigger than themselves – such as for society as a whole, for the good of nature, for God or for future generations. Learners understand that they have a moral duty or responsibility to take care of the environment.

3. **Resilience** – Resilience is the ability of a system to return to its initial state after a shock or disturbance. This implies that the environment is adaptive and can "bounce back" from disturbances. It is important that learners in the Environmental clubs become aware of strategies for helping the land where they live to be resilient.

The PIP approach also follows three guiding principles:

1. **Empowerment** – Empowerment means feeling like you have the power to change something. When people feel empowered, they can change many things because they are able to feel ownership of problems and take responsibility to take better care for their resources for the future. In this way, the PIP approach principle of empowerment can contribute towards nurturing stewards who have environmental sustainability at heart. It is crucial that environmental club members feel like they can change their own reality so that they see the opportunities to improve. In every activity, environmental club members need to see and feel that they can do it themselves, as well as learn how to solve most of their challenges.

2. **Integration** – Integration is bringing together smaller components into a single system that functions as one. One aspect of integration in the PIP approach is being able to understand how different components of the environment work together as one cohesive system. Learners should be able to identify how an impact on one part of the environmental system can impact many other parts of the system. For example, an impact on trees in an ecosystem can impact the rainfall in the ecosystem. Once they understand this, learners can take responsibility for their part in the environmental system so that they are good stewards and ready to protect it.

3. **Collaboration** – Collaboration is when two or more people or organizations work together to complete a task or achieve a goal. Collaboration is similar to cooperation. Collaboration is possible with good leadership among the Environmental club members. Collaboration brings trust among people and strengthens social relations, and when people have better networks and friendships, they will be more willing to participate in all environmental activities. Collaboration is a basic need, and when collaboration and trust have increased, people will also exchange knowledge and learn from others to improve. When the clubs carry out actions together, they can achieve impact at a wider scale.

Throughout this entire guide, learners will be engaged in activities that encourage them to become **motivated stewards** for a **resilient** environment. They will gain a sense of **empowerment** and **collaboration skills**. They will be more aware of how the environment is an interconnected and **integrated** system and how people impact it. As a teacher, it is important that you highlight each of these concepts regularly throughout sessions where appropriate.

Organization of the Guide

The guide is divided into five modules:

- Module 1: Our Interconnected Environment
- Module 2: Threats to Our Environment and Livelihoods
- Module 3: Protecting Our Environment
- Module 4: Drawing Our Present and Dreaming Our Future
- Module 5: Making a Plan and Taking Action!

Modules 1, 2 and 3 introduce learners to the different components of the environment and how they are all connected to each other as well as the key threats to learners' environment and some ideas for solutions to the problems. Teachers can also find more information about these environmental topics in science textbooks, for reference if needed.

Modules 4 and 5 engage learners in a core part of the PIP approach – drawing the current situation and the dream situation and then taking action to achieve the dream situation. In Module 4 of this guide, learners first work together to draw how their school environment currently looks like. They develop and discuss together their aspirations for how they would like their school environment to look like. They then work together to draw their dream school. In Module 5, learners then set goals and create action plans to help make their dream school become a reality. To effectively facilitate modules 4&5, the teacher requires a PIP illustrated chart set.

The following table suggests which modules and sessions can be taught in each school term, but the teacher/patron should tailor this schedule to what works for them and their Environmental club.

Term 1	Term 2	Term 3
Introduction Session Module 1: Sessions 1-7 Module 2: Sessions 1-5	Module 3: Sessions 1-8 Module 4: Sessions 1-9	Module 5: Sessions 1-11

Teaching Methods Used in this Guide

Several major methods of teaching are used in the Environmental Education Guide.

Collaborative Learning

Collaborative means working together. It provides opportunities for learners to work together during most Environmental club sessions. Collaborative learning strengthens learning, as it increases learners' chances to practice new information with others.

I Do, We Do, You Do

The gradual release method is known informally as 'I Do, We Do, You Do.' Learners first see the teacher perform a task alone. Next, learners perform the task with the teacher and the rest of the class. Finally, learners do the task alone or in small groups. The method supports learning as it builds learners' confidence in carrying out new tasks.

Continuous Assessment

At the end of each session, an assessment type is suggested. The instructions for each assessment type are provided on pages 12-13 of this guide. This provides an opportunity for the teacher to assess the developing competences of learners at the end of each session.

Active Learning

There are many different teaching strategies that actively engage learners in the learning process, including problem solving, group discussions, teamwork, role plays, games and case studies. Active learning does not mean never lecturing, but instead making sure that – if you are lecturing – you pause frequently to ask questions, have learners pair up with a partner to compare notes, or do some activity that is relevant to the learning. In short, active learning is anything that learners do in a classroom other than passively listening to a teacher.

Some of the active learning methodologies used in this guide are:

- Discussions and discussion groups
- Case studies and scenarios
- Role plays/simulations
- Demonstrations and experiments
- Games
- Group projects
- Music, dance, and drama
- Debates
- Pictorials
- Guided discovery
- Brainstorming
- Individual work

Including Learners with Special Needs

As the teacher, you are responsible for ensuring that all learners are included and actively participating in Environmental club activities. This means including ALL learners - especially those who have special learning needs because every child deserves the right to learn and be included. Use the following tips for ensuring that all learners are included in activities:

- Invite all learners to participate in activities, regardless of if they have special learning needs or not.
- Do not reinforce any stereotypes about learners with special needs. Always speak to and about them with kindness, affirmation and respect.
- Celebrate what makes different learners unique and special.
- Encourage learners to work together and not exclude any of their clubmates.
- Monitor that learners with special needs are treated with respect and guide those who do otherwise.
- Repeat instructions more than once - this will ensure that all learners have more than one chance to hear and process the instructions.
- Check in with learners to ensure that they have understood instructions.
- Support learners with special needs by approaching them during activities to check in if they need any support.
- Find ways of adapting activities to accommodate children according to their special needs. For example, if a child has trouble speaking - allow them to draw their ideas rather than sharing them verbally.

Assessment Instructions

At the end of each session, it is important to do a brief, simple assessment activity to check in with learners about what they have learned from the session. Each session recommends one of six assessment types, the instructions for which are provided below.

Letter to Myself

Learners write a letter to themselves (or to a friend) about what they learned during the session and one thing they want to change in their home, school or community now that they have new information. They can then share what they wrote with a partner. A few learners can share what they wrote with the whole group.

Exploration Table

The teacher creates a stack of cards with different assessment questions written on each card like:

- What did we learn in the session today?
- Why do you think we learned about this topic today?
- How can you take this knowledge and use it in your life?
- What else would you like to learn about this topic?
- Who can you talk to about our session today? What would you tell them?

One at a time, ask a learner to pick a card from the stack and answer the question. Continue like this until most/all learners have had a chance to answer a question.

Toss the Ball

Learners stand in a circle. Toss a ball made out of paper to a learner. The learner should mention something he/she learned about in the session today or something he/she wants to learn more about related to the topic. Toss the ball around until everyone has had a chance to contribute.

Peer Quiz

Tell each learner to think of a question based on what they learned about the environmental activity that day. Learners then stand in a circle. One learner asks his/her question and chooses another learner to answer. This continues until all learners have had a chance to ask their questions. The teacher should listen to each learners' question and the other learners' answers to monitor for understanding. The teacher should correct learners in case any information shared is incorrect.

Check Out

The teacher "checks out" with learners, inviting them to be seen and heard and to wrap up the session. The teacher asks learners question like:

- Check out by showing us from 1-10 on your fingers how energetic/inspired you are after our session today. A few learners share why they picked their numbers.
- What's your biggest learning or insight from today?
- What will you choose to do differently next time based on what you learned today?
- What has been your highest high and lowest low from this session?
- What's the best thing you learned today?

This continues until all learners have had a chance to "check out" by answering a question.

I Expect/I Learned

At the beginning of the session, the teacher reads the topic of the session and the objective(s). The teacher then asks learners what they expect to learn about the topic. Learners can share their ideas.

At the end of the session, the teacher will ask learners to share if their expectations about what they were going to learn were correct. If not, what did they learn? What else do they want to learn?

Termly School-Wide Activity Instructions

At the end of each school term, the Environmental club should have an opportunity to engage other learners at school to include them in some of the ideas they have been exploring as a club. Involving other learners and community members helps them practice the PIP principles of stewardship, motivation, resilience, integration, collaboration, and empowerment. The following are example activities that the Environmental club can do with the wider school community at the end of each school term.

Term 1 Activity: Environmental Awareness March

1. As a club, learners decide together on an environmental issue (or several issues) that they would like to raise awareness about in their school and/or community. For example, they might want to raise awareness about the importance of planting trees, how to protect wild animals from going extinct, soil and water conservation and management, etc.
2. Learners then create signs/banners with key messages about the issue(s) they want to raise awareness about, including how human activities are impacting the environment and what we can do differently to make things better.
3. The Environmental club members then arrange to have the school band/local drums march with them (or they can simply create an educational song that they sing while marching) through the school/community with their signs to raise awareness. Invite other learners, teachers, parents and community members to come to the area where the Environmental club members will be marching.

Term 2 Activity: Environmental Awareness School Performance

1. As a club, learners work together to create a role play or music, dance and drama (MDD) performance about an environmental issue and how the entire school and wider community can work together and live with "obuntu bulamu" to make it better.
2. After practicing together a few times, the Environmental club members can perform in front of the whole school, or in front of one class at a time, depending on what is possible with the school schedule. Parents can also be mobilized to attend the performance, if possible.
3. After the performance, Environmental club members can ask some discussion questions about their performance so they start a conversation with other learners about the performance and what they learned from it.

Term 3 Activity: Including the Whole School in an Activity from the Environmental Club's Action Plan

1. As a club, learners decide on an activity from their action plan to involve the whole school in (for example, a school clean-up, a tree planting activity, painting the classroom blocks, etc.).
2. The Environmental club leaders ask for permission from the school administration to take some time during a lunch break, class period, or after school to have the entire school participate in the activity. Another option would be for the Environmental club members to host rotating shifts of learners to participate in the activity, if the whole school cannot participate at one time.
3. The Environmental club members plan for any resources they may need to do the activity.
4. On the appointed day(s), the Environmental club members lead learners in the activity.

Introduction Session:

The PIP Approach to Environmental Education

Objectives:

- To introduce the PIP guiding principles of empowerment, integration, and collaboration
- To introduce the PIP foundational principles of stewardship, resilience and motivation
- To participate in mini-activities related to the PIP principles with other learners

Materials:

- The PIP Principles Illustrated Chart
- Flipchart paper
- Markers/pencils

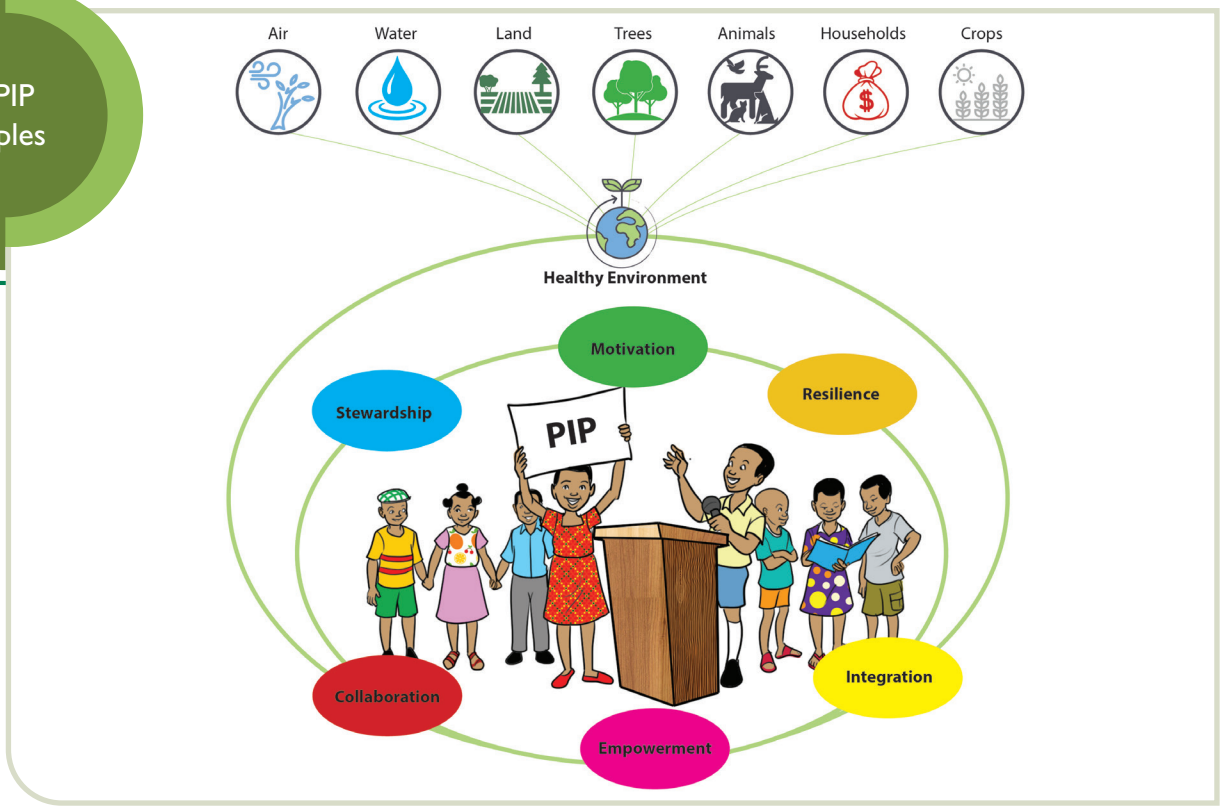
Teacher Tip:

This introduction session is meant to introduce learners to the PIP approach. Before teaching this introduction session, review the Introduction Information for Teachers which gives more detailed information about the PIP approach on pages 8-9 of this guide.

Session Plan:

1. Welcome learners to the first Environmental club session of the year. Do an introduction exercise to get learners warmed up and ready to learn.
2. Read the session objectives to learners.
3. Display **The PIP Principles Illustrated Chart.**

The PIP Principles



4. Explain to students that the Environmental club will be doing sessions each week which follow the PIP approach.
    - The PIP approach is used to help learners (and other community members) make changes to care for and protect their environment.
    - It helps learners become **empowered** to take responsibility and make changes in their community. It helps learners understand how all parts of the environment are **integrated** (linked together) and that everything we do has either a positive or a negative impact on the environment. It also promotes **collaboration** (teamwork) among learners so they can make effective changes together and achieve more.
    - It also encourages learners to be **motivated** (having a sense of doing something willingly) to invest in their future, become pro-active, with a vision and a plan, so that they are **stewards** (people who take charge to make a difference) of a **resilient** environment.
    - In Term 1 and the beginning of Term 2, learners will practice each of these PIP principles and learn all about the environment through a series of exciting sessions.
    - The final project in the PIP approach is to draw their current school environment and then a drawing of their dream school environment. Learners will then make an action plan to make their dream school a reality and take steps to achieve it. These are activities that the Environmental club members will do at the end of Term 2 and in Term 3 of the year.
5. Review the meaning of the three guiding principles of the PIP approach:
    - **Empowerment**: Empowerment means feeling like you have the power to change something. It means taking ownership of problems in your school/community and then taking responsibility to take better care of your life and resources for a better future.
    - **Integration**: Integration is understanding how smaller parts all work together in one system. It's being able to see how everything is connected and how an impact on one part of a system will have an impact on other parts of the system (like the environment).

- **Collaboration**: Collaboration is when two or more people or organizations work together to complete a task or achieve a goal. It is similar to cooperation and teamwork.

6. Tell learners that they will participate in a few activities to better understand the PIP principles of empowerment, integration and collaboration. Engage learners in each of the following three mini activities.

Mini Activity About Empowerment – Visioning Exercise

1. Read the following aloud, slowly:

- Sit in a comfortable position.
- Sit quietly and do not talk. Close your eyes and take a few deep breaths in and out.
- Think about yourself. What do you like to do? What are your strengths as a person? What are you good at?
- Why do you want to be part of the Environmental club? What do you hope to achieve from being a part of this club?
- If you could change anything about your home or school environment, what would it be? Do you think you are able to make this change right now, either alone or with the help of others?
- Imagine yourself as an empowered person. This means that you are able to do anything you set your mind to. You can decide that you want to make a change in your home or school environment – and then actually do it!
- What do you look like as an empowered person? How do you act? What are you able to achieve? How do you get people to listen to you and help you? How can you help the environment when you are empowered and taking responsibility for its care?
- Now bring your attention back to this room. Get ready to work towards being an empowered person who helps the environment be healthy.
- Open your eyes.

2. After the visioning exercise, invite a few learners to share their visions of being an empowered person who has the ability to make a positive change in their environment.

Mini Activity About Integration – Entangle

1. Divide learners into groups of 8-20 and form a tight circle.
2. Everyone should reach their RIGHT hand into the circle and hold hands with someone else's RIGHT hand. Learners CANNOT hold hands with someone who is standing directly next to them.
3. Keeping hold of their right hands, everyone should reach their LEFT hand into the circle and hold hands with someone else's LEFT hand. Learners CANNOT hold hands with someone who is standing directly next to them. They also CANNOT hold both of their hands with the same person. At this point, all of the learners should be tangled up like a human knot.
4. Learners must find a way to completely untangle themselves so that they are back to standing in a circle, holding hands. While untangling, learners cannot let go of their hands.
5. After learners untangle themselves, ask them what they learned:

- What did you learn about working together as a team?
- What did you learn about integration (how everything is connected and how the actions of one impacts the actions of others)?

Mini Activity About Collaboration – Drawing Twins

1. Divide learners into pairs and give them each a paper and pencil/markers. Pairs sit back-to-back so they cannot see each other.
2. One learner in each pair first starts by drawing a picture of anything they want. They should not show their partner what they have drawn.
3. After drawing, they should describe their picture to their partner. Their partner then tries to draw what he/she hears being described.
4. After drawing, both partners show their pictures to each other. They can discuss:

- Do our pictures look the same or different?
- What was easy about this game? What was difficult?
- What can we learn about collaboration, teamwork and listening from this activity?
- How can we be good teammates and good communicators?

7. Review the meaning of the three foundational principles of the PIP approach:
    - **Motivation**: Motivation is when you feel inspired to do something. It means having an inner drive to make a difference.
    - **Stewardship**: Stewardship is the responsibility to manage and protect the environment for the current and future generations.
    - **Resilience**: Resilience is when the environment can "bounce back" and recover from a shock or disturbance.

8. Start a discussion with learners to help them reflect on these three foundational principles of the PIP approach.
    - Think about a time when you felt motivated. What did you feel motivated to do? What motivated you? What motivated you to be part of the Environmental club? What do you feel motivated to change about your school/home/community environment? What motivates you to change this?
    - Do you think you are resilient? Can you "bounce back" (or rise again) when you have a setback? What do you do to be resilient and get back up again when you have faced a challenge? Why do you think it is important for the environment to be resilient? How do you think people can help the environment be resilient?
    - Being a steward for the environment means taking care of it so that future people can also enjoy it – meaning we take care of trees, water, the soil, the air and other natural resources so that future generations can also use them to live well. What do you do to be a steward that protects the environment? What more would you like to do to be a better steward?

Assessment Activity: Letter to Myself

Take Home Activity:

When learners go home, they should reflect on how their home/neighbors use the principles of empowerment, integration, and collaboration. What do the people at home/neighbors do well in this regard? What can be improved? Learners should also reflect on when they have been stewards in their community and how they can become even better stewards.

Module 1: Our Interconnected Environment

Competences:

Throughout Module 1, learners will gain the following competences:

- General environmental awareness – this includes consciousness and interest in the surroundings
- Systems knowledge – understanding connections between organisms and the ecosystem
- Connectedness with nature – which may lead to attitude and mindset change
- Collaboration with peers and others

Module 1, Session 1: **Our Environment**

Objectives:

- To recognize the difference between living and non-living things in the environment
- To categorize living and non-living things
- To walk in the environment and consider how to take care of it

Competences:

- General environmental awareness
- Connectedness with nature

Materials:

- Manilla paper, colored sticky notes and sellotape
- Various physical or newspaper/magazine picture cut outs of living and non-living things in the environment. These can include plants, animals (mammals, birds, insects, etc.), water bodies, especially lakes and rivers, soil, people, vehicles, roads, buildings, mountains, rocks/stones, clouds, etc.

Teacher Tip:

Before the session, collect various physical pieces of the environment or pictures of components of the environment. Some examples are provided in the materials list. If possible, also ask learners to bring what they think are examples of the environment to the session. Learners can also simply draw examples of the environment and bring their drawings with them.

Session Plan:

1. Read the session objectives and ask learners what they know about "the environment". Read them the following definition after hearing their ideas.
   - The environment refers to the things around us. Everything we see around us on land and in the water is the environment. Another word for "environment" is "surroundings".
   - The environment can include living things like people, plants and animals, and non-living things like water, rocks and air.

2. Show learners the physical pieces of the environment you collected and/or the newspaper and magazine cut outs of components of the environment.
3. Review the characteristics of living and non-living things. Use the Teacher's Notes box at the end of this session to support you.
4. Ask learners to help you categorize each into living and non-living things. An example categorization is shown below:

Living components of the environment	Non-living components of the environment
Caterpillar, Tree branch	Water, Soil
Flower, A learner	Stone, Signpost

5. Take the learners outside for a community and nature walk. As you walk, point out different features of the environment. Also allow learners to point out different features. For each feature, ask learners to identify if it is either living or non-living. An example list of features to point out include:
   - Trees (living)
   - A water source (non-living)
   - Grass (living)
   - A domestic animal (living)
   - A wild animal or bird (living)
   - An insect (living)
   - A rock/stone (non-living)
   - Soil/dirt (non-living)
   - Insects in the soil/dirt (living)
   - A discarded piece of plastic (non-living)
   - A community member (living)
   - A shop or other building (non-living)
   - A flower (living)
   - A mountain or hill (non-living)
   - Clouds (non-living)
6. After the walk, ask learners the following questions:
   - Is it important to take care of our environment and if yes, why?
   - What can people do to take care of the plants in the environment?
   - What can people do to take care of the animals (domestic and wild) in the environment?
   - What can people do to take care of the water bodies (rivers, swamps, springs, wells, etc.) in community?
   - What can people do to take care of the soil?

Assessment Activity: Toss the ball

Take Home Activity:

Tell learners to pay attention to the living and non-living things in the environment they can see on their way home from school. When they reach home, they should tell someone about what they saw including at least one living thing and one non-living thing in the environment. Learners can share their findings in the next Environmental club session.

Teacher's Notes:

Characteristics of Living and Non-living Things

Living Things:

- Move
- Respire
- Can sense changes in the surrounding environment
- Grow
- Reproduce
- Die
- Excrete
- Require nutrients/energy

Non-living Things:

- Do not respire
- Cannot sense changes in the surrounding environment
- Do not grow, excrete, reproduce or die
- Do not require nutrients or energy

Module 1, Session 2: **Our Ecosystem**

Objectives:

- To list producers, consumers and decomposers in the ecosystem, including those common to our region
- To discuss the interconnected relationship between the producers, consumers and decomposers in our ecosystem and why we should protect them
- To work collaboratively in groups

Competences:

- General environmental awareness
- Systems knowledge

Materials:

- An Ecosystem in Uganda Illustrated Chart
- Flipcharts and markers

Teacher Tip:

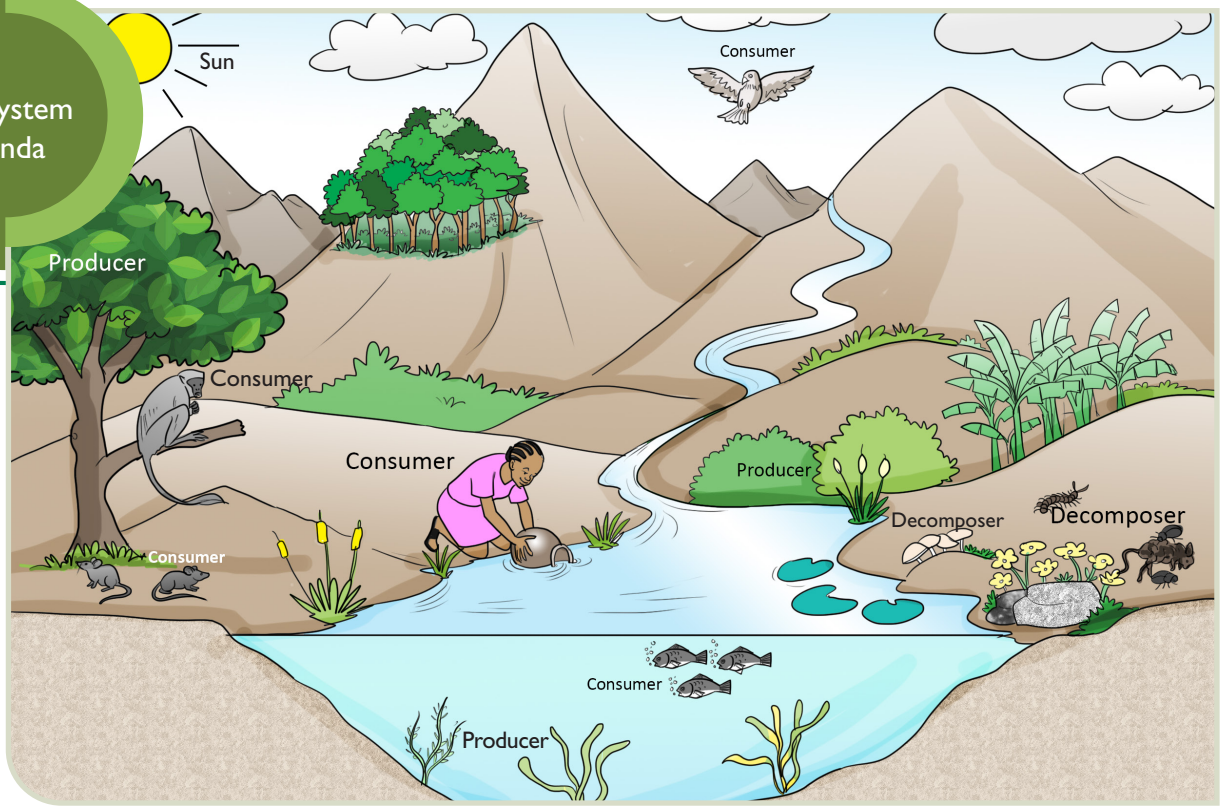
Before the session, compile a list of examples of producers, consumers and decomposers common in your ecosystem. Some examples are provided in the instructions below, but feel free to add to or subtract from the list based on your local knowledge.

Session Plan:

1. Read the session objectives and ask learners what they know about "the ecosystem". Read them the following definition after hearing their ideas.
   - An ecosystem is a community of living and non-living natural things that work together. An ecosystem can consist of sunlight, soil, water, air, plants and animals.
   - In Uganda, some of the major parts of the ecosystem are the rivers, plants, animals, air, sunlight, hills/mountains, swamps, and the soils.

2. Tell learners that in many ecosystems, living things each play different roles and depend on each other for life. Explain the definition and roles of producers, consumers and decomposers from the Teacher's Notes box at the end of this session as you show learners the **An Ecosystem in Uganda Illustrated Chart.**

An Ecosystem in Uganda



3. Write the titles for "Producers", "Consumers", and "Decomposers" each on their own flipchart paper and place them around the room/area with a marker at each.

4. Write a random list of producers, consumers and decomposers native to your community's ecosystem on the blackboard/flipchart paper. Mix up the list so learners don't know which is which. Examples are shown below, but feel free to add to this list.

Producers		Consumers		Decomposers
Avocado tree	Flowers	Humans	Cow	Bacteria
Grass	Bushes	Kite	Elephant	Mushrooms
Banana plant	Algae	Monkey	Bee	Beetles
Mango tree	Palm tree	Mouse	Owl	Worms
Weeds	Bean plant	Fish	Spider	

5. Read the list on the blackboard with learners. Then ask learners to move around the room and add the names of each living thing on its appropriate flipchart (names of producers listed on the "producer" paper and so on). Also encourage learners to add more names of producers, consumers and decomposers they know to each respective flipchart.

6. When learners are finished categorizing, go around to each flipchart and check their answers to ensure they categorized all producers, consumers and decomposers on the correct flipchart.

7. Gather learners together and start a discussion with the following questions. Use the information about how the ecosystem is interlinked in the Teacher's Notes box at the end of this session to support you.
    - What would happen to the environment if:
        - All of the producers disappeared?
        - Some of the consumers disappeared?

- All the decomposers disappeared?

- How is every living thing in the ecosystem linked together and dependent on each other?
- How do you think an impact on one producer, consumer or decomposer can affect the whole ecosystem?
- Why is it important for humans to take care of the environment?

