

SNAKE DIGESTION LESSON

GRADE LEVEL: This lesson is designed for the first grade. Students in the first grade learn that plants and animals meet their needs in different ways.

SCIENCE CONCEPT: This lesson is aimed at helping students understand the process that a snake goes through to digest a meal.

RELATIONSHIP TO CALIFORNIA SCIENCE CONTENT STANDARDS:

2. Plants and animals meet their needs in different ways. As a basis for understanding this concept:
 - b. Students know both plants and animals need water, animals need food, and plants need light.

LEARNING OBJECTIVE: Students will complete a Venn Diagram that compares the digestion process of a snake with that of a human.

EVALUATION IDEAS:

1. Formative: Individuals will be asked to show and discuss the progress of their Venn Diagram.
2. Summative: Students will be asked to show and discuss their Venn Diagram in a small group setting.

CONCEPTUAL BACKGROUND: Even young children understand the idea that people must eat to survive, and they can extend this concept to understand how animals must eat to survive as well. This lesson is geared to introduce students to how a snake is able to digest a meal. To introduce this snake digestion lesson, discuss the importance of eating and digestion with regard to humans. Talk about the different benefits of having proper nutrition and how that allows us to live healthy lives. Ask students what it would be like if they had to swallow their food without chewing? Then explain that snakes eat their food by swallowing alone. Tell students that all animals breakdown their food by a process called digestion. Let students know that you will be learning about the process that a snake goes through to digest a meal.

LESSON IMPLEMENTATION PLAN: This lesson is designed to be a group inquiry.

ENGAGE: I will show the students various sequential images of a snake after it has eaten a meal. I will then say the following, “Because a snake doesn’t chew its food, would it take a longer or shorter time for the snake to digest its meal? What if we didn’t chew our food, would it take longer or shorter to digest?”

EXPLORE: Each student will be allowed to spend time looking at the sequential images of a snake after eating a meal. During this time, they will observe and take note of how different the snake looks as time goes by. During this time I will ask guiding questions as a formative assessment and also to guide their understanding and inquiry regarding the difference between how a snake digest a meal and how we as humans digest a meal.

EXPLAIN: Once all the students have had a chance to think about and write down differences between snake digestion and human digestion, the students will then be asked to share their thoughts within a small group. At this point I will present an example of a completed Venn diagram.

ELABORATE: This can be accomplished by asking students to imagine eating an entire meal without chewing. If they ate a fairly solid meal how would they feel? Explain to them that our digestive system begins with chewing our food to help break it down and the acids within our stomach take care of the rest. Also explain that digestive process of a snake is more efficient in warm environments; remind students that snakes are cold blooded animals.

EVALUATE:

Summative:

- a. Students will complete a Venn Diagram comparing the digestive process of a snake compared to that of a human.

Formative:

- a. Taken throughout the lesson by means of guided questions and class discussions.

DIFFERENTIATION PLANS:

Behavioral Student(s):

Know before hand what triggers the disruptive behavior. Reinforce good behavior with positive reinforcement (reward).

Cognitive A,B,C:

Strategies to enhance instruction would be:

- Activities
- Intensive scaffolding (one on one instruction)
- Explicit instruction
- Visual representations, multimedia
- Graphic organizer (to illustrate how the digestion process is different between a snake and humans)

Affective D:

Have these students work closely with a general education peer to help them learn science effectively.

Language Demands for Students E, F, and G:

- Speak clearly and slowly.
- Employ pauses, short sentences, simple syntax, few pronouns, and idioms.
- Use redundancy and discourse markers, keywords, and outlines.
- Provide examples and descriptions, not definitions.
- Use verbal, hands-on resources, gestures, and graphic organizers.

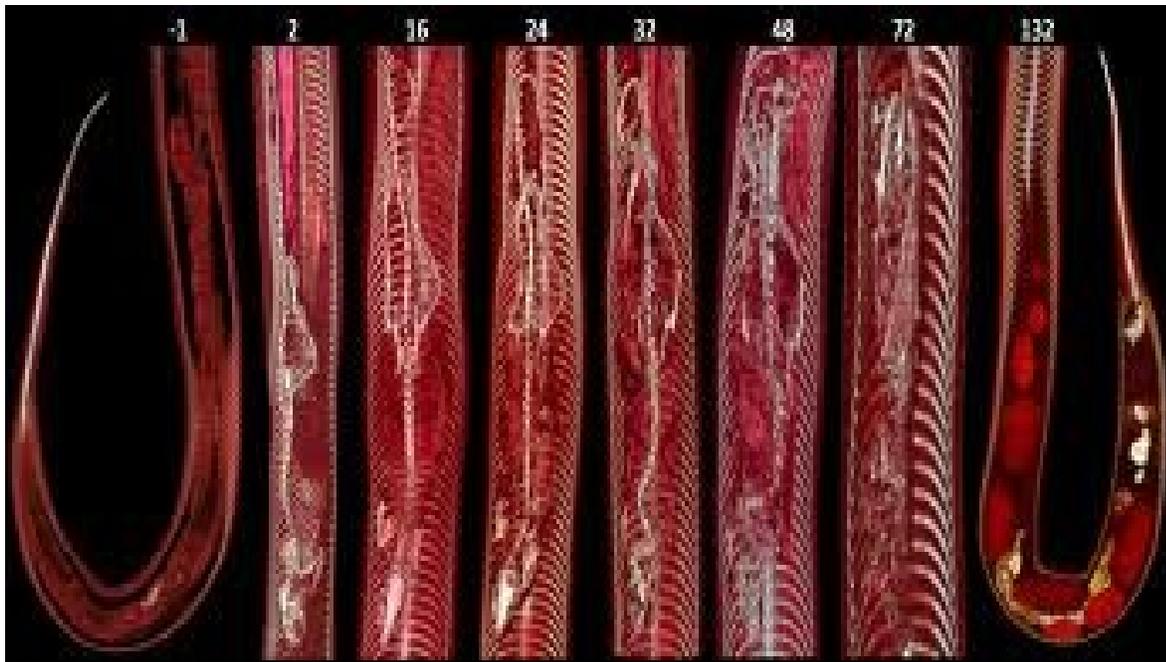
LIST OF MATERIALS PER GROUP:

1. Notebook to write down observations and thoughts.

2. Venn Diagram Worksheet (Differences: snake swallows, humans chew), (Similarity: both snakes and humans have digestive fluids that break down food)
3. Images showing the digestion of a rat within a snake (see below)
4. Extension activity worksheet. Draw a snake that has not eaten and one that has just eaten.

Suggested Reading:

Markle, S. (1995). Outside and Inside Snakes. New York, NY: Atheneum Books for Young Readers.



Time 0 -----> End of Digestion