Dinosaurs

Students study fossils and learn how fossils help scientists learn about ancient animals such as dinosaurs.

Grade Level: Kindergarten

Phenomena:
Can fossils help us learn about the past?

Objectives:
- Students will describe what a fossil is.
- Students will name two characteristics of dinosaurs.
- Students will know that dinosaurs are extinct.

Materials:
- Play-dough
- Buttons, pennies, paper clips, sea shells and other objects to make imprints
- Fossils of bones, animal tracks or plant imprints, or pictures of fossils - National Geographic usually has great photos
- *Oh Dinosaur* song

Appendixes:
- *Oh Dinosaur* song: Page 4

Time Considerations:
Preparations: 20 minutes
Lesson Time: 45-55 minutes
Introduction: 10 minutes
Activity 1: 5-10 minutes
Activity 2: 5-10 minutes
Activity 3: 10 minutes
Activity 4: 10 minutes
Conclusion: 5 minutes

Related Lesson Plans:
First Explorers, Native American Myths, Digging Up Nevada's Past, Emigrant Trails

Next Generation Science Standards

KESS3-1.
Use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live.

Science and Engineering Practices (SEP):
Developing and using models.

Disciplinary Core Ideas:
Natural Resources.

Crosscutting Concepts:
Systems and system models.

Excellence in Environmental Education Guidelines

Strand 2.1—The Earth as a Physical System
A) Learners are able to identify changes and differences in the physical environment.

Strand 2.2—The Living Environment
B) Learners understand that plants and animals have different characteristics and that many of the characteristics are inherited.

Background

Dinosaurs are a great way to connect with young students and talk about the Earth a long time ago. Huge, extinct beasts that lived 150 million years ago challenge our imagination to envision what life might have been like during the time of the dinosaurs. Were they reptiles? Were they birds? How did they go extinct? How did they interact with each other? Some questions remain unanswered, or their answers have changed, but we know enough to sketch the world of dinosaurs and use it to understand how scientists study their lives 140 million years ago. Young students get focused on famous dinosaurs like Tyrannosaurus-Rex, but it's important to share that dinosaurs were very diverse in size, diet and disposition.

A fossil is any evidence of past life - including bones, plant imprints, fossilized feces, foot prints, etc. Fossils help scientists learn about dinosaurs and are the main reason we know what we know about life when the dinosaurs were alive. Fossils are commonly made by minerals slowly taking the place of an object, thus turning it into rock. Students can make their own fossils of play-doughto learn about how a fossil is made and to help them identify fossils.

Preparation

Gather all materials. This activity is greatly improved if students can observe real

fossils. If you don't have any, you might borrow some from a local geologist. Geologists can be contacted at most colleges or through various State and Federal agencies, such as the Bureau of Land Management.

Homemade Play-dough recipe: 1 cup flour,1 cup salt,1-1/1/2 cup water , 3 drops food coloring, 1 tablespoon vegetable oil.

Add food coloring to water. Mix all ingredients. Knead until smooth consistency. Keep it covered in a refrigerator when not using it. This recipe will make enough for 15 to 20 students. You can also make edible play-dough out of peanut butter, but make sure no students in your class have a peanut allergy (*Sensory-Processing-Disorder.com*).

Doing the Activity

Vocabulary:
Tell Students that they Will be learning some very big words today. Go over vocabulary words as a class. Be sure to engage with the students. Ask the students if anyone knows that the word is and call on one or two to share before reading them the definition.

Introduction: Guessing Game
Tell the students that you are going to play a guessing game. Explain that you will give them some clues and they will have to guess what you are talking about. Clues:

Carnivore: an animal that only eats meat

Dinosaur: any of a group of large reptiles that lived on land in prehistoric times

Extinct: a plant or animal that used to exist, but has died out

Fossil: evidence of an animal or a plant

Herbivore: an animal that only eats plants

Omnivore: an animal that eats both plants and meat

1. I am thinking of an animal that lived millions of years ago.
2. Most of the time this animal is very big.
3. Sometimes this animal was as small as chickens are today.
4. Most often this animal only ate plants, but would sometimes eat animals.
5. This animal is extinct. There are none left on Earth.

If the children have not guessed, continue giving clues i.e. color, description, etc.

Activity 1: Fossil Investigation
Start with leading questions to test previous knowledge. Some suggestions are: What does a dinosaur look like? (scaly skin, horns in front, spikes along their backs, some walked on two legs, some on four) What did dinosaurs eat? (meat - carnivore, plants - herbivore, both meat and plants - omnivore*)* How big were the dinosaurs? (bigger than the classroom or as small as an adult hand) Did dinosaurs have babies? (yes, in eggs) Are dinosaurs around today? (no, they are extinct, which means they are no longer around)

Activity 2: Dinosaur Walk
Tell the students that you are going to teach them how to walk like dinosaurs.

