

Life in Cold Blood

Environmental Education Lesson
EDWARDS CAMP AND CONFERENCE CENTER

Summary

In this exciting activity students will explore the fascinating world of cold blooded animals. Through live animals and activities they will discover just what makes them unique from other animals as well as how they differ from one another.

Usage – This activity is appropriate for 2nd through 7th grade, year round.

IL Standards

12.A.1a; 12.A.1b; 12.B.1a
12.B.2b;
12.A.3c; 12.B.3b

Objectives

- Teach the different classifications of vertebrate animals
- Students will be able to define adaptations as physical and/or behavioral characteristics of organisms that help them survive in their environments.
- Discuss native Wisconsin reptiles and amphibians
- Describe 2 ways humans impact reptile and amphibian populations

In addition students could...

- Gain a greater appreciation for cold blooded animals
- Lose stereotypes about reptiles and amphibians

Materials

Live reptiles and amphibians
Log roll clipboard
Pencils, Scrap paper
Herp Station materials

Set-Up

- Place the stations in the Lakeside classroom.
- Pull the animals out of their habitats and place them in their temporary containers
- Make sure that the classroom is clean and clear of clutter

Introduction (20 Minutes)

Discuss what it means to be alive and form a definition of science (the study of). Lead the students to realize that biology is “the study of living things”. Inform the students that 9 to 10 million different species of animals inhabit the earth and that they are divided up into many different groups.

Talk about the different classifications of animals (vertebrate and invertebrate) in into the 5 classifications of vertebrate animals.

| Mammals | Birds | Fish | Reptiles | Amphibians |
|------------------------|----------|-------------------------|---------------------|------------------------|
| Warm Blooded | | -----Cold Blooded----- | | |
| Fur | Feathers | Scales | Scales | Smooth / Rough Skin |
| Live Birth | Lay Eggs | Eggs or Live Birth | Lay Eggs on land | Lay Eggs in water |
| Claws | Beaks | Breath through gills | Claws | Fingers / Toes |
| Drink Milk at birth | | | Direct Birth | Metamorphosis |

Once the students know what makes reptiles and amphibians different from other animals, introduce the idea of adaptations to the class. An adaptation is any physical feature or behavior that helps the animal to survive.

Before moving on to another activity, explain the different orders of reptiles and amphibians.

| Reptiles | Amphibians |
|---|---|
| <i>Turtle, Snake, Crocodile, Lizard (Tuatara)</i> | <i>Frog, Toad, Newt, Salamander (Caecilian)</i> |

Herp-Stations (20 Minutes)

- Divide the students equally into 5 groups
- Explain to the group that they will be going around to the different stations and answering the questions on the cards.
- Give them 3 minutes at each station and then have them rotate clockwise until they have reached all of the stations.
- Tell them to record their answers on the scrap paper.
- Remind the groups that every member must participate in answering the questions.
- Once all of the groups have completed the stations, discuss each one.

STATION 1: Rub your finger over material (A) and the over (B). Write one word to describe how each one feels.

Which one do you think feels like a reptile skin?

Which one feels like amphibian skin?

Explanation: Amphibian skin feels slimy because of the moist membrane the surrounds the body. The membrane helps to prevent the animal from drying out. Reptile skin has scales to help it prevent drying out.

STATION 2: Feel the object in the sock jug (A). Do not Peek! Feel what's floating in cup (B) and write a word to describe each one.

Which one do you think feels like reptile eggs?

Which one feels like amphibian eggs?

Explanation: Amphibian eggs are gelatinous and usually laid in water. Being gelatinous helps the eggs to stick together and on surfaces underwater which increases the chance of survival. Reptile eggs are more leather like because they are laid in the dry substrate, usually sand.

STATION 3: Look at the backbone from a deer. Reach around and feel your backbone. Which of the groups of animals listed below have backbones just like you? Write down the letter.

- A. Snakes
- B. Insects
- C. Clams
- D. Fish
- E. Worms

Explanation: Reptiles and Amphibians are vertebrates. They have a backbone like snakes and fish. Insects have an exoskeleton (outside skeleton), clams have a shell, and worms have only a covering of skin.

STATION 4: Feel the material at this station. Can you guess what it is?

Explanation: Reptile shed their skin in large portions as they grow. Our skin is shed as well but only in very small pieces.

STATION 5: A turtles shell is made of three parts:

1. Carapace - top part
2. Middle ribs- hold together top and bottom
3. Plastron - bottom part

Can you see all three parts? Can turtles leave their shells?

Explanation: Turtle shells are attached at the backbone, legs, basically the whole body. Its shell provides protection from predators as well as the environment.

Live Animal Study (20 Minutes)

Now that the students know a little more about Repts and Amps we can begin to get them out to show the students how to properly hold them. **Prior to class it is important for both you and the children to wash your hands before class. All the animals should also be in their class containers and not in their usual homes.**

Bring out animals in an order that works for you. As you present the animals continue discussing the characteristics of each. Be sure to specify to the students which animals may be touched and where and how it is appropriate to touch them. Use this time to point out prominent characteristics of each animal that the students can see and discuss why this animal may have this characteristic. Talk about their adaptations and explain why they are essential for survival. Discuss why a certain adaptation may be important based on the animals position in the food chain.

Be especially careful to point out which animals are found locally.

Log Look (20 Minutes) – *Based on seasonality*

There are many creatures in the forest that many of us might not realize. Take a hike to the bottom of the tube slide (Herrons run.) There you will find an area in the forest that has plenty of logs to explore. Start by informing the students that most amphibians like cool, moist areas.

- Explain the proper way to move logs so to not injure themselves or any animals found underneath.
 - Have the students roll the log by grabbing it on the backside and rolling it towards themselves, being careful not to crush their feet.
 - Make sure to explain that the logs need to be replaced in the exact same location that they were found.
- Divide the class up into 4 different groups and hand out a clipboard per group
- Have each group find a separate log
- Have each group record what they find under the logs on their clipboard.
- At the end of the time gather back and discuss what was found by each group.

Who am I? (15 Minutes) – *Inside alternative to Log Look*

Let the students know that now they know about different types of reptiles and amphibians they will be playing a game using the classifications that were talked about earlier.

Each student will be given a name tag that they are not allowed to see. This tag should be placed on their back. The only way that they can find out what animal they have on their back is by asking the other students yes or no questions.

Conclusion (10 min)

- Review with them the following definitions and concepts: ectotherm/endotherm and herpetology.
- Review the differences and similarities between reptiles and amphibians.
 - Life cycle – direct or metamorphosis
 - Claws – have them or not
 - Skin texture – slimy or scaly
 - Egg size and texture – gelatinous or leather like
 - Winter strategies – both hibernate
- Discuss the group's feeling and attitudes toward reptiles and amphibians.
 - Are they creepy and scary? Have you changed your mind after participating in this program?
 - Are reptiles and amphibians an important part of nature? Why or why not?