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Topic: What is Life Worksheet - Frozen Frog

Summary: Students will evaluate claims and evidence on if a frozen frog is alive.

Goals & Objectives: Students will be able to evaluate a claim and provide evidence for their evaluation.

Time Length: 15-20 minutes

NGSS Standards: *HS-LS2-6.* Evaluate claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem.

Materials:

Projector to show a YouTube video with audio.

Prerequisite Knowledge: What is a claim evidence reasoning paragraph, introduced to the characteristics of life.

Procedures:

- 1) Show the YouTube video (<https://www.youtube.com/watch?v=TYJv-wxwvLw>)
- 2) Have students answer the Claim and Evidence statements
- 3) Have the class share out their own claim and evidence statements and write them on the board / PowerPoint slide
- 4) Have the class then evaluate those statements for strength of claim and evidence.

Accommodations: Students can choose to participate in the class discussions

Editable DOCX File and Answer Key:

Available at www.ngsslifescience.com

What is Life Worksheet - Frozen Frog

Video: North American Wood Frog <https://www.youtube.com/watch?v=TYJv-wxwvLw>



Background: The North American wood frog's body will become frozen at the touch of an ice crystal. Most water inside the internal organs of the frog is removed and turned into solid ice around the frog. The cells inside the frog use a high concentration of sugars to protect the cells from becoming destroyed when the frog freezes. When it is spring, the frog thaws and resumes living and reproduces. **Question:** How can frogs survive the winter when it snows?

Claim: Frogs die in the winter and come back to life in the springtime, fluctuating their population size every season. *Evidence:* The sugars help bring the frog back to life as sugar is food.

1. Rate the above claim and evidence by circling a rating for each below.

Strong Claim

Weak Claim

Claim is Totally Wrong

Strong Evidence

Weak Evidence

Totally Incorrect Evidence

2. Using the background paragraph, explain any misconceptions in the claim or evidence.

Claim: Frogs are resilient when it freezes and come back to life during the summer months, keeping their population size stable. *Evidence:* The sugars keep the cells in the frog from completely freezing, acting like a natural antifreeze.

3. Rate the above claim and evidence by circling a rating for each below.

Strong Claim

Weak Claim

Claim is Totally Wrong

Strong Evidence

Weak Evidence

Totally Incorrect Evidence

4. Using the background paragraph, explain any misconceptions in the claim or evidence.

5. Write your own claim and evidence below for how the wood frog survives the winter and how it affects its population size.