GENERATION GLOBAL

03 SCIENCE ACTIVITY BLOCK

Biodiversity Quest

DESCRIPTION

In this activity block, learners will explore the concept of biodiversity and observe its presence in their communities. They will then engage in a dialogue about biodiversity and reflect on their experiences.

LEARNING OBJECTIVES

By the end of the activity block, learners will:

- Share their understanding of biodiversity and how they observe it in their communities.
- Express their feelings about biodiversity and the way it impacts them and their environment.
- Develop their critical thinking skills by reflecting on biodiversity in their local environment.

DIALOGUE SKILLS

Global communication - Sharing
Learners are able to use 'I' statements to share about their own personal experiences and perspectives and avoid speaking on behalf of other individuals and groups.

Critical thinking
Learners are able to analyse a topic or issue and identify diverse and multiple perspectives.

Reflection
Learners are able to think about the experience of the dialogue and recognize the impact it has had on them and/or the group.

FURTHER RESOURCES

- Essentials of Dialogue

AGE GROUP 13-17

DURATION 130-150 minutes

RELATED SUSTAINABLE DEVELOPMENT GOALS

LIFE ON LAND (SDG 15)

LIFE BELOW WATER (SDG 14)

CLIMATE ACTION (SDG 13)

PREPARATION Sharing about biodiversity

DURATION 30 minutes

1. Begin by introducing the concept of biodiversity to the learners. You can explain why biodiversity is crucial for maintaining healthy ecosystems, supporting human life, and sustaining the planet's natural balance.

2. Inform the learners that they will participate in an activity focused on sharing their perspectives on biodiversity by using 'I' statements. Emphasize that 'I' statements allow individuals to express their personal feelings and thoughts clearly and respectfully, without placing blame or making assumptions about others' views. For example, instead of saying, "Biodiversity loss is everyone's fault," learners might say, "I feel concerned about biodiversity loss because I see fewer animals in my neighbourhood."

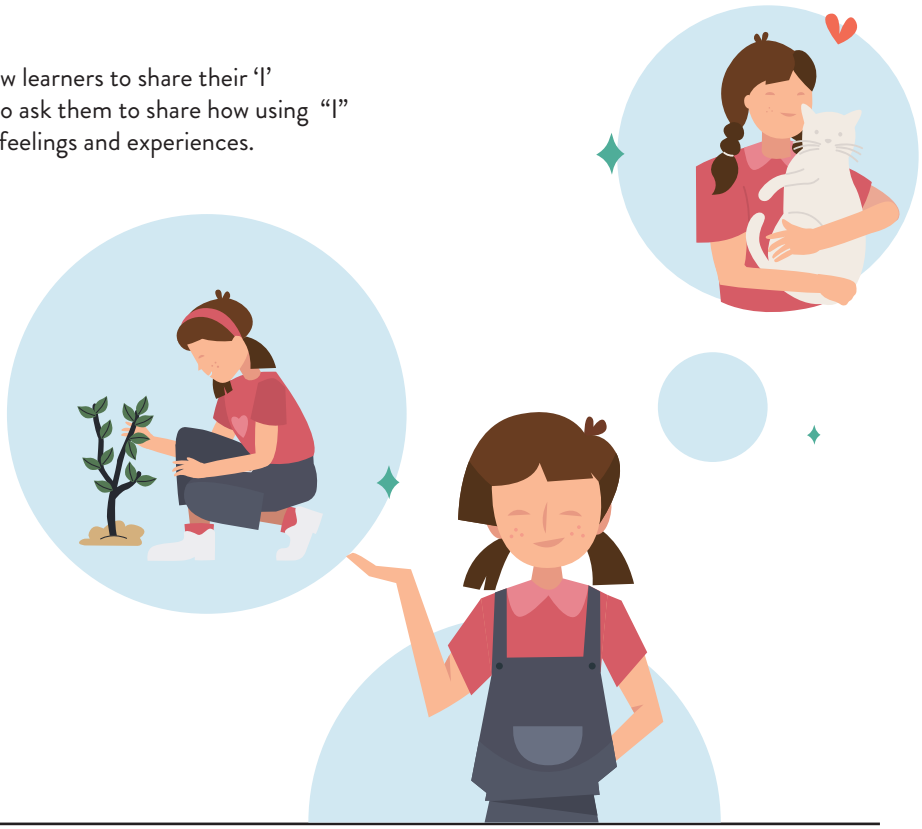
3. Write a few prompts related to biodiversity on the board, such as:
- **When I think about biodiversity, I feel..."**
- **"I notice biodiversity in my community when..."**
- **"I care about biodiversity because..."**
- **"I feel connected to nature when I see..."**
- **"I am worried about the impact on biodiversity because..."**
- **"I am excited to learn about biodiversity because..."**
- **"I think people in my community can help with biodiversity by..."**

