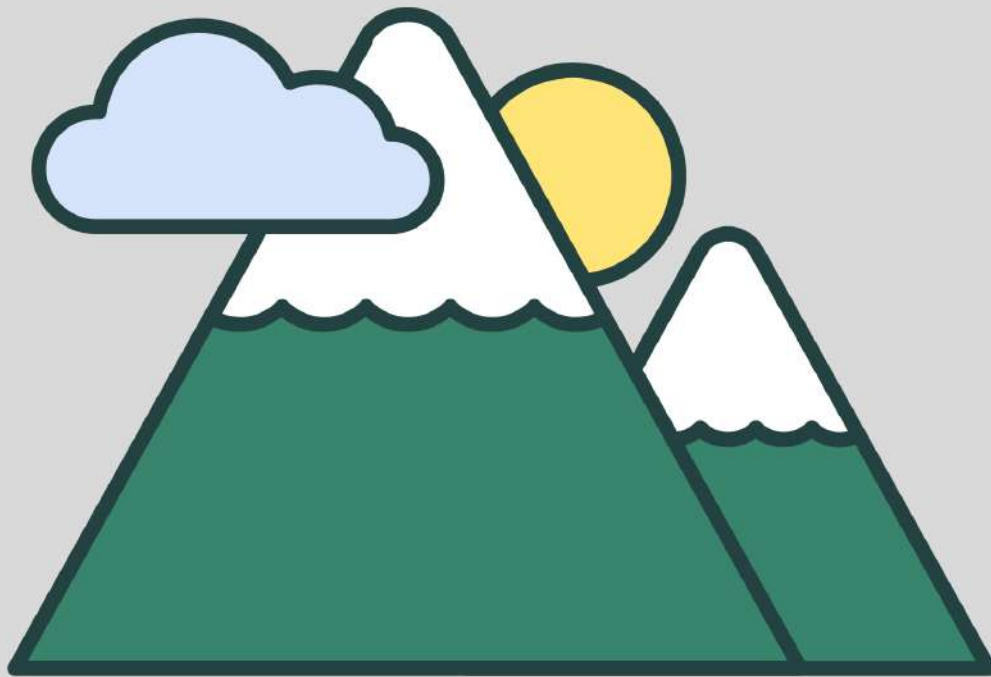


# BC's Natural Environment

## TEACHER'S AND PARENT'S GUIDE



### LESSON PLANS FOR GRADES 2 TO 4

Climate Change  
Habitats and Biodiversity

# LESSON 1: CLIMATE CHANGE, THE GREENHOUSE EFFECT

## Learning Outcomes:

Introduce and explain the greenhouse effect.

Introduce the connection between human activity and greenhouse gas emissions.

### Materials:

- Whiteboard, whiteboard markers
- Teacher reference diagrams (pages 3-4)
- 1 sealable, clear container
- 2 thermometers, one of which must fit inside the container

### Key Vocabulary:

- Atmosphere, heat, greenhouse, greenhouse effect, pollution, sunlight

## Lesson:

1. Complete part 1 of the class activity (see page 2).
2. Ask the students if they know what a **greenhouse** is. Explain that it is a building made of glass that is used to grow plants by keeping them warmer than the outside environment.
3. Draw a diagram on the whiteboard of a greenhouse, explaining how the glass lets in **sunlight** and traps **heat** inside of the structure.
4. Tell the students that the Earth uses the same technique to keep itself warm. Ask the students if they know the name for the air surrounding the Earth (**atmosphere**).
5. Draw a diagram on the whiteboard of the greenhouse effect, explaining how the gases in the atmosphere trap heat inside the atmosphere. Tell them that this is called the **greenhouse effect**.
6. Explain that the greenhouse effect ensures that the planet is not too cold for humans, animals, and plants to live on. If the planet did not have this effect, too much heat would escape, and the planet would be too cold to sustain the life that it currently has.
7. Complete part 2 of the class activity.

## Conclusion:

Explain to the class that humans have been polluting the air, which has added more of the gases that trap the heat. As a result, the planet is gradually getting warmer and warmer.

