What makes the rainforest biome unique?

Students will explore biomes and identify those they find within their community and the Great Bear Rainforest.

Students will explore the flora and fauna of the Great Bear Rainforest.

Learning Intentions

1. In what way is the biome where I live the same or different from the Great Bear Rainforest's?
2. Who are the animals and plants that live in the Great Bear Rainforest?

Curricular Connections

Refer to the "Curriculum" drop-down option under the "Learn" tab of the Great Bear Rainforest Education and Awareness website.

Curriculum Alignment: Great Bear Rainforest Education and Awareness Trust
https://greatbearrainforesttrust.org/curriculum/

Learning Intention 1

In what way is the biome where I live the same or different from the Great Bear Rainforest's?

Experiences and Observations

- Ask students if they know what a biome is and how they would define it. This is a great opportunity to check for previous knowledge and to correct erroneous assumptions. Clarify the difference between biome, ecosystem and habitat as needed (see Resources section for more information).
- After defining a biome, determine the next activity that best suits your class given students' prior knowledge and their grade level.

Walk Around the Room

Set up five stations in the classroom, each one representing a different biome (aquatic, grassland, forest, tundra, and desert), with accompanying pictures of flora and fauna of each specified biome. Depending on your students, you may want to add temperature charts and maps of the world with the biome identified on it. Divide students into five groups and have them move from station to station, taking notes about what they notice in each biome (see "What's in a biome?" sheets at end of this Learning Intention).

Biome Research

Divide students into small groups and have them choose a biome, or assign one to them. Ensure that all biomes are covered. Ask groups to prepare a presentation on their biome. Make sure they are identifying the major aspects of their biome, such as the environmental patterns, the flora and fauna, and the region where this biome can be found. Once they are done their research, have students create a presentation to share with their classmates (for example video,PowerPoint, Keynote).

Material needed: Computers with internet access, you could also provide websites to students to aid in research.

Note: Before starting any research activities, it is important to let students know that the term biome is part of a scientific debate. There are different models that propose five, six, or even up to nine different biomes. This lesson uses the five biome model, but let students know that in their research they may come across information that has more. This is a great way to address the fact that science is always evolving with new or emerging data and that interpretations aren't always the same in the scientific community.

What biome do we live in?

Once students have explored all five biomes, ask them to identify the biome where they live and its characteristics. What resources can we find in our biome?

Explain to students that they will now be looking at the Great Bear Rainforest. Does the name give them an idea of what biome or biomes it may fit into?

Have students explore the Great Bear Rainforest Education and Awareness Trust website (https://greatbearrainforesttrust.org), to find clues concerning its biome. This can be done as a whole class activity, in small groups, or individually. Ask students to name the characteristics that helped them identify the Great Bear Rainforest's biome.

Possible Topics/Key Vocabulary

- Aquatic
- Biome
- Tundra
- Desert
- Ecosystems
- Forest
- Grasslands
- Habitats

Reflections on Learning

Have students fill in the Venn diagram (see end of this Learning Intention) using their home biome on one side and the biome of the Great Bear Rainforest.
Note: For the Great Bear Rainforest, students can choose either the aquatic or the forest biome for their activity.

Students can also be assessed on their biome presentation to the class. Work with students on creating a single-point rubric to assess the learning in this project related to your curriculum competencies.

Suggested Resources

ASL Biomes and Ecosystems for Kids
Audio narration with accompanying American Sign Language
https://youtu.be/5ASNFNeN2pc (10:39)

Biomes, Ecosystems and Habitats
National Geographic infographic
https://education.nationalgeographic.org/resource/biomes-ecosystems-and-habitats/

Biomes
National Geographic articles and encyclopedic entries on biomes suitable for student research
https://education.nationalgeographic.org/resource/resource-library-biomes/

The Five Major Types of Biomes
National Geographic website
https://education.nationalgeographic.org/resource/five-major-types-biomes/

What's in a biome?

