The University of Texas at Austin
Environmental Science Institute

Fossils an insight to our past

Lesson Plan for Grades: Elementary (3rd- 5th)
Length of Lesson: 45 Mins

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Date created: 10/13/2017

Subject area/course:
- Biology

Materials:
- What are fossils? Handout.
- In your own words… Handout.

TEKS/SEs:

§112.34. Biology

(3) Scientific investigation and reasoning. The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to:

(C) represent the natural world using models such as rivers, stream tables, or fossils and identify their limitations, including accuracy and size

Lesson objective(s): Student Will Be Able To (SWBAT):
- Put together the idea of what a fossil is.
- Structure how fossil are made.
- Recognize the duties of a paleontologist by thinking like one of them.

Differentiation strategies to meet diverse learner needs:
- The teacher should ask students whether they prefer to read or watch videos to learn about concepts; then have students learn in their preferred learning style. However, the teacher may assign students certain methods to improve their skills. For example, if a student prefers reading, teachers may have them watch a video and take notes to improve their listening skills.
- ELL students and students with learning disabilities should have multiple forms of instruction including visual and written instruction sheets as well as a verbal instruction and demonstration.

ENGAGEMENT (5 minutes)
- "What is a Fossil and could you give me an example?"
- "Besides dinosaurs do you think there are any other animals could be fossilized?"
- "Do you think humans could be fossilized?"
- Show a clip or image of the mummy 1999 of the actual mummy.
- "*Do any of you think a complete fossil has ever been found of a human?*" (Show them Lucy.)

EXPLORATION (10 minutes)
- Students will be given a handout on where they will determine from prior knowledge what fossils are and, where can fossils be found as well as how they are made.
- Teacher will go out and ask questions to students including "What are fossils? Which one of those is a fossil? What tells you that's a fossil?" Teacher can also help students to get to the answer in some of the handouts question however; they cannot tell the student the answer. Teacher will also try to get the students to think about how to explain what fossils are by asking the following questions: "What characteristics do fossils have? What is a fossil different from just a bone from meat?"
- In the activity students will try and determine what fossils are, how can they be made and where can you find them. Students will be given 6 pictures and they will determine which of those fossils are.
    - Teacher will walk around asking students what they think fossils are, as well as how these

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fossils can be made. Teacher can also ask some students if they ever seen a fossil.

EXPLANATION (15 minutes)

- Student explanations should precede introduction of terms or explanations by the teacher. Teacher can ask the student to point out pictures on the handout they completed. Teacher can also ask the student how they came up with this conclusion. Teacher could also ask what a fossil in their own words is. Teacher can ask other students to help the student explaining.
- "What is a fossil? How are fossils made? Where can fossils be found? In your own words tell me what is a fossil?" Ask student to show the class fossils they pointed out in their handout, "what lead you to say these are fossils? What gave it away?" After at least 3 students explain what a fossil could be teacher will give the formal definition of fossils.
- After the teacher and the students do their explanations on what fossils are students will complete the handout assigned for this part of the lesson. If the teacher sees students have a hard time or difficulty identifying both type of fossils then the teacher will explain and try and get the students to say and explain both types.

ELABORATION (15 minutes)

- Student will come to understand both types of fossils and what a fossil is by reinforcing the differences of these. Students will come to see Lucy and understand who Lucy is as well as how important she is to the paleontology field.
- Body fossil, and trace fossil. Students will learn from the teacher the difference if not known already. If already known students will explain the differences while the teacher reinforces those ideas, connecting body fossils to Lucy. Show video clip from *"Solving a 3.2-Million-Year-Old Mystery: How Lucy Died"*, (0:01:46 - 0:02:25).
- "When you were a kid playing in the dirt you might one day find a weird looking rock and it may be a fossil a part of an animal bone, so being a kid maybe this knowledge can connect to you in the future when you decide if you want to be a paleontologist."
- "Paleontology the study of ancient life, can be connected to fossil since a paleontologist are the ones who find fossils in the world thus, showing the video above (0:00:21 - 0:01:21) so that students can understand what paleontologist do on a day to day basis."
- Students will complete a handout on what makes Lucy so special, and how she makes the field of paleontology important to us and to the world.

EVALUATION (throughout entire lesson)

- Student will demonstrate understanding of what fossils are and how they are made by completing the explanation activity.
- Teacher will go around reassuring and asking questions to students about fossils by making connection to Lucy.

SOURCES AND RESOURCES

- **Dr. John Kappelman's *Hot Science – Cool Talks #106,* "Solving a 3.2-Million-Year-Old Mystery: How Lucy Died",** www.hotsciencecooltalks.org
- **Paleontology,** https://www.nationalgeographic.org/encyclopedia/paleontology/

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EXPLORATION ACTIVITY

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Name_____ Date_____

In your own words what is a fossil?

_____
_____
_____.

How do you think fossils can be formed?

_____
_____.

Where could you possibly find fossils?

_____
_____.

Which of the following pictures depict fossils?

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EXPLANATION ACTIVITY

Fossils an insight to our past

Name_____ Date_____

What are Fossils?

_____
_____
_____.

Where can Fossils be found?

_____. _____.

_____. _____.

What are the two type of fossils?

_____. _____.

Classify the following images with the type of fossil they are:

EXPLORATION ACTIVITY TEACHER HANDOUT

Fossils an insight to our past

Name_____ Date_____

In your own words what is a fossil?

The remains or impression of a prehistoric organism preserved in petrified form or as a mold or cast in rock. Or something close to it.

How do you think fossils can be formed?

Most are formed when a plant or animal dies in a watery environment and is buried in mud and silt. Soft tissues quickly decompose leaving the hard bones or shells behind. Over time sediment builds over the top and hardens into rock. Where could you possibly find fossils?

In Ice. In the soil or ground.

In the deep sea. In tree sap which would be named amber then.

Which of the following pictures depict fossils?

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Name_____ Date_____

What are Fossils?

The remains or impression of a prehistoric organism preserved in petrified form or as a mold or cast in rock. Or something close to it.

Where can Fossils be found?

In Ice. In the soil or ground.

In the deep sea. In tree sap which would be named amber then.

What are the two type of fossils?

Body Fossils. Trace Fossils.

Classify the following images with the type of fossil they are:

Trace Fossil

Body Fossil

Body Fossil

Body Fossil

Trace Fossil

Trace Fossil