### CLASS ACTIVITY – THE GREENHOUSE EFFECT

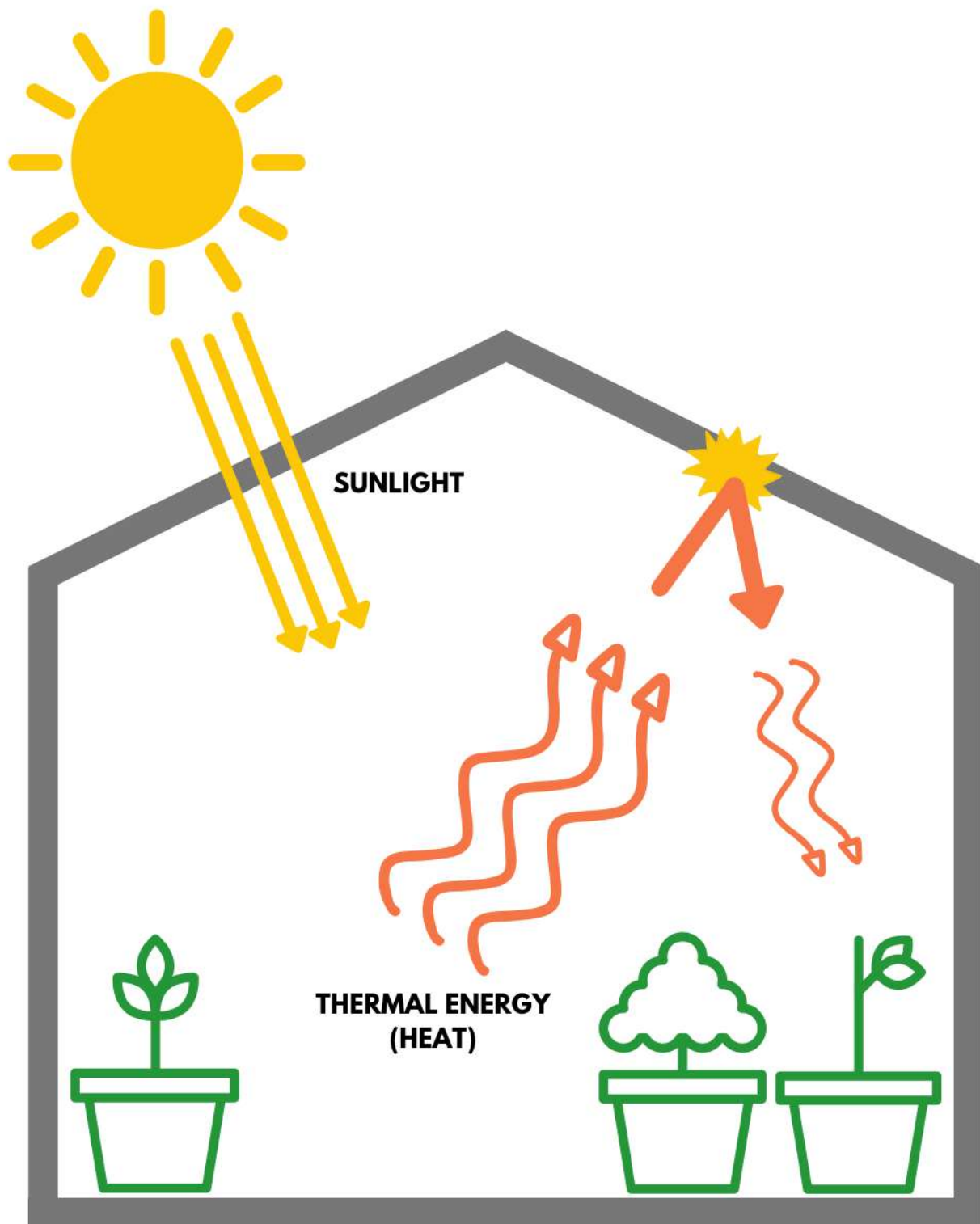
#### Part 1:

1. Put thermometer A in the container and seal it.
2. Place the container (containing thermometer A) and thermometer B next to each other in a sunny area. Set a timer for 1 hour.
3. Ask the students to predict what temperatures the thermometers will record after the timer finishes. Will they be the same? Will one be higher?