Assessment Activity: Exploration Table

Take Home Activity:

Tell learners to go home and look around their compound to identify at least one producer, one consumer and one decomposer. Learners should talk about them with a member of their family and discuss if the family may be hurting the producer, consumer and decomposer accidentally with their practices. If so, what can the family do to protect them instead? Learners can share their findings and discussion in the next Environmental club session.

Teacher's Notes:

Producers

Producers are plants or algae which convert energy from the sun to make food for themselves - a process we commonly refer to as photosynthesis. They are also a source of food for other living things –all ecosystems need producers because they are a source of food for consumers. Examples of producers include plants, algae and certain types of bacteria which can be found in different ecosystems on the earth (on dry land or in the water).

Consumers

Consumers are living things that depend on eating other living things for food. Consumers that eat other consumers are called carnivores. Examples of carnivores include lions, frogs and spiders. Consumers that eat other consumers as well as producers are called omnivores. Examples of omnivores include most people, pigs, crows and some types of fish. Consumers that eat only producers are called herbivores. Examples include rabbits, antelopes and hippos.

Decomposers

Decomposers are the living things in the ecosystem that break down the remains of living things when they die. Decomposers are an important part of any ecosystem because producers use these broken-down remains to grow. Examples of decomposers include earth worms, millipedes, beetles, fungi (like mushrooms) and bacteria. Fun fact – fungi are the only organisms that can decompose wood.

How Every Living Thing in the Environment is Interconnected

Every living thing in an ecosystem depends on another. That means that they all need each other to live and to keep the ecosystem balanced.

If all of the producers disappeared, the consumers would have no food to eat and they would all eventually die. For example, if all the plants died, then the animals which eat plants would die out, and the animals which eat those animals will also die out.

If some consumers died, then other consumers which rely on eating them to survive would eventually die and so on up the food web. For example, if a small fish species dies out, then the larger fish species which rely on eating them to survive will die out.

If consumers high on the food web die out, then they are not able to eat consumers lower on the food web, which will lead to the lower consumers becoming overpopulated. This disrupts the balance of the ecosystem and can have serious consequences. For example, if all the lions die out, then there will be too many antelopes and they will be competing for their food (grass). Eventually there won't be enough grass for all the antelopes, and they will start to die out.

If all the decomposers disappeared, then there would be nothing to break down dead producers and consumers to fertilize the soil. Producers need decomposers to do this so that they can use this natural fertilizer in the soil to grow. This means without decomposers, eventually all the producers would die as well as all consumers. We need decomposers or else life on Earth would come to an end!

Humans need to take care of every living thing in the ecosystem because humans need all the producers, consumers and decomposers for our survival! We need to maintain the balance of the ecosystem and ensure that no producers, consumers, or decomposers die out (go extinct)!

Module 1, Session 3: **Plants and Animals**

Objectives:

- To define "food webs"
- To brainstorm common food webs in our communities
- To participate in a food web game with other learners

Competences:

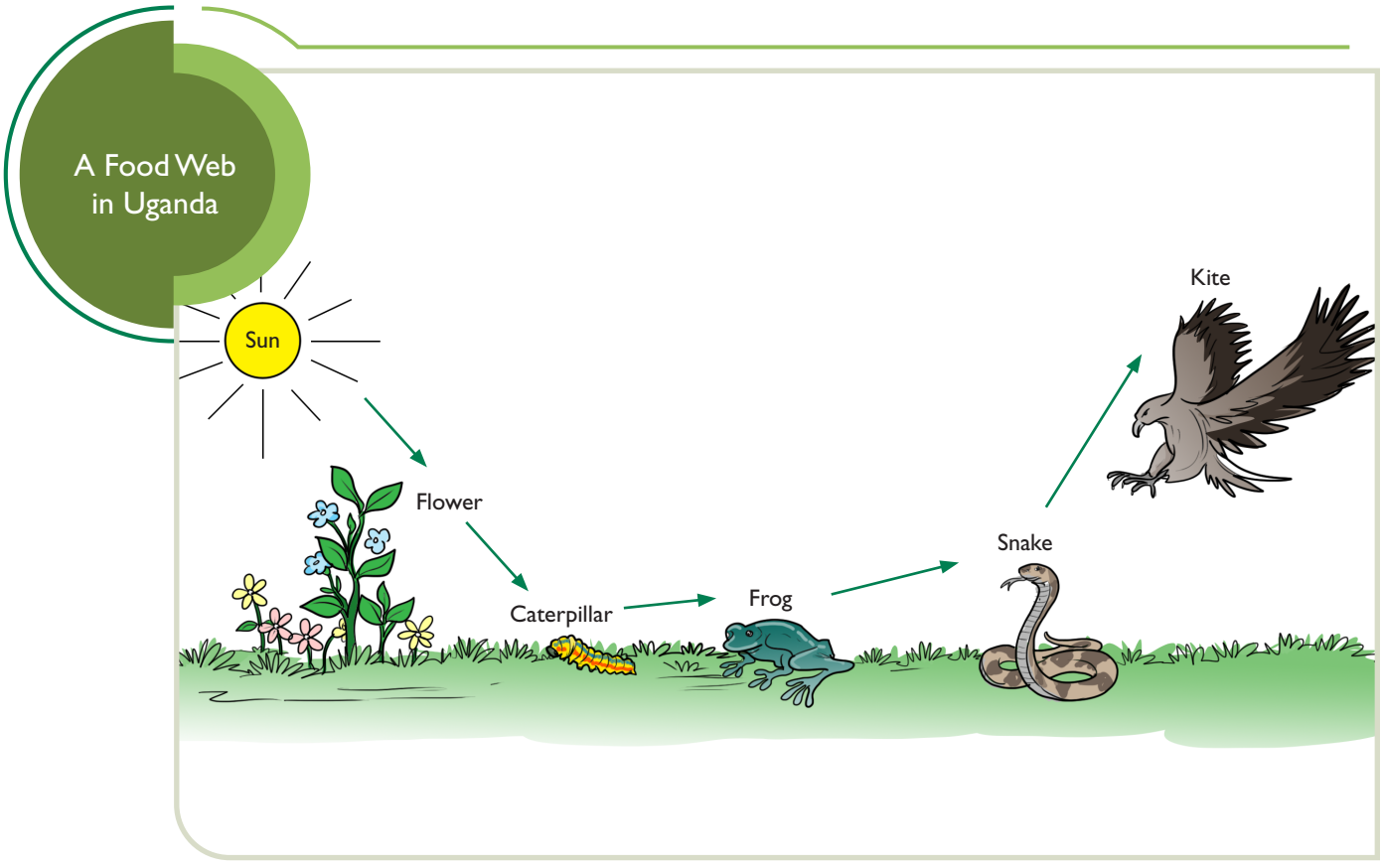
- Systems knowledge
- Connectedness with nature
- Collaboration with peers and others

Materials:

- A Food Web in Uganda Illustrated Chart
- Papers and markers
- Pins (for pinning papers to shirts) – optional

Session Plan:

1. Read the session objectives and ask learners what they think a "food web" is.
2. After hearing their ideas, show them **A Food Web in Uganda Illustrated Chart.**
3. Ask learners to identify the producers and consumers in the food web. Use the Teacher's Notes box at the end of this session to explain about food webs.



4. Explain that there are many different food webs for all different producers and consumers. On the blackboard or flipchart, ask learners to help you draw other food webs that they know about. Examples are given below.
    - Help them think of other food webs by giving them a big consumer (like a lion) and working backwards to figure out what each animal in the food web eats.
    - Alternatively, start with the producer (like grass) and work upwards to what eats the grass and so on.

Example Food Webs

Sun → Grass → Antelope → Lion

Sun → Algae → Small fish → Large fish → Bird

Sun → Tree leaves → Grasshopper → Mouse → Monitor lizard → Crocodile

Sun → Tree → Elephant

Sun → Mango → Monkey → Leopard

Sun → Bean plant → Cow → Human

Sun → Bean plant → Rat → Cat

5. Assign each learner a different producer/composer from the food webs you brainstormed with them. Each learner should draw a picture of his/her producer or consumer on a small paper and either hold it or pin it to their shirt.
6. Divide learners into two groups, mixing them up so that neither group has a complete food web of producers/consumers.
7. Tell learners the following game instructions:
    - We are going to play a game to form food webs.
    - Join hands with the people on your team to form a long line.
    - Both lines should face each other, with about 7-8 meters of space between the lines.
    - One line will call a learner from the other line over: "Land rover, land rover – we call upon Mary".
    - Mary then runs to the other line and tries to break through the line. If she successfully breaks through the line, she gets to bring one learner of her choice with her back to her line. If she doesn't break through the line, she has to stay and join their line.
    - The objective of the game is to form complete food webs (in order) within the same line. Once a complete food web is formed, those learners should stand off to the side while the other learners continue to play. The side which forms the most complete food webs wins the game.

Assessment Activity: Peer Quiz

Take Home Activity:

When learners get home, they should talk with someone to think about food webs for the plants and animals that they often eat. Their food webs should start with the sun and end with them (people). They can also think about food webs for the animals in their compounds.

Teacher's Notes:

Food Webs

- A food web shows how each living thing gets its food. It is a web that shows a transfer of energy (food) from one living thing to another.
- Food webs start with the sun, which provides food for plants (producers).
- Food webs then usually have an animal (consumer) that eats the plant, followed by other larger animals (consumers) which eat the smaller consumers.
- All of the producers and consumers in a food web are dependent on each other. If one level in the food web is affected, it can have disastrous results for the whole food web. For example, if there is a dramatic fall in the number of grasshoppers, the mice who feed mainly on the grasshoppers will also suffer, as well as the snakes which eat the mice, and the birds which eat the snakes.

Module 1, Session 4: **Soil**

Objectives:

- To name the properties of different soil types
- To perform an experiment to explore water retention capacity of different types of soil
- To work collaboratively with others

Competences:

- General environmental awareness
- Connectedness with nature
- Collaboration with peers and others

Materials:

- Samples of different types of soil (sandy, loamy, clay, etc.)
- 1.5L mineral water bottles
- Filter papers or old pieces of cotton cloth like from a T-shirt
- Scissors, knife, or razor
- Measuring cups
- Water

Teacher Tip:

Before the session, collect different types of soil such as sandy, loamy and clay soils. Collect at least one cup of each type but collect more if your Environmental club has many learners.

Session Plan:

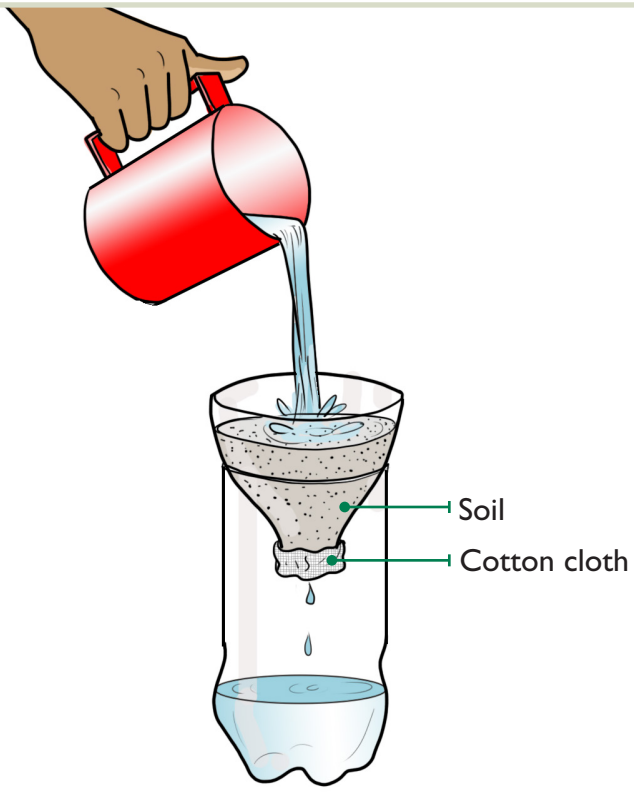
1. Read the session objectives and ask learners what they know about the soil like:
    - What is the soil?
    - What kinds of insects and animals live in the soil?
    - What plants need soil to grow?
2. Use the Teacher's Notes box at the end of this session to briefly introduce learners to the soil profile and what topsoil is made of.
3. Tell learners that they are going to learn about some different types of soil, which have different characteristics like different colors and textures.
4. Take out the first soil sample you brought. Allow each learner to look at, touch and smell the soil sample. As a group, discuss the properties of the soil sample including:
    - How does it feel? (Soft, coarse, crumbly, sandy, rocky, etc.)
    - Is it heavy or light in terms of weight?
    - What does it smell like?
    - What color is the soil?

5. Draw a table on the blackboard and ask learners to help you fill in the details they observed about the soil sample.

Soil type	Texture (How does it feel to the touch?)	Weight (Is it heavy or light?)	Smell (What does it smell like?)	Color (What color is it?)

6. Repeat this process with each of the other soil samples.
7. Next, tell learners that they are going to conduct an experiment to see how well different soil types hold (retain) water.
8. Divide learners into groups (according to the number of 1-cup soil samples you collected). Give each group a 1.5L mineral water bottle, a filter paper/piece of cotton cloth, one cup of soil sample, a measuring cup, and 2 cups of water.
9. Give groups the following instructions:
    - Take the cap off the mineral water bottle.
    - Help learners cut the top off of the bottle (about 10cm down).
    - Place the top of the bottle face down into the bottom of the bottle (so the water bottle's spout is facing down like a funnel into the bottom of the bottle).
    - Place a filter paper/piece of cotton cloth into the inverted top part of the bottle.
    - Add one cup of a soil sample.

Soil Retention Experiment Diagram



10. After every group has made their bottle with the soil sample, give the following instructions:
    - Pour 2 cups of water into the top of the bottle, over the soil sample.
    - Each group should keep time to see how long it takes for all the water to filter through their soil sample to the bottom of the bottle. Some water will go through quickly, some could take 30 minutes or more.
11. After the experiment is over:
    - Compare the amount of time it took for all the water to filter through each soil sample. Which sample took the longest to filter the water? Which took the shortest time?
    - Measure the amount of water in the bottom of each group's bottle. Which group has the most water in the end? Which has the least?
12. Ask learners some discussion questions. Use the Teacher's Notes box at the end of the session to support you.
    - Why do you think some soils hold water better than others?
    - Why do you think it is important for the soil to hold water?

Assessment Activity: Check Out

Take Home Activity:

Learners can do a science experiment at home in which they plant seeds in different types of soil in recycled plastic bottles/another container. They should treat each seed the same with the same amount of water and sunlight. After a few weeks, they can see which seed has grown the best in its soil. They can report their findings after a few weeks to the Environmental club and discuss how soil can impact on the growth of seeds/food.

Teacher's Notes:

Soil Profile

The layers of soil on the Earth are:

- Humus or organic
- Top soil
- Sub soil
- Parent rock/weathered rock fragments
- Bedrock

What Topsoil is Made Of

- Topsoil is a top layer of soil that covers the earth's surface and helps plants grow.
- Topsoil is made up of water, air, humus (dead and decomposed plants and animals), particles of rocks, mineral salts and living organisms (like bacteria and insects).

Uses of Topsoil

- It supports plant life. Crops, flowers, trees, bushes, and grass all need soil to grow.
- It is used in making building materials for construction like bricks.
- Healthy soils store and filter water. Soils that retain water are good for growing crops. They are also less likely to erode and cause landslides.
- Decomposers live in the soil. These living things help recycle nutrients into the soil and help support life on Earth.

Soil and Water Retention

- Some soils hold water better than others because of their texture and the amount of humus (dead and decomposed plants and animals) they contain.
- It is important for the soil to hold water because plants need the soil to be moist so they can grow well. In addition, in areas where there is heavy rainfall, it is important for the soil to hold water to prevent soil erosion and landslides.

Module 1, Session 5: **Water**

Objectives:

- To define "the water cycle"
- To answer questions about the water cycle during a quiz game
- To engage in a role play with other learners about the stages of the water cycle

Competences:

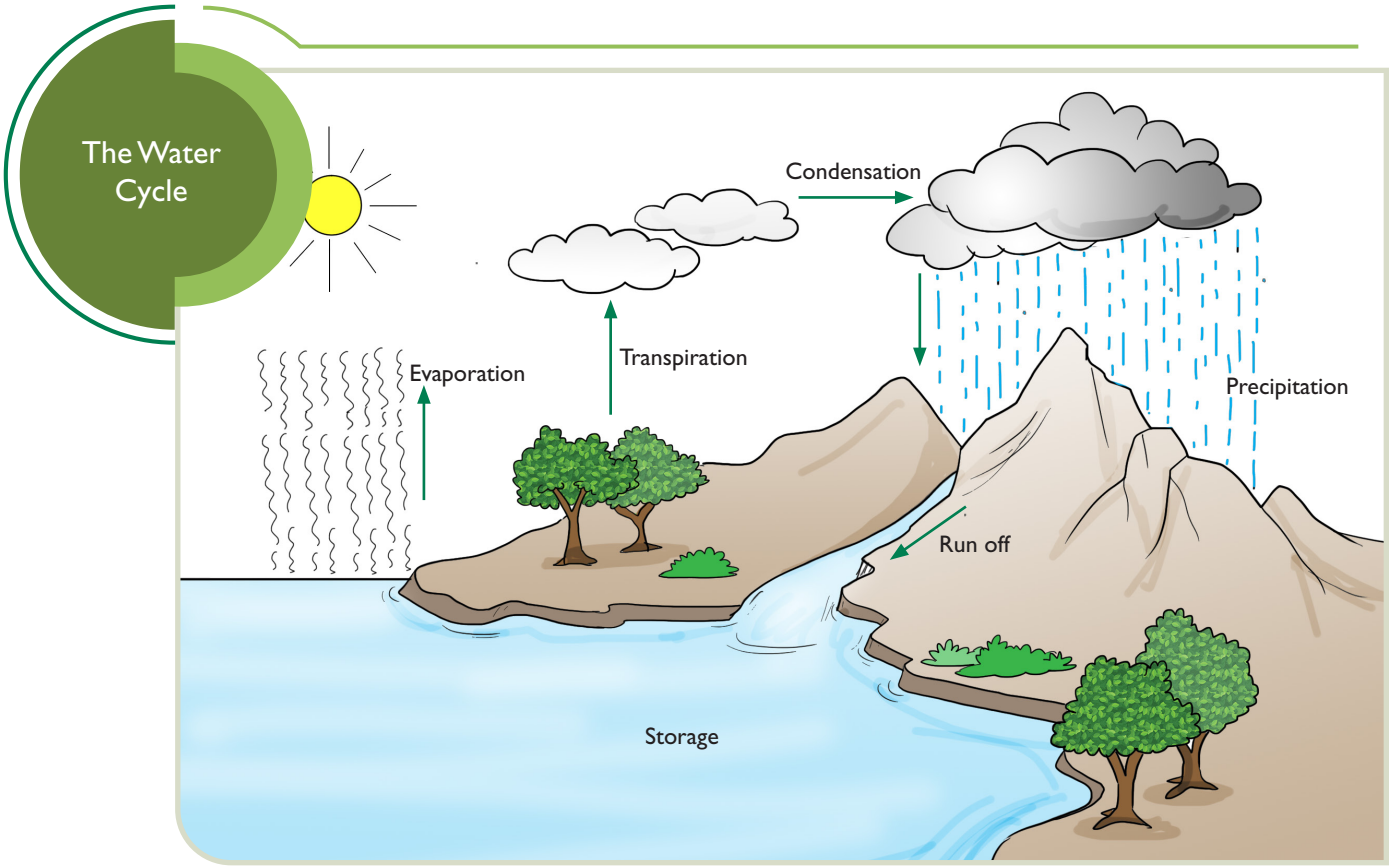
- General environmental awareness
- Connectedness with nature
- Collaboration with peers and others

Materials:

- The Water Cycle Illustrated Chart

Session Plan:

1. Read the session objectives and ask learners what they know about water like:
   - Where are the sources of water in our community? (River, stream, pond, groundwater from a well/borehole, etc.)
   - Why is water important for life?
   - Where does the water in our lakes/rivers/streams/ponds/oceans come from?
2. Show learners **The Water Cycle Illustrated Chart** and use the Teacher's Notes box at the end of this session to teach them about the water cycle and its stages.



3. Divide learners into groups of 6. Within each group, learners should assign themselves to be one of the 6 stages of the water cycle (Evaporation, Transpiration, Condensation, Precipitation, Run-off, Storage)
4. Tell groups to create a role play or a story about a single droplet of water. Each person in the group (representing a different part of the water cycle) should act out/tell the story about the water droplet as it passes through their stage of the water cycle.
5. After groups practice their role plays/stories, ask each group to perform in front of the whole group.
6. After all performances, engage groups in a short quiz game to see what they have learned about the water cycle. Give them the following instructions:
    - Choose one person in the group to be your "spokesperson".
    - I am going to read out a statement. As a group, discuss if you think the statement is TRUE or FALSE. After discussing as a group, your spokesperson will give a THUMBS UP for true or a THUMBS DOWN for false. I will then reveal the correct answer and the groups who answered correctly will win a point.
7. Play the quiz game with the following statements.

The water cycle is constantly happening – even right now!

- True. The water cycle never stops! Even when there isn't a lot of precipitation sometimes, water is still evaporating, trees are still transpiring, and clouds are still forming through condensation – just at a slower pace.

The largest store of water on Earth is the Nile River.

- False. The largest store of water on Earth is the oceans. There are 7 oceans on Earth, but they are all connected, and they make up about 71% of Earth's surface. That's a lot of water!

Evaporation is when the sun heats up water and it is absorbed into the air.

- True. Water can be evaporated from sources of water both big and small – from clothes drying, from water in a cup, from rivers and from oceans.

A lot of water run-off is in rivers.

- True. Water runs off from higher locations (like mountains) to lower locations (to sea level). A lot of the time water runoff finds its way into rivers.

Humans have no impact on transpiration in the water cycle.

- False. Humans impact the transpiration stage of the water cycle when they cut down trees. When too many trees are cut down, transpiration is less and it can affect the water cycle, therefore affecting the water available in the ecosystem.

All rivers eventually lead to the ocean.

- True. All rivers are running downhill towards sea level. This means that most water will eventually find its way into an ocean (unless it gets evaporated first)!

Water run-off is when it rains and the water runs underneath the ground.

- False. Water run-off is water on the surface of the Earth, not underground. The water that is absorbed into the earth is called ground water and it is actually part of the "storage" stage of the water cycle.

Storage is when clouds form in the sky.

- False. Storage is when water is stored on Earth (after precipitation and run-off) before it is evaporated. Condensation is when clouds form in the sky from water vapor created by evaporation and transpiration.

8. After the quiz game, take learners on a river walk to a river that is near to school (if possible). During the walk, ask discussion questions like the following to get learners thinking about the importance of the river for life.
    - What is the name of this river? Where does it begin? Where does it end?
    - What relies on this river for water, food and/or shelter? (Humans, birds, insects, fish, mammals, reptiles, etc.)
    - How else do people in your community use the river?
    - What would happen if the river dried up and wasn't here anymore?
    - What can we do to protect the river so it is here for many generations to come?

Assessment Activity: I Expect/I Learned

Take Home Activity:

Learners can do a science experiment at home in which they place two spoonfuls of water in a container and place it in the sun. Then they place another 2 spoonfuls of water in a container and place it in the shade or inside the house. They should monitor how quickly each disappears (evaporates) and report the results of their experiment to someone at home and also back to the Environmental club to discuss why this happens.

Teacher's Notes:

What is the water cycle?

- The water cycle is the cycle of processes by which water circulates between the earth's oceans, atmosphere, and land, involving precipitation as rain and snow, drainage in streams and rivers, and return to the atmosphere by evaporation and transpiration.

Stages of the Water Cycle

- **Evaporation** is when the sun heats up water and turns it into water vapor or steam which goes into the air. If you have ever noticed that after washing dishes and leaving them outside they eventually dry – then you have witnessed evaporation! Water is constantly evaporating from bodies of water like ponds, streams, rivers, lakes and oceans as well as from all around us like from wet clothes on the line, on dishes left to dry in the sun and from our skin after a bath.
- **Transpiration** is another way that water gets absorbed into the air. A tree's roots absorb water from the soil and bring the water all the way up to their leaves. Extra water the tree doesn't need for survival gets left on its leaves, which gets evaporated into the air and adds to the moisture in the air.
- **Condensation** is when the water vapor in the air (from evaporation and transpiration) gets cold and changes back into a liquid, forming clouds.
- **Precipitation** occurs when so much water has condensed that the air cannot hold it anymore. The clouds get heavy and water falls back to the earth in the form of rain. In colder places, water also falls as hail, sleet or snow.
- **Run-off** is when precipitation falls and it flows along the surface of the Earth, not absorbing into the soil. It eventually ends up in a larger collection point like a lake or ocean.
- **Storage** is when water is stored until it is evaporated and it starts the water cycle over again. The Earth stores water in a number of places. The ocean is the largest storage of water, but water is also stored in lakes and ponds as well as underground!

Module 1, Session 6: Air

Objectives:

- To learn about air and the oxygen cycle
- To create a song or story which convinces others about the importance of trees in the oxygen cycle
- To work collaboratively in groups

Competences:

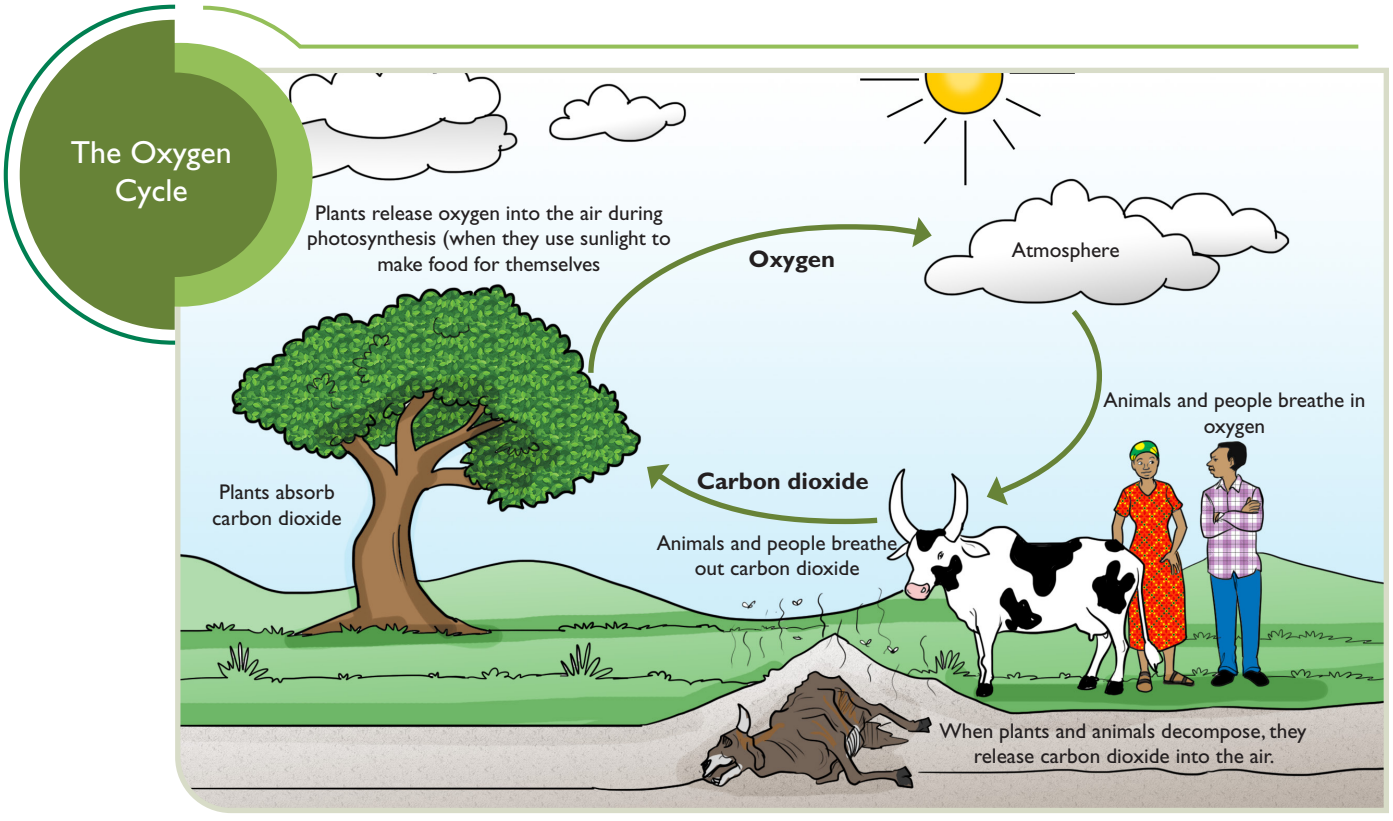
- General environmental awareness
- Systems knowledge
- Collaboration with peers and others

Materials:

- The Oxygen Cycle Illustrated Chart

Session Plan:

1. Read the session objectives and ask learners what they know about air like:
   - What is air?
   - What is wind?
   - Why do people, plants and animals need air?
2. Tell learners to take a deep breath in. What is in the air that fills our lungs so that we can breathe?
   - Oxygen
3. Tell learners to take another deep breath and breathe out. What is in the air that we breathe out?
   - Carbon dioxide
4. Show learners **The Oxygen Cycle Illustrated Chart** and use the Teacher's Notes box at the end of this session to teach them about the different parts of the oxygen cycle.



