

# MANGROVE METAPHORS

Ages 9+

## Learning Objectives

Students will be able to:

- describe wetland functions; and
- create and use metaphors to help them understand the basic conditions and processes in a wetland.

**Summary:** Students will learn the functions of mangrove wetlands including flood control, coastal protection, wildlife nursery, and resting place through the use of metaphors.

**Subject Area:** Science

**Time:** 30-60 minutes

**Background:** The mangrove wetland has many functions, which can be explored through the use of metaphors. A metaphor is a figure of speech in which something is spoken of in terms of something else; it gives a vivid image through direct comparison. “Love is a rose” and “The eyes are windows to the soul” are two examples.

Migratory birds use the mangrove branches as a resting place. The tangled roots provide a nursery that shelters and protects (cradles) young fish, many of which are important to commercial fisheries. Some of the other functions of a mangrove include: the sponge effect—absorbs run-off; the filter effect—takes out silt and debris; nutrient control—wetlands absorb nutrients from fertilizers and other sources that may cause contamination; protection—wetlands are a natural nursery, providing protection and nourishment for newborn life, and also protect coastlines against storms by anchoring the land to prevent erosion.

## Before the Lesson

- Ensure all necessary resources (or alternatives) are available.
- Explain what mangroves are and some of their ecosystem functions.



## Materials

You will need a large bag or pillowcase containing the following items (see Object list). Below is a brief explanation of how each item's function compares to the mangrove's function.

<b><u>Object</u></b>	<b><u>Mangrove Wetland Function</u></b>
Pillow	is a resting place (for migrating birds)
Cradle	holds and protects (provides a nursery that shelters and protects young)
Antacid	neutralizes (a natural system that can trap and treat sewage wastes and environmental pollutants)
Cereal	food (provides nutrient-rich food)
Sieve or strainer	strains (silt and debris from the water)
Whisk	mixes (fresh and salt water in all coastal wetlands, and oxygen in all wetlands)
Sponge	absorbs water (run-off from floods)
Soap	cleans (helps to purify the environment)
French fries box	food source, or represents young fish (fry)
Toy boat	recreation (place where humans go boating)
Fishing hook/line	commercial fishery (provides young fish that grow into fish stocks)
Soother	nursery for young creatures (fish, crabs, etc.)
Toy bird or fish	protected habitat for wildlife, including fish and birds
Coffee Filter	filters out sediment and other forms of silt,
Band-Aid	prevents erosion protects (against storms)



# Activity - Mangrove Metaphors

## Procedure

1. Prepare a “Mystery Metaphor Container”, filling the pillowcase or bag with the items in the materials list or any other item that you think could represent a mangrove wetland function. Set aside the container and items.
2. Ask the students to sit quietly, perhaps closing their eyes. Ask them to imagine a mangrove wetland. What plants do they see? What birds, animals, and other small creatures? What does the air feel like? How does it smell? If they were in bare feet, what would it feel like? (If you think students cannot visualize a mangrove wetland, you may want to show them a slide show or a short video before trying this activity.)
3. Invite the students to share what they imagined. List their ideas. Encourage discussion and sharing.
4. With their ideas as a point of reference, help students identify which plants and animals are most likely to be found in a wetland habitat.
5. Provide the students with background information about the basic ecological activities occurring in mangrove wetlands. Suggest that these activities are taking place in mangroves all the time—as are other activities that the students can probably think of.
6. Now bring out the “Mystery Metaphor Container”. Tell the students that everything in the container has something to do with a wetland. Have the students divide into groups of two or three, depending on class size—the number of groups should match up with the number of objects.) In turn, have a representative of each group draw out an object from the container.
7. Then, as a group, students must figure out how the object could represent the various functions of a mangrove wetland—what it is or what it does. Have the students discuss their ideas about the relationship. Encourage the students to build on each other’s ideas.
8. Ask each group to report to the class.



## **Discussion/Reflection**

- Summarize the major roles of mangrove wetlands in contributing to a healthy habitat for wildlife.
- Ask the students if their own attitudes about wetlands are different now as a result of doing this activity. If yes, how? How is our own well-being connected to that of a wetland ecosystem?

## **References**

- Mangrove Action Project, Marvellous Mangroves - A Wetlands Education Resource Book for the West Indies