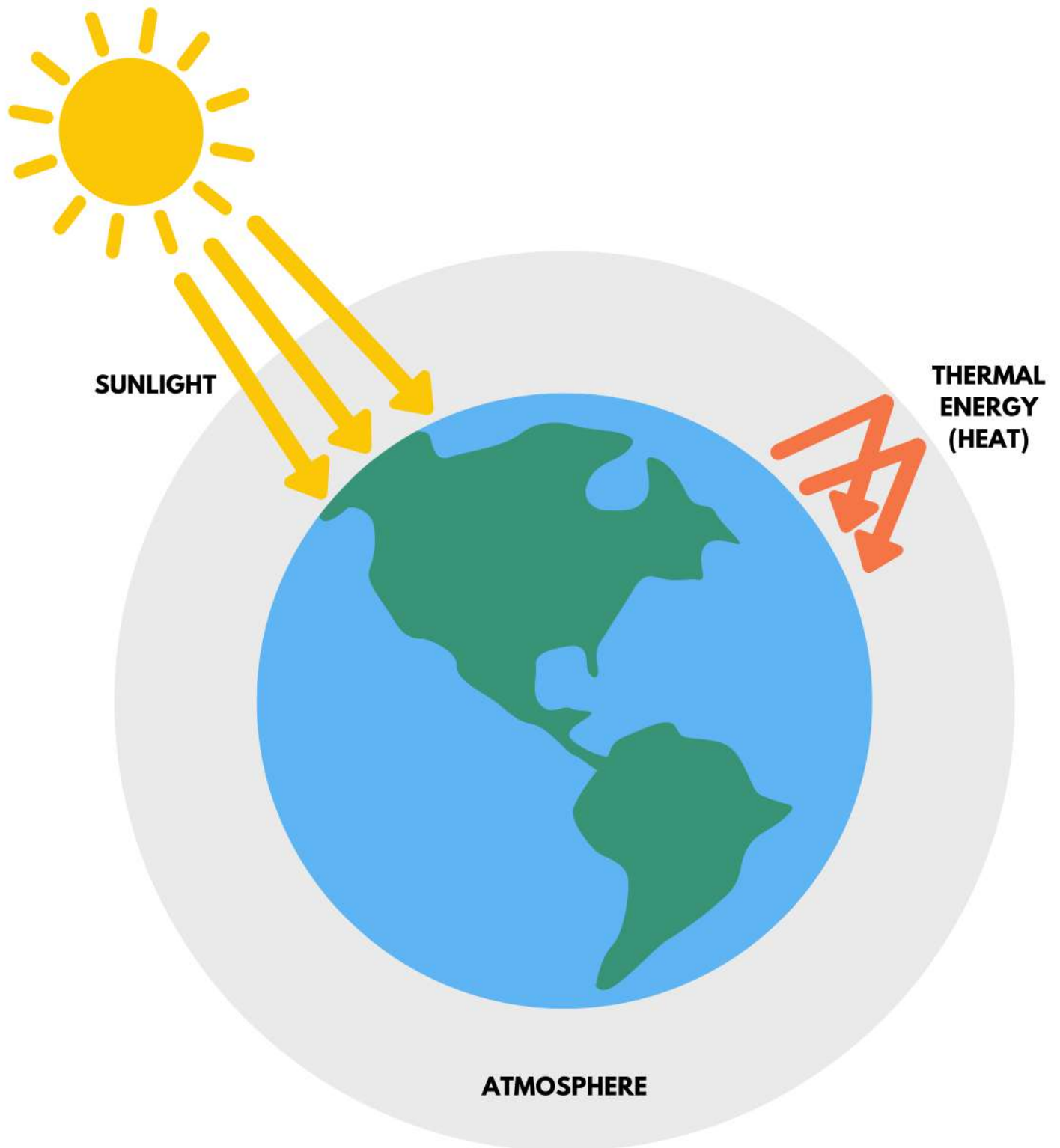
#### Part 2:

4. After the timer ends, check the temperature readings on both thermometers, noting that thermometer A shows that the temperature inside the container was warmer than outside of it, despite being in the same location as thermometer B.
5. Discuss with the students why it was warmer inside the container than outside of it.

## LESSON 1: GREENHOUSE DIAGRAM



# LESSON 1: GREENHOUSE EFFECT DIAGRAM



# LESSON 2: HABITATS

## Learning Outcomes:

Learn what a habitat is, discuss the importance of habitats to wildlife.