4. Ask learners to choose a prompt and complete it with their own thoughts, using 'I' statements. Encourage them to share their responses with a partner.

5. Bring the class together and invite a few learners to share their 'I' statements with the group. You can also ask them to share how using "I" statements helped them express their feelings and experiences.

According to the Royal Society (n.d.):

Biodiversity is the variety of all living species on Earth, including plants, animals, bacteria, and fungi, which are essential for maintaining healthy ecosystems that support life, including humans.



The Royal Society (n.d.) Why is biodiversity important? Retrieved from https://royalsociety.org/news-resources/projects/biodiversity/why-is-biodiversity-important

MAIN ACTIVITY Biodiversity Nature Hunt

DURATION 60-70 minutes

After practising how to share their ideas by using 'I' statements, learners will explore their communities to observe and identify different forms of biodiversity.

1. Explain to the students that they will participate in a nature hunt to explore and identify the various species that contribute to the biodiversity in their local area.

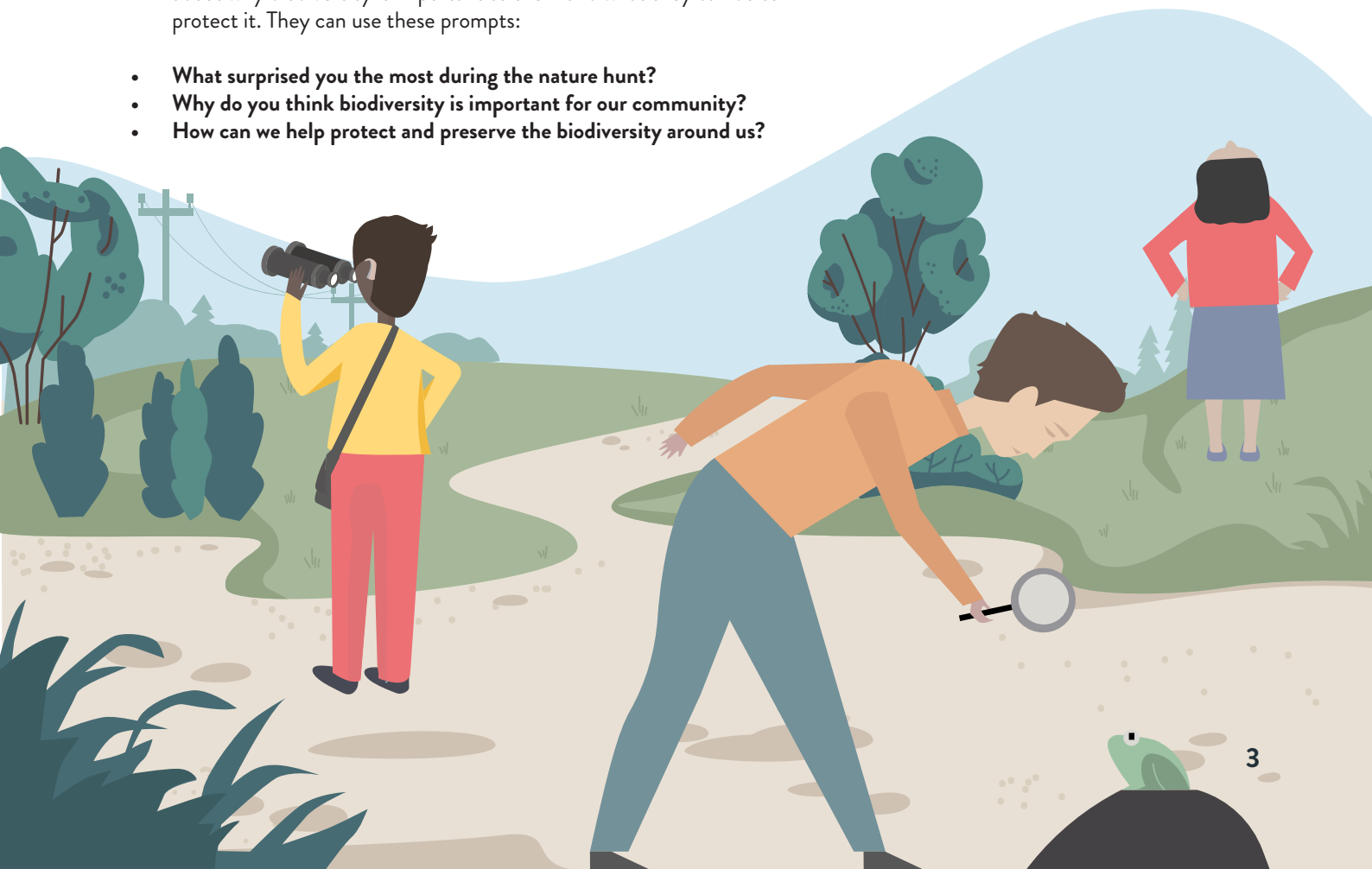
2. Divide the learners into small groups of three or pairs. Distribute the worksheet *Nature Hunt Checklist* (end of document) and explain how the activity will work. Each group will be tasked with finding as many different species as possible within a set time limit (30-45 minutes).

3. Take the learners outside to a nearby designated area, such as a park, schoolyard, or nature trail. Encourage them to explore, observe, and record the species they find. Remind them to be respectful of nature and to avoid disturbing plants or animals. They can either take photos or make notes of their observations.

