



Amphibian Analogies

Audience

Activity designed for ages 12-years-old and up.

Goal

To be physically active while learning about amphibian adaptations.

Objective

- To understand different adaptations of amphibians.
- To understand how amphibian adaptations help them survive in the wild.
- To make analogies between amphibian adaptations and human objects.

Conservation Message

Why are amphibians so important? What is their purpose? Amphibians are responsible for eating pesky insects such as mosquitos. Amphibians are also prey for many animals which means they play an important role in the food web.

Background Information

Amphibians are a group of animals that includes frogs, salamanders, newts and toads. This group of animals is highly adapted to some extreme environments. Amphibians can be found in Alaska's boreal forest and even in the deserts of Australia.

Amphibians are indicator species; they are sensitive to a variety of threats. When a habitat is being threatened, they can serve as early indicators of ecosystem change when monitored over time.

Materials Needed

- Amphibian Analogies sheet
- Pencil
- Clipboard (optional)
- Sack to put gathered items (optional)

Length of Activity

30-40 minutes

Procedure

- Print the Amphibian Analogies sheet and place on clipboard.
- Using the Amphibian Analogy sheet, search for the items listed.
- Read about how the found items represent amphibian adaptations.



Amphibian Analogies

Find the underlined items throughout your house, check them off as you go along.

- Thermometer - Amphibians are ectothermic or cold-blooded which means that they cannot regulate their own body temperatures. They rely on the environment to help warm or cool them.
- Sponge - Amphibians have skin that is permeable meaning liquids and sometimes gases can pass through it easily. The permeability of their skin also allows them to breathe through cutaneous respiration.
- Acetaminophen - It has recently been discovered that a species of frog found in South America secretes painkilling mucus through their skin!
- Antibiotic Cream - Some amphibians produce antibiotic agents in their skin.
- Lotion - An amphibian's skin contains mucous glands that keep their skin moist.
- Pest Killer - Poison dart frogs are known for being extremely toxic! They do not produce poison themselves but get it from the animals they eat.
- Flippers - All amphibians have webbed feet at some point in their life cycle. This helps them swim and there are some species that use their webbed feet to act as a parachute to help them escape predators.

- Tape - Frogs have long tongues that are attached at the base of their jaw and then folded so that the tip of the tongue points back towards their throats. A frog's tongue is covered in sticky mucus to help them catch prey.

- Antifreeze - Some species of frogs, such as Wood frogs, can partially freeze during colder weather. Their body fills with urea and glucose which acts like antifreeze and keeps their organs from freezing.

- Goggles or Glasses - Amphibian can see underwater and on land. Frogs' eyes aid in swallowing! When eating, their eyes will retract down towards the esophagus to help push the food along.

- Drum or Plastic Wrap stretched over a bowl - Amphibians, specifically frogs, have tympanic membranes inside their ears. Sound waves make these membranes vibrate so the frog can hear. Also, their ears are connected to their lungs which helps regulate pressure when making their loud calls!

- Rubber Jar Gripper - Amphibians have teeth! These teeth are used to hold onto prey so it can't get away before they swallow it.