Expand learning beyond the classroom - discuss why it is important for humans to protect different habitats.

## Materials:

- Whiteboard, whiteboard markers
- Pencil crayons or markers
- Printable habitat colouring pages, one habitat per student (pages 8-13)
- Printable animal pages, with each animal cut out along the dotted lines (page 7)

## Key Vocabulary:

- Arctic, food, forest, grassland, habitat, marine, rainforest, shelter, wetland, wildlife

## Introduction:

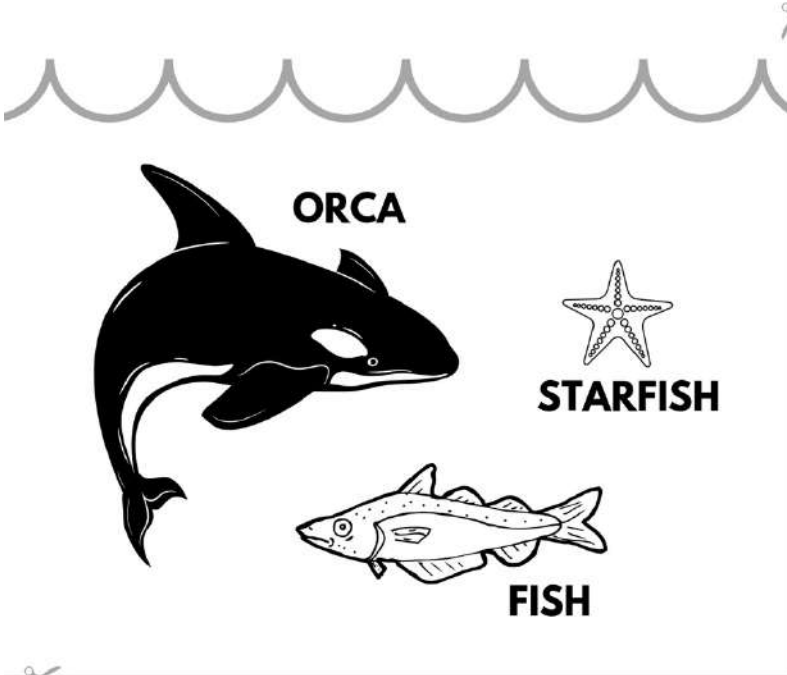
1. Ask the students what people need to survive, write or draw the students' answers on the board.
2. Explain to the students that animals that live in nature (**wildlife**) also need things to survive. Ask the students what they think animals need, then write or draw the students' answers on the board.
3. Explain that just like people, wildlife need **shelter, food, water, and a place to raise their offspring**. Explain that the place that they live is called their **habitat**, and that their habitat provides these things for them (what they need to survive).
4. Complete the activity with the class (see page 6).

## Conclusion:

Explain to students that it is important for us to protect the different habitats that animals live in. Habitats are animals' homes, and they provide them with food, water, shelter, and a safe place to raise their offspring.

## CLASS ACTIVITY - HABITATS

1. Give an example of a type of habitat (ex. rainforest). Ask students if they can think of any other habitats and write a list of their answers on the board.
2. Compile a list of the main types of habitats (**grassland, forest, wetland, marine, arctic, rainforest**) and ask students if they can think of descriptive words for each habitat (cold, green, dry, rainy, etc.). Write these next to the habitats.
3. Split the students into groups of 3-6 and hand out one habitat coloring sheet per student in a group. Each student in a group should receive a different habitat.
4. Ask the students to colour in their animal habitats – if they need help, use descriptors such as ‘lots of ice’ or ‘warm and humid.’
5. Once students have finished colouring in their habitats, hand out the cut-out animals to each group. Ask the students to work in their groups to figure out which animals belong to which habitat.
6. Ask the groups why they have chosen to place each animal in each habitat. Explain to them that different types of animals have different needs, and that these differing needs are met by the unique characteristics of their habitats (ex. buffalo eat a lot of grass and the prairies can provide that for them). Each animal is uniquely adapted to living in their specific habitat.