5. Divide learners into small groups. Give each group one of the following scenarios about people who want to cut down trees.
    - **Scenario 1:** A company wants to cut down many trees in your village so it can build a factory.
    - **Scenario 2:** A farmer wants to cut down all of the trees in his garden so he can farm more crops.
    - **Scenario 3:** People in your village are cutting down many trees in your village to use them for firewood and charcoal.
6. Groups should think about what to say to the people who want to cut down the trees to get them to stop. They can create a song or a short play to convince them not to cut down trees because we need them to create oxygen so we can breathe.
7. After groups practice their songs/plays, ask each group to perform in front of the whole group.

Assessment Activity: 3-2-1

Take Home Activity:

To further understand how trees absorb the oxygen in the air, tell learners to do a simple experiment with water and leaves. They can get a cup, bowl or pot of water and submerge a tree leaf into it. After a few hours under water, bubbles of air will appear on the leaf as it releases the oxygen it has stored in it.

Teacher's Notes:

Air

- Air is made up of gases. It is 78% nitrogen and 21% oxygen. There are also small amounts of other gases like carbon dioxide, neon and hydrogen.
- People and animals need air because we breathe in the oxygen that is in the air. Plants also need air because it contains oxygen and carbon dioxide which they need to make food. People and animals need plants to survive (remember our lessons on how the ecosystem and food webs are interconnected and dependent on each other!) so we need the air to be clean and healthy to support life on Earth!

The Oxygen Cycle

- Plants use sunlight and carbon dioxide to make food (through a process called photosynthesis). When they do this, they release oxygen as a byproduct.
- Humans and animals breathe in oxygen. Plants also use oxygen to grow.
- When humans and animals breathe out, they release carbon dioxide into the air. Plants also release carbon dioxide into the air.
- When plants and animals die, they decompose and release carbon dioxide into the air.
- Plants absorb the carbon dioxide in the air for photosynthesis.

Module 1, Session 7: **Trees**

Objectives:

- To learn about indigenous (native) trees within the community, including their names and local uses
- To create a song or story about the importance of trees
- To work collaboratively with others

Competences:

- Systems knowledge
- Connectedness with nature
- Collaboration with peers and others

Materials:

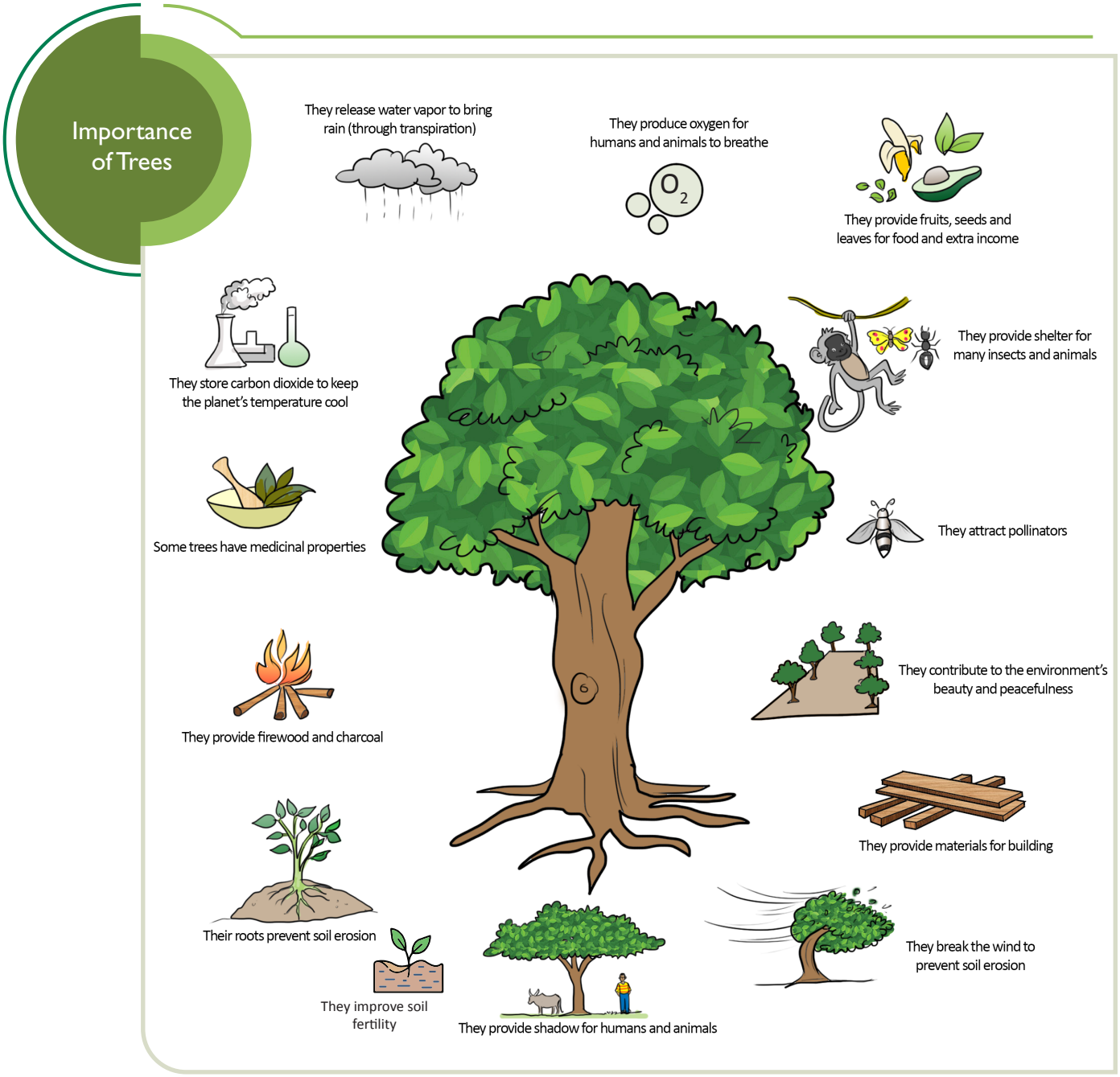
- The Importance of Trees Illustrated Chart

Teacher Tip:

Before the session, identify the names of different species of indigenous (native) trees that grow around the school. Identify each tree's uses, cultural significance and/or medicinal use. If necessary, ask for help from the science teacher or other person in the community who is knowledgeable about indigenous trees.

Session Plan:

1. Read the session objectives and ask learners why they think trees are important in our lives.
2. Use **The Importance of Trees Illustrated Chart** and the Teacher's Notes box at the end of the session to teach learners about all the ways trees are important.



3. Divide learners into small groups of 3 or 4. Assign each group one of the following parts of the tree:
   - Roots
   - Trunk (stem)
   - Branches
   - Leaves
   - Fruit/flowers
4. Tell groups to create a song or poem about their part of the tree and how it is important for insects, animals, and humans. Example ideas that they can include in their songs/poems for each part of the tree are shown in the following table so you can help guide them.

Roots	• Medicine (for example, ginger is used for stomach upset) • Food and shelter for insects and animals • Prevents soil erosion
Trunk (stem)	• Building materials for humans • Breaks the wind when planted in a row • Firewood and charcoal for humans
Branches	• Medicine (for example, the bark from some trees can be used as medicine) • Building materials for humans • Food and shelter for insects and animals • Breaks the wind when planted in a row • Provides shadow for humans and animals
Leaves	• Medicine (for example, mango leaves are believed to help treat diabetes) • Food and shelter for insects and animals • Provides beauty and peacefulness • Breaks the wind when planted in a row • Provides shadow for humans and animals • Helps keep Earth's temperature cool by absorbing carbon dioxide (which can heat the Earth) • Produces oxygen for humans and animals to breathe • Releases water vapor to bring rain
Fruit/flowers	• Medicine (for example, Neem seeds are known for pesticidal and insecticidal properties • Food for humans, insects and animals • Extra income for humans • Attracts pollinators like bees • Provides beauty and peacefulness

5. After groups have practiced their songs/poems, ask each group to perform in front of everyone.
6. After all performances, ask learners the following questions:
    - What is your favorite part of a tree? Why?
    - Why should humans take care of trees?
    - What do you think would happen if we didn't have any trees in our community?
    - How do you think we can protect trees?
7. After the performances, walk around the school compound and surrounding area and identify different species of trees that are indigenous (native) to the region. For each tree, talk about the following:
    - The local name of the tree
    - How people use the tree

- What purpose the tree serves in the ecosystem

8. Use the example information about common trees that are indigenous (native) to the region in the Teacher's Notes box at the end of this session to guide the session with learners, but also rely on the information about the trees in your school compound that you collected before the session.

Assessment Activity: Peer Quiz

Take Home Activity:

Learners should perform their song/poem for someone at home and talk to them about why they think trees are important.

Teacher's Notes:

<u>How trees prevent soil erosion</u>

Soil erosion is the washing or blowing away (by water or wind) of the top layer of soil (topsoil).

Trees help prevent soil erosion in many ways:

- The canopy (branches and leaves) of trees helps reduce "splash erosion" which is when rainfall lands on the ground and causes soil to wash away. Instead, the rain hits the branches and leaves first, so when it finally reaches the ground, it does so at a much slower rate.
- The roots of the trees bind (hold in place) loose soil to the ground. This means that when it rains, the soil is held better to the ground and does not wash away as easily. This is especially necessary in sloping places where water easily washes down hills and erodes soil if there are no tree roots to stop it.
- Trees also absorb the water in the soil through a process called "transpiration". This reduces the amount of water in the soil, meaning there is less water in the soil to help wash it away when it rains.
- Trees also help break the wind, meaning that they catch some of the wind so it is not so intense and cannot blow away as much soil, therefore preventing soil erosion.

How trees help bring the rain

Too much rain is bad for soil erosion, but we still need rain to survive (for drinking, watering crops, etc.) Trees help bring the rain through a process called "transpiration" which is part of the water cycle. During transpiration:

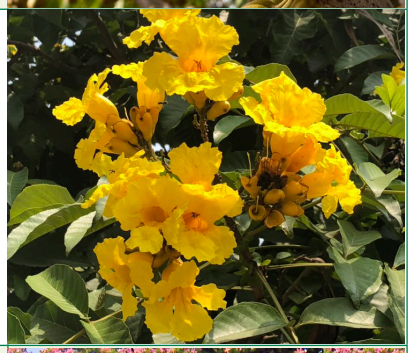
- The tree's roots absorb water from the soil and bring the water all the way up to their leaves.
- Extra water the tree doesn't need for survival gets left on its leaves, which gets evaporated into the air and adds to the moisture in the air.
- The moisture eventually falls as rain.

How trees provide food and shelter

- Trees provide shelter for many birds, small animals, and insects.
- They are also a source of food for these animals.
- Humans also eat food from trees (fruits) and use parts of some trees and plants for medicine.
- Bacteria and fungi in different parts of the tree cause the tree to decompose, which makes nesting easier for some birds, makes it easier for some animals who burrow in the trees and around the roots, and also increases the nutrients in the soil.
- Humans also get wood for use in construction from some types of trees.
- The shadows from trees also provide a cooler place for humans and animals to sit when the temperature is hot. Trees also provide protection to humans and animals when it rains.

How trees provide oxygen

- As learners learned in the session about air, trees are a vital part of the oxygen cycle. Trees are the biggest oxygen creators in the world, so without them we would not have enough oxygen in the air we breathe.
- Humans, many animals, and plants need oxygen to survive – so trees are quite literally necessary for our survival!

Teacher's Notes:				
Common Name of Indigenous Tree	**Scientific Name of Indigenous Tree**	**Local Name (Lumasaba)**	**How People Use the Tree**	**Photo**
African Alpine Bamboo	*Arundinaria alpine*	Kamateka	• Food (eating the bamboo shoots) • Craft material • Poles for building	
Drum Tree	*Cordia Africanai*	Kukyikhili	• Carving (drums, musical instruments) • Timber • Firewood • Medicine • Shade	
Fig trees	*Ficus spp*	Kutoto	• Bark cloth • Shade • Poles for building • Medicine • Firewood • Food (fruits)	
Nile Tulip/Nile Trumpet	*Markhamia lutea*	Lusoola	• Shade • Medicine • Beauty • Timber • Charcoal	
Silk Plants/Silk Trees	*Albizia spp*	Kukhuyu/ Shirukhu	• Timber • Charcoal • Medicine • Shade • Beauty • Apiculture (bee keeping)	

Module 2: Threats to Our Environment and Livelihoods

Module 2: Competences

Throughout Module 2, learners will gain the following competences:

- General environmental awareness - this includes consciousness and interest in the surroundings
- Systems knowledge – understanding connections between organisms and the ecosystem
- Connectedness with nature – which may lead to attitude and mindset change
- A sense of motivation, responsibility, and agency to take care of the environment
- Exploration of available options to environment challenges (action-related knowledge)
- Collaboration with peers and others

Module 2, Session 1: **Human Influences on the Environment**

Objectives:

- To recognize the difference between climate and weather
- To read a story about why climate change is happening and the effects it is having on people, plants and animals
- To play a quiz game in groups about climate change and global warming

Competences:

- Systems knowledge
- A sense of motivation, responsibility, and agency to take care of the environment
- Collaboration with peers and others

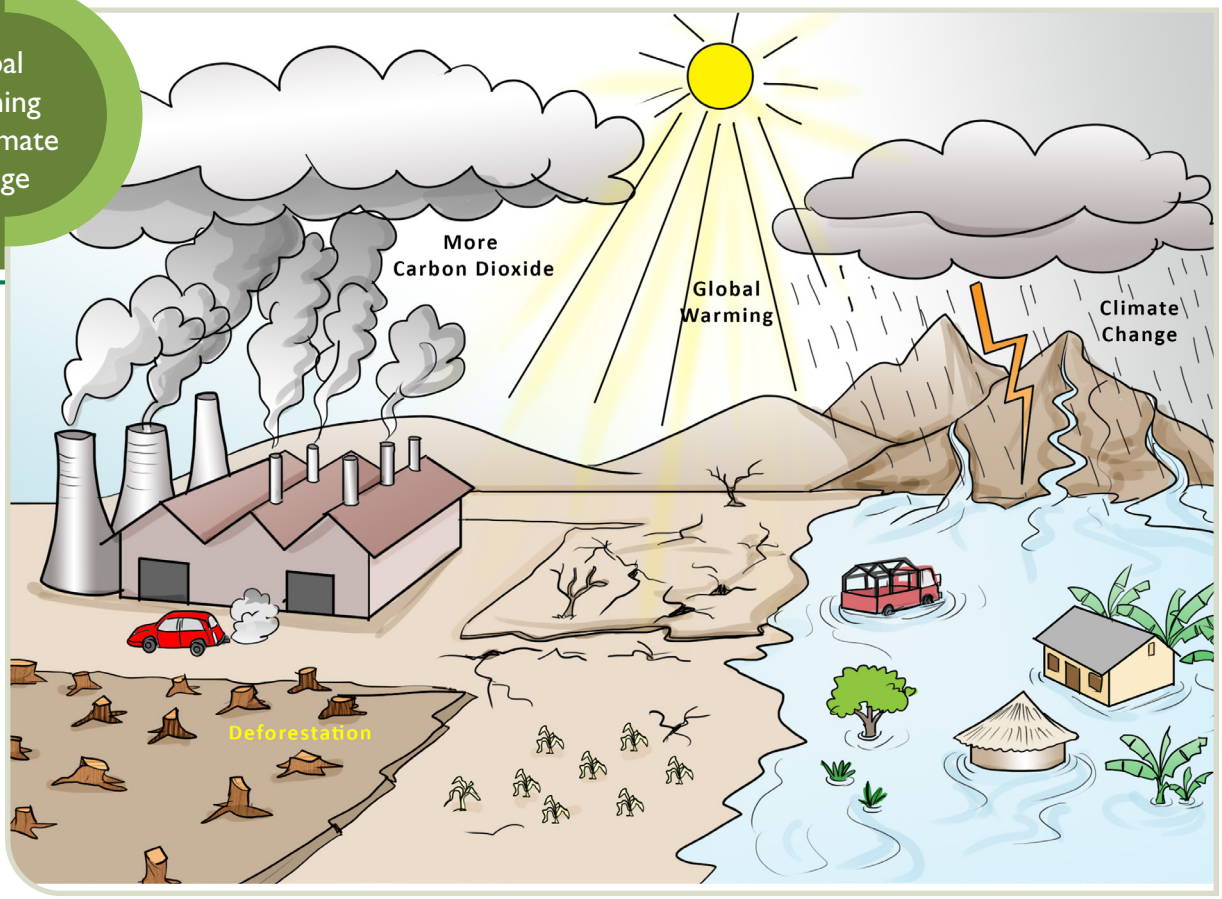
Materials:

- Global Warming and Climate Change Illustrated Chart

Session Plan:

1. Read the session objectives to learners.
2. Ask a few learners if they can explain the difference between climate and weather. Ensure they understand that:
    - Weather is the daily condition of a place at a given time – like a rainstorm or hot day – that happens over a few hours, days or weeks.
    - Climate is the average weather condition in a place over 30 years or more.
3. Show the **Global Warming and Climate Change Illustrated Chart** and read the following story to teach children about global warming and climate change.

Global Warming and Climate Change



Our Changing Climate Story

It is normal for the average temperature on Earth to increase and decrease a little bit over time, but scientists who study the Earth's climate agree that global temperatures have increased much faster than usual over the last 150 years. What could be happening?

We call it global warming – and it means that the Earth's temperature is getting warmer. If you talk to your parents or your grandparents, they might tell you that temperatures in Uganda are hotter now than they used to be – and many places on Earth are experiencing the same thing. Global warming is happening because there is too much carbon dioxide in the air. Carbon dioxide absorbs sunshine, and it traps heat from the sun close to the Earth. This warms up our temperatures on Earth.

You might ask - where does carbon dioxide come from? New technologies like cars, lorries, airplanes and boda bodas all use oil and petrol to run. Many people around the world also use electricity in their homes and businesses. All these activities burn fuel and release a lot of carbon dioxide into the air. There are more people on Earth (almost 8 billion!) than ever before, and they have greatly increased the amount of carbon dioxide in the air over the last 150 years through these activities. Even though people in rural Uganda don't often use cars, airplanes, and electricity for themselves, we are all affected by what is going on around the world.

The people of rural Uganda are feeling the effects of global warming, which we call climate change. Climate change means that the overall climate in areas around the world are changing a lot. A warmer climate leads to extreme weather like heavy rains and storms that sometimes cause terrible flooding. Other areas are so dry that they are always facing forest fires that destroy everything or droughts that make it difficult to farm food and get drinking water. All people on Earth are currently being affected by global warming and climate change, and everyone in the whole world must start working together now to stop it.

So…what can we do? Remember how we learned that trees absorb carbon dioxide and then release oxygen that we need to breathe? Trees are really important for how we fight global warming and climate change because they absorb the carbon dioxide in the air so it cannot warm up the Earth so much. Some places on Earth cannot grow trees, but in Uganda we have a perfect environment for them to grow – so we need to keep our trees alive and healthy so we can help the whole world. Another thing we can do is cut down fewer trees by using less firewood and charcoal by cooking on energy-saving stoves! And, if we cut down a tree – we should plant one in its place!

Teacher Tip:

After reading the story, ask learners if they have any questions about global warming and climate change. It is a difficult concept to understand, so explain it to them a few more times if needed. The next few sessions will also help to explain climate change and global warming, so if learners don't understand it immediately, they will have more time in future sessions to catch on.

4. Divide learners into small groups. Give them the following instructions:
    - Choose one person in the group to be your "spokesperson".
    - I am going to read out a statement. As a group, discuss the answer.
    - After discussing, I will ask the spokesperson from one group to answer. Spokespersons from other groups will have the chance to say if they agree or disagree with the answer. If they disagree, they can share their ideas.
    - I will then reveal the correct answer and the groups who answered correctly will win a point.
    - Groups can change their spokesperson throughout the game or keep them the same.
5. Play the quiz game with the following questions.

Global Warming and Climate Change Quiz:

What is weather?

- Weather is the daily condition of a place at a given time – like a rainstorm or hot day – that happens over a few hours, days or weeks.

What is climate?

- Climate is the average weather condition of a place over 30 years or more.

What gas is in the air which is causing global warming to happen?

- Carbon dioxide.

Why is there so much carbon dioxide in the air?

- People are using a lot of new technology like cars, lorries, airplanes, factory machines and electricity which produce carbon dioxide when they are used. This carbon dioxide goes into the air and traps heat from the sun which warms the planet.
- People are also cutting down a lot of trees, which naturally remove carbon dioxide from the air. Without as many trees, the amount of carbon dioxide in the air increases.

What absorbs the carbon dioxide in the air?

- Plants like trees naturally absorb carbon dioxide and use it to make food for themselves (photosynthesis). They then release oxygen which we need to breathe. Plants and trees are very important for stopping global warming and climate change, but people keep cutting them down.

Are global warming and climate change caused by people?

- Yes. People are using new technologies like cars, lorries, airplanes and electricity which produces a lot of carbon dioxide.
- Yes. People are cutting down trees to make way for more homes, factories, farms and cities. These homes, factories, farms and cities produce a lot of carbon dioxide and there aren't as many trees left to absorb it.

How do you think global warming and climate change is affecting people?

- Droughts mean water is scarcer to find for drinking, watering domestic animals and watering agricultural crops.
- Forest fires caused by hot weather and droughts destroy people's homes.
- Heavy rains cause flooding and landslides which kill many people and destroy their homes.
- Unpredictable seasons mean it is more difficult to plan for farming and get a bountiful yield. This is impacting our food sources.

How do you think global warming and climate change is affecting animals?

- Climate change is destroying the homes of animals and killing them in the process (during droughts, floods, fires, landslides, etc.).
- Climate change is making their food and water scarcer which causes them to fight for the little food and water available.

How do you think global warming and climate change is affecting plants?

- Climate change is making the sun too hot for some plants and the rain too little, causing them to die. Many trees and plants are also dying in forest fires as a result of drought and high temperatures.
- Other times, climate change is making rain too heavy and washing plants away.

What can people do to stop global warming and climate change?

- In rural Uganda and other rural places, people can plant trees so they can absorb the carbon dioxide in the air. If we use energy-saving stoves, we will need to cut down fewer trees for firewood and charcoal. We can also protect and conserve the soil.
- In other places where they use a lot of electricity, drive their cars a lot and use a lot of wasteful products like plastic, people can change their lifestyles so that they aren't being wasteful and participating in so many activities that use a lot of electricity or fuel.

Assessment Activity: Toss the Ball

Take Home Activity:

Tell learners to go home and tell someone one thing they learned today about global warming and climate change. Learners should talk to someone at home to learn at least one other fact about how the climate in their area has been changing over recent years.

Module 2, Session 2: **Our Experience with Climate Change**

Objectives:

- To recognize how climate change is causing extreme weather and impacting communities in Uganda
- To create role plays which show our experience with climate change
- To work collaboratively in small groups

Competences:

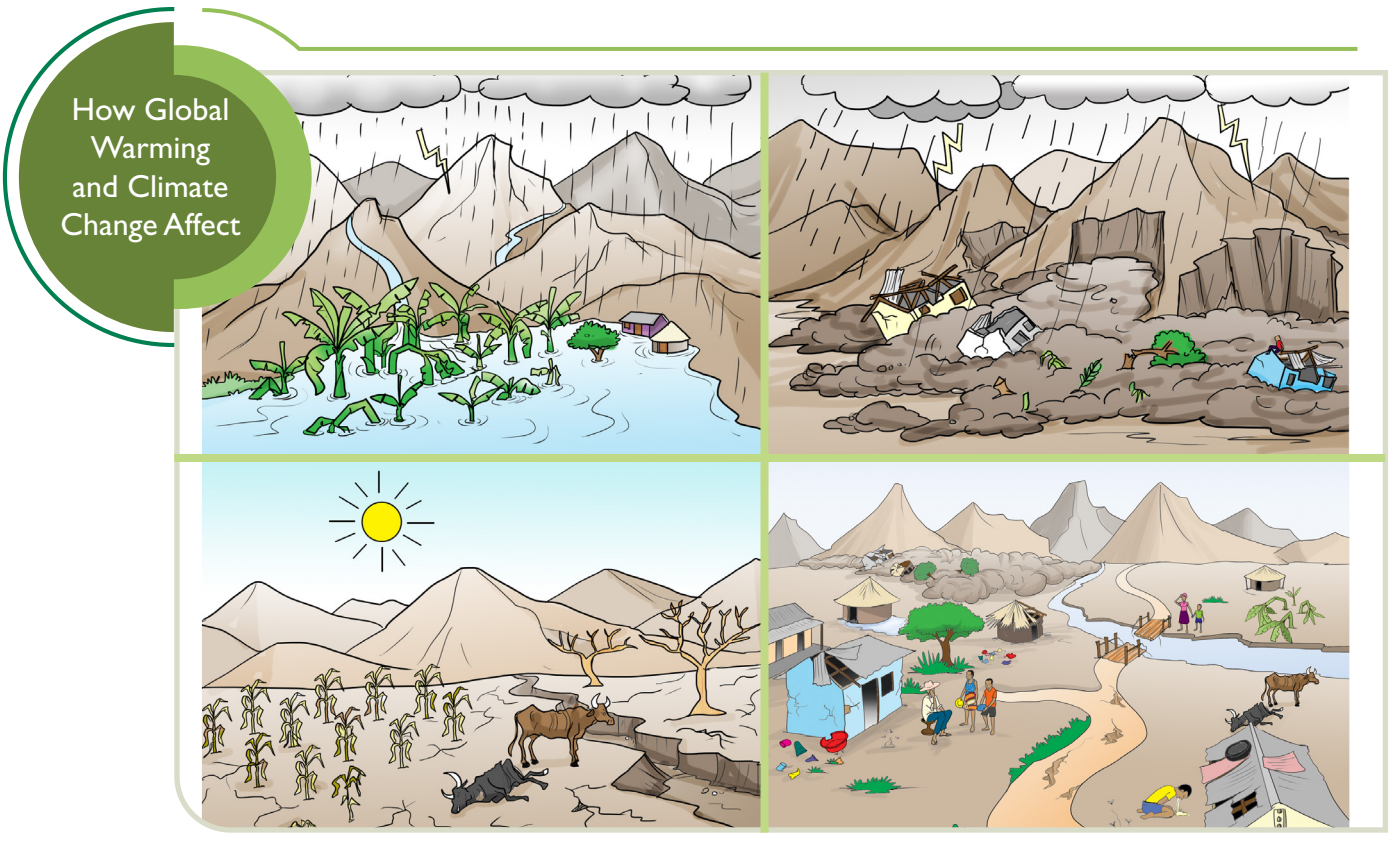
- General environmental awareness
- Systems knowledge
- Collaboration with peers and others

Materials:

- How Global Warming and Climate Change Affect Us Illustrated Chart

Session Plan:

1. Read the session objectives to learners.
2. Ask learners what they have observed about the climate in their area.
   - Is our climate usually hot or cold?
   - Do we experience any extreme weather like heavy rains, flooding or drought?
   - What happens when there are heavy rains, flooding or drought?
3. Show learners the **How Global Warming and Climate Change Affect Us Illustrated Chart.** Ask them what they see in the pictures. Ask if they or their families have ever experienced something similar to what they see in the pictures.



4. Remind learners about the connection between global warming and climate change. Namely that higher temperatures from global warming causes climate change and extreme weather like heavy rains, flooding and droughts. Use the Teacher's Notes box at the end of the session to guide this discussion.

