

What is a Fossil?

JESSICA GOEDE

ART & SCIENCE: THIRD GRADE

Materials

- Plaster of Paris
- Plastic Dino skeletons
- Solo cups
- Plastic spoons
- Paper plates
- Card stock strips (2.5x11.5 inches or so) with ends taped to form one ring per strip

- Air dry clay

- Brown tempera paint

- Brushes

Objectives

Students will create a fossil cast by forming a mould that contains very little negative space.

SD Art Standard

1.3.3 Describe how visual arts media and processes can be used in other disciplines.

SD Science Standard

3.L.3.4. Students are able to examine fossils and describe how they provide evidence of change in organisms.

Art Assessment

A basic rubric will be used for this project:

	Excellent (4)	Good (3)	Average (2)	Needs Improvement (1)
Creativity				
Follows Directions				
Negative Space				
TOTAL _____				

Science Assessment

Students will create a field guide flip book describing the each step in making a cast of a fossil. They will also complete an exit ticket: why do paleontologists make casts of fossils?

Technology Integration

Students will watch a one-minute video clip explaining how casts of Sue (largest, most complete t-rex found in South Dakota) were made. <http://youtu.be/2K5wLTbHRH8>

Anticipatory Set

Students will touch and look at my 25lb dinosaur bone leg fragment. Without revealing what it is, I will ask students: What do you think this is? Why? Where do you think it's from? Why? After a brief discussion, I will reveal the name of the object and its origin.

Purpose

The students will build background knowledge about fossils and become hands-on paleontologists by making their own fossil casts. They will demonstrate an artistic process used by real paleontologists.

Input

Students will visit stations in groups to add information and illustrations to their field guide flip-books. Each station will contain a video clip with a paleontologist demonstrating each step. This is both a scientific and artistic process! The steps are:

1. Clean the fossil
2. Form mould and remove fossil
3. Add plaster/silicone and let dry
4. Remove cast from mould
5. Paint

Modeling

The students will use their flip-books to follow along as I demonstrate how we will make our fossil casts.

1. Make sure fossil (toy dinosaur) is clean.
2. Flatten air dry clay onto paper plate (make sure it is slightly larger than paper ring) and press parts of dinosaur toy into clay. Fill up the clay with imprints; leave very little negative space.
3. Place ring into clay like a cookie cutter. Mix plaster, stir extensively, and pour in, and settle.

In addition, I will model where to set the casts to dry and where to throw away cups/spoons.

Guided Practice

Students will be able to experiment with the impressions on their moulds indefinitely. If they do not like how it looks, they can reform the clay and start again.

Closure

On an exit ticket (notecard), students will respond to the question: Why to paleontologists make casts of fossils?

Management Plan

One person from each table will collect plates, air dry clay (pre-divided and placed in plastic bags), and several toy dinosaurs to share. I will give students time to form and experiment, and I will call table groups one at a time to measure plaster/water, mix, and pour. This way, I can double check the ring placement to avoid leakage and make sure the plaster is the correct consistency before the students pour. While students are waiting for their turn to add plaster, they can experiment with the look of their moulds or add more detail to flip-books. For easy cleanup, the students will throw away cups and spoons, and I will have a table/shelf/cart ready to hold the casts while they dry.

Note: This is day one of the lesson. On day two (after the casts have dried), the students will remove the casts from the mould, throw away paper plate/ring/clay, and paint their fossils with tempera paint.

Adaptive Lesson Plan

For a student with ADHD, I will take some time share the steps and expectations with the student before the lesson. I will also give the student written, step-by-step-directions.