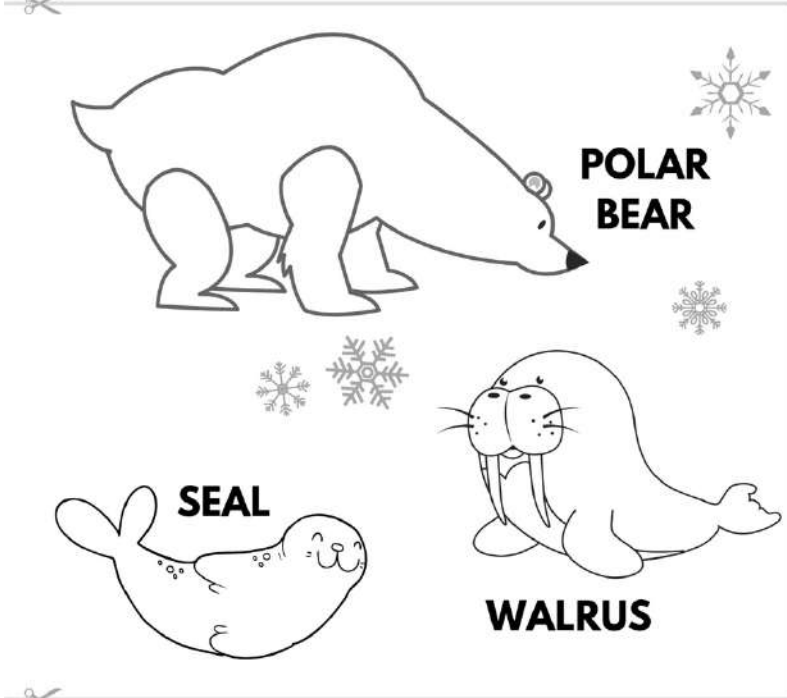
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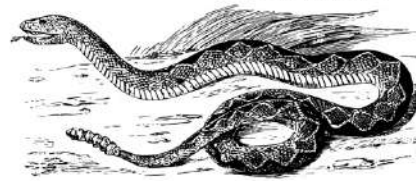
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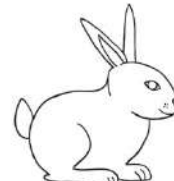
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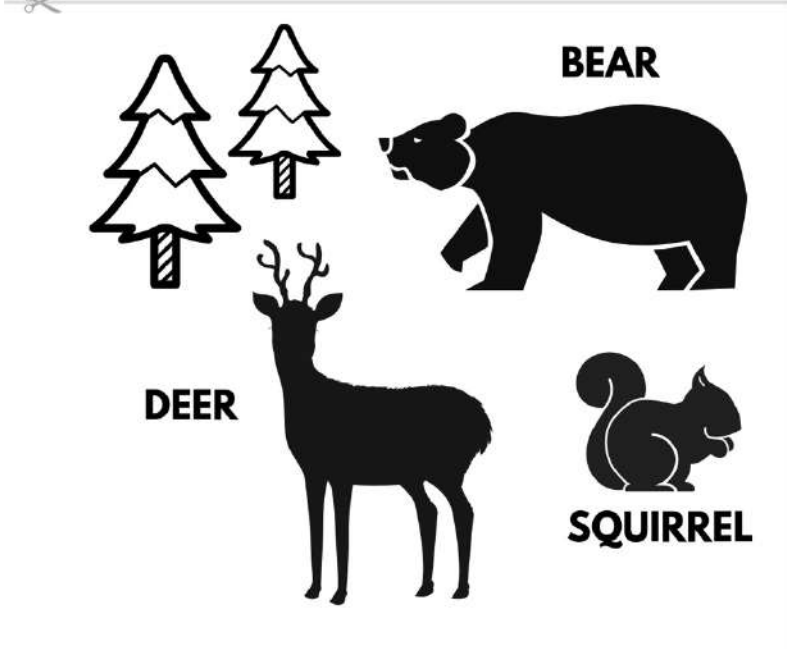
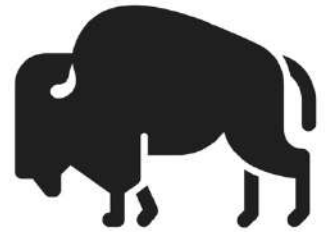
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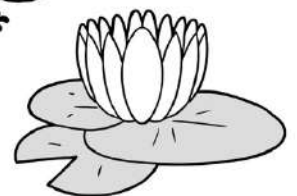
**BUFFALO**