5. Divide learners into small groups. Assign each group one of the following scenarios to create a role play about.

    - **Scenario 1:** A family has had all of their crops washed away by heavy rains and flooding. They are worried about what they will eat for the rest of the year.
    - **Scenario 2:** Two farmers are neighbors and they are trying to decide when it is best to plant their crops, because the seasons/rain is so unpredictable now. One neighbor plants too early and the crops die because the rain doesn't come in time. The other neighbor plants too late and the seeds get washed away when the heavy rains come soon after.
    - **Scenario 3:** A family narrowly escapes a landslide, but it destroys their home and garden. They start to build again, but they are afraid that another landslide will come again later and destroy their new home.
    - **Scenario 4:** A family's village is experiencing a drought. It has not rained in a long time and water is becoming scarce for people and animals to drink. The crops are also dying from the heat.
    - **Scenario 5:** The villagers have noticed that the water in their river is extremely dirty from all the rain and flooding lately. It is not nice for them to drink anymore, and they need to try to find another option, but they don't know what.
    - **Scenario 6:** A landslide destroyed part of a village. No one was killed in the landslide, but within a few days, many villagers had fallen sick. The villagers determined that the landslide had washed human waste from destroyed latrines into the village's water sources, which made them fall ill.

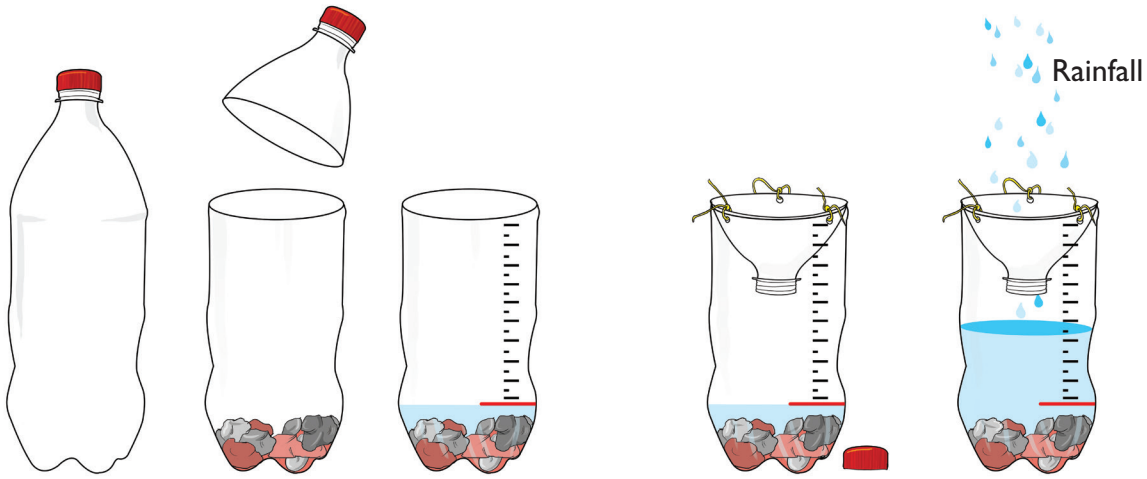
6. After groups practice their role plays/stories, ask each group to perform in front of the whole group. After each role play ask the rest of the learners the following questions:

    - What problem are the people in the role play facing?
    - How has global warming and climate change played a part in this problem?
    - Is this a common problem in our community? What do people do to deal with it?

Assessment Activity: Exploration Table

Take Home Activity:

Explain to learners what a rain gauge is (an instrument used to gather and measure rainfall). Show learners the illustration for how they can build a rain gauge that can collect rainwater using a two-liter soda/mineral water bottle and some stones. After building the rain gauge, they can perform a small experiment to study the rainfall in their area at different times of the year. Learners can use their findings to start a conversation with their parents or other elders in the community about how the amount of heavy rainfall has changed over time (due to climate change) since the elders were young.



Teacher's Notes:

What is global warming?

Global warming means that the Earth's temperature is getting warmer. Global warming is happening because there is too much carbon dioxide in the air. Carbon dioxide absorbs sunshine, and it traps heat from the sun close to the Earth. This warms up our temperatures on Earth.

What causes global warming?

New technologies like cars, lorries, airplanes and boda bodas all use oil and petrol to run. Many people around the world also use electricity in their homes and businesses. All these activities burn fuel and release a lot of carbon dioxide into the air. All of this carbon dioxide causes the planet to heat up, because the sunshine is attracted to it, and it warms the Earth.

What is climate change and how does it affect us?

Climate change means that the overall climate in areas around the world are changing a lot. It causes extreme weather like:

Heavy rains and flooding

A warmer climate means an increase in heavy rainfall. Heavy rains, along with deforestation and poor farming practices, can cause landslides in mountainous areas. Heavy rains can also cause rivers to flood which often floods homes and gardens. Landslides and flooding pollute rivers with silt (soil), impacting water safety for drinking.

Hot temperatures and droughts

Heavy rains and the problems they create aren't the only impact of climate change in Uganda. Another extreme weather problem common in Uganda is drought. A warmer climate also means that average temperatures are higher and less rain falls for long periods. Since water is needed for life, droughts can threaten farming and livestock, as well as human life.

Unpredictable seasons

For many generations in Uganda, the timing of rainy and dry seasons was relatively easy to predict. Farmers knew the signs for when rain was coming, helping to guide them on when to prepare their fields and plant seeds. However, climate change has impacted the start and end of rainy/dry seasons, making it harder to plan for farming and harvesting. This, along with flooding and drought, have impacted food security and economic activities in many places across Uganda.

Module 2, Session 3: **Climate Change, Deforestation and Landslides**

Objectives:

- To recognize how cutting down trees in mountainous areas is a contributing factor for causing landslides when heavy rains come
- To appreciate that landslides can be prevented if people change their practices with cutting trees
- To create a song or story in small groups

Competences:

- Systems knowledge
- A sense of motivation, responsibility, and agency to take care of the environment
- Exploration of available options to environment challenges (action-related knowledge)

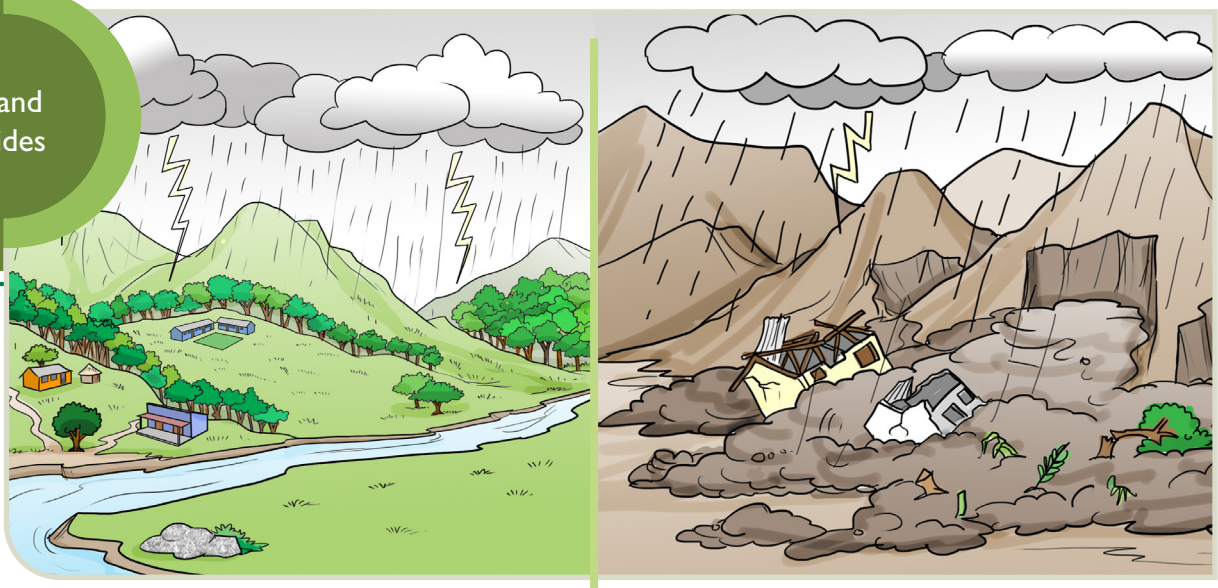
Materials:

- Paper
- Markers
- Trees and Landslides Illustrated Chart

Session Plan:

1. Read the session objectives to learners.
2. Show learners the **Trees and Landslides Illustrated Chart.** Ask the following questions and use the Teacher's Notes box at the end of this session to help you discuss the pictures with learners.
   - What do you see in the left picture?
   - What do you see in the right picture?
   - What do you think is the connection between heavy rains from climate change, cutting down trees and landslides?

Trees and Landslides



3. Split learners into two groups. Give each group some paper and markers.
4. Tell groups that they are going to write stories or songs about the experiences of two different villages who live on opposite sides of a mountain.
    - One group will create a story or a song about the village on the north side of the mountain, where the community does not have any respect for trees. They cut them down to use for firewood, charcoal, building and clearing land for farming. When they cut down trees, they do not replant them. This has left the land bare of trees and unable to help protect them from landslides when heavy rains come.
    - The other group will create a story or a song about the village on the south side of the mountain, where the community protects trees and replants them if any need to be cut down. In return, the trees protect them by holding the soil in place during heavy rains and preventing landslides.
    - Both groups can use the paper and markers to draw pictures to go along with their story or song.
5. Remind each group that every member should have a part in creating the story/song. They should think about the following to create their story/song:
    - Who are the key characters in the story/song?
    - What do the characters do? How do they treat trees? What does the land in this village look like?
    - What is the end result of their actions? What can we learn from them?
6. After groups have created their story/song, ask groups to perform for the whole Environmental club. If they drew pictures to go along with their story/song, they can hold them up as they are presenting. Each person should have at least one line to read aloud of the story/song when presenting.
7. After both groups have presented, bring the whole group together and discuss:
    - What can the village on the south side of the mountain (the village respectful of trees) do to help teach the village on the north side of the mountain (the village disrespectful of trees) about protecting trees? What can they say to them to teach them about the relationship between climate change, cutting down trees and landslides?
    - Are there any people in your community who cut down trees without replanting them? What would you say to them?

Assessment Activity: Peer Quiz

Take Home Activity:

Tell learners to share the stories they created with other peers at school, neighbors, friends or people at home. They should also talk to them about respecting trees because trees protect us from landslides.

Teacher's Notes:

The Connection between Climate Change, Cutting Down Trees and Landslides

People cut down trees so they can clear land for farming and building, for making charcoal or firewood for cooking, and for building structures. However, trees are extremely important for preventing soil erosion. Tree roots keep the soil firmly in place so it does not erode (wash away) as easily. They also break the wind, so soil cannot blow away as easily. When there are fewer trees in mountainous areas, soil erosion is even easier because sloping land erodes faster than flat land.

Climate change means that the overall climate is changing a lot. It causes extreme weather like heavy rains and flooding. When it rains heavily in mountainous areas and there are only a few trees to protect the soil, the soil can easily erode and sometimes this causes landslides. Although cutting down trees is not the ONLY reason for landslides, it is a contributing factor for why landslides happen in some places.

One of the ways we can protect our communities is by protecting trees and planting more if we cut any down. It is especially important to plant indigenous trees and trees with deep roots because they play an important role in preventing landslides. It is also important to ensure there are enough trees at the top of every hill and mountain so that they keep the soil stable at the very top of the incline.

Trees help protect us from landslides, so we should protect them too!

Module 2, Session 4: **Climate Change, Poor Farming Practices and Landslides**

Objectives:

- To recognize that landslides can be stopped if people change their farming practices
- To walk in the community to identify farming practices that contribute to landslides and those that help prevent landslides
- To participate with others in a quiz about farming practices that either contribute to or help prevent landslides

Competences:

- General environmental awareness
- Systems knowledge
- Connectedness with nature

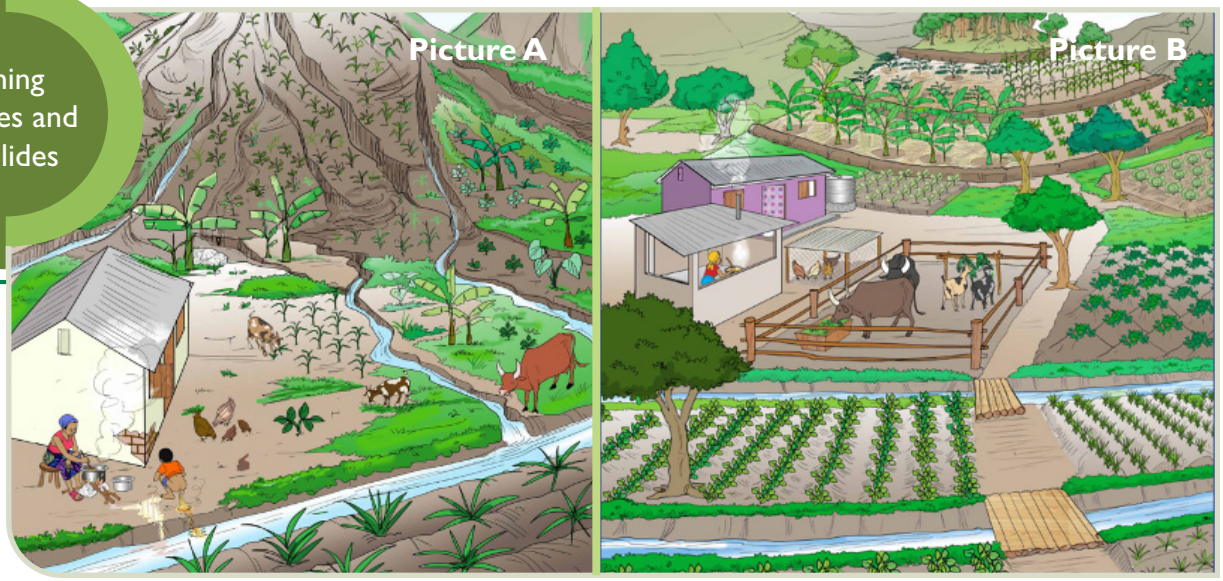
Materials:

- Farming Practices and Landslides Illustrated Chart

Session Plan:

1. Read the session objectives to learners.
2. Show learners the **Farming Practices and Landslides Illustrated Chart**. Ask the following questions and use the Teacher's Notes box at the end of this session to help you discuss the pictures with learners.
   - What farming practices do you see in Picture A?
   - What farming practices do you see in Picture B?
   - Which picture do you think are farming practices that prevent the soil from eroding (washing away)? Why?
   - Which picture do you think are farming practices that cause the soil to erode (wash away)? Why?

Farming Practices and Landslides



3. Use the Teacher's Notes box at the end of the session to teach learners about each of the "good" and "poor" farming practices.
4. Take learners out into the community to see some of the "good" and "poor' farming practices in reality. Point out how different farming practices either help prevent soil erosion and landslides or contribute to soil erosion and landslides.
5. Tell participants that to understand about the link between farming practices, soil erosion and landslides, they are going to participate in a Stand-Up, Sit-Down game. Read the following instructions.
    - I am going to read a statement. If you think the statement is true, you should stand up. If you think the statement is false, you should stay seated.
    - For each statement, a few learners will explain their answer and then I will reveal the correct answer.
6. Read the following statements. After each question, ask a few learners to explain their thinking. Then tell learners the correct answer. Use the Teacher's Notes box at the end of this session for more information about farming practices, soil erosion and landslides.

Landslides are ONLY caused when we cut down trees.

- False. The steepness of slopes also contributes to landslides. Slopes that are very steep should not be farmed and should just have trees on them because they are very high risk for landslides. Poor farming practices also contribute to landslides. In communities with few trees, steep slopes and poor farming practices, there is a very serious risk of landslides.

Poor farming practices can contribute to landslides.

- True. Planting only one crop on small pieces of land and planting down the slope contribute to landslides. Not digging trenches or not planting cover crops also increase the risk of landslides to occur. All of these poor practices erode the soil so it is weak and can easily wash away and fall down the hill.

Farmers should dig trenches to catch water when it rains.

- True. Trenches prevent water from accumulating, running off and causing soil erosion, and can even help the farmer to conserve water for later in the season when there is no rain.

Farmers should rotate which crops they plant each season.

- True. Planting different crops (called crop rotation) each season helps the soil to have a good structure and prevents soil erosion which can contribute to landslides.

Planting crops down the slope is a good farming practice.

- False. Planting down the slope makes it easy for rainwater to run down the slope and wash away the crops and soil, eventually leading to landslides.

Farmers should plant along the slope because it makes it so water can't run straight down the hill.

- True. Planting along the natural curve of the hill (planting on the contours) means the water cannot run straight down the hill and cause soil erosion which leads to landslides.

Soil erosion and landslides even affect the plants and fish in the rivers.

- True. When soil washes down the slope, it eventually flows into the rivers and kills plants and fish.

Soil erosion and landslides even affect the water we drink.

- True. When soil washes down the slope, it eventually flows into the rivers and makes the water too brown and dirty for drinking. Boiling the water does not make this water safe to drink.

People cannot prevent landslides. They are just part of life in our area.

- False. People can change their practices to prevent landslides. This includes protecting trees, planting trees if any need to be cut down and having good farming practices.

Assessment Activity: Check Out

Take Home Activity:

Tell learners to study their family's farming practices when they get home. They should consider whether their family's farming practices are good or poor, according to what they learned today. They should talk to their parents about what they see at home compared to what they learned about farming practices that cause or help prevent soil erosion and landslides.

Teacher's Notes:

Poor Farming Practices that Cause Soil Erosion

Planting on steep slopes: Clearing the land on steep slopes and planting crops there is a poor farming practice because it makes the land more vulnerable to landslides. This often happens because of lack of space on flatter lands.

Planting on protected land: Some farmers also encroach (plant illegally) on protected national park land, which is meant to be left natural and without crops. By planting on this land which is supposed to be left wild means that the area around the park is even more vulnerable to landslides because communities don't even have all of the wild park land to protect them from landslides.

Planting only one crop: This is called "monocropping". Farmers decide what is the best crop to sell and they grow only that. This can cause soil erosion because, over time, growing the same crop takes all the nutrients out of the soil which means the soil can erode easily.

Planting crops down the slope: This is when a farmer digs and plants crops straight down the slope. This can cause soil erosion because rainwater will run straight down the slope through their garden without any terraces or contours to stop it. This will wash away the crops and the soil down the slope.

Planting in a disorganized way: When farmers plant their crops anyhow, without a well-considered plan, it can contribute to soil erosion. Farmers can, for example, mix some crops on their field so the soil is well covered in the same area, and they should always plant along contour lines and with bunds (fanya ju) and/or trenches at strategic locations. Trees should also be left around the garden, especially at the top of the slope. Farmers should therefore always make a plan for each of their fields, while integrating different crops and practices - this is like a PIP for each plot!

Good Farming Practices that Prevent Soil Erosion

Note: Several of the following good farming practices should be used in combination to prevent soil erosion effectively.

Constructing fanya ju: This is when the farmer builds the soil up and creates bunds along the contour of the slope. When it rains, instead of the rain washing away all the nutrients in the soil and taking crops down the slope, the nutrients from the soil are held by the bunds instead of running off.

Planting along the slope: This is called "contour farming". It is when a farmer follows the natural shape of the land (contours) to plant crops horizontally across the slope. Planting along the contours captures water and holds it rather than it flowing straight down the hill.

Digging trenches: This is when a farmer digs deep, long pits called trenches that trap rainwater and soil when it rains. This trapped water also helps the farmer during the drier season because it does not evaporate immediately or flow down the slope.

Planting cover crops: This is when a farmer plants crops which add nutrients into the soil and also are low to the ground so they cover the soil so that it is not exposed to the heavy rains. Examples of cover crops the farmer can plant and eat include beans and cow peas. Other cover crops that the farmer might plant but not eat include grasses and clovers. These crops add nutrients back into the soil which prevents erosion. They also help cover the soil so that it cannot be easily washed away by water.

How Poor Farming Practices Contribute to Landslides

- Climate change is causing rains and floods.
- In mountainous areas, some farming practices like monocropping, planting in a disorganized way and planting down the slope cause soil erosion.
- Heavy rains weaken the soils causing soil erosion which leaves the soil exposed and prone to landslides/mudslides.

How Soil Erosion Contaminates Water

- When a lot of soil is carried down the slope by heavy rains, this soil ends up in lakes and rivers in valleys, which pollutes the water and turns it dirty brown. This brown water is too dirty for people to use for drinking or cooking and can cause diseases.
- When this soil settles at the bottom of the lake or the river, it destroys the plants on the bottom of the river. These plants are what fish in the water feed on. This soil pollution also destroys the home of the fish in the water.

Module 2, Session 5: **Human Influences on Plants and Animals**

Objectives:

- To learn about how people's activities threaten animals through case studies
- To play a game to appreciate the unique and important roles animals play in our ecosystems and why we should protect them
- To work collaboratively with others

Competences:

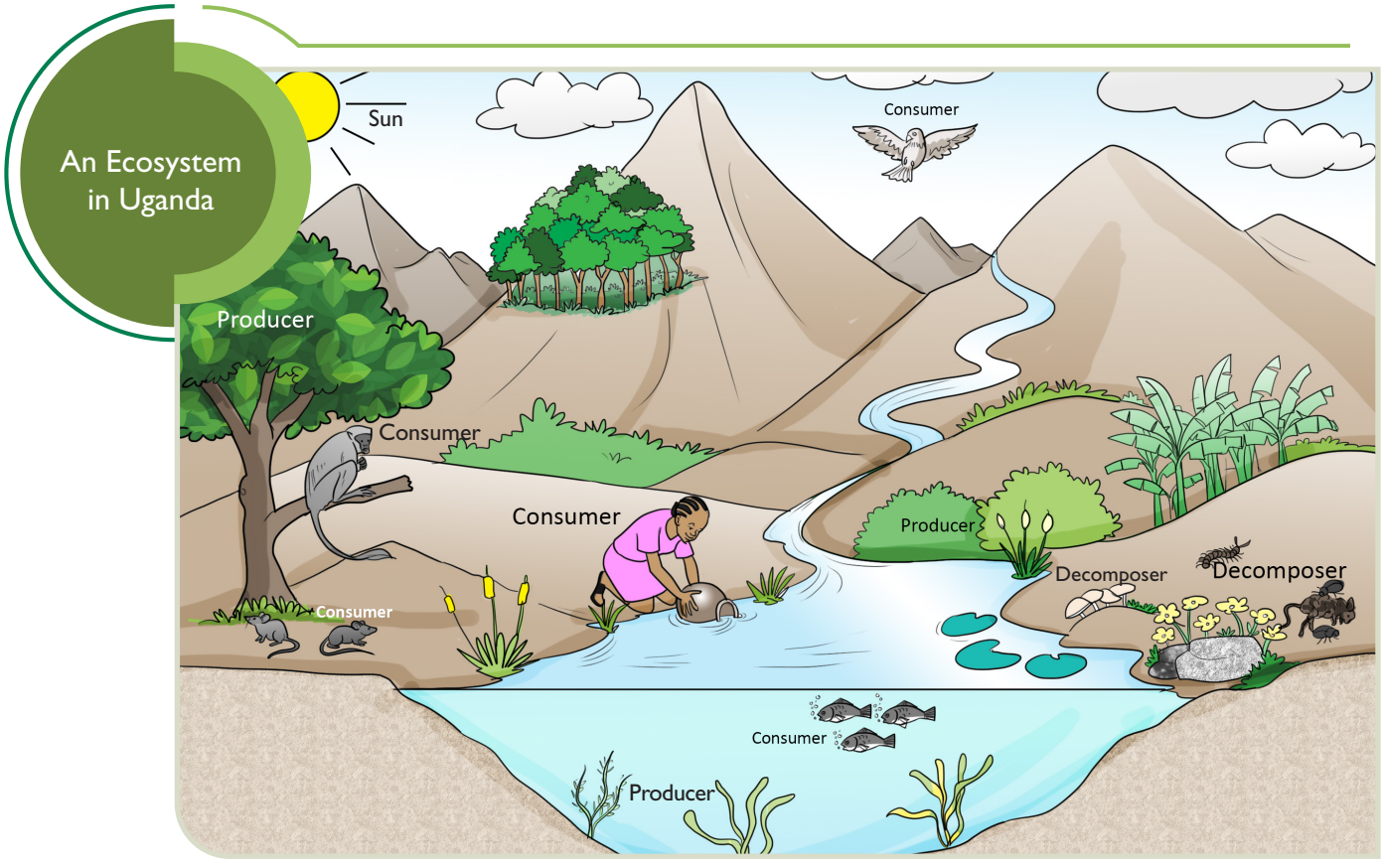
- Systems knowledge
- Connectedness with nature
- A sense of motivation, responsibility, and agency to take care of the environment

Materials:

- An Ecosystem in Uganda Illustrated Chart

Session Plan:

1. Read the session objectives to learners and ask if they remember what an ecosystem means.
2. Show learners the **An Ecosystem in Uganda Illustrated Chart** and ask them to point out the producers, consumers and decomposers.
3. Ask learners if they remember how all plants and animals in an ecosystem are interconnected. Ask why people should protect all of the plants and animals in their ecosystem. Use the Teacher's Notes box at the end of this session to support this discussion.



4. Introduce learners to the concept of extinction:
    - Extinction is when all of the plants or animals of a certain kind (species, family, group) are gone and no longer exist on Earth.
    - Before a plant or animal is entirely extinct it is considered "near threatened" then "vulnerable", then "endangered" then "critically endangered" and then "extinct in the wild" and then finally "extinct".
    - People usually have a chance to prevent an animal species from going extinct, if they are willing to protect it before it does.
5. Introduce learners to some animals that are currently in danger of going extinct because of people's actions. Link this to why people should care about and protect all plant and animal species. Use the Teacher's Notes box at the end of the session to support this discussion. Also give examples of some animals that are no longer found in your local area. For example, Colobus monkeys are no longer common in Bududa because people over-hunted them for their skins, meat and for use in cultural ceremonies.
6. To help learners better appreciate animals and why we should protect them, tell them that they are going to play a fun game. Give the following instructions:
    - We are going to play an acting game. Everyone should think about their favorite animal. Don't tell anyone which animal you picked!
    - One by one, each learner will come to the front and pretend to be that animal. You should act out being the animal. You cannot say any words, but you can make noises.
    - The rest of the class must guess what animal you are. When someone guesses correctly, we will talk a bit about the animal and then it will be someone else's turn to go.
7. Play the game with learners. After each animal is correctly guessed, ask the whole club the following questions:
    - What does this animal eat?
    - What eats this animal?
    - Why should people protect this animal?
    - Do people do anything that might harm this animal or its habitat (hunting, cutting trees it lives in, clearing land where it lives, etc.)?

Assessment Activity: 3-2-1

Take Home Activity:

When learners go home, they should pay attention to the animals (birds, insects, lizards, small mammals, domestic animals, etc.) they see on their way home or in their compound. Can they identify what the animal eats? What might eat them? What role does the animal play in the ecosystem? What would happen if this animal went extinct? They can then introduce the game of acting out different animals to their parents and siblings and play as a family.

Teacher's Notes:

The Interconnected Ecosystem

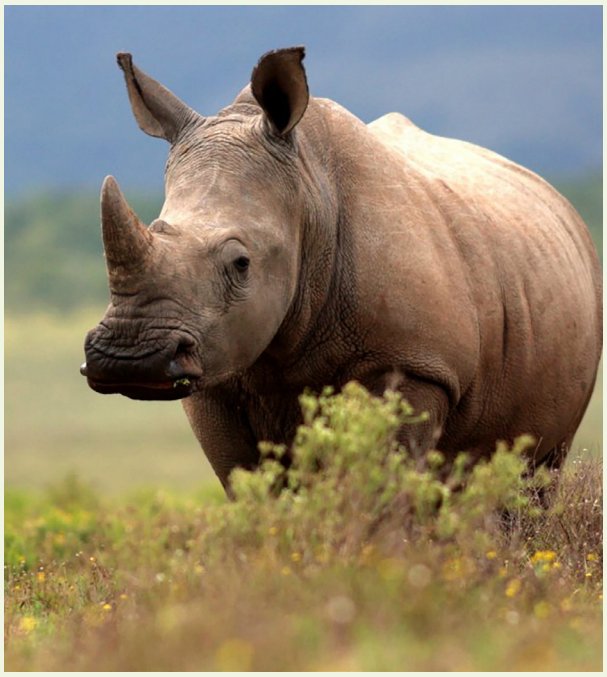
- An ecosystem is a community of living and non-living natural things that work together. An ecosystem can consist of sunlight, soil, water, air, plants and animals. An ecosystem can be as large as a vast desert or as small as a single tree.
- Some of the major parts of ecosystems in Uganda are rivers, lakes, plants, animals, air, sunlight, hills/mountains and the soils.
- Every living thing in an ecosystem is interdependent on each other. That means that they all need each other to live and to keep the ecosystem balanced.
- We should protect all the plants and animals in our ecosystem because we all depend on each other to survive. If plants die, then the animals that eat them will also die. People eat the plants and animals, so we need them all to have a balanced, healthy ecosystem.