Say or sing the following with the students and include movement:

The dinosaurs lived long ago, And walked like this, and that (slow, heavy walking movement). Some were large (stretch hands upwards) and some were small (crouch down). Some liked water (swimming motions) and some just walked on land (stomp feet). Some had wings, that flapped and flapped (flap arms). Some had long necks, that stretched and stretched (hand on neck stretching upward). The meanest, rudest one of all was ferocious Tyrannosaurus Rex (feet apart, hands claw like, scowl and growl). These were the dinosaurs of long ago. Goodness gracious, where did they go?

Activity 3: Fossil Activity
Have the students sit at their desks.

Ask the students how do we know dinosaurs actually lived? Discuss what fossils are and how they became fossils. Bring in different fossils of animals or plants for the students to feel

and learn from observing. Pictures of fossils are also interesting to share.

Define fossils as any evidence of those living in the past. The students can imprint various items into the play-dough and make their own fossils.

Show students that the imprint is a fossil just as the actual object that made the imprint is a fossil. Reinforce what a fossil is while the students are doing this activity.

Give each student a piece of play dough.

Demonstrate rolling the dough into balls, then flatten into a pancake. After you have shown the students, have them do this.

Pass out the leaves, shells, bones, toy dinosaurs or any other objects you have brought.

Tell the students to press the objects in the dough to make an impression.

Activity 4: Studentosaurus

Have students create their own dinosaurs. Have students draw their dinosaur on Studentosaurus Sheet

Ask students to write about their dinosaur. What kind of dinosaur did they create? Carnivore or omnivore? On land or swimmer? Etc. What characteristics did the student draw to show that?

Have students share their dinosaur with neighbors or choose a few to share as a class

Conclusion

Wrap-up the lesson by asking the students what animal they learned about.
Ask the students what words were used when talking about dinosaurs. (*fossil, extinct, plant-eater, meat-eater, etc)*

How big are dinosaurs? How small can dinosaurs be? How long ago did dinosaurs live?
Assess students on how well they follow directions and understand the concept, when making their fossils.

Assessment

Assess students on how they answer questions during the discussion and wrap-up.

Extensions

Sing the *Oh Dinosaur* song with the students.

Give the students the fossil coloring page to color. A good source for a coloring page is: http://www.edupics.com/coloring-page-fossil-i2865.html
Have students work in groups to come up with their own fossils.

In groups, have the students come up with examples of carnivores, herbivores and omnivores.

Play the T-Rex tag game. One student is the T-Rex while the other are the plant-eaters. Make a square area outside with cones; the area should be big enough so that the students can run around without bumping into each other. The T-Rex then tries to tag the plant-eaters. When a student is tagged, they sit down quietly because they are now “extinct.” When the T-Rex has tagged all the plant-eaters the last person to be tagged will be the new T-Rex.

Sources

- EE Learning Company Inc. (2005-2011). *Oh Dinosaur.* Retrieved Oct. 25, 2011, from Kinderplans.com: https://www.kinderplans.com/content/userfiles/files/ohdinosaur.pdf
- Sensory-Processing-Disorder.com. *Cooked Play Doh.* Retrieved Oct. 25, 2011, from http://www.sensory-processing-disorder.com/play-doh-recipes.html

Oh Dinosaur

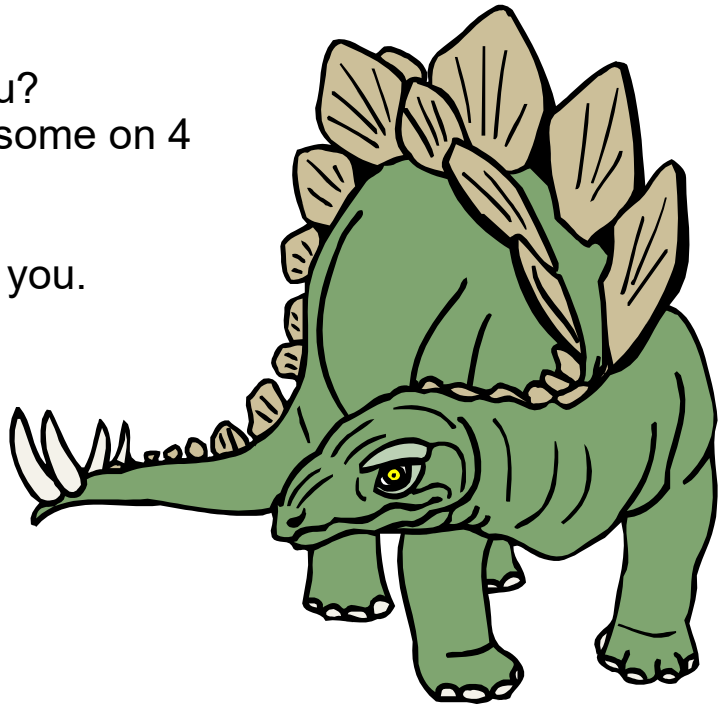
Sung to the tune of *Oh Christmas Tree*

Oh dinosaur, oh dinosaur
What do we know about you?
Some were big and some were small
and your fossils tell us so
Oh dinosaur, Oh dinosaur
That's what we know about you.