Worksheet for "Walk Around the Room" activity

Name : _____

Aquatic	Grassland
What do you notice about the animals, plants, and trees that make up this biome? _____ _____ _____ What are the general conditions in this biome? _____ _____ _____ What wonders do you have? _____ _____ _____	What do you notice about the animals, plants, and trees that make up this biome? _____ _____ _____ What are the general conditions in this biome? _____ _____ _____ What wonders do you have? _____ _____ _____

What's in a biome?

Worksheet for "Walk Around the Room" activity

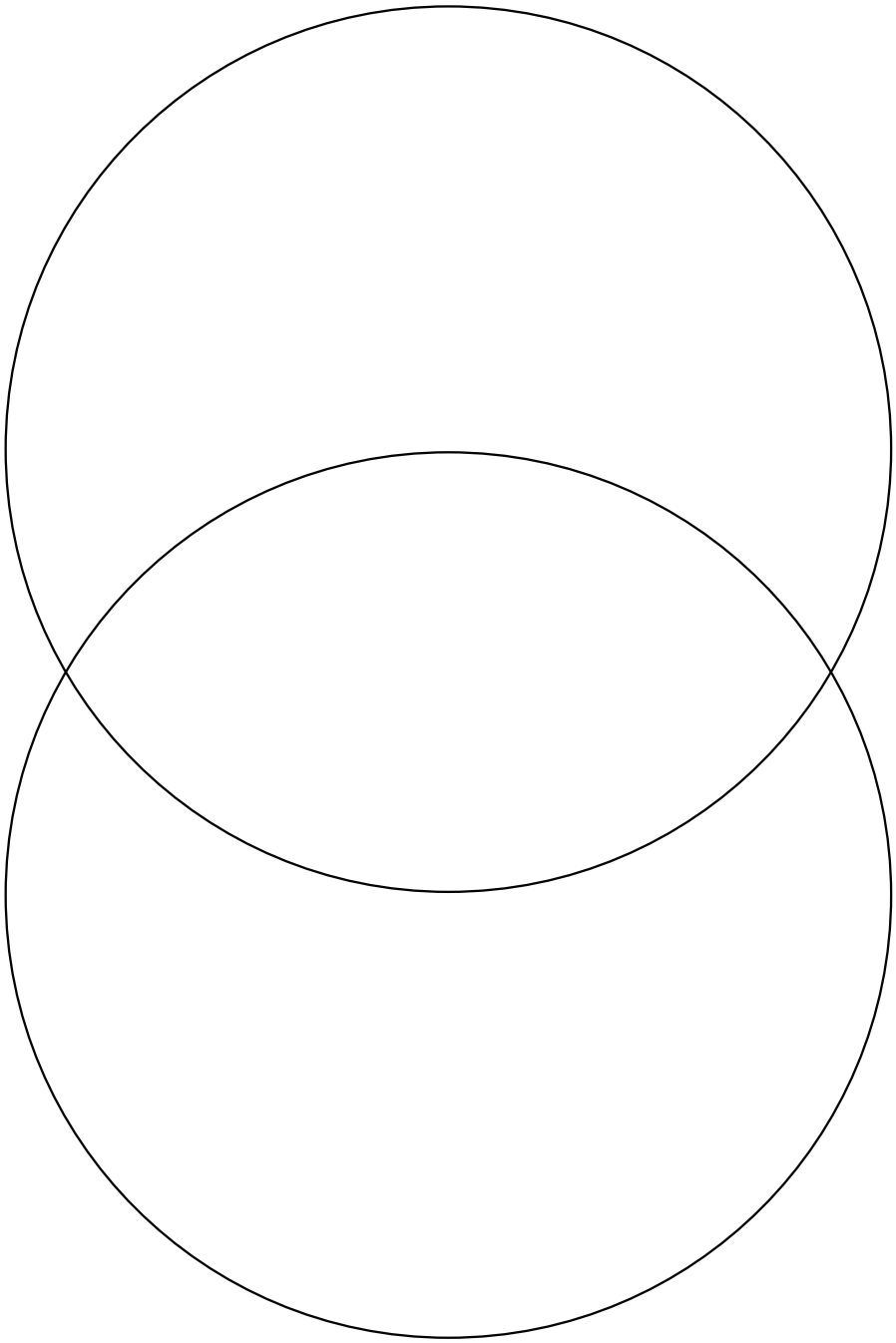
Name : _____

Forest	Desert	Tundra
What do you notice about the animals, plants, and trees that make up this biome? _____ _____ _____	What do you notice about the animals, plants, and trees that make up this biome? _____ _____ _____	What do you notice about the animals, plants, and trees that make up this biome? _____ _____ _____
What are the general conditions in this biome? _____ _____ _____	What are the general conditions in this biome? _____ _____ _____	What are the general conditions in this biome? _____ _____ _____
What wonders do you have? _____ _____ _____	What wonders do you have? _____ _____ _____	What wonders do you have? _____ _____ _____

What's in a biome?

Worksheet for Venn diagram (Learning Intention 1)

Name : _____



Learning Intention 2

Who are the animals and plants that live in the Great Bear Rainforest?

Experiences and Observations

Ask students to recall in what biomes we find the Great Bear Rainforest. What are the flora and fauna that we find in the Great Bear Rainforest? Make a list on chart paper or on the board to refer to later.

Remind students that each biome has different types of ecosystems. Ask them to recall the definition of a biome. Can they also define an ecosystem and a habitat? If not, spend more time on these differences.

- Ask students what is needed for flora and fauna to survive (for example, shelter, protection, food, water, air). Referring to the list made, ask students to make a connection between one animal and why the Great Bear Rainforest is the perfect place for them to live. Have students share with a partner or with the class.