Examples of Endangered Animals

Animal Name: Southern White Rhinoceros

Conservation Status: Near threatened

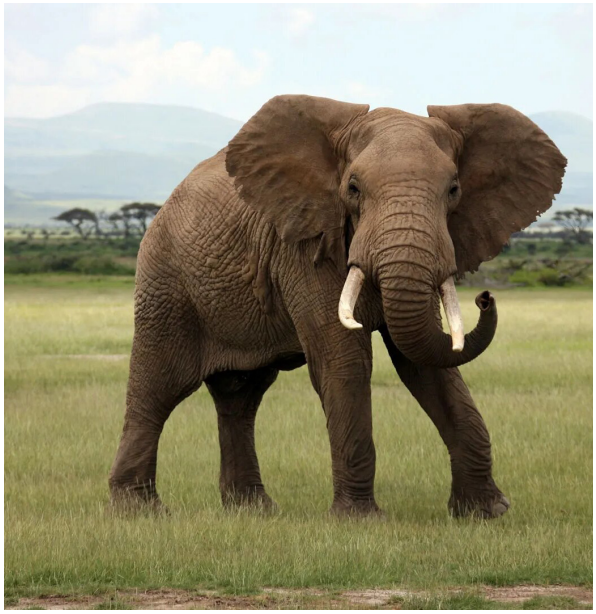
Cause: Rhinos used to be plentiful in Uganda and other countries in Africa. However, hunters killed all of the rhinoceros in Uganda about 40 years ago. They killed them for their horn, which some people in other parts of the world believe is a medicine. Rhinos still live in the wild in other parts of Africa, but they are facing extinction there due to hunting as well. The Uganda Wildlife Authority helped bring southern white rhinos back to Uganda and they are now closely protected in a special park in Northern Uganda by park rangers to ensure no one kills them. If people don't stop hunting rhinos, soon they may be extinct all over Africa because there are only about 18,000 left in the wild.



Animal Name: African Elephant

Conservation Status: Savanna elephants are endangered and forest elephants are critically endangered.

Cause: Elephants used to roam East Africa in great numbers, but people hunted them for their beautiful ivory tusks. People wanted this ivory to make many items, but in order to get the ivory tusks, hunters have to shoot and kill them. Today, only about 5,000 African elephants still live in Uganda and only about 415,000 still live in the world. That sounds like a lot, but just 100 years ago there were 10 million elephants in Africa! If people don't stop killing elephants, they will become extinct soon.



Animal Name: Mountain Gorilla

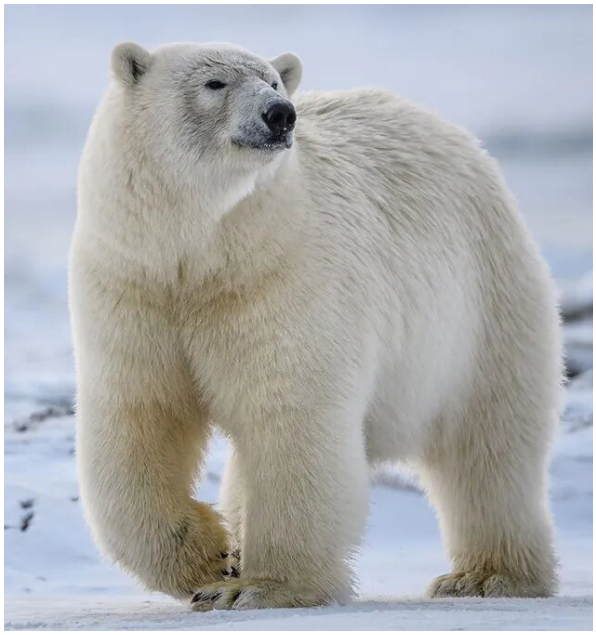
Conservation Status: Endangered

Cause: Mountain Gorillas live in the forests and mountains of southwestern Uganda, the Democratic Republic of the Congo and Rwanda. They are intelligent creatures with big, close families, but they are in danger due to years of war, hunting and habitat destruction caused by people.

Animal Name: Polar Bear

Conservation Status: Vulnerable

Cause: Polar bears live on the ice in very cold conditions in the Artic (the land at the very far north of planet Earth). Global warming is causing the ice in the Artic to melt at a rapid rate, causing polar bears to lose their habitat and have more difficulty finding food. People are the cause of global warming, so people are the reason the polar bear is close to extinction.



Module 3: Protecting Our Environment

Module 3: Competences

Throughout Module 3, learners will gain the following competences:

- General environmental awareness – this includes consciousness and interest in the surroundings
- Systems knowledge – understanding connections between organisms and the ecosystem
- Connectedness with nature – which may lead to attitude and mindset change
- A sense of motivation, responsibility, and agency to take care of the environment
- Exploration of available options to environment challenges (action-related knowledge)
- Collaboration with peers and others

Module 3, Session 1: **Obuntu Bulamu and Living Sustainably**

Objectives:

- To learn about the concept of *obuntu bulamu*
- To draw what *obuntu bulamu* means to you
- To share drawings of *obuntu bulamu* with others

Competences:

- Systems knowledge
- A sense of motivation, responsibility, and agency to take care of the environment
- Exploration of available options to environment challenges (action-related knowledge)

Materials:

- Papers
- Pencils/markers

Session Plan:

1. Read the session objectives to learners and ask if anyone has ever heard of *obuntu bulamu*.
2. Ask a few learners to explain what they remember about how the producers, consumers and decomposers in an ecosystem work together. Then ask learners to recap the importance of air, water and soil for supporting the ecosystem.
3. Play the following game to help illustrate what can happen when any part of an ecosystem is thrown off balance and not able to work together properly:
   - Ask learners to stand in a tight circle, facing inwards at each other.
   - Tell learners that each of them represents a key component of an ecosystem – different producers, consumers, decomposers, air, water and soil. They can share which they each want to pretend to be in this game.
   - Tell learners to each turn a quarter turn to their right so they are facing the back of the learner to their right.
   - Learners should now sit down, so they are sitting on the knees of the person behind them and they have the person in front of them sitting in their lap.
   - When learners have settled down and managed to all be sitting on each other's laps, explain that they represent a well-balanced ecosystem where every aspect works together to thrive. Everything in this ecosystem relies on each other for support and survival, just like how they are all able to support each other in this game.
   - Now lightly push one learner to unbalance them. This will likely cause a few learners to fall over and break the circle of sitting learners. Use this to illustrate how any disruption/imbalance to anything in an ecosystem will unbalance the whole ecosystem.
   - Play again, letting learners try to stay stable when one or more learners in the circle are unbalanced/fall over.

4. Ask learners what they learned from this game. Use the following questions to get the discussion started:
    - What happened when one person was unbalanced and fell over?
    - How can people work together to keep our ecosystem stable so it does not fall out of balance like in our game?
5. Use the learning from this game to introduce the concept of "*obuntu bulamu*". Relate how valuing *obuntu bulamu* can help ensure that humans are also living sustainably in their environment. Use the Teacher's Notes box at the end of the session to support this discussion.
6. Give each learner a paper and pencil/markers.
7. Ask learners to draw a picture of how they will commit to living with *obuntu bulamu* so that they can live sustainably and help protect the environment.
8. To get started drawing, learners can think about:
    - What does "living with *obuntu bulamu*" mean to you?
    - How will you work with others in your family or community to live with *obuntu bulamu*?
    - How can living with *obuntu bulamu* also help protect the environment?
9. After learners have created their drawings, ask each learner to present their drawing to the whole Environmental club and how they will commit to living with *obuntu bulamu*.
10. Drawings can be hung up in a central area at school to inspire other learners.

Assessment Activity: Letter to Myself

Take Home Activity:

Learners can talk to the people at home about the meaning of *obuntu bulamu*. They should ask if their families have heard about *obuntu bulamu*. What does it mean to them? How can the family use the concept of *obuntu bulamu* to live more sustainably and protect the environment? The family should plan to commit to one new practice that lives by *obuntu bulamu*/environmental sustainability practices. Learners can share their family's agreed commitment in the next session.

Teacher's Notes:

Obuntu Bulamu

Obuntu bulamu is an African belief that can be loosely translated as "I am because we are" or that "a person is a person through other people" or simply as "humanity". It means that everyone must care about other people and living things in the world in order to live well themselves. This shared caring makes the world a better place for everyone.

Obuntu bulamu is when people care about what happens to others within their communities as well as showing caring towards strangers. It is also about minding about how our actions affect others.

Obuntu bulamu is about how people do not live in isolation – everyone is interconnected to each other and other living things. This means that what one person does will affect other people and living things.

Sustainability

Sustainability means that people must interact with the environment in a way that ensures there are enough natural resources left for future generations. Examples of natural resources include water, trees and plants, animals, fossil fuels like natural gas, oil and coal, and air.

There are now close to 8 billion people on Earth – more people than at any point in human history. If these 8 billion people do not live sustainably, the Earth will run out of natural resources to support the lives of future generations of people, animals and plants.

Some examples of how people can live sustainably and protect the environment:

- Plant trees (especially if you cut one down)
- Take care of the soil by using good farming practices and not polluting
- Don't pollute water sources like streams, rivers, lakes or oceans
- Eat more plants than animals
- Do not over-hunt or over-fish
- Save energy by limiting electricity use
- Save energy by limiting transportation in vehicles that burn fuel (cars, taxis, *boda boda*)
- Recycle old items and find a new use for them
- Use less plastic and recycle single-use plastic (like straws, water bottles, *kaveera*)

Obuntu Bulamu and Environmental Sustainability

Obuntu bulamu means it is everyone's responsibility to take care of other living things on Earth. Therefore, if we practice sustainability in our environment, we are also practicing *obuntu bulamu* and this makes us better stewards of our environment.

When we live sustainably, we also protect the other living and non-living things on Earth like trees, animals, air, and water which we need to survive and maintain a balanced ecosystem.

When we live sustainably, we are caring about future generations by ensuring that they will have the natural resources they need to live happy, healthy lives. By doing this, we are living with *obuntu bulamu*.

Module 3, Session 2: **Composting**

Objectives:

- To learn about the benefits of using compost and the steps for building a compost pile
- To build a compost pile at school
- To inform neighbors about the school's compost pile, invite them to contribute to and use it, and encourage them to build their own compost piles

Competences:

- Connectedness with nature
- Exploration of available options to environment challenges (action-related knowledge)
- Collaboration with peers and others

Materials:

- "Brown" plant materials like dead leaves, chopped maize stalks, wood chips, nut shells, hay, shredded paper, maize cobs, straw, etc.
- "Green" plant materials like grasses, flowers, fresh leaves and weeds, vegetable and fruit kitchen scraps, coffee and tea grounds, eggshells, etc.
- Soil
- Buckets with water
- Garden hoes and spades
- Gloves and gum boots (optional)
- Steps for Making a Compost Pile Illustrated Chart

Teacher Tip:

Before the session, collect "brown" and "green" plant material like leftover vegetable scraps, tree cuttings, dead leaves, etc. Also ask learners to bring these materials from their kitchen at home, their garden or compound. Ask learners to bring a garden spades and hoes as well.

Also get permission from the school administration for where the Environmental club members can build a compost pile on the school's property, ideally near the school garden (if applicable).

Session Plan:

1. Read the session objectives to learners and ask what they remember learning about soil in Module 1.
2. Show learners the **Steps for Making a Compost Pile Illustrated Chart.** Use the Teacher's Notes box at the end of this session to help you introduce the definition and purpose of plant waste compost. Review each of the steps involved in making a plant waste compost pile shown on the chart.

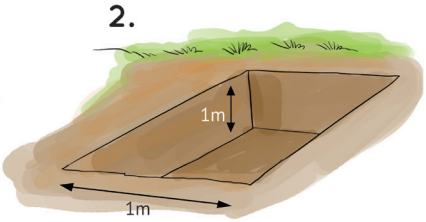
Steps for Making a Compost Pile

Organize a large quantity of both "brown" and "green" materials as well as soil.

"Brown" materials are: Dead leaves, chopped maize stalks, wood chips, nut shells, hay, shredded paper, maize cobs, straw, etc.

"Green" materials are: Grasses, flowers, fresh leaves and weeds, vegetable and fruit kitchen scraps, coffee and tea grounds, egg shells, etc.

2.



Using garden hoes and spades, dig a pit that is about 1 meter by 1 meter.

3.

Put a thin layer of brown materials in the bottom of the pit. Then put a thin layer of soil on top and sprinkle with water.

4.

Add about 15-20cm of "brown" and 5-8cm of "green" materials to the pit. Sprinkle soil on top and water generously. Repeat this layering of brown materials, green materials, soil and water until the pit is full.

5.

Cover the top of the pile with banana leaves. These will prevent the compost from drying out and allow some rain in to keep the pile moist.

6.

Turn the compost pile every week and keep it moist (but not wet/soggy).

3. Tell learners that the Environmental club is going to build a compost pile at school which can eventually be mixed into the soil in the school garden/learners' home gardens/neighbors' home gardens to improve the soil's nutrients and structure.
4. Ask learners to gather the plant materials they brought from home and go to the location that you have already agreed with the school's administration for the compost pile.
5. Follow each of the steps shown in the Steps for Making a Compost Pile Illustrated Chart to build a compost pile.
6. After finishing the compost pile, explain to learners that it will take about 3 months for the compost pile to be ready for use as a fertilizer in soil.
7. As a group, visit neighbors around the school and explain that the Environmental club members have just built a compost pile which will be ready in about 3 months.
    - Learners can invite neighbors to help the Environmental club members add to the compost pile to make it bigger in the future.
    - Learners can explain to neighbors how they built the compost pile in case any neighbors are interested in building one for themselves.
    - Learners can also invite neighbors to take some of the compost pile for their own home garden use when it is ready (in about 3 months).
8. When the compost has properly rotted after about 3 months, learners can harvest it and use it to fertilize the school garden/their home gardens. They can also alert neighbors that it is ready and invite them to collect some for their own use. The Environmental club members can continue to add to the compost pile to keep it producing organic fertilizer for their home, school and community.

Assessment Activity: Toss the Ball

Take Home Activity:

Learners can talk to their families and neighbors to help them build a home/neighborhood composting pile. With their parents, siblings and neighbors, learners can collect the plant waste, sort it into categories and eliminate any plastics, and build a compost pile as they learned how to do in the Environmental club. After the compost has rotted properly, households can harvest the compost for fertilizing their gardens.

Teacher's Notes:

Benefits of Composting Plant Waste

Compost is a type of fertilizer that is made from plants and food waste. It is easy and cheap to make because it requires mostly vegetable and other plant waste.

Compost is a healthy alternative to chemical fertilizers because it is all natural (organic) rather than using chemicals which could harm the soil, our water, and our health.

Compost can be mixed into the soil to help grow grass, in potted plants and herbs, for trees and shrub plants, and in the garden.

When compost is mixed into the soil:

- It gives plants the food (nutrients) they need to grow well like nitrogen, phosphorous and potassium.
- It improves soil structure and helps the soil retain more water from rainfall/ irrigation. Improved water retention helps plants grow better and prevents soil erosion.
- It allows air to enter into the soil. This prevents soil from crusting and reduces soil erosion.

Module 3, Session 3: **Tree Planting Community Sensitization**

Objectives:

- To refresh the importance of trees
- To sensitize others about the importance of trees
- To work collaboratively in groups

Competences:

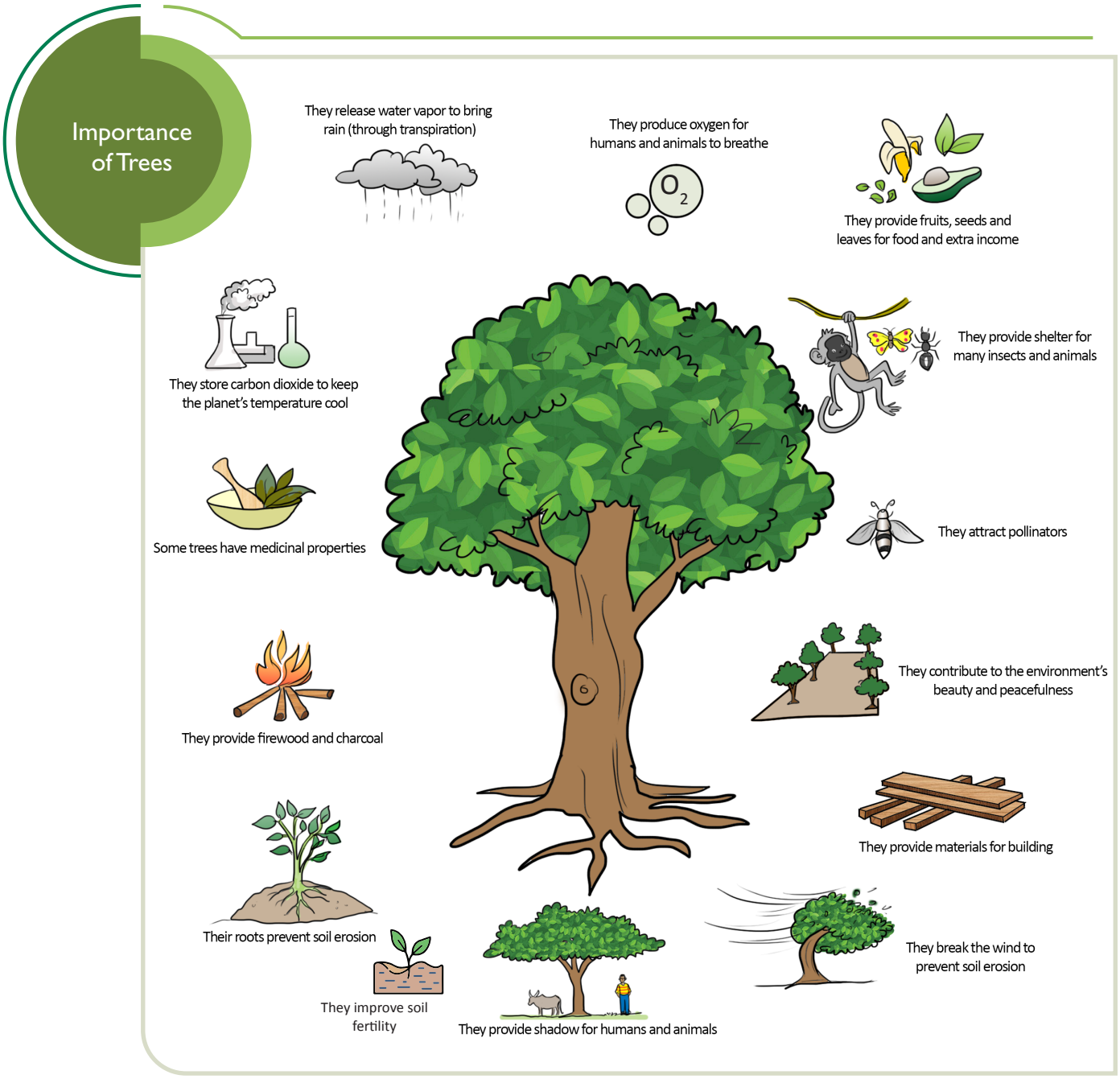
- Connectedness with nature
- A sense of motivation, responsibility, and agency to take care of the environment
- Exploration of available options to environment challenges (action-related knowledge)

Materials:

- Papers
- Pencils/markers
- The Importance of Trees Illustrated Chart

Session Plan:

1. Read the session objectives to learners and ask what they remember learning about trees in Module 1 and 2. Ask the following discussion questions to help them refresh:
    - Why are trees important? How do trees help people and animals?
    - What role do trees play in the oxygen cycle? What role do they play in the water cycle?
    - How do trees help prevent soil erosion and landslides?
2. Show learners **The Importance of Trees Illustrated Chart** to help remind them about all the reasons trees are important.



3. Divide learners into small groups and give each group some papers and markers.
4. Ask each group to think about the importance of trees and what they would like to share with their fellow learners and community members about the importance of protecting trees and planting new trees.
    - Groups should think of at least two messages (but the more the better!) they would like to share with others about the importance of trees and why we should plant more trees. Example messages to give learners inspiration are:
        - "Trees provide shelter to many animals and they also shade people from the sun. We should plant more trees so we have them to shade us."
        - "If you cut down a tree, you should plant a new one to replace it."
        - "We need trees for life because they make air for us to breathe."
    - Learners can write their messages on their papers, or just mentally remember what messages they want to share with others.
    - Learners can draw pictures to go along with their messages.

5. After creating their messages/drawing their pictures, take learners around the community to sensitize others about the importance of trees. This can just be around the school to visit teachers and other learners, or it can be to visit community members who live near the school. Learners should take turns sharing their messages and presenting their drawings about trees to others.
6. The Environmental club members can also use the opportunity at assembly time during school hours to make their presentation to teachers and fellow learners.

Assessment Activity: Exploration Table

Take Home Activity:

Learners take a tree from the school nursery bed and plant it at home. They promise to protect this tree from harm. The learner should tell their family about the importance of trees and why he/she is promising to protect this tree. He/she can even give the tree a name to feel more connected to it.

Module 3, Session 4: **Recycling and Reusing Discarded Materials**

Objectives:

- To learn about FlipFlopi, a boat made entirely from recycled materials
- To create something new from discarded and plastic materials
- To work collaboratively in groups

Competences:

- A sense of motivation, responsibility, and agency to take care of the environment
- Exploration of available options to environment challenges (action-related knowledge)
- Collaboration with peers and others

Materials:

- Various plastic and other discarded materials that can be used to make something new

Teacher Tip:

Before the session, collect various discarded materials (old jerry cans, water bottles, *kaveera*, bottle tops, etc.). If possible, ask learners to bring recycled/discarded materials as well.

Session Plan:

1. Read the session objectives to learners.
2. Ask learners if they know what it means to "recycle". Read them the following definition after hearing their ideas.
   - Recycling is the process of turning waste materials into new materials and objects
3. Read learners the story of the FlipFlopi sailboat and show them the pictures.

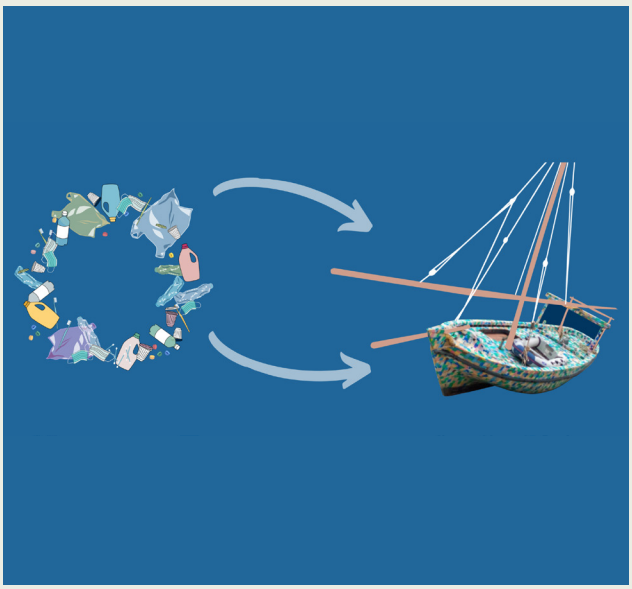
The FlipFlopi Sailboat Story

What can you do with a lot of recycled plastic and 30,000 used slippers? You can build a boat! The FlipFlopi boat was built in Kenya by a team of builders who wanted to teach people about the importance of recycling plastic and reusing it for new purposes instead of just throwing it away.

The boat was built from recycled plastic like bottles and bags (*kaveera*). They were collected from the beaches in Kenya, where people had thrown them away or they had washed up on the beach from the ocean. This project not only helped to clean up Kenyan beaches, but it also reused the plastic so it could be used to build the FlipFlopi boat. The outside of the boat is covered in sheets made from 30,000 used slippers, which was the most frequently found rubbish found on the beaches in Kenya. These slippers give the FlipFlopi its beautiful, multi-colored design.

The creators of FlipFlopi wanted to use it to spread the message about single-use plastic. Single-use plastic is plastic which is only used once and then thrown away. Examples of single-use plastic is a Rwenzori plastic water bottle, a *kaveera* or drinking straws. Single-use plastic is a big problem in many parts of the world because people use a lot of single-use plastic and then discard it. It then pollutes the Earth and our oceans because plastic does not decompose for more than 450 years – that's a really long time! When everyone uses a lot of single-use plastic, it becomes a big problem really quickly. Today there are huge, floating "plastic islands" in the oceans because of all of the plastic that has been used and thrown away.

The FlipFlopi builders wanted to spread awareness and encourage people to reduce single-use plastic and find ways to recycle. In 2021, FlipFlopi sailed 1,000 kilometers across Lake Victoria from Kenya, past Tanzania and to Uganda over the course of four weeks. The FlipFlopi team now plans to build an even bigger boat that can sail through the oceans and around the world to spread their message. The new boat will also be built using recycled waste from the Kenyan coast, but this time it will be so big that it will use 285,000 used slippers!



4. Ask learners the following discussion questions:
    - What do you think about the FlipFlopi boat?
    - Do you ever see people throwing away plastic? Where do they put it? Do you think it pollutes the environment?
    - Why is recycling important? How does it help the environment?
    - What kind of new inventions can you make with recycled materials?
5. Split participants into small groups. Ensure each group has a variety of recycled plastic and other materials collected by either you or them. Tell groups to create something new from the discarded materials. This could be a toy, musical instrument, piece of art, doll, or anything they can imagine! If there are not enough discarded materials, groups can also draw their inventions on paper.
6. After creating their recycled invention, small groups can present their designs to the whole group, describing what materials were used, how they made it and the purpose of the invention.

Assessment Activity: Peer Quiz

Take Home Activity:

Tell learners to pick up at least one piece of rubbish or plastic on their way home from school. If learners desire, they can collect more discarded materials in order to reuse them and make new toys or other items. They should ask for help from an older sibling or family member.

Module 3, Session 5: **Environmental Education Talking Compound**

Objectives:

- To list key messages about environmental education
- To create signs with the key messages for a talking compound
- To work collaboratively in groups

Competences:

- A sense of motivation, responsibility, and agency to take care of the environment
- Exploration of available options to environment challenges (action-related knowledge)
- Collaboration with peers and others

Materials:

- Supplies to make talking compound signs (wood plaques and stakes, markers, pencils, paint, paint brushes, etc.)

Session Plan:

1. Read the session objectives to learners.
2. Ask learners to tell you what environmental issues they know exist at school or in the community, as well as what can be done about them. Ask questions like:
    - What threatens our nice environment at school?
    - What threatens our nice environment in the community?
    - What do other learners need to know about how to protect the environment?
    - What messages should we give to other learners so that they protect the environment?

3. Divide learners into small groups. Give each group materials for creating a talking compound sign (wood plaque and stake, markers, etc.).
4. Each group should create at least one talking compound sign that either:
    - Brings awareness to a common environmental issue at school
    - Brings awareness to a common environmental issue in the community
    - Gives advice on how learners can make a difference to protect the environment

Teacher Tip:

Topics to create talking compound signs for include the importance of planting trees, not littering, protecting the riverbanks, etc.

5. Walk around while learners are making their signs and help them with correct spellings. When all groups are finished making their signs, stake each sign in the school compound.
6. If possible, the Environmental club should take other learners on a "tour" of their talking compound to teach them about important environmental issues that they want to spread awareness about.

Assessment Activity: Check Out

Take Home Activity:

Learners can create a talking compound sign for their home compound to alert neighbors that they are in the Environmental club and are concerned with environmental issues.

Module 3, Session 6: **Environmental Ambassadors**

Objectives:

- To identify an environmental issue that you feel passionate about and feel empowered to make better
- To develop a creative campaign to educate others about the environmental issue and what people can do to make it better
- To work collaboratively in groups and present ideas to others

Competences:

- General environmental awareness
- Connectedness with nature
- A sense of motivation, responsibility, and agency to take care of the environment
- Exploration of available options to environment challenges (action-related knowledge)

Materials:

- Any materials needed for the creative campaigns like paper, multi-colored markers, props for role plays, etc.

Session Plan:

1. Read the session objectives to learners.
2. Tell learners to think quietly to themselves about an environmental issue that they learned about so far in the Environmental club (or that they know about from outside of the Environmental club) that they care the most about helping to fix in their community.
    - For example, an environmental issue could be that many trees are cut down in the community for firewood, that the river is polluted or that the school compound has a lot of litter.
3. Explain that together you will play a game to brainstorm about the common environmental issues in the community. Play the game of musical chairs to have a fun brainstorm.
    - Place chairs in an open area. There should be a few less chairs than learners to start the game. For example, if there are 20 learners present, put 17 or 18 chairs. If you do not have chairs, draw small circles on the ground that can only allow one person to stand on top of each.
    - Tell learners to walk in an orderly circle around the chairs.
    - Play music or sing a song for a few seconds as learners are walking.
    - Randomly stop the music/singing. When learners hear the music/song stop, they must run to sit in a chair or stand on one of the circles on the ground. Those who did not find a chair to sit in/ circle to stand on are "out".
    - When a learner is "out", he/she must first tell the club about an environmental issue that he/ she is most passionate about fixing or helping to change.
    - Take some more chairs away/erase some circles on the ground so there are still less than the number of learners left in the game. Continue to play like this until there is one winner, who also must share an environmental issue he/she cares about.