4. After the nature hunt, gather the groups together. Have each group share their findings, including any interesting or unexpected species they encountered. You can also ask them to share about the diversity of species observed and how they contribute to the local ecosystem.

5. As a reflection, have learners journal in a notebook or on a piece of paper about why biodiversity is important to them and what they can do to protect it. They can use these prompts:

- **What surprised you the most during the nature hunt?**
- **Why do you think biodiversity is important for our community?**
- **How can we help protect and preserve the biodiversity around us?**



DIALOGUE ACTIVITY

DURATION 30 minutes

Now that learners have shared and reflected on biodiversity, they can participate in a dialogue about it. Be sure to remind participants to practising personal sharing, asking each other questions, and building on the topic to go deeper in conversation. Use these agenda questions to help your learners prepare and support the dialogue:

- **Why is biodiversity important to you?**
- **What does biodiversity look like in your community? Share examples.**
- **What factors do you think are impacting biodiversity in your area?**
- **How do you think individuals can contribute to preserving biodiversity for future generations?**

REFLECTION ACTIVITY

DURATION 20 minutes

After completing the dialogue activity, spend 15-20 minutes debriefing the experience by doing this reflection activity.

1. Create a smaller circle to act as a pool (this can be made with string or by using a container).

2. Cut out several copies of the fish image from the *Fish Feedback Questions worksheet* (end of document) and write one reflection question from the list on each.