- Talk about animals that are similar but that live in different biomes or ecosystems. For example, polar bears and black bears live in different biomes. Both are bears but have adapted to their environment. Black bears eat mostly fruits and grasses but are omnivores and eat small mammals, fish, and insects. Some bears have adapted to eat garbage in populated areas. Polar bears eat seals and fish and need a large amount of fat to survive. Polar bears also have transparent and hollow fur that scatters and reflects visible light, black skin, and a double layer of fur that allows them to trap heat. Their white colour is camouflage within their surroundings.
- Ask students to pick an animal from the Great Bear Rainforest. Have them research what the animal needs to survive, its predators and prey. What makes the Great Bear Rainforest the perfect place for them to live? Are there any reasons that animal populations may need protecting? (This can be done as a short in-class research or inquiry project, as a class or independently).
- If studying body systems, you can ask students to pick one of their animal's systems to explain as part of their research project.

Possible topics/Key Vocabulary

- Behavioral adaptations
- Ecosystem
- Habitat
- Interconnections
- Needs
- Rainforest
- Structural adaptations
- Temperate rainforest

Reflections on Learning

- The student inquiry project can be assessed using a class-created single point rubric.
- Create an ecosystem in a bottle. There are many different examples online. See the Resources section for two different models, one using a jar and the other using bottles. The biome models can include a description of the interconnectedness of the elements that students have chosen to add to their ecosystem.

Suggested Resources

Ecosystem in a Jar
"Inspiring observation and appreciation of natural systems": National Science Teachers Association (NSTA)
https://www.nsta.org/science-teacher/science-teacher-januaryfebruary-2021/ecosystem-jar

Great Bear Rainforest Education and Awareness Trust
https://greatbearrainforesttrust.org

Science First Peoples Teacher Resource Guide: Grades 5 to 9
See Unit 4: Bears and Body systems
https://www.fnesc.ca/science-first-peoples/

What do you need for a bottle biome?
https://scienceoxygen.com/what-do-you-need-for-a-bottle-biome/

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https://scienceoxygen.com/what-do-you-need-for-a-bottle-biome/