**RABBIT**



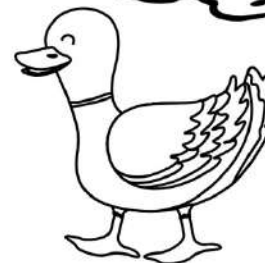
**BEAVER**



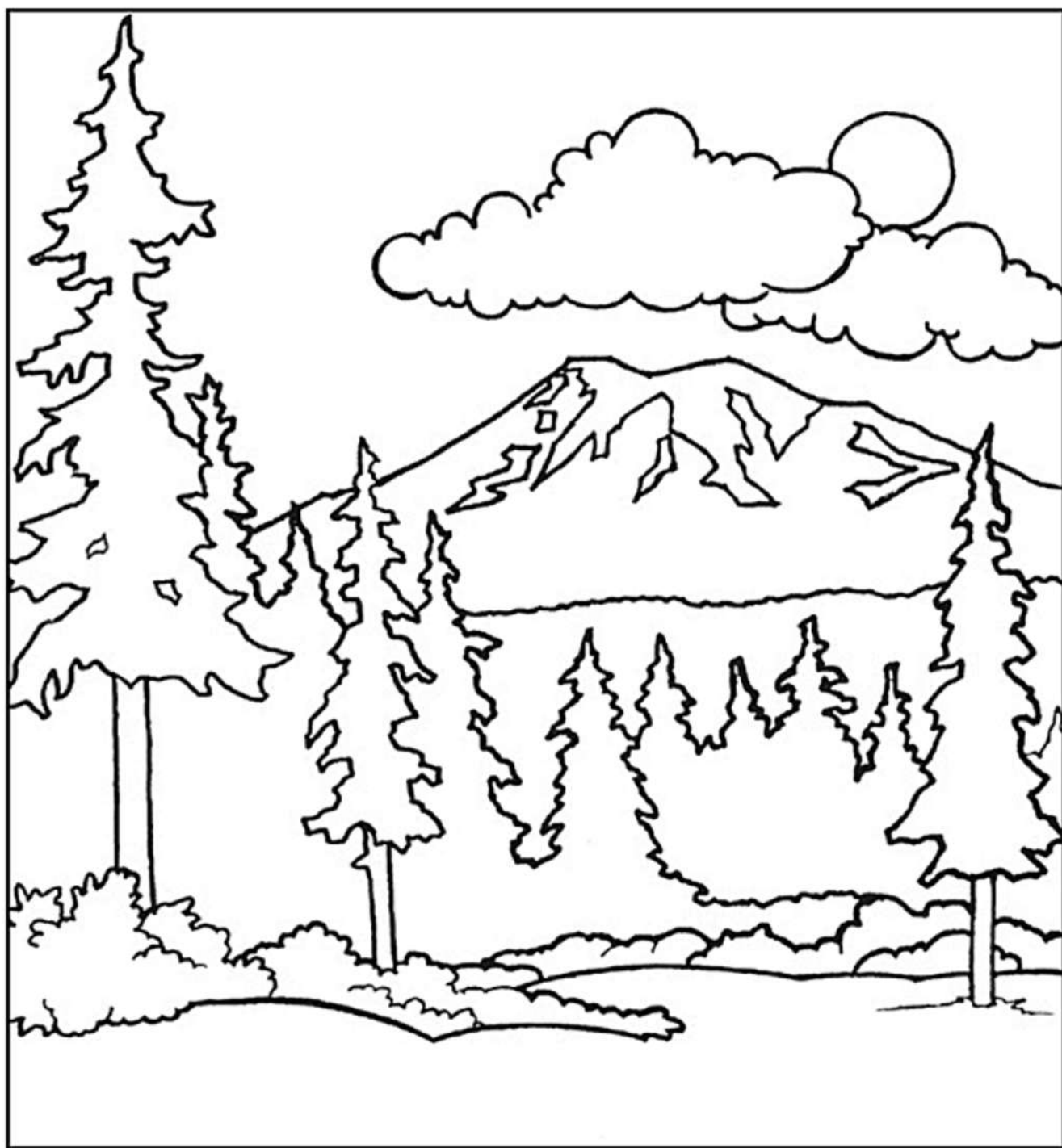
**FROG**



**DUCK**