Oh dinosaur, oh dinosaur
What do we know about you?
Some ate plants and some ate meat
and your fossils tell us so
Oh dinosaur, Oh dinosaur
That's what we know about you.

Oh dinosaur, oh dinosaur
What do we know about you?
Some walked on land and flew in the air
and your fossils tell us so
Oh dinosaur, Oh dinosaur
That's what we know about you.

Oh dinosaur, oh dinosaur
What do we know about you?
Some walked on 2 legs an some on 4
and your fossils tell us so
Oh dinosaur, Oh dinosaur
That's what we know about you.



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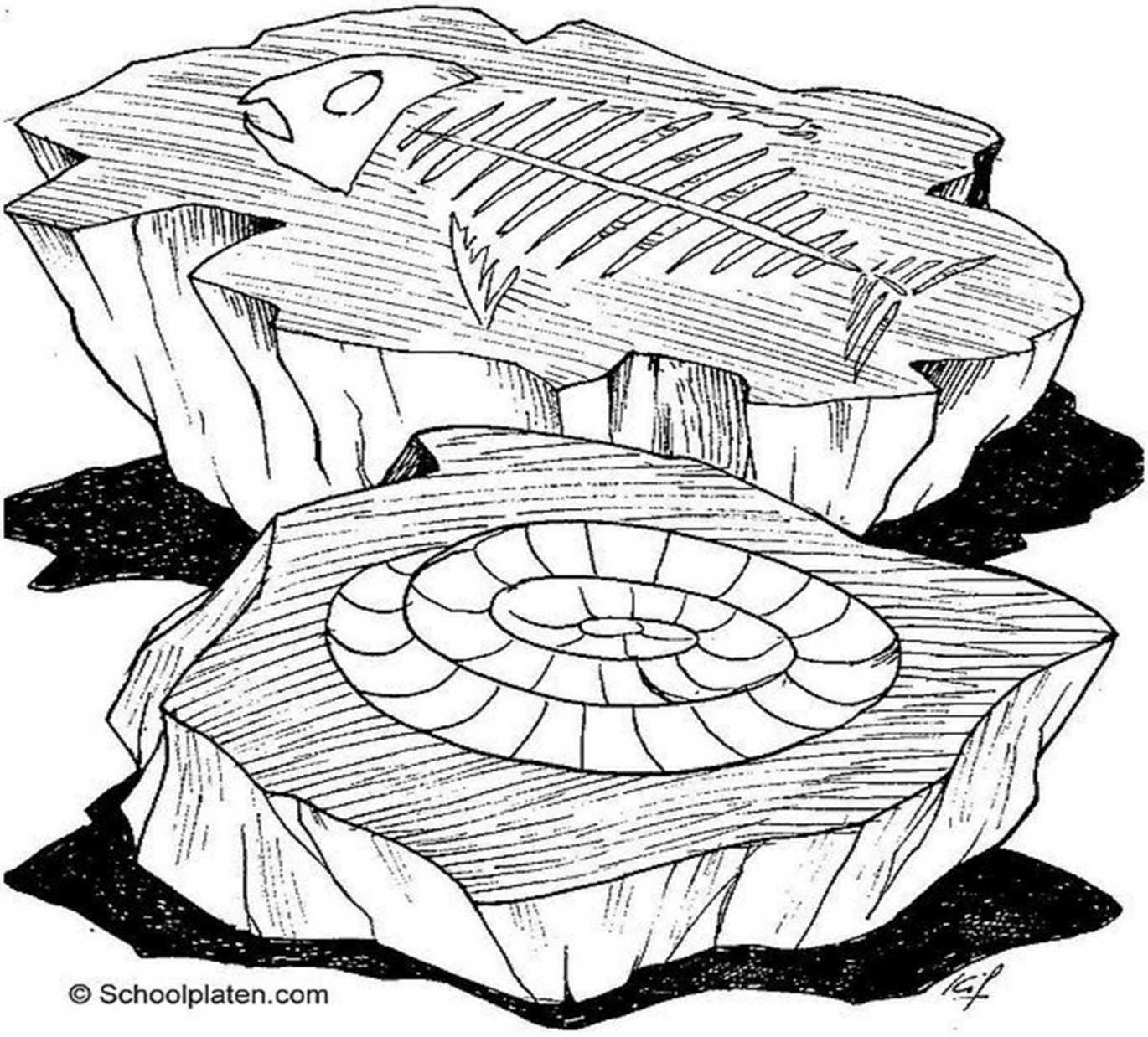

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Studentosaurus