

## 73. Fossilization Simulation

**Classroom Activity:** Using the lost wax casting process to make a plaster mold of a "fossil", students learn about the fossilization process and sedimentary rocks

The topic of fossils is no longer explicitly addressed in the revised elementary science and technology curriculum. This task has now been categorized as 'OTHER'.

### Assessment Categories:

- Thinking and Investigation
- Communication
- Application

**Cross-discipline connections:** Geography (types of Rock), Art (Sculpting)

**Type of Activity:** Classroom

### Preparation:

Gather materials and mold wax pieces. The wax dinosaur bones required for this project can be found at <http://www.skullduggery.com>

**Time needed to complete the task:** Two classroom visits, 1hr and 45 minutes respectively

### Materials/Resources for teachers:

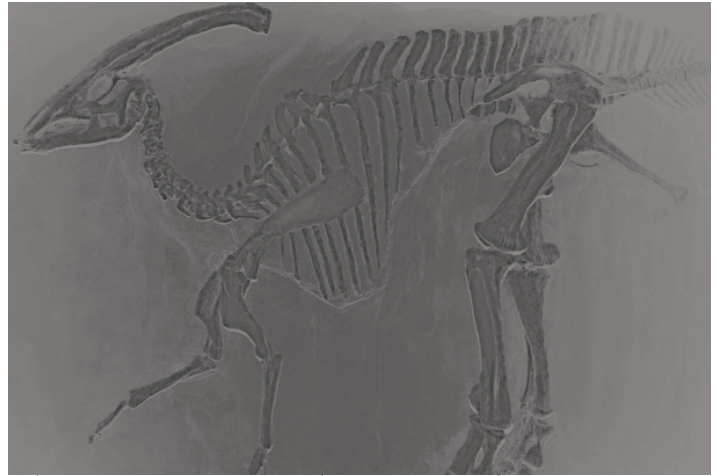
- 150 ml plaster of paris
- 60ml clean water
- 347ml disposable drinking cup
- 15cm foam plate
- popsicle stick
- wax replica
- paper clip or picture hook
- felt tip marker

Materials/Resources for students

Triceratops mold - <http://www.skullduggery.com>

### Activity Description:

1.) Have each student write their first name and initial in permanent ink with the felt tip marker on the back side of the foam plate.



- 2.) Place the wax replica (dinosaur bone) flat side down onto the bottom of the foam plate. Ideally there should be no gaps between the wax and the plate for plaster to seep into.
- 3.) Slowly pour the water from the small cup over the plaster in the big cup and immediately start mixing.
- 4.) Stir the mixture until all the plaster is mixed and there are no lumps. Do not mix longer than four minutes. The plaster begins to set after that time and cannot be poured. The Popsicle stick may be used to scrape down the walls of the cup to get most of the mix out.
- 5.) Pour the liquid plaster mixture evenly over the wax replica. Giving the plate a small nudge will smooth out the top surface.
- 6.) Form the paper clip into a hook or hanger that can be embedded into the plaster for later use as a wall hook. Set into the top side of the mix before the plaster solidifies.
- 7.) Allow the plaster to harden for several hours before moving.
- 8.) When dry, EIR or Teacher should take the plaster molds to an oven. Before removing from the foam plate, the student's name should be transferred from the bottom of the plate to the hook side of the casting. Then, bake out the wax at 150 C for approximately 1 hour over a foil lined tray or pan to catch the dripping wax.

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### Questions

What other things could the lost wax casting process be used for? (sculpture, jewelry)

Is the impression of the dinosaur bone a positive or a negative impression?

Does it occupy the same space as the original?

Would a plaster cast of a footprint be a positive or a negative? (our cast creates a negative impression, there is space where the wax used to be. A cast of a footprint is a positive. It looks just like the original.)

### Tips:

The plaster can be messy but is for the most part safe. Do not allow the students to create or breathe plaster dust. A sheet of newspaper over the student's desk is a good idea. Have a few extra mixtures in case some setup too quickly.