- Example environmental issues that learners may mention when they are "out" could include:
    - There are too few trees in our community.
    - There is too much litter in our community.
    - Wild animals are threatened by people's activities.
    - Water is polluted in our community.
    - People cut down trees and don't plant new ones.
    - People use poor farming practices which causes soil erosion.
    - Landslides destroy people's homes and gardens.
    - Global warming and climate change are threatening people and animals.

4. Tell learners that they can either work alone in this next activity or find a partner/small group to work with.
5. Each learner/pair/small group should choose an environmental issue that they are the most inspired to help fix. The issue can either be one that the club just brainstormed about during musical chairs or another environmental issue that they know is a problem in their community.
6. Each learner/pair/small group will become an "ambassador"/ "champion" for their chosen environmental issue. This means that they should create a creative campaign to educate others about their chosen issue.
    - They can write a short speech about the issue like why it is a problem and what people can do about it.
    - They can create signs to educate people about the issue and what can be done about it. The signs can be hung around the school.
    - They can write a song or poem about their issue.
    - They can create a play to show the challenges caused by the issue as well as what could be done to fix it.
    - They can be creative and think of something else to do, so long as they are educating others about an issue and what can be done to fix it.
7. After learners have created/practiced their environmental issue campaigns, ask each learner/pair/small group to present what they created to the whole Environmental club. If possible, they should also present their campaign to other learners and teachers to help spread more awareness about the environmental issue.

Assessment Activity: I Expect/I Learned

Take Home Activity:

Learners should present their campaign to the people at home to spread the message about their environmental issue that they have become the "ambassador" for.

Module 3, Session 7: **Energy Efficient Stoves**

Objectives:

- To learn the steps for creating an energy efficient stove
- To practice talking to community members about why they should build an energy efficient stove
- To work collaboratively in groups

Competences:

- A sense of motivation, responsibility, and agency to take care of the environment
- Exploration of available options to environment challenges (action-related knowledge)
- Collaboration with peers and others

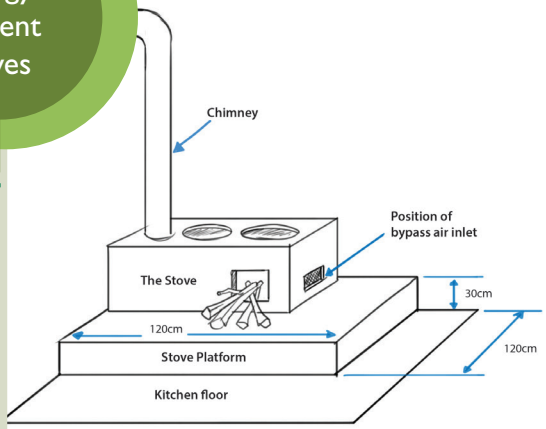
Materials:

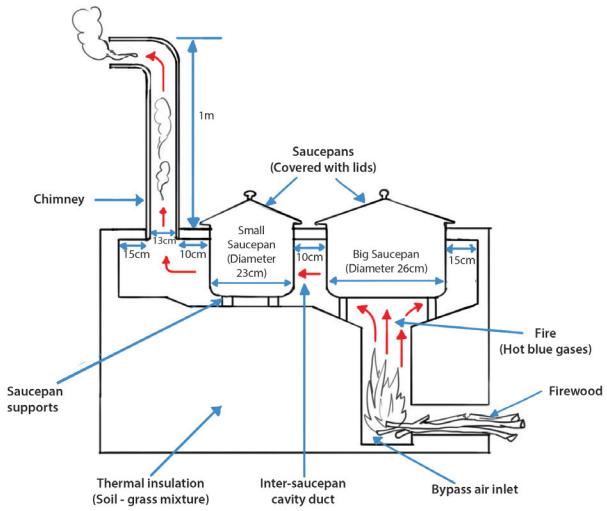
- The Energy Efficient Stove Illustrated Chart

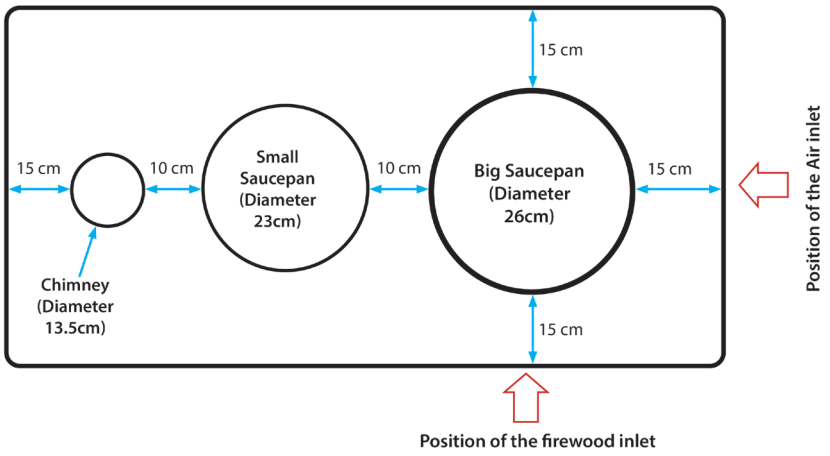
Session Plan:

1. Read the session objectives to learners.
2. Ask learners the following questions:
    - What do most families in our community use as fuel when cooking food and heating water?
        - Firewood/charcoal
    - Why is this method harmful for the environment?
        - Using firewood and charcoal requires us to cut down a lot of trees. When every family uses them for cooking, the number of trees cut down on an annual basis is very significant.
        - This is harmful for the environment because we need trees for many things including shade, to break the wind, for generating oxygen to breath, for preventing soil erosion, for sheltering and feeding wild animals, for absorbing carbon dioxide which contributes to global warming, etc.
3. Tell learners that using firewood on open fires and using charcoal in charcoal stoves are very energy inefficient methods, meaning they need a lot of firewood and charcoal to produce heat. There is another more efficient method that uses less firewood to produce more heat. It is called an Energy Efficient Stove.
4. Show learners the **Energy Efficient Stove Illustrated Chart.** Use the Teacher's Notes at the end of this session to explain how energy efficient stoves are fuel-efficient and how to build one.

Energy Efficient Stoves







5. Divide learners into small groups. Each group should work together to create a marketing presentation about energy efficient stoves that they can use to educate other community members about them and why they should build them for their home cooking and water heating. The presentation should be relatively short (1-2 minutes) and should get directly to the most important points. The intention is to create a presentation that will convince other community members to invest in building energy efficient stoves at home. The information in their presentation may include:
   - What an energy efficient stove is and how it works
   - Why energy efficient stoves are better for the environment
   - Why energy efficient stoves are better for families
   - What materials are needed to build an energy efficient stove and approximate cost
   - About how much space is needed for the stove in the kitchen
   - How energy efficient stoves can be built by anyone
6. After discussing in their small groups, each group should make a presentation to the whole group. After all groups have presented, take a vote to see which presentation was the most convincing.

Assessment Activity: Check Out

Take Home Activity:

Learners can practice their presentation on building energy efficient stoves to someone at home and try to convince them to invest in building one.

Teacher's Notes:

Energy Efficient Stoves (EES)

How the EES Works:

- The EES is efficient because it holds the heat from the firewood inside the stove, so less firewood is needed to keep the heat high.

Why the EES is Better for the Environment:

- It saves 50-60% of the firewood typically used in a three-stone stone. This means that less trees must be cut down for firewood. More trees in the environment means there are more trees to help prevent soil erosion and prevent landslides.
- It produces less smoke, so it does not contribute to as much air pollution.

Why the EES is Better for Families:

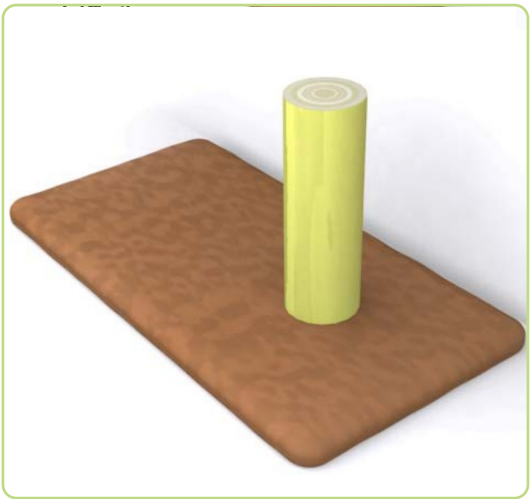
- It saves money/time because families need less firewood.
- It cooks food and water faster, so time is saved.
- It produces less smoke, which can be harmful to the lungs.
- It is easier to use because the flames stay lit and don't need constant blowing to keep the flames going.
- It is safer to use because there is less likelihood of accidents or burns.
- It is affordable because all of the materials used to make it can be found locally.

Materials Needed:

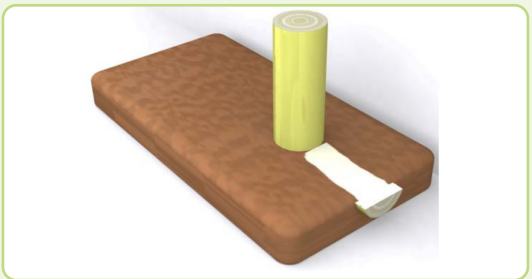
Material	Quantity
Anthill soil	8-12 wheelbarrows
Dry chopped grass	4-6 wheelbarrows
Water	7-10 jerry cans (20 liters each)
Banana stems	1 stem for combustion chamber (13.4cm wide and 30cm tall) 1 stem for air inlet (4.5cm wide and 15cm tall) 1 stem for firewood inlet (9cm wide and 15cm tall) 1 stem for the chimney (13.5cm wide and 100-130cm tall) 2 stems to connect the saucepan cavities to the chimney (each 13.5cm wide and 10cm long)
Saucepans	1 that is 23cm diameter 1 that is 26cm diameter
Bricks	2

Steps for Building an EES:

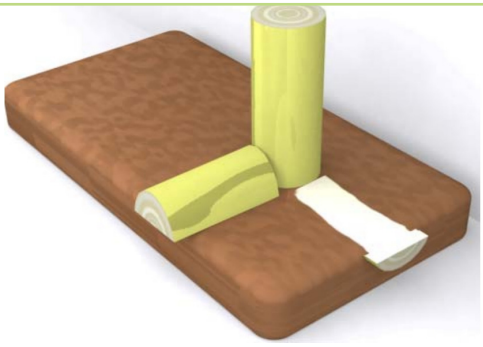
1. Prepare the grass and anthill soil mixture. Chop the grass into small pieces. Sort out any stones or unwanted materials from the soil. Mix the grass and soil together in a ratio of 1-part dry grass to 2-parts soil. Slowly add water to make the mixture moldable.
2. Mark a space (113cm long and 56cm wide) for the stove in the corner of the kitchen near a wall.
3. Lay a foundation of mixture that is 6cm high. Insert a banana stem (13.4cm wide and 30cm tall) to cater for the combustion chamber. This should be 15cm from the base of the foundation, on the side of the stove that is furthest from the wall.



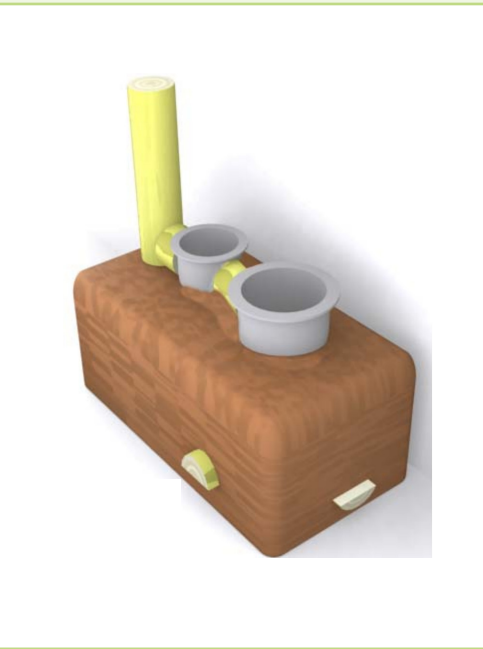
4. Place a smaller (4.5cm wide, 15cm tall) banana stem (that has been cut in half) at the base perpendicular to the vertical banana stem. Its flat surface should be facing up. This will be the air inlet.
5. Continue adding soil and grass mixture until it is level with the air inlet banana stem.



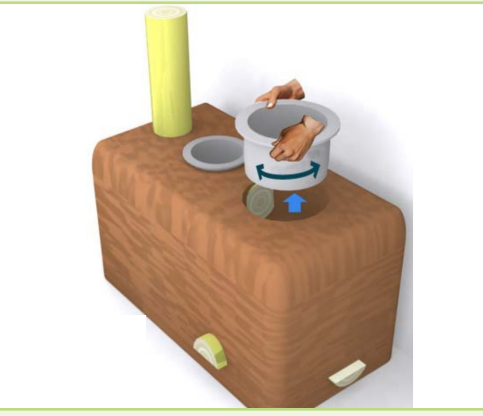
6. Place a cut banana stem (9cm wide and 15cm tall) so it is perpendicular to both the vertical combustion chamber banana stem and the horizontal air inlet banana stem. Its flat surface should be facing down. This will be the firewood inlet.
7. Continue constructing the stove body with soil mixture up to the level of the vertical combustion chamber banana stem.



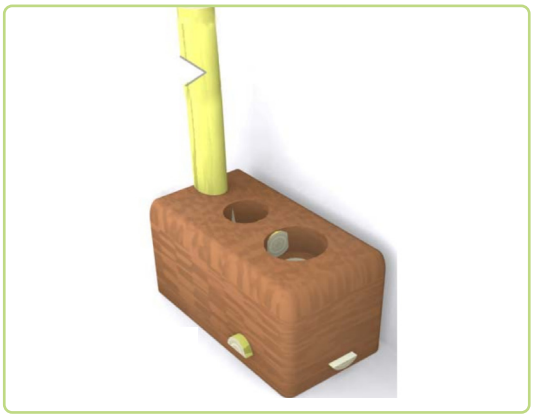
8. Place a saucepan on top of the vertical combustion chamber banana stem. Measure 10cm away for the placement of the second saucepan and another 10cm for the placement of the chimney. The chimney should be closest to the wall.
9. Add some soil mixture where the second saucepan will be so that the top of the saucepans are both at the same height.
10. Place a vertical banana stem (13.5cm wide and 100-130cm tall) to use as the mold for the chimney. It should be 15cm from the side of the stove, on the side closest to the wall.
11. Place pieces of banana stem between the saucepans and chimney (all 13.5cm wide and 10cm long).

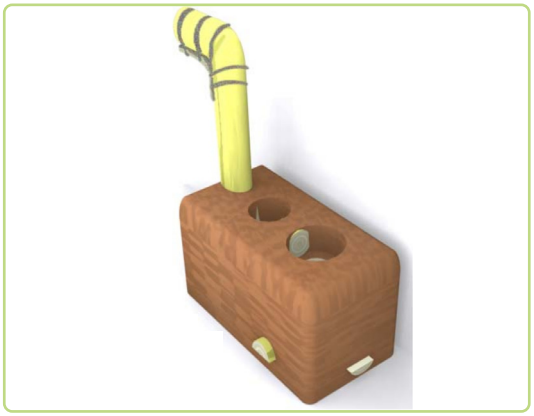


12. Place bricks in the saucepans to hold them in position and build the space around them and the banana stems with soil mixture.
13. When the saucepans are surrounded by soil mixture, remove them carefully.

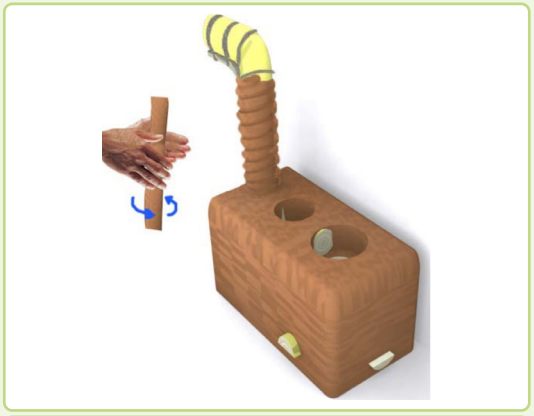


14. At a suitable height (75-100cm, depending on the height of the kitchen roof), cut a V-shaped dent in the banana stem chimney.
15. Bend the stem and tie together into the bent shape with sisal strings or banana fibers.
16. Make a hole in the wall and insert the banana stem chimney into it.

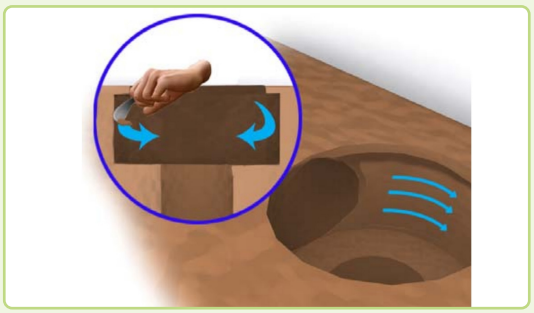


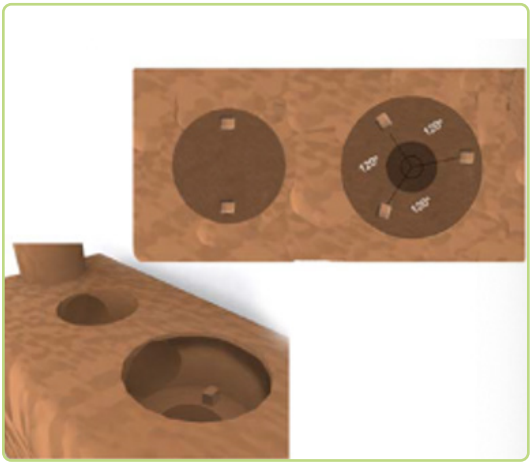


17. Roll some of the soil mixture and coil it around the banana stem chimney.
18. Smooth out the ridges on the chimney.



19. Wait 5-7 days for the stove to dry.
20. Then scoop out 2.5cm from the saucepan cavities to create saucepan rings.



21. Build 3 saucepan supports of 2.5cm high each inside the bigger saucepan seat and 2 supports inside the smaller saucepan seat.	
22. Plaster the stove body to give it a good finish, using any materials typically used to plaster mud walled huts. 23. Leave the stove to dry for 4 weeks, covered to protect it from rain and sunshine with a polythene sheet or banana leaves. Keep children away from it during this time. 24. While the stove is drying, insert the saucepans into the cavities and rotate them back and forth to help maintain the size of the saucepan cavities while the stove dries. This should be done twice a day – in the morning and evening. 25. After 4 weeks of drying, remove all of the shrunken banana stems. 26. Smooth the passages where the banana stems used to be using wet hands.	

Instructions and diagrams for the EES have been abridged from:

Ministry of Energy and Mineral Development and GIZ. (2008). 'Construction Manual for Household Rocket Stoves', Available at: https://energypedia.info/images/9/93/GTZ-HOUSEHOLD_Stoves_Construction_Manual_June_2008.pdf

Module 3, Session 8: **Finding Solutions for a Community Problem**

Objectives:

- To learn about William Kamkwamba, a young inventor from Malawi
- To design an invention that can be used to solve a challenge in the community
- To work collaboratively in groups and present ideas to others

Competences:

- A sense of motivation, responsibility, and agency to take care of the environment
- Exploration of available options to environment challenges (action-related knowledge)
- Collaboration with peers and others

Materials:

- Flipchart paper
- Markers/pencils

Session Plan:

1. Read the session objectives to learners.
2. Read learners the story of William Kamkwamba and show them the pictures.

The True Story of William Kamkwamba, the Boy Who Harnessed the Wind

William Kamkwamba was only 14 years old in 2001 when Malawi suffered a severe famine, and his family lost their maize crop. He was one of seven children, and his family could no longer afford to pay his school fees, so he was forced to drop out of school. But William naturally had a curious nature and he visited with the village librarian to continue learning as much as he could on his own.

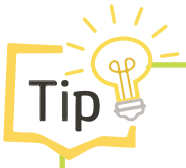
One day, William saw a picture of a windmill in a science textbook about energy and he used it as inspiration for designing a windmill that could produce electricity and pump water. He hoped that if his village had irrigation systems powered by a windmill, it could prevent a future famine.

He used spare parts and scraps that were available in his community to build the windmill including a bicycle frame, a pulley, a tractor fan, plastic pipes and an old bicycle dynamo. The first windmill he built was able to power four lights and two radios for his family to use at home. Another windmill was able to pump water for irrigation. The whole village was interested in his inventions, partly because they wanted to use them to charge their mobile phones!

A local newspaper in Malawi published a story about William and his windmill inventions, and other journalists around the world heard the story and became interested. William was able to share his dream of building a larger windmill that could help with irrigation for the whole village. Many people around the world heard about his inspirational story and wanted to help. William was able to raise money to incorporate solar energy into the windmill design and work on other projects in the community to provide clean water, prevent malaria, provide solar power and lighting for several homes and construct a deep-water well with a solar powered pump. William also achieved his dream of returning to school and even managed to go to university.

William's story was documented in an award-winning movie called *The Boy Who Harnessed the Wind*. William likes to share his story with others about how he identified a problem in his community and then designed an invention to help solve it. He tells other Africans with a dream for making a difference in their communities to "Trust yourself and believe. Whatever happens, don't give up."

3. Ask learners the following discussion questions:
    - What do you think about William Kamkwamba and his inventions?
    - Why do you think William was successful with his inventions? What characteristics did he possess that made him successful?
    - Have you ever identified a problem in your community that you thought you could find a solution for? What was it?
4. Lead a brainstorm with the whole group to think of challenges in the community that the Environmental club wants to work towards solving. Write each idea on a flipchart and then take a vote to choose one idea.
5. Split learners into small groups. Tell groups to "design" an invention that can help solve the issue. Groups should draw their ideas on paper, if possible.
6. After designing their invention, small groups can present their designs to the whole group, describing what materials would be used, how the invention is made, the purpose of the invention and how it can help solve the community's challenge.
7. Create a panel of "judges" by choosing one person from each group. The judges should vote for which invention idea is the best.



The Environmental club can even host a science fair to bring the activity of creating eco-friendly inventions to the whole school.

Assessment Activity: I Expect/I Learned

Take Home Activity:

Learners should identify a challenge at home (preferably an issue related to the environment, but it doesn't have to be) that they want to solve. They can recruit other people at home to help them think of a solution and make it a reality.

Module 4: Drawing Our Present and Dreaming Our Future

Module 4: Competences

Throughout Module 4, learners will gain the following competences:

- Ability to choose the best alternative/solution to environmental challenges
- Connectedness with nature – which many lead to attitude and mindset change
- A sense of motivation, responsibility, and agency to take care of the environment
- Collaboration with peers and others
- The will, determination, and commitment to environmental stewardship
- Taking action
- Anticipatory thinking

Module 4, Session 1: **Drawing Our Current School Environment**

Objectives:

- To define the school environment's boundaries that should be drawn
- To work collaboratively in groups
- To illustrate what our school environment looks like now

Competences:

- Connectedness with nature
- Collaboration with peers and others

Materials:

- Flipchart paper
- Markers/colored pencils/pencils
- Explore Illustrated Chart
- Map Illustrated Chart

Session Plan:

1. Read the session objective to learners.
2. Tell learners that an important part of PIP is thinking about how their school is right now, and then envisioning a better future for their school environment. This is what the Environmental club will be working on over the next several weeks.
3. Explain to learners that the first step towards envisioning their dream school is to first draw the school as it currently looks.
4. Show them the **Explore and Map Illustrated Charts** and discuss what they think the learners are doing. Discussion questions may include:
    - What are the learners doing?
    - What do you think these learners will draw for their current school situation?
    - What is good about the current school in the picture?
    - What is bad about the current school in the picture?

Explore

Students explore their school's natural environment, observe, identify and discuss problems.

Map

Students draw the current state of their school and its natural environment.

5. With learners, brainstorm a list of the features to include in a drawing of their current school. An example list of common school characteristics are provided below, but create a list of features that are unique to your specific school.

Some of the Common Characteristics of a Typical School

- Drinking water source (borehole, well)
- Stream or river
- Pond
- Fencing/compound boundaries
- Pathways
- School administration building
- Cooking facilities
- Play area
- Teachers' houses
- School garden
- Classrooms
- Sick bay
- Vegetation (trees/shrubs)
- School chapel/church/mosque
- Livestock/poultry house
- Power lines

6. Divide learners into pairs or small groups and give each group a flipchart paper, pencils, and markers.
7. Instruct pairs/small groups to draw their current school situation, showing where each of the features that the Environmental club brainstormed is located. They should also be on the lookout for any other features that the club may have forgotten. Learners can walk around the school to help them remember where each feature is located in relation to each other, if this helps them with drawing their current school situation. Examples of some drawings that learners have drawn in the past are shown in the Teacher's Notes box at the end of this session.
8. After drawing their current school situation, pairs/small groups should create a "key" in a corner of the drawing that labels what each symbol means, for easy reference in the future.
9. After drawing their current school situation, each pair/small group should present it to the whole club. If they identified any other features that the club did not brainstorm in the beginning, they should be certain to point them out as well as what symbol they used to mark it on their drawing.
10. Keep (or display) the current school situation drawings, as they will be used in a future session.

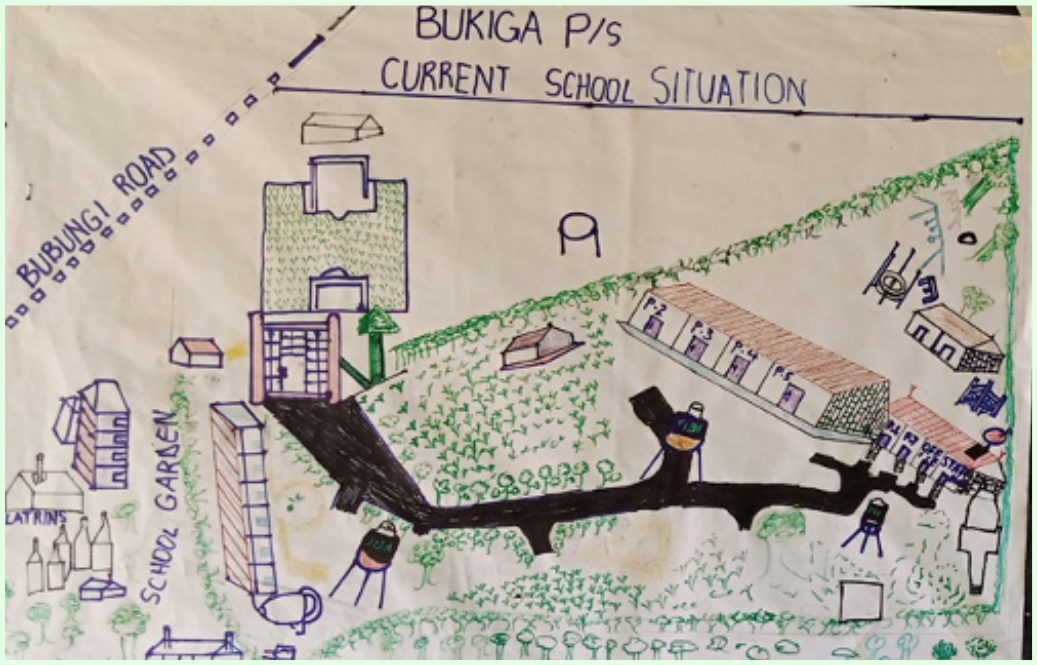
Assessment Activity: Letter to Myself

Take Home Activity:

Learners can do a similar drawing exercise at home to map out the key features in their home environment. If learners don't have access to paper and pencils/colors at home, then they can simply walk around their home compound with a sibling, parent, other family member or neighbor friend and point out different features that are prominent in their home environment and make a "mental map" in their heads.

