



artsNOW

Integrated learning solutions

GETTING TO KNOW YOUR FOSSILS

Grade Band: 2-3

Content Focus: Theatre & Science



LEARNING DESCRIPTION

Explore the world of fossils by bringing them to life through stories. Students will jump from a picture of a fossil into becoming the fossil itself. They will use scientific observation and imagination to create the life and past of their fossil through monologue. Students will share their monologues using voice, body, mind and heart bringing scientific content to life in new and exciting ways.

LEARNING TARGETS

Essential Questions	"I Can" Statements
How can theatre techniques help us understand the origins of fossils?	I can write and perform a monologue as a prehistoric animal using my voice and body to embody the animal.
How can studying fossils help us understand prehistoric animals?	I can make observations and draw logical conclusions about the animal from which my fossil was formed.



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GEORGIA STANDARDS

Curriculum Standards	Arts Standards
<p>Grade 3: S3E2. Obtain, evaluate, and communicate information on how fossils provide evidence of past organisms. a. Construct an argument from observations of fossils (authentic or reproductions) to communicate how they serve as evidence of past organisms and the environments in which they lived.</p>	<p>Grade 3: TA3.CR.1 Organize, design, and refine theatrical work. TA3.CR.2 Develop scripts through theatrical techniques. TA3.PR.1 Act by communicating and sustaining roles in formal and informal environments.</p>

SOUTH CAROLINA STANDARDS

Curriculum Standards	Arts Standards
<p>Grade 3: 3-LS4-1. Analyze and interpret data from fossils to provide evidence of organisms and the environments in which they lived long ago.</p>	<p>Anchor Standard 1: I can create scenes and write scripts using story elements and structure.</p> <p>Anchor Standard 3: I can act in improvised scenes and written scripts.</p> <p>Anchor Standard 8: I can relate theatre to other content areas, arts disciplines, and careers.</p>

KEY VOCABULARY

Content Vocabulary	Arts Vocabulary
<ul style="list-style-type: none"> ● <u>Organism</u> - A living thing ● <u>Extinct</u> - A group of living things that no longer living ● <u>Preserved</u> - To maintain something in its original or existing state ● <u>Fossil</u> - The preserved remains of a plant or animal that lived long ago ● <u>Paleontologist</u> - A scientist who studies fossils and organisms that lived long ago ● <u>Sedimentary rocks</u> - Rocks that form close to surface in layers in which most 	<ul style="list-style-type: none"> ● <u>Theater</u> - Dramatic literature or its performance; drama ● <u>Character</u> - A person, an animal or other figure assuming human qualities, in a story ● <u>Voice</u> – An actor’s tool, which we shape and change to portray the way a character speaks or sounds ● <u>Body</u> – An actor’s tool, which we shape and change to portray the way a character looks, walks, or moves ● <u>Monologue</u> - A speech by a single character in a play, film, or other dramatic



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fossils are found

- Minerals - Material that replaces the remains of animals/ plants, forming a fossil of the hard skeletal body parts
- Imprint fossils - Formed when an animal's tracks or a decayed plant leaves an impression in clay and silt sediment
- Cast fossils - Formed when a mold is filled with minerals, sand, or mud which hardens to the shape of the empty mold. It looks exactly like the actual organism
- Mold fossils - Formed when an organism is buried in mud which hardens to rock; when the organism decays, it leaves its empty shape in the rock
- Petrified wood - Fossils formed when minerals take the place of rotting wood, creating a rock form of the tree
- Amber fossils - Formed when small animals, such as insects, are trapped in hardened tree sap

work; often used to give the audience deeper insight into the character's motivations and feelings

MATERIALS

- One picture of an animal fossil per student

INSTRUCTIONAL DESIGN

Opening/Activating Strategy

- Start with a general physical warm-up to get the students' bodies ready. Use exercises such as:
 - **Stretching:** Stretch all major muscle groups.
 - **Shaking Out Limbs:** Shake out arms, legs, and the whole body to release tension.
 - **Energy Passes:** Stand in a circle and pass a clap or a simple motion around to build group focus and energy.



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- Explain that students will explore different characters by changing their walk and physicality. Use simple prompts to get students thinking about different ways to move. Call out various types of characters and ask students to walk around the room embodying those characters. Examples include:
 - A hungry T-Rex
 - A butterfly fluttering from flower to flower
 - A squirrel gathering acorns for winter
- Have students return to their seats.

