Make a Fossil Lab

This is such a fun, hands-on activity for your Geologic History/Fossil Record unit! Students follow a procedure to create their own cast fossil! They can take it home as a souvenir!

Standards: NGSS MS-ESS1-4, MS-LS4-1
Objective: Students will be able to follow a procedure to create a cast fossil.
Time: takes about 30 minutes to complete lab



Materials:

- 45 g of soft playdough per student (see playdough recipe on following page)
  - Flour, Salt, Vegetable oil, Cream of tartar
- 8-oz paper cup per student (Amazon)
- 35 g plaster of Paris powder per student (for 100 students I needed 8 pounds)
- Fossil objects (mini dinosaur figurines, seashells, sharks and/or other objects) (Amazon)
- Toothpicks
- Lab trays or stations with the following: (I set up 4 lab stations, each with materials for 2 or 3 students; I had half of my students complete the lab one day and the other half the following day; the rest of the students were working on independent work at their desks):
  - 25 mL graduated cylinder per tray
  - digital scale or triple beam balance per tray
  - plastic weigh boat or similar per tray (Amazon)
  - scoopula or spoon per tray
  - 1 plastic spoon per student
  - 1 small beaker per student
  - 1 specimen tag (printed from attached page) per student
  - food coloring (optional; some students like to dye the plaster sedimentary colors)