Teacher's Notes:

Example Current School Situation Drawing



Module 4, Session 2: **Analyzing Our School Environment**

Objectives:

- To recognize what each letter in SWOT analysis means
- To work with others to list the strengths and weaknesses within ourselves and our club when improving our school environment
- To work with others to list the threats to and opportunities for improving our school environment

Competences:

- Connectedness with nature
- Anticipatory thinking
- Collaboration with peers and others

Materials:

- Five large pieces of paper
- Sellotape
- Markers (multiple colors)

Session Plan:

1. Read the session objectives to learners.
2. Introduce the next step in this process – thinking about the SWOT analysis for their club:
    - jl
    - A SWOT analysis is a simple tool that will help learners to think about what the club members do best right now which will help them to improve their school (strengths) as well as what needs to be improved so they can improve their school (weaknesses). SWOT also helps identify what may prevent the improvements (threats) and what may help encourage the improvements (opportunities).
3. Hang four flipcharts around the room. Each flipchart should have one of the following labels at the top: Strengths, Weaknesses, Opportunities, Threats.
4. Learners should stand up and walk around to each flipchart with the teacher as he/she explains what each label means.
    - **Strengths** – our personal strengths as individual club members (and as a whole club) which we can use to improve our school
    - **Weaknesses** – our personal weaknesses as individual club members (and as a whole club) which we need to work on so we can improve our school
    - **Opportunities** – what we can take advantage of to help us improve our school and make it our dream school
    - **Threats** – what may prevent us from improving our school to make it our dream school
5. Go back to the **Strengths** flipchart. Ask learners to name the personal strengths they think they and the club have. This is anything the learners like about themselves and think will help them to improve their school. Write each of their ideas on the flipchart.

- Examples may include: They are all empowered club members who can easily be mobilized to bring fruit tree seedlings and plant around their school; they have collaboration, drive, commitment, creativity, determination, passion, innovativeness, etc.

6. Move to the **Weaknesses** flipchart. Ask learners to name the personal weaknesses they think are limiting factors within themselves or their club as a whole. Write each of their ideas on the flipchart.
   - Examples may include: They are disorganized as a group; they lack skills; they lack focus, etc.
7. Move to the **Threats** flipchart. Ask learners to name things that they think might threaten their ability to improve their school environment which they likely do not have control over. Write each of their ideas on the flipchart.
   - Examples may include: the school administration may not allow changes to the school; there may not be money to make changes; the weather caused by climate change may threaten their environment.
8. Move to the **Opportunities** flipchart. Ask learners to name things that they think might help them to improve their school environment. Write each of their ideas on the flipchart.
   - Examples may include: there are some teachers who may want to help the Environmental club improve the school, some parents know how to build a fence and can help the Environmental club, learners can think of ways to raise money to improve the school.
9. After going around to each flipchart with the learners, divide learners into 4 small groups and assign each to a different flipchart. Learners can add more ideas to the flipchart as a small group. After a few minutes of adding to the flipchart, groups can switch and move to another flipchart and add their ideas there too. Continue like this until all groups have visited all four flipcharts and added their ideas.
10. After each small group has visited each flipchart, create a final SWOT analysis on a new flipchart paper that looks like the following and hang it up for future reference.

SWOT Analysis for Our Club	
Strengths • •	Weaknesses • •
Opportunities • •	Threats • •

Assessment Activity: 3-2-1

Take Home Activity:

Learners can do a similar SWOT analysis of the people and environment at home. They should go home and brainstorm the strengths, weaknesses, opportunities, and threats for their home environment. They can do this with a sibling, parent, other family member, neighbor, friend, etc.

Module 4, Session 3: **Aspirations for Our School**

Objectives:

- To brainstorm how we can improve our school environment
- To create a list of aspirations for our dream school environment
- To work collaboratively in small groups

Competences:

- Anticipatory thinking
- Ability to choose the best alternative/solution to environmental challenges
- A sense of motivation, responsibility, and agency to take care of the environment
- The will, determination, and commitment to environmental stewardship

Materials:

- Flipchart paper
- Markers
- Aspirations Illustrated Chart

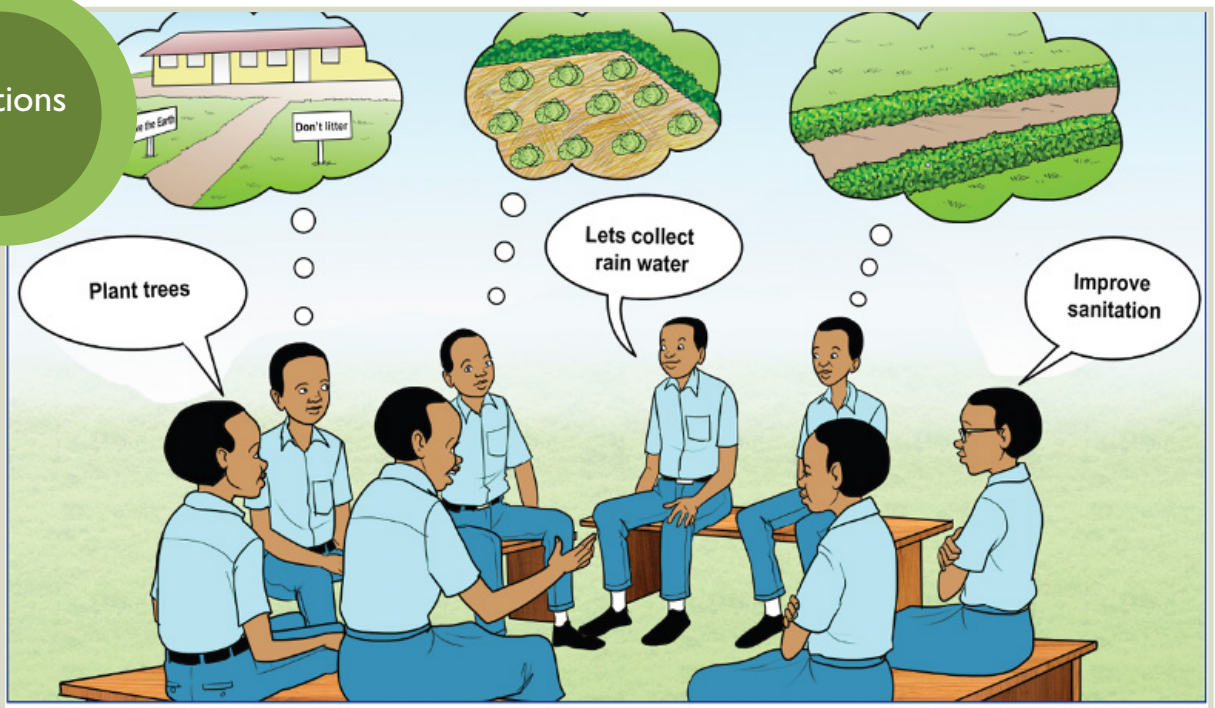
Teacher Tip:

If possible, learners should visit other schools and communities to see what eco-friendly practices they are using. This may help inspire learners about what they can do in their own school and community. This could be done as a club field trip, but it is not mandatory.

Session Plan:

1. Read the session objectives to learners.
2. Explain to learners that the process of working toward their dream school continues in the session today. In the previous session, they illustrated their current school situation. Now they will think about what "aspirations" they have for their dream school.
3. Show them the **Aspirations Illustrated Chart** and discuss what they think the learners in the chart are doing.

Aspirations



Students discuss aspirations and activities to improve their school's natural environment.

4. Ask a few learners what they think an "aspiration" is.
   - An aspiration is something you want to do or achieve.
   - An aspiration is a wish that you have for yourself or your community.
   - An aspiration is a dream.
5. Next, ask learners to recap some of the eco-friendly practices the Environmental club has learned about in the past sessions, which could help inspire them when thinking about their dream school. Some examples of eco-friendly practices they learned about may include:
   - Tree planting
   - Composting
   - Recycling plastic/waste to make new things
   - Following good farming practices that prevent soil erosion
6. Now that learners have started to think about their school and some things they may want to improve about it, lead learners through a visioning activity for creating their dream school. Read the following aloud, slowly:
   - Sit in a comfortable position.
   - Sit quietly and do not talk. Close your eyes and take a few deep breaths in and out.
   - Think about our school. Think about what it looks like today. Create a picture of it in your mind.
   - What do our school buildings look like? Do they look nice? What would you want to change about the buildings? How would you want them to look?
   - What do our classrooms look like? Do they look nice? What would you want to change about our classrooms? How would you want them to look?

- What does our school compound look like? Is it clean and tidy? Is there litter on the ground? Are there clear pathways? Are there trees and flowers in the compound? Is there good space to play? What would you want to change about the school compound? How would you want it to look?
- Where does our school get water from? Is it a clean place? Is it safe to collect water from? What would you want to change about our school's water source? How would you want it to look?
- What are our school's latrines like? Are they clean and tidy? What would you want to change about our school's latrines? How would you want it to look?
- What does our school garden look like? Do we have one? Is it producing food for the learners and teachers? Is it well cared for? What would you want to change about the school garden? What other food would you want to grow there? How would you want it to look?
- What other parts of our school and compound can you think about? How would you want to improve them? How can we make our school cleaner? How can we make our school look nicer? How can we make our school more eco-friendly? How would we want it to look?
- Now bring your attention back to this room. Feel your body full of positive energy, ready to plan for and create a better school environment.
- Open your eyes.

7. After the visioning exercise, divide learners into small groups. Each group should discuss:
   - What did you envision for improving our school environment?
   - What aspirations do you have for our school?
8. After discussing, groups should choose their three favorite aspirations. They should present these three to the whole Environmental club. Take note of each group's aspirations on a flipchart and keep it safe for reference in the next session.

Assessment Activity: Toss the ball

Take Home Activity:

Learners can do a similar visioning and aspirations exercise for their home environment. They should think of at least 3 ideas that they can do to improve their home environment so it is more eco-friendly.

Module 4, Sessions 4 and 5: **Drawing Our Dream School**

Objectives:

- To define our dream school
- To transform our aspirations into a drawing
- To work collaboratively in pairs or small groups

Competences:

- Ability to choose the best alternative/solution to environmental challenges
- A sense of motivation, responsibility, and agency to take care of the environment
- Collaboration with peers and others
- Anticipatory thinking
- The will, determination, and commitment to environmental stewardship

Materials:

- Current school situation drawings learners drew in Module 4, Session 1
- List of dream school aspirations created in Module 4, Session 3
- Flipchart paper
- Markers/colors/pencils
- Design Illustrated Chart

Teacher Tip:

Drawing learners' dream school may take longer than one Environmental club session. Allow learners to draw their dream school over at least two sessions. Allow them to start over on new paper as many times as necessary. This encourages them to think through their ideas and spend sufficient time drawing their dream school.

Teacher Tip:

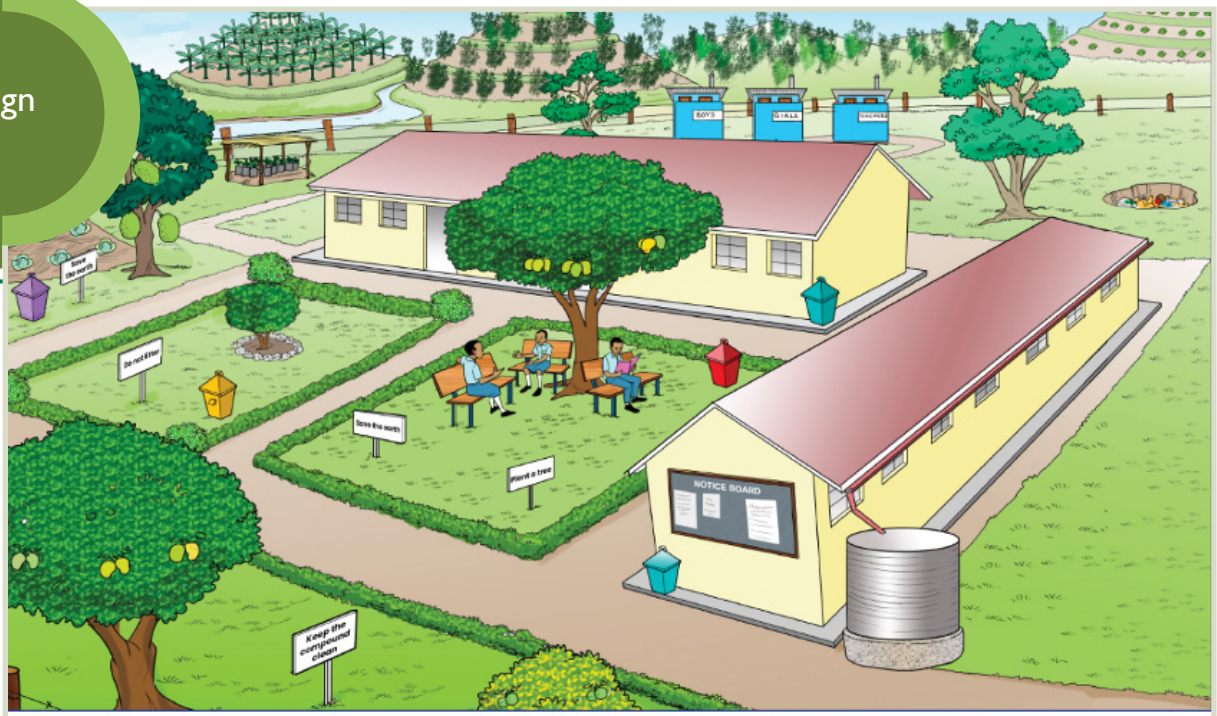
Display the following for everyone to see while they are drawing their dream school:

- The list of aspirations for their dream school created in Module 4, Session 3. This should help give learners some ideas about what to include in their dream school drawings.

Session Plan:

1. Read the session objective to learners.
2. Explain to learners that the process for working toward their dream school continues in the session today. In the previous sessions, they illustrated their current school situation and then thought about what "aspirations" they have for their dream school. Now they will work in groups to draw their dream school which shows their aspirations.
3. Show them the **Design Illustrated Chart** and discuss what they think the learners in the chart are doing.

Design



Students discuss their aspirations for a greener school environment and they draw the future vision of their school.

4. Divide learners into the same pairs/small groups they were in when they illustrated their current school in Module 4, Session 1.
5. Give each group the drawing they drew of the current school as well as a new flipchart paper, pencils and markers.
6. Ask pairs/small groups to draw their dream school environment and color it how they want. They can include features from their current school situation drawing, but they can move features around, improve upon existing features, and add additional features, etc. An example of a dream school that learners have drawn in the past is shown in the Teacher's Notes box at the end of this session.
7. After drawing their dream school, pairs/small groups should create a "key" in a corner of the map that labels what each symbol means, for easy reference in the future.
8. Keep the dream school drawings in a safe place, as learners will present them to each other in the next session.

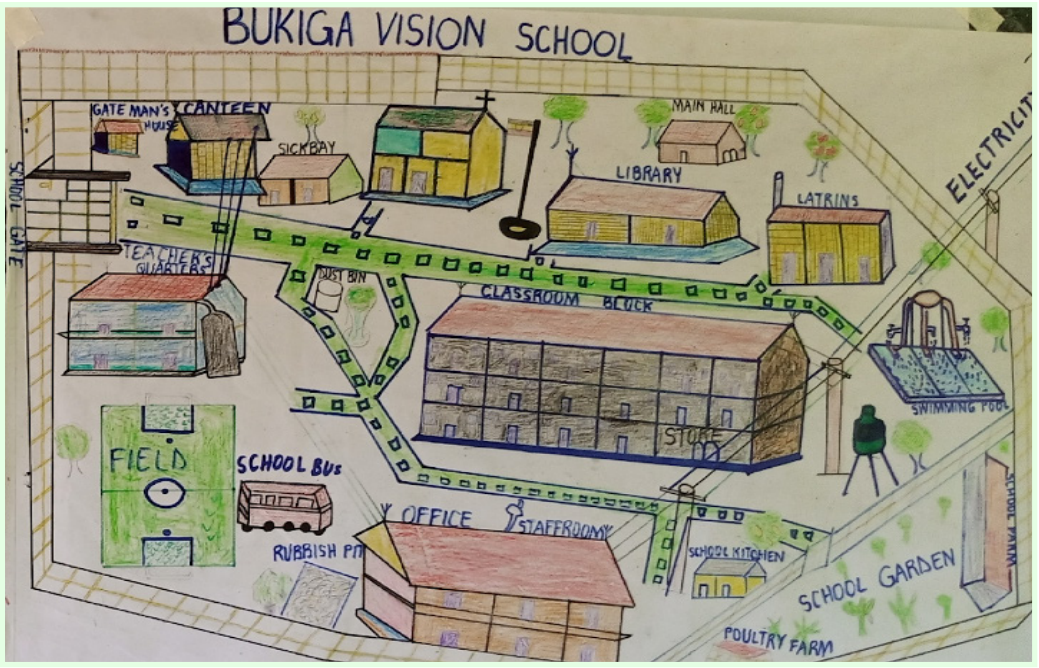
Assessment Activity: Exploration Table

Take Home Activity:

Learners can do a similar drawing exercise at home to draw their "dream home environment". If learners don't have access to paper and pencils/colors at home, then they can simply create a "mental map" of their dream home environment. If possible, they should include someone else in their drawing such as a sibling, parent, other family member or neighbor friend.

Teacher's Notes:

Example Dream School Drawing



Module 4, Sessions 6 and 7: **Dream School Drawing Presentations**

Objective:

- To present our dream school in pairs/small groups to the entire Environmental club

Competences:

- Ability to choose the best alternative/solution to environmental challenges
- A sense of motivation, responsibility, and agency to take care of the environment
- Collaboration with peers and others
- Anticipatory thinking
- The will, determination, and commitment to environmental stewardship

Materials:

- Dream school drawings learners drew in Module 4, Sessions 4/5

Teacher Tip:

Presenting learners' dream school may take longer than one Environmental club session. Allow groups to present their dream school over at least two sessions, or as many sessions as necessary for each group to present.

Session Plan:

1. Read the session objectives to learners.
2. Explain to learners that they are in the final stages of developing a dream drawing for their school which captures the aspirations they have for their school. In the previous session, they drew their dream school in pairs/groups and now it is time to present their drawings to the whole Environmental club.
3. Divide learners into the same pairs/small groups they were in when they drew their dream school in Module 4, Sessions 4/5.
4. Give each group the picture they drew of their dream school.
5. One at a time, pairs/small groups should present their dream school drawings to the whole Environmental club. Each member of the pair/small group should be encouraged to participate in the presentation. In their presentation, they should point out the key features of their dream school, giving details about why they have included each feature and what improvements these features will bring to the school.
    - For example, planting trees and flowers in the school compound will make it more beautiful, provide shade, and is good for the health of the entire ecosystem.
    - For example, adding rubbish bins around the compound will encourage people to throw rubbish away there instead of littering and making the compound dirty.
6. After each pair/small group's presentation, other learners in the Environmental club can ask questions about their dream school drawing. They should also comment on what they liked about the presenters' dream school drawing and why.

Assessment Activity: Peer Quiz

Take Home Activity:

Learners can do a similar presentation of their dream home environment to the people in their family. If they could not draw their dream home, they can walk around the compound/ garden/house with some members of their family and explain what they would like to do to improve the environment based on their visioning/aspiration exercises from previous weeks.

Module 4, Sessions 8 and 9: **Final Dream School Drawing**

Objectives:

- To identify which features we want to include in a final drawing of our dream school
- To create a final dream school drawing
- To share the final dream school drawing with the entire school

Competences:

- Ability to choose the best alternative/solution to environmental challenges
- A sense of motivation, responsibility, and agency to take care of the environment
- Collaboration with peers and others
- The will, determination, and commitment to environmental stewardship
- Anticipatory thinking
- Taking action

Materials:

- Dream school drawings learners drew in Module 4, Sessions 4/5
- Sellotape
- Flipchart paper
- Markers/colored pencils/pencils

Teacher Tip:

Drawing the final dream school may take longer than one Environmental club session. Allow learners to draw their final dream school over at least two sessions. Allow them to start over on new paper as many times as necessary until they are satisfied with the final drawing.

Session Plan:

1. Read the session objectives to learners.
2. Explain to learners that they are at the last step of developing a dream drawing for their school. In the previous session, pairs/small groups shared their individual dream school drawings with each other. Now it is time to combine different ideas from each individual dream school drawing into one, final dream school drawing. The Environmental club will then work together to make this final dream school a reality in the next module and beyond.
3. Hang each of the groups' individual dream school drawings from the previous sessions around the room.
4. Tell learners to do a "gallery walk" to look at each drawing again. This means they should walk around to each drawing and think about:
    - What do I like from this drawing?
    - What parts of this drawing should we use in our final dream school drawing?
5. After the gallery walk, get together as a whole group and make a list of each feature the Environmental club wants to include in the final dream school drawing. Write the list of agreed features for the final drawing on a flipchart paper.
6. After deciding each feature to include in the final drawing, bring out a blank flipchart paper and markers/ colored pencils/pencils to draw the final dream school drawing on.
7. Assign each learner to draw at least one feature on the final dream school drawing. Learners should work together to draw the final drawing, but everyone should have a chance to draw at least one thing on the final drawing.
8. After finishing the final dream school drawing, hang it up in a central area at school for other learners and teachers to see.
9. If possible, help the Environmental club prepare a presentation about their dream school drawing that they can deliver to the school administration, teachers and/or other learners at school. This can help inform others at school about the Environmental club's activities as well as inspire them to get involved alongside the Environmental club in making the dream school drawing a reality!

Assessment Activity: Check Out

Take Home Activity:

Learners can engage with the people at home to discuss which features of their dream home environment (from their presentation in the week before) everyone agrees on. Learners can initiate a family discussion where aspects of the dream home plan are considered by the whole family and agreed upon to put into action.

Module 5: Making a Plan and Taking Action!

Module 5: Competences

Throughout Module 5, learners will gain the following competences:

- Ability to implement a chosen alternative
- Connectedness with nature - which may lead to attitude and mindset change
- A sense of motivation, responsibility, and agency to take care of the environment
- Collaboration with peers and others
- The will, determination, and commitment to environmental stewardship

Module 5, Session 1: **Setting Realistic Goals**

Objectives:

- To name the components of SMART goals
- To set SMART goals for achieving our dream school
- To work collaboratively in small groups

Competences:

- A sense of motivation, responsibility, and agency to take care of the environment
- Collaboration with peers and others
- The will, determination, and commitment to environmental stewardship

Materials:

- Flipchart paper
- Markers/pencils
- Final Dream School Drawing created in Module 4, Sessions 8/9

Session Plan:

1. Read the session objectives to learners.
2. Display the final dream school drawing that the Environmental club finalized at the end of the last module. Ask a few learners to point out their favorite feature on the dream school drawing.
3. Ask learners if they know what a "goal" is and why it is important to set goals when you are trying to achieve something.
    - A goal is something that we want to do, have or be in the future that we work to achieve.
    - Goals are important because they give you a sense of purpose and direction. They help you focus your hard work on something you know you want to achieve. Goals help you stay motivated.
4. Tell learners that the first step in making their dream school a reality is to set SMART goals for achieving their dream school. Use the Teacher's Notes box at the end of this session to introduce SMART goals.
5. Choose one feature on the dream school drawing to set SMART goals for together as a whole group. For example, you may choose to set SMART goals for making the compound depicted in your dream school drawing a reality.
6. Lead learners in creating a few SMART goals that will make the chosen feature of the dream school a reality. Write each SMART goal on a flipchart paper. For example, some SMART goals for the dream school compound might be:
    - "We will plant 30 native trees in our school compound over the next 3 years."
    - "By the end of this school year, we will place 5 rubbish bins around the school compound and hang 5 signs encouraging learners to throw rubbish away in the bins."
    - "We will fix the broken fence on the left side of the school compound within 6 months."

7. After setting some SMART goals together, divide learners into small groups to set SMART goals on their own. Each group will become a sub-committee and will choose one feature of the dream school drawing to create SMART goals for. For example, there may be sub-committees to create SMART goals for:
    - The school buildings/classroom blocks
    - The kitchen area
    - The latrines
    - The fencing
    - The play area
    - The compound
8. Sub-committees should create 1-3 SMART goals for the dream school feature they represent and write them on a flipchart paper. Groups should double check that their goals meet each aspect of being SMART before writing them on their flipchart.
9. One at a time, sub-committee groups should present their SMART goals to the whole Environmental club.
10. After each sub-committee group's presentation, other learners in the Environmental club can ask questions about their SMART goals and/or suggest additions or changes. Other learners should also comment on what they liked about the presenters' SMART goals and why.
11. After all sub-committee groups have presented, write all of the final SMART goals from each sub-committee on a new flipchart paper and keep it safe for the next session.

Assessment Activity: I Expect/I Learned

Take Home Activity:

Learners can create SMART goals for achieving their dream home environment, based on their dream home drawing that they created. They should come up with at least 2-3 SMART goals for making their dream home a reality.

Teacher's Notes:

Setting SMART Goals

SMART Goals

- S – Specific: This means that the goal says exactly what you seek to achieve. It should not be unclear or very general.
- M – Measurable: This means there is a way to measure (know) if the goal has been achieved.
- A – Achievable: This means that the goal is possible for you to reasonably achieve, taking your available resources and time into consideration.
- R – Relevant: This means that the goal should be relevant to the Environmental club's overall mission.
- T – Timebound: This means that the goal has a specific time period during which it should be achieved.

An Example SMART Goal

"We want to plant 30 native trees in our school compound over the next 3 years."

- This goal is SPECIFIC because it tells exactly what the Environmental club wants to do – plant 30 native trees in the school compound.
- This goal is MEASURABLE because it will be easy to tell if it was achieved. If there are 30 native trees planted in the school compound after 3 years, we will know that the goal was achieved.
- This goal is ACHIEVABLE because planting trees is something that learners can do with help from adults. The time period for achieving it is also long enough that the Environmental club must plant only 10 trees per year to make it happen.
- This goal is RELEVANT because the Environmental club is responsible for helping make the school environment nicer and also to help the ecosystem by planting native trees.
- This goal is TIMEBOUND because it tells the time period during which the goal should be achieved (3 years).

Module 5, Session 2: **Introduction to the Action Plan**

Objectives:

- To learn the components of an action plan
- To draw an action plan table
- To work in small groups to create an action plan for one SMART goal

Competences:

- A sense of motivation, responsibility, and agency to take care of the environment
- The will, determination, and commitment to environmental stewardship

Materials:

- Final Dream School Drawing created in Module 4, Sessions 8/9
- Flipchart with list of SMART goals created in Module 5, Session 1
- Flipchart Paper
- Markers/pencils

Session Plan:

1. Read the session objectives to learners.
2. Display the final dream school drawing as well as the flipchart listing each sub-committee's SMART goals created in Module 5, Session 1.
3. Tell learners that the next step in making their dream school a reality is to create an action plan for achieving their SMART goals.
    - While a SMART goal is the overall goal we want to achieve, there are often many small steps that must be taken to achieve the goal. This is where an action plan is helpful – it helps us plan out each step we must take towards achieving the goal.
4. Draw the following template for an action plan on a flipchart paper/on the blackboard.

Action Plan for Achieving A SMART Goal								
SMART Goal:								
No.	Activity	Target	Timeframe		Human and material resources needed	Source of the resources	Responsible person	Remarks/ Comments
			Start	End				
1								
2								
3								
4								

5. Talk through each part of the action plan with learners so they understand what should be written for each.
    - **SMART Goal:** Write the goal this action plan is for. (For example: We will plant 30 native trees in our school compound over the next 3 years.) Each SMART goal should have its own action plan.
    - **Activity:** This is the activity/step you will do towards the goal. The first activity should be the first activity/step in the process towards achieving the goal. You should list each and every activity that will be needed to achieve the SMART goal.
    - **Target:** This is the quantity of the activity you will do. For example, if the activity is to plant trees, the quantity will be how many trees.
    - **Timeframe:** This is the date that you will start an activity as well as the date by which you expect to finish an activity.
    - **Human and material resources needed:** These are all of the resources (money, materials, people, etc.) that you expect you will need in order to complete the activity.
    - **Responsible person:** This is the person in the Environmental club who will be responsible for making sure the activity happens. This is the leader of the activity.
    - **Remarks/Comments:** This is the progress on the activity. It should be specific. It should give the reasons if an activity has not been completed as expected. It can also include lessons learned and anything good or bad that happened while doing the activity.
6. When all learners understand the purpose and each part of the action plan, they should work together as a whole group to create an action plan for one SMART goal.

Assessment Activity: 3-2-1

Take Home Activity:

Learners can create an action plan for one of the SMART goals they created for their dream home environment.

Module 5, Sessions 3 and 4: **Action Planning**

Objectives:

- To revise the components of an action plan
- To create an action plan for the Environmental club's SMART goals
- To work collaboratively in groups

Competences:

- Ability to implement a chosen alternative
- A sense of motivation, responsibility, and agency to take care of the environment
- Collaboration with peers and others
- The will, determination, and commitment to environmental stewardship

Materials:

- Flipchart with list of SMART goals created in Module 5, Session 1
- Flipchart with blank template of action plan from Module 5, Session 2
- Flipchart Paper
- Markers/pencils
- Action Plan Illustrated Chart

Teacher Tip:

This is where learners start to collaborate to create their action plan. Encourage learners to work together well, including listening to and respecting each other. As the teacher, walk around while learners are collaborating and offer assistance where necessary, but allow learners to work together without too much input from you.