Work Session

- Ask students what comes to mind when they hear the word “paleontologist”?
 - Tell students that a paleontologist is a scientist who studies fossils and organisms that lived long ago.
- Ask students what fossils are.
 - When most people think of fossils, they think of dinosaurs. It is true that we would not know about the past existence of dinosaurs if it were not for fossils.
 - A fossil is any remnant of a plant or animal that has been preserved in the earth’s crust from a past geologic or prehistoric time.
 - This evidence of past life is most commonly found as bones or teeth, but can also be imprints such as footprints.
 - There are all kinds of fossils of many different plants and animals. Any living thing could potentially one day become a fossil.
 - Fossils may look the same as when the plant or animal was alive but it has changed to stone.
- Ask students if they know how fossils are made.
 - Fossils are made by replacing the original material with minerals. They are not bones.
 - For a fossil to be formed it must first be covered in sediment.
- Ask students if they know how old fossils are.
 - The usual time frame for fossilization is anywhere from 10,000 years to 500,000, 000 years. However, some mammoth remains have been found that were only 3,000 years old (they were not completely fossilized).
- Ask students if they know where fossils can be found.
 - Fossils can be found anywhere, including high on mountains, underwater, in the desert, on the beaches or deep underground. Fossils can be found hidden in rocks.
 - They often become exposed during mining or the construction of roads.
 - Most fossils are found in sedimentary rock.
- Share other information about fossils with students:
 - Scientists have learned through studying fossils that one of the most common plants on earth were ferns.
 - There are more animal fossils than plant fossils because plants have softer body parts than animals. We can’t tell what many plants looked like because they rotted away before they could be fossilized.
- Ask students why they think studying fossils could be useful and what paleontologists could learn from studying fossils.
 - Paleontologists can learn many details about extinct organisms by examining fossils, including: What food the animal ate, how long ago the animal was alive,



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sometimes if it was male or female, the size of the animal, if it walked on two or four legs or had any legs at all, etc. For example, if a fossil has sharp teeth, scientists can infer that the animal ate meat.

FOSSILS IN ACTION

- Tell students that today, they will be paleontologists. Pass out photo pages of fossils. Have students write their name on the top right hand corner of the visual.
- Ask students to closely observe the fossil pictured as a paleontologist. Ask students what type of fossil is pictured.
- Ask students to sit or stand like they imagine the animal would have sat or stood, make the sound of the animal, and then make sounds that existed in this animal's habitat.
- Ask students to become the animal that this fossil was from and walk or move like the animal. Ask students to eat like the animal.
- Now, using a voice different from their own, ask students to share what they had for breakfast in the animal's voice. Students can do this simultaneously by sharing with a partner.
- Have students sit down as their animals.
- Ask students to list the following on the left hand side of the photo:
 - What type of animal are you?
 - What do you eat?
 - Where did you live? (water, land, etc.)
 - When were you alive?
 - What is your animal's name? Age? What did you, as your animal, like best about living when you did?
 - How did you die?

PREHISTORIC FOSSILS TALK IT UP

- Ask students if anyone knows what the word "monologue" means?
- Tell students that a monologue is a long uninterrupted speech by one actor. It tells about their life, feelings and helps the audience get to know the character.
 - Show students a clip of a monologue or have students read a monologue from a play or other work. Example: *The Lion King* (1994) - Simba's Monologue:
 - Context: Simba has grown up away from his kingdom but is reminded of his responsibility and legacy by Rafiki and Mufasa's spirit.
 - Monologue: "I know what I have to do. But going back means I'll have to face my past. I've been running from it for so long. It's just, my father's death is so hard to talk about. I thought I couldn't live up to his expectations. But now I understand. The past can hurt. But the way I see it, you can either run from it or learn from it. I'm ready to take my place in the circle of life."
- Hand out lined paper or index cards and ask students to help us get to know their animals through writing a monologue in first person that introduces themselves as the animal and includes the information they recorded on their fossil sheet from "Fossils in Action".
- Play music to set the mood while students write their monologues.
- When they are finished, ask students to sit like their animal and read their monologue out loud, to their partner, simultaneously. Remind students to embody their animals through their voices and bodies.
- Next, ask for several students to volunteer to share their monologues with the class. Students should walk to the front of the class as that animal would walk/move. The



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student will introduce themselves with their chosen name, then read their monologue aloud using their animal's voice.

- If time permits, open the floor up for questions so that the other students can interview the animal. Let the class know that they can help the character answer questions that they might know answers to.

Closing/Reflection

- Close the lesson with a 3-2-1 ticket out the door. Ask students to write down three things they learned, two things they found interesting about embodying a prehistoric animal, and one question they have.
- Students should share their ticket out the door with their partner.

ASSESSMENTS

Formative

Teachers will assess students' understanding of the content throughout the lesson by observing students' participation in the activator, discussion of fossils, observations and inferences about fossil visuals, and conferencing with students during the writing process.

Summative

CHECKLIST

- Students can write and perform a monologue as a prehistoric animal using their voices and bodies to embody the animal.
- Students can make observations and draw logical conclusions about the animal from which their fossils were formed.

DIFFERENTIATION

Acceleration:

- Students can write a scene between two prehistoric animals that includes dialogue in which the animals introduce themselves and tell their stories to each other.
- Students can write a scene or a narrative that establishes a prehistoric setting for their animal, characters, a conflict (such as extinction) and resolution.

Remediation:

- Allow students to work with a partner to study their fossils and write their monologues.
- Provide sentence starters and/or graphic organizers to help students structure their writing.
- Provide guiding questions, such as does the animal have feet or claws? If yes, it was most likely a land animal. If not, it was most likely a water animal. Does the animal have sharp teeth? If yes, it was most likely a carnivore. If not, it was most likely an herbivore.

ADDITIONAL RESOURCES



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**This integrated lesson provides differentiated ideas and activities for educators that are aligned to a sampling of standards. Standards referenced at the time of publishing may differ based on each state's adoption of new standards.*

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SYNCHRONICITY
THEATRE SMART. GUTSY. BOLD.

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