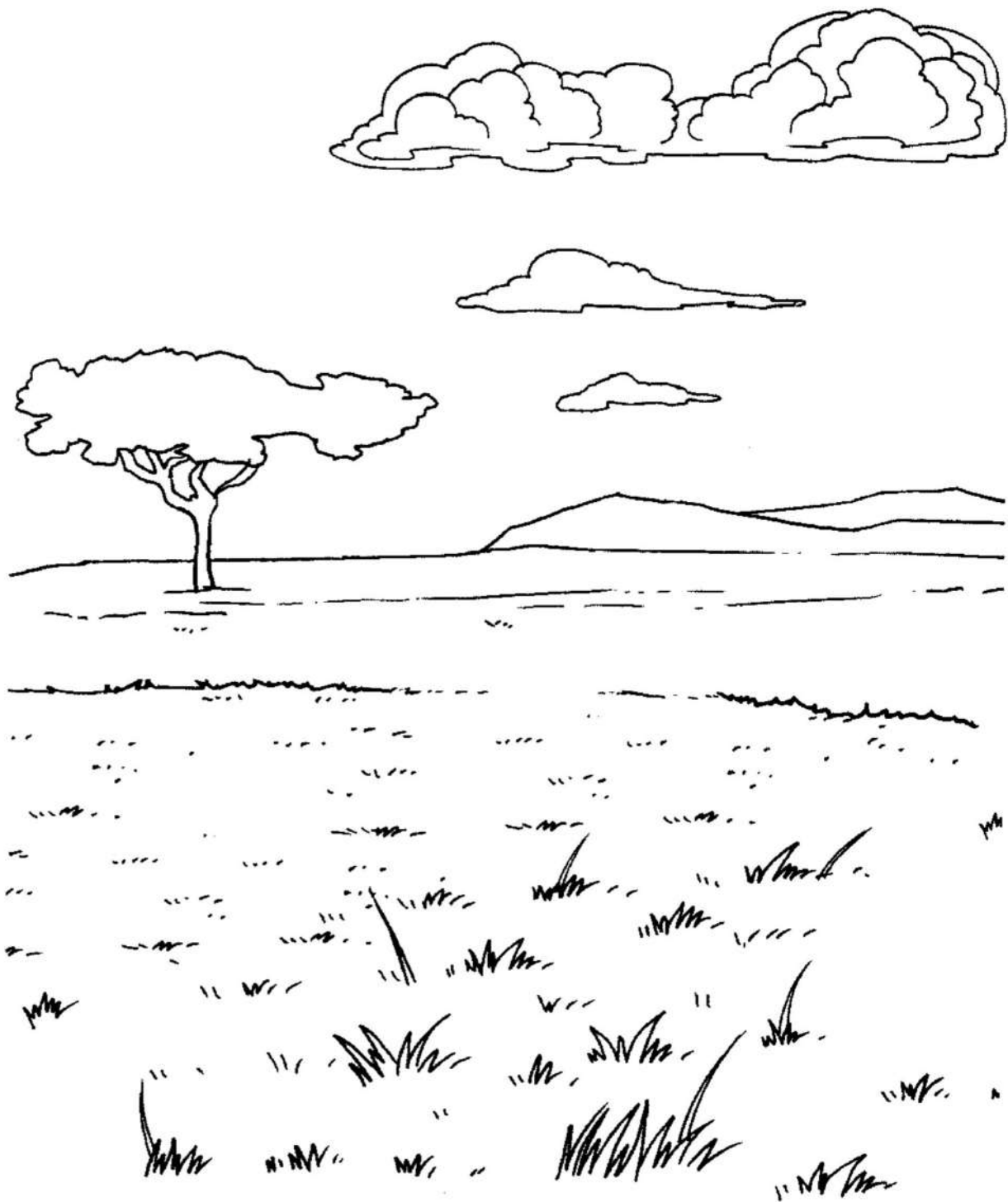




**FOREST**



**RAINFOREST**



**GRASSLAND**



ARCTIC





**MARINE**



**WETLAND**