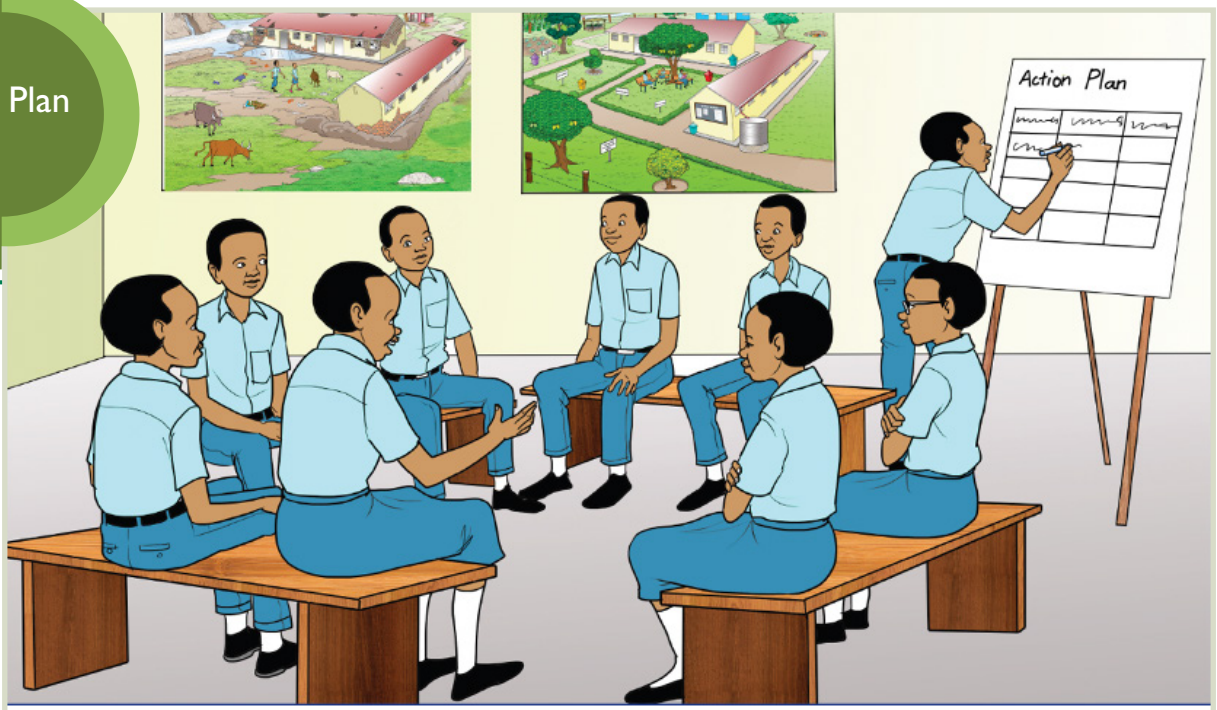
Teacher Tip:

Drafting their action plan may take longer than one Environmental club session. Allow learners to create their action plan over at least two sessions.

Session Plan:

1. Read the session objective to learners.
2. Explain to learners that they will work together to create an action plan for each of the SMART goals they set in their sub-committee groups in a previous session.
3. Show them the **Action Plan Illustrated Chart** and discuss what they think the learners are doing.

Action Plan



Students discuss and develop an action plan to achieve their school vision.

4. Give learners flipchart papers and markers/pencils.
5. Display the flipchart which has all of the SMART goals that each sub-committee created and agreed upon in Module 5, Session 1.
6. Instruct learners to create one action plan with activities for achieving each SMART goal. They should use the same template for creating an action plan that the teacher showed them in Module 5, Session 2. Walk around and help learners as they are working.
7. Keep the action plan in a safe place, as learners will present it to the school in the next session.

Assessment Activity: Letter to Myself

Take Home Activity:

Learners can create an action plan for one of the SMART goals they created for their dream home environment.

Module 5, Session 5: **Action Plan Presentation**

Objective:

- To present the action plans for the Environmental club's SMART goals to the whole school

Competences:

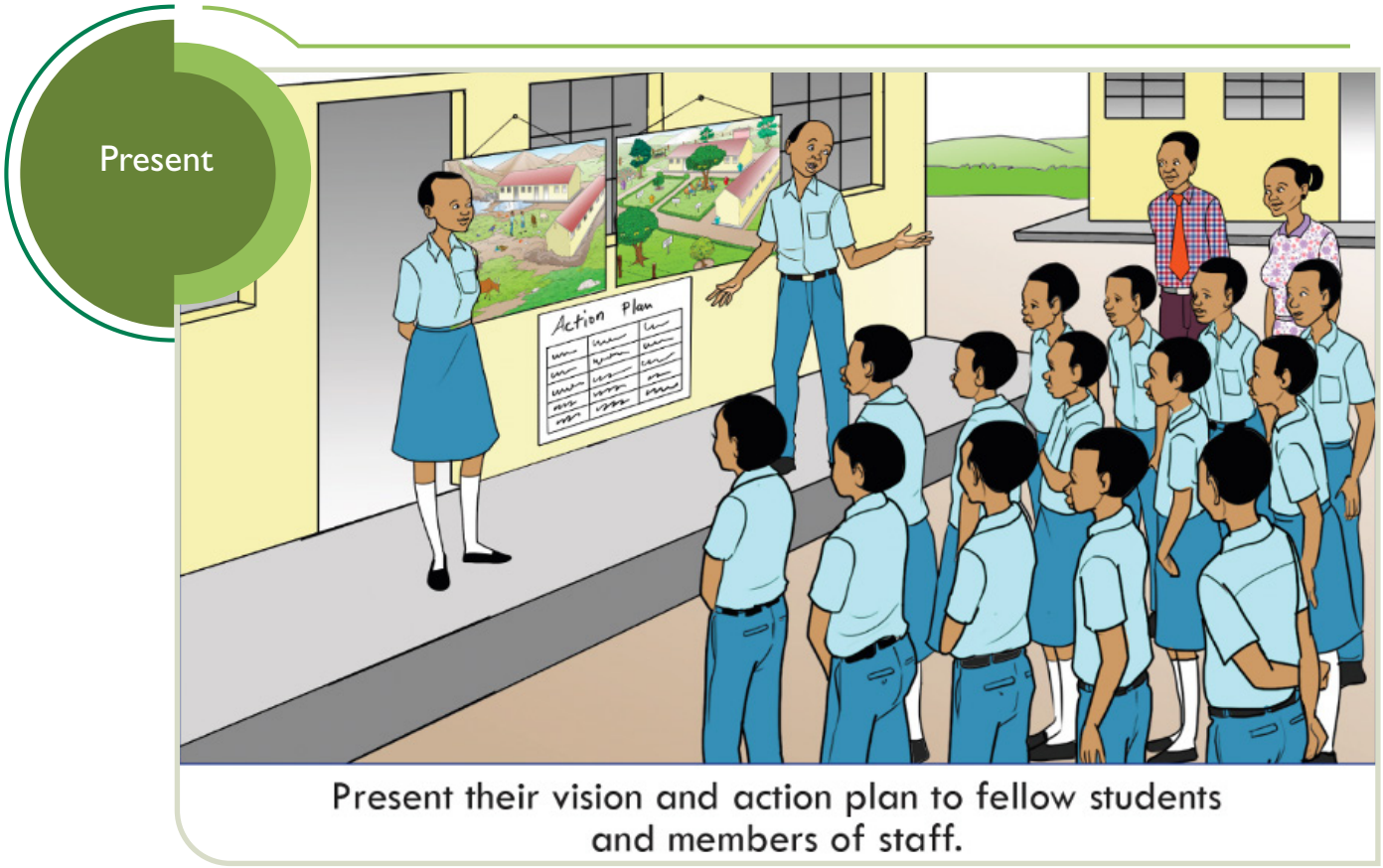
- Ability to implement a chosen alternative
- A sense of motivation, responsibility, and agency to take care of the environment
- Collaboration with peers and others
- The will, determination, and commitment to environmental stewardship

Materials:

- Flipchart with list of SMART goals created in Module 5, Session 1
- Flipcharts with action plan created in Module 5, Session 3
- Dream School Drawing created in Module 4, Sessions 8/9
- Present Illustrated Chart
- Execute Illustrated Chart

Session Plan:

1. Read the session objectives to learners.
2. Show learners the **Present Illustrated Chart** and discuss what they think the learners in the chart are doing.



Present their vision and action plan to fellow students and members of staff.

3. Organize other learners and teachers at school to a central area for the presentation.
4. Learners should present the following to their schoolmates and teachers:
    - Who the Environmental club is and their mission
    - Their dream school drawing
    - Their SMART goals for achieving the dream school
    - Their action plan for achieving the SMART goals
    - How the other learners and teachers can get involved to help them with their action plan
5. Each member of the Environmental club should be encouraged to participate in the presentation. In their presentation of the action plan, they should point out each activity in the action plan, giving details about why they have included each activity, how it will help to achieve the goal and how other people can get involved to help (learners, parents, teachers).
6. After the presentation, learners in the audience can ask questions.
7. If possible, the club should also present to the community. This could be done at school, where parents and members of the community come to school, or it can be presented at church/mosque or another community gathering place.
8. At this point, the Environmental club has created SMART goals and action plans for starting to make their dream school a reality. The Environmental club should now start working on the action plan, as they have planned it. To explain this, show the Environmental club learners the **Execute Illustrated Chart** and ask them what they think the next step is for them as a club.
9. Encourage students to take action as per their action plans.

Execute

Students implement and take action around the school compound to improve their school environment.

Assessment Activity: Toss the ball

Take Home Activity:

Learners can present their action plan for their dream home environment to the people at home and ask for their support to make the action plan happen.

Module 5, Session 6: **Strategies for Collaboration**

Objectives:

- To practice having good communication
- To practice working together as a team toward shared goals
- To make a habit of appreciating each other

Competences:

- Collaboration with peers and others
- The will, determination, and commitment to environmental stewardship
- Ability to implement a chosen alternative

Materials:

- See individual activity material lists in the session plan below

Teacher Tip:

Now that the Environmental club has developed a dream school drawing, SMART goals for achieving their dream school and specific action plans for achieving their SMART goals, it is time for the Environmental club to work together to make it all happen! This session gives ideas for different activities that can be used to help learners communicate better, work together as a team, and appreciate each other as they are working towards making their dream school a reality.

Session Plan:

1. Read the session objectives to learners.
2. Do one or all of the following activities to improve learners' collaboration skills.

Activities for Developing Good Communication Skills

Activity 1: Silent Line Up

Materials: None

Purpose: This activity challenges learners' non-verbal skills as well as their ability to work together to solve a challenge.

Instructions:

1. Learners must form a line (without speaking) in birth order (all January birthdays on the left and all Decembers on the right, in correct day order as well).
2. After forming the line, the teacher checks to see if learners lined up properly by asking each learner his/her birthday.
3. This activity can be repeated with other personal information as well (learners organize themselves by favorite color, favorite animal, etc.)

Activity 2: Crossing the Line

Materials: A rope, long string, or other "line"

Purpose: This activity challenges learners' ability to listen to each other, take directions from each other and work together to achieve a common goal.

Instructions:

1. Lay a rope/string or draw a "line" on the ground.
2. Learners line up shoulder to shoulder on one side of the "line".
3. All learners must step over the line at the exact same time to win this game. This seems easy, but in reality, it is quite difficult and requires good communication skills among all children to accomplish. The teacher should stay quiet while learners are doing this, allowing learners to work together without the teacher acting as the leader.
4. The teacher is the judge to see if learners all stepped over the "line" at the same time. Learners continue trying until the teacher says they have all stepped over at the same time.
5. After the game, the teacher asks some questions about their experiences:
    - What was difficult about this game? Why?
    - What did you learn about good communication?

Activities for Improving Teamwork Skills

Activity 1: Team Scavenger Hunt

Materials: Papers and pencil

Purpose: This activity helps teams with their leadership, organizational and collaboration skills.

Instructions:

1. Develop a list of at least 15-20 common items that can be found around the school (i.e. science textbook, cup, a leaf with 5 points, a flower of a certain color, a pencil, a perfectly round rock, a piece of string, etc.)
2. Divide learners into two big teams and give each team the same list of items to find.
3. Teams must try to beat the other team to finding all the items first and bringing them back to the teacher for checking. Teams can organize themselves in any way they choose to accomplish this goal.

Activity 2: Flip the Sheet Challenge

Materials: Tarpaulin or old bedsheet

Purpose: This activity tests a team's ability to work together to solve a problem.

Instructions:

1. Divide learners into small groups. Give each group a tarpaulin or old bed sheet. (If you only have one, groups can take turns using the same one).
2. One group stands on a flat tarp or bedsheet at a time. They must try to flip the tarp/bedsheet over completely without anyone on the team touching any part of their body directly on the ground.

Activities for Appreciating Teammates

Activity 1: Thankful Challenge

Materials: None

Purpose: This activity helps learners start to build a culture of appreciation amongst themselves.

Instructions:

1. Tell learners to find a partner and think about something they are thankful for about the other person (For example: I am thankful that you always listen to others).
2. Repeat several times so learners have an opportunity to appreciate and feel appreciated by several different partners.

Activity 2: Common Thread

Materials: None

Purpose: This activity helps build bonds of understanding as learners search to find similarities amongst themselves rather than differences.

Instructions:

1. In small groups, learners must find one thing that they all share in common – it could be a common interest, something similar about their families, etc.
2. After finding the "common thread" that binds them together, groups should share it with the whole Environmental club.
3. Randomly mix up learners into new groups and repeat the activity several more times.

Assessment Activity: Exploration Table

Take Home Activity:

Learners can try doing one of the activities they did during the session with the people at home and explain to them what they learned from it.

Module 5, Session 7: **Conflict Resolution**

Objectives:

- To learn about the five steps of nonviolent conflict resolution
- To role play resolving a conflict that may arise among Environmental club members
- To work collaboratively with others

Competences:

- Collaboration with peers and others
- The will, determination, and commitment to environmental stewardship
- Ability to implement a chosen alternative

Materials:

- None

Session Plan:

1. Read the session objectives to learners.
2. Tell learners that they will inevitably face conflicts when working together as a group, but it is important to resolve these conflicts in a calm and professional manner when they do arise.
3. Ask learners what they think "nonviolent conflict resolution" means and what strategies they typically use to resolve conflicts with others.
4. Introduce the 5 steps for nonviolent conflict resolution.
   I. Both people tell each other how they feel (to express emotions)
   II. Each person repeats back what the other said they feel (to check that they understand each other well)
   III. Each person takes responsibility for his/her actions and words that caused harm

IV. Both people brainstorm solutions to resolve the problem

V. Both people check back with each other that the problem can be solved with the new solutions, forgive each other and thank each other

5. Ask a learner to role play how to use the 5 steps for nonviolent conflict resolution when a disagreement arises between Environmental club members. Use the role play idea in the Teacher's Notes box below or create your own that you feel is more relevant for your learners. If you create your own role play, be careful to ensure that it includes each of the five steps of conflict resolution as outlined above.
6. After role playing, ask the following questions:
   - How did we demonstrate each of the 5 steps of conflict resolution?
   - Have you ever used any of these steps to solve a conflict? What was the outcome?
   - What other suggestions do you have for solving conflicts between Environmental club members?
7. Split learners into pairs and ask each pair to create their own role play which demonstrates the 5 steps of conflict resolution.
   - The pair should think about what the conflict is about (the problem/argument). It should be a conflict that might arise between Environmental club members as they work together on their action plans or other club activities.
   - Then they should create a role play that shows how the pair resolved the conflict using the 5 steps of conflict resolution.
8. After pairs have created and practiced their role plays, ask each pair to present in front of the whole group.
9. After each role play, ask the audience some discussion questions like:
   - What did they do right to resolve the conflict?
   - What could they improve?

Teacher's Notes:

Example Conflict Resolution Role Play

The Conflict: Doreen and Ethel are members of an Environmental club that is working on an action plan for planting trees in their school compound. Doreen is angry with Ethel because she feels like Ethel has not been contributing to the action plan as she promised she would.

The Characters: Doreen and Ethel

The Role Play:

Doreen: Hello, Ethel. Can I please talk to you about something that has been bothering me?

Ethel: Hello, Doreen. Yes, please.

Doreen: I feel upset because it seems that you have not been contributing as much time to our club's action plan as some of the other members and I have. We are not happy because we are all supposed to be working together equally and carrying out our part of the action plan. You said you would help fundraise money with me from community members so we can buy seedlings, but whenever we agree to meet, you never turn up.

Ethel: I hear what you are saying. I understand that you think I am not working as hard as you think I should, but I feel like you might not be understanding my situation right now. My mother fell sick, so I have been caring for her and I have a lot of responsibilities at home that are making it difficult for me to spend much time working on the action plan. I can see how this has made you and other club members upset and I am sorry that I have not been contributing as much lately. I'm also sorry for not saying anything about it before now or for warning you that I might not turn up when we agreed to meet.

Doreen: I understand now that you have had a lot of other priorities lately that have taken up your time. I am also sorry for not asking how you were doing before I got upset with you. What do you think we can do to resolve it?

Ethel: I think everyone in the club should be honest with each other about the time they have to spend working on the action plan. Perhaps we can have more frequent meetings where we can discuss the challenges we are facing which may be preventing us from participating in activities for the action plan. Better communication and honesty can help us a lot. We should also make it a rule that we must inform each other with at least 2 days' notice if we cannot fulfil our commitment to participate in an action plan activity.

Doreen: Sure, I really like those ideas and we can talk to the other club members about it.

Ethel: Are we OK now? Thanks for coming to me to talk this out.

Doreen: Yes, everything is fine. Thank you also for being open and honest.

Assessment Activity: Exploration Table

Take Home Activity:

Learners can think of a conflict that could happen between family members. They can create another nonviolent role play at home with a sibling, parent or neighbor that shows how the conflict could be resolved peacefully. They can perform the role play for the people at home.

Module 5, Session 8: **Monitoring and Reflecting on Action Plan Progress**

Objectives:

- To define "monitoring"
- To practice holding a monitoring meeting to check on action plan progress
- To carry out monitoring of environmental activities in groups

Competences:

- A sense of motivation, responsibility, and agency to take care of the environment
- Collaboration with peers and others
- The will, determination, and commitment to environmental stewardship

Materials:

- Flipchart
- Markers/pencils

Session Plan:

1. Read the session objectives and ask learners what they think "monitoring" means. Read them the following definition after hearing their ideas.
    - To observe and check the progress or quality of something over a period of time
2. Explain to learners that frequently monitoring the progress made on their Environmental club action plans is important for long-term success.
    - By monitoring their progress, they can tell if the Environmental club is working on the action plans well or if they need to work harder.
    - Monitoring their progress can help them see where things are going wrong so they can find solutions to the problems.
    - The entire Environmental club should come together frequently for an action plan monitoring meeting to do this.
3. Write the following monitoring meeting agenda on a flipchart:
    - Opening prayer
    - Meeting introduction from Environmental club patron/Environmental club chairperson
    - Each responsible person (for each activity) presents their part of the action plan(s) including:
        - What activities in the action plan did we plan to have done by today?
        - What activities have we managed to do so far?
        - What worked well during the activities we did?

- What planned activities were not done and why? Are we beating the deadline for the activities? If not, why?
- What possible solutions we can use to solve the problems we have?
- What is the way forward (next steps) to keep working on the action plan?

- The whole Environmental club gives feedback to each person's presentation
- Field visit to see any finished activities or activities in progress to check on them
- Discussion and way forward
- Closing prayer

4. Introduce each part of the monitoring meeting agenda to learners. Ask learners if they want to add anything else to the monitoring meeting agenda.
5. The club can now practice monitoring their action plans, following this meeting agenda.
6. After practicing conducting a monitoring meeting, the club should decide as a group how frequently to come together for monitoring meetings (weekly, monthly, etc.)

Assessment Activity: Peer Quiz

Take Home Activity:

Learners can practice talking to their families about their progress on their home action plans. This could happen casually while eating lunch/supper, or more formally if the learner wants to call a family meeting. In the meeting, the learner should give the family an update on progress on the action plan, ask for any support needed and listen to each family member's ideas and concerns.

Module 5, Session 9: **Peer Evaluation**

Objectives:

- To define feedback
- To complete peer assessments of club members
- To practice giving and receiving feedback

Competences:

- A sense of motivation, responsibility, and agency to take care of the environment
- Collaboration with peers and others
- The will, determination, and commitment to environmental stewardship

Materials:

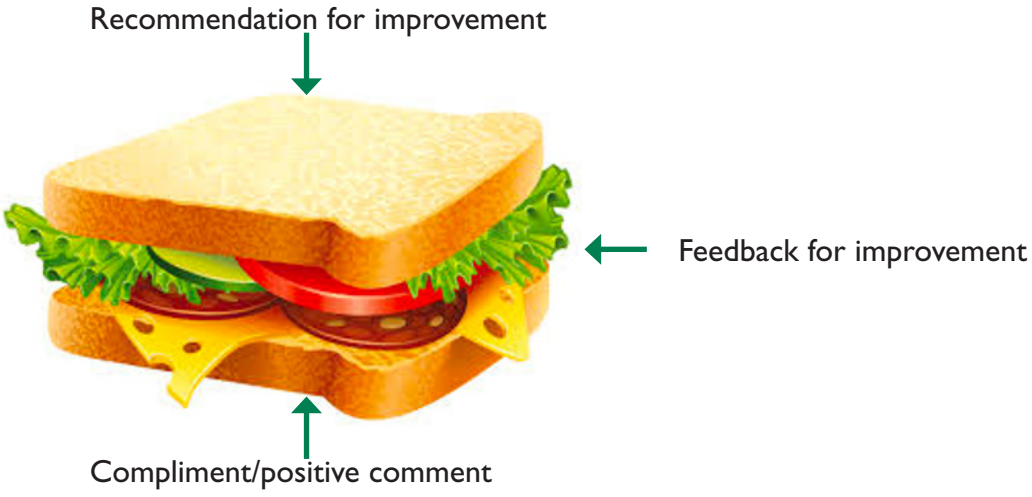
- Flipchart
- Markers/pencils

Session Plan:

1. Read the session objectives to learners.
2. Explain to learners that when working in a group to achieve common goals, it is important to monitor each other's progress and give each other feedback. This helps the group grow together and achieve more.
3. Ask learners if they know what "feedback" means.
    - Feedback is giving someone information about what you think they are doing well and what you think they can do to improve.
4. Explain that the first part of giving feedback is assessing (or grading) someone's work or progress.
5. Draw the following peer assessment table on a flipchart.

Peer Assessment						
Name	Teamwork	Participation in Environmental club activities	Resolving conflicts with other club members	Listening to others	Leadership	Total (out of 20)

6. Discuss what each of the following skills mean and why they are important for an Environmental club member to have when working together on Environmental club action plans:
    - Teamwork
    - Participation in Environmental club activities
    - Resolving conflicts with other club members
    - Listening to others
    - Leadership
7. Add any other skills that the Environmental club thinks are important to the peer assessment table on the flipchart.
8. Each learner should copy the peer assessment table on a paper. They should grade some of the other club members they have worked closely with on the following scale for each skill:
    - 4 = Excellent
    - 3 = Good
    - 2 = Fair
    - 1 = Weak
9. Walk around and help learners as they are filling out their peer assessment table. An example filled peer assessment table is provided in the Teacher's Notes box at the end of this session.
10. Now that learners have assessed other learners on important skills, explain that they will practice giving and receiving feedback.
11. Introduce learners to the "sandwich model" of giving feedback.
    - The bottom "bread" of the feedback sandwich is a compliment, or something positive. You first give feedback about something you like about the other person. For example, "I like how you are always very eager to work on the action plan activities."
    - The middle "filling" of the feedback sandwich is the feedback itself, or something you want the other person to improve on. For example, "Sometimes you don't listen well to other people's ideas."
    - The top "bread" of the feedback sandwich is a recommendation for how they can improve in the future. For example, "I think it would be even better if you listen to the other group members more and take some of our ideas into consideration. This will help the group to work even better together."



12. Tell learners that the person giving the feedback should be honest and transparent as well as specific about what can be done to improve in the future. Their language should be positive and encouraging rather than negative and demoralizing.

13. Tell learners that the person who is receiving the feedback should be open to it.

    - They should listen well and then thank the person giving them feedback.
    - Even if they don't immediately agree with the feedback, they should be willing to listen and consider what the person is saying.

14. Each person should give feedback to the other learners they assessed. They can look at the peer assessment table they completed to help them think about what feedback to give their peers.

15. After everyone has had a chance to give and receive feedback, bring the club back together into one big group and discuss:

    - How did it make you feel to give others feedback?
    - How did it make you feel to receive feedback from others?
    - Why is it important to give and receive feedback when working in groups?
    - How often do you think we should do a peer assessment and feedback session in the Environmental club?

Teacher's Notes:

Example Peer Assessment						
Name	Teamwork	Participation in Environmental club activities	Resolving conflicts with other club members	Listening to others	Leadership	Total (out of 20)
John	4	3	4	4	4	19
Doreen	2	3	2	2	2	11
Peace	3	4	1	2	3	13

Assessment Activity: Check Out

Take Home Activity:

Learners can ask the people at home to give them feedback about how they have managed the SMART goal setting and action planning for the homestead. Family members can give feedback about whether the learner listened to their concerns well, showed leadership, etc.

Module 5, Sessions 10 and 11: **Reflecting on Our Roles as Environmental Stewards**

Objectives:

- To define "reflection/reflective practice"
- To reflect on our roles as environmental stewards and our personal ambitions for being good environmental stewards
- To work collaboratively with others

Competences:

- Connectedness with nature
- A sense of motivation, responsibility, and agency to take care of the environment
- The will, determination, and commitment to environmental stewardship

Materials:

- Paper
- Pencils/markers

Teacher Tip:

Reflecting on their roles as environmental stewards may take longer than one Environmental club session. Reflection is an important part of the PIP approach, so encourage learners to spend as many sessions as necessary reflecting on what they learned over the past year and how they want to apply it in the future.

Session Plan:

1. Read the session objectives and ask learners what they think "reflecting" or "reflective practice" means. Read them the following definition after hearing their ideas.
    - Reflection or reflective practice is when you think about the past and consider what you have done well and what you would like to improve in the future.
2. Make a sign for each of the reflection stations described below in each of the four corners of the room/area, as well as any needed materials for each station.
3. Explain the instructions for what learners will be doing at each of the four reflection stations.
4. Divide learners into four groups. Select one older learner from each group to act as the "leader" for their group. Their responsibility will be to follow the instructions at each of today's reflection stations and lead the other learners in their group through the activity. You should walk around the room and monitor all groups as they move through the stations.
5. Start each group at a station. After about 10-20 minutes, groups should shift to a new station.

6. After all groups have visited each station, bring the whole group together and ask them to discuss:
    - Which was your favorite reflection station and why?
    - What did you learn about yourself from the reflections today?
    - What did you learn about your club mates from the reflections today?
    - Do you think it is important for us to reflect on our work and our thoughts frequently? Why? How can reflecting help us to be better stewards of the environment?

Reflection Station 1: President for a Day

Materials: None

Instructions:

1. Each learner in the group thinks about what he/she would do to protect the environment if he/she were President of Uganda for the day and could make any law that protects the environment.
2. Each learner shares their ideas with the group before moving to the next reflection station.

Reflection Station 2: What I Changed and What I Want to Change

Materials: None

Instructions:

1. Each learner in the group should reflect on something they have done at home this year to improve their home environment.
2. They should then think about one other thing they want to do in the coming months to improve/protect the environment at home.
3. Each learner shares their ideas with the group before moving to the next reflection station.

Reflection Station 3: Network Mapping

Materials: Paper and pencils/markers

Instructions:

1. As a group, learners draw a "network map" of all the people in their lives who can be involved in their initiatives to protect the environment. The drawing should show a web of people such as teachers, other learners, friends, neighbors, parents, siblings, local leaders, etc.
2. They can also add some words to show how each person can help.

Reflection Station 4: What Motivates Me

Materials: None

Instructions:

1. Each learner in the group should think about who or what motivates them to take care of the environment.
2. Learners should prepare a short song or story about this motivating force to present to the group before moving to the next station.

7. After completing all of the stations (possibly in another session) learners should draw their own personal ambition for being a good steward of the environment.
    - They should draw their own vision for their future as an ambassador of the environment.
    - They can include drawings to show what they will do to achieve their vision.
    - They should also include who else they will involve in their vision (other learners, people at home, friends in the community, etc.)
8. After drawing their visions, learners should share their drawings with the whole Environmental club.
9. Encourage learners to share their drawing with the people at home and hang it up at home to remind them about their personal dreams as environmental stewards.

Assessment Activity: Letter to Myself

Take Home Activity:

Learners should share their reflections from the day and their dream drawing with their parents/people at home. They can talk with the people at home about what they can do to reach this dream.

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