3. Place each of the fish cut outs in the pool face side down. Invite the learners to fish out a question and read it aloud to the group for discussion.

4. If you have a flipchart and pens, at the end of each discussion invite students (or one from each group/pair) to get up and move to make a comment with the pens.

5. Repeat the activity for as long as the discussion is meaningful and fruitful. Encourage students to get involved by prompting them with:

- **What are your thoughts on this matter?**
- **Do you agree with what others have said?**
- **Do you have anything to add to this point?**

6. Make sure that students feel safe in making contributions and that their points are valued.

NATURE HUNT CHECKLIST WORKSHEET

INSTRUCTIONS:

As you explore the designated area, check off the species you observe and take notes on what you find.
Try to identify as many different species as possible within the time limit.

Plants

Trees (Variety of types, sizes, and ages). Examples: _____

Shrubs and Bushes (Low-growing plants and woody shrubs). Examples: _____

Flowering Plants (Variety of colours, shapes, and pollinators). Examples: _____

Grasses (Different types of grasses in various habitats). Examples: _____

Ground Cover (Mosses, ferns, and low-lying plants). Examples: _____

Other: _____

Insects and Invertebrates

Pollinators (Bees, butterflies, moths). Examples: _____

Predatory Insects (Spiders, beetles). Examples: _____

Decomposers (Ants, earthworms, beetles). Examples: _____

Aquatic Insects (Dragonflies, water striders). Examples: _____

_____

Other Invertebrates (Snails, slugs). Examples: _____

_____

Other: _____

_____

Birds

Songbirds (Variety of species by size, colour, and song). Examples: _____

_____

Waterfowl (Birds found near water bodies). Examples: _____

_____

Birds of Prey (Hawks, owls, eagles). Examples: _____

_____

Ground Birds (Quail, pheasants). Examples: _____

_____

Migratory Birds (Species observed seasonally). Examples: _____

_____

Other: _____

_____

Trees and Woody Plants

Evergreen Trees (Year-round foliage). Examples: _____

_____

Native Species (Trees indigenous to the area). Examples: _____

_____

Invasive Species (Non-native trees impacting local biodiversity). Examples: _____

_____

Fruit-Bearing Trees (Edible fruits for wildlife and humans). Examples: _____

_____

Other: _____

_____

Animals

Mammals (Small and large mammals, variety of habitats). Examples: _____

_____

Reptiles (Lizards, snakes, turtles). Examples: _____

_____

Amphibians (Frogs, toads, salamanders). Examples: _____

_____

Aquatic Life (Fish, amphibious mammals). Examples: _____

_____

Other: _____

_____

Fungi and Microorganisms

Mushrooms (Different types and sizes). Examples: _____

_____

Lichens (Growth on trees, rocks, and soil). Examples: _____

_____

Mold and Mildew (Damp environments). Examples: _____

_____

Soil Microorganisms (Bacteria, fungi observed through decomposition). Examples: _____

_____

Other: _____

_____

Ecosystem Features

Habitats (Wetlands, forests, grasslands, urban green spaces, etc...). Examples: _____

_____

Water Sources (Ponds, streams, rivers, lakes). Examples: _____

_____

Rock Formations (Areas supporting specific types of vegetation). Examples: _____

_____

Deadwood and Leaf Litter (Decomposition sites providing nutrients). Examples: _____

_____

Other: _____

_____

_____

NOTES AND SKETCHES

FISH FEEDBACK QUESTIONS

Print off the fish template and write questions inside. Some starter questions to include are:

1. The thing that I enjoyed the most about the videoconference was...
2. A comment/information that challenged a perception I had about the other school was...
3. When we do it again one thing I would like to change is...
4. I can see that other people's culture and beliefs help them to understand the world because...
5. Through the videoconference, and preparing for it, I've learned _____ about myself.
6. One thing I was surprised to find out was...
7. How important are other people's beliefs and values when they think about how to act?
8. I've learned that it is important to listen to others because...