



# Creating Fossils Using Interpretive Machines!

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*3rd Grade/ Davis/ Austin Sargent*

## **Learning Objective/Exit Outcomes:**

Students will be able to demonstrate an understanding of how fossils are formed.  
Students will be able to distinguish fossils from imprints.  
Students will be able to work collaboratively in small groups.  
Students will be able to use their voices and bodies to create interpretive machines.  
Students will be able to identify the steps of fossil creation in other groups' machines.

## **State Standards:**

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.
- b. Develop a model to describe the sequence and conditions required for an organism to become fossilized

ESD3.CR.1 Demonstrate an understanding of the choreographic process.

- a. Collaborate with others to create and perform movement phrases.
- b. Create a sequence of three or more movements utilizing body, space, time, and energy.
- c. Explore how personal feelings and experiences influence choreography and performance.
- d. Respond to a variety of stimuli through movement (e.g. literature, visual art, props).
- e. Implement various approaches to creating choreography (e.g. improvisation, guided imagery).

ESD3.CR.2 Demonstrate an understanding of dance as a form of communication.

- a. Use personal experiences and choreographic tools (e.g. improvisation, guided imagery) to create a movement narrative.
- b. Recognize and describe how movement quality impacts meaning.

## **Integration Area/Subject:**

Science / Dance

## **Materials/Playing Space:**

Open Playing Area

## **Description:**

PAIR Specialist started the lesson by calling everyone to the carpet and asking the class what they already knew about machines (What are they supposed to do? Why do we need machines?). PAIR Specialist then had students imagine a repeatable action they could do over and over again.

**Demonstrate and show.** Then students were asked to imagine a sound that goes with that motion.

**Demonstrate and show.** One student was selected to come up to the front of the class and show the sound and motion they had created.



Teacher and PAIR Specialist worked together to select students to add onto the new machine. In this case it was a "Tomato Chopping Machine", and students were asked to think about what might come before or after, and place themselves in sequence. In total, 5 or 6 students demonstrated for the class how to create a small group machine.

After the class example, students were split into small groups and asked to create a machine that showed the steps in making a fossil. The classroom was already divided into small groups, so students just worked with whoever was closest. Teacher identified the important steps including decay, scavenging, heat + pressure, sediment, and discovery. Students were given 7 minutes to work together.

After the allotted time, students went back to their desks, and one group was selected at a time. As groups showed, the teacher was able to ask critical thinking questions about the process, or offer suggestions of how it might be different. (What step was this group missing? Now what happens if its a plant imprint instead of a fossil?)

Teacher also asked students to think about how long it takes to create a fossil. Students responded by adjusting the speed of their choreography to more accurately reflect the concept of time. Teacher could also introduce topics to test the students choreographic improv; "What if this creature lived in the ocean? How would the fossil process be different?", "What if this fossil were older than another fossil that were found? How can scientists tell which fossils are oldest?"

Students were given time to brainstorm in small groups, but ultimately had to process that information and use it to affect their choreography.

### **Notes:**

Students were great at remembering the beginning and ending of the fossil process, but not so much in the middle. Teacher stepped in and encouraged the entire class to join in on the Heat and Pressure motion and sound, even if their group wasn't showing.

Students were so excited with this strategy that they asked to create an entire class machine. We were able to use this to talk about how much time it really takes to create fossils.

To strengthen the integration, make sure you are asking questions about how the content is represented in the movement, **and** also how the movement is informing the content.

### **How movement affects content:**

"What do you notice about \_\_\_\_\_ that lets you know this is the decaying step of fossil creation?"

### **How content is represented in movement:**

"If this creature were trapped in amber instead of being made into a fossil, how can you change your choreography?"