

Egg laying vs. Live Birth

Grade Level: This lesson is designed for a 4th grade class.

Science Concept: Animals have off springs in different ways; such as laying eggs, having a live young that can begin to live on its own or having a live young that still needs shelter like the marsupials. These differences are developed in order to match the environment that the animals live in to ensure survival. Snakes fall under two categories, either they are egg layers, or they have live babies.

Relationship to California Science Content Standard:

3. Living organisms depend on one another and on their environment for survival. As a basis for understanding this concept:
 - b. Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all.

Learning Objective:

Students will investigate the correlation between the snakes' way of producing their young and their habitat.

Evaluating Ideas:

Formative: Students will have a discussion in their groups answering the question: What are the different ways that snakes have babies?

Summative: Three questions will be given for students to answer.

1. Why would a tree snake lay eggs instead of having live birth?
2. Why would a rubber boa carry the eggs inside instead of laying eggs?
3. Why is it safer for an Anaconda to have live births?

Conceptual Background:

Snakes have two different ways of producing young, either by laying eggs or live birth. The snakes that have live birth do not carry their babies in the womb like mammals; rather, they grow their babies inside of their bodies as if they were in eggs. The "eggs" are in a thin membrane that dissolves once the snakes are ready to be born. This type of gestation is called ovoviviparous. Other snakes lay soft white eggs that are incubated in a nest.

Vocabulary:

Oviparous: reproducing by eggs that hatch outside the parent’s body

Ovoviviparous: producing eggs, but instead of laying the eggs, the eggs develop within the mother's body, and the young are born alive

Implementation Plan: Students will be placed in groups of four.

Engage:

The class will see a picture of a Rubber boa snake *see* (laying eggs vs. live birth slide show); they will be told what type of snake it is (constrictor) and a description of its habitat. Description will include region, weather, and types of predator. With their group, students will share ideas about what they know about snakes to help come up with the answer to the following question:

“Based on where this snake lives how do you think this snake was born and why do you think that?” Answers will be recorded on the board.

Explore:

Show pictures of live birth and egg laying. *see* (laying eggs vs. live birth slide show)

Two videos will be shown about the ways snakes have their off springs and environments they are in. The first is of an anaconda having live birth, the second is of a cobra laying eggs and the eggs hatching.

Explain:

Following the videos we will discuss the two ways of snakes having babies. We will discuss the different types of snakes that have live births and babies by laying eggs.

Snakes that lays eggs

- King snake
- Milk snake
- Rat snake
- Corn snake

Snakes that have live births

- Pythons
- Boas
- Viper
- Garter

The focus will then turn to the Northern Rubber snake, which is a boa constrictor and produces live young.

Elaborate: Madonna, a Northern Rubber snake will be in to visit the students. They can observe her.

Evaluate:

Formative: Students will have a discussion in their groups answering the question: What are the different ways that snakes have babies?

Summative: Three questions will be given for students to answer.

1. Why would a tree snake lay eggs instead of having live birth?
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Differentiation Plan:

Behavioral for student A

Students will be responsible for passing out materials to students.

Cognitive for student B

In summative assessment, student can give simple sentences that answer questions.

Cognitive for student C

Choose a snake from the list and give a complete paragraph explaining the way that snake have its young.

Affective for Student D

Will be in charge of making sure group members are on task.

Language Demand for Student

E Illustrations will be provided, in order for student to understand the concept.

F Note taking outline will be provided.

G Choose a snake from the chart and write a few sentences describing the way it has its young.

List of Materials:

Videos

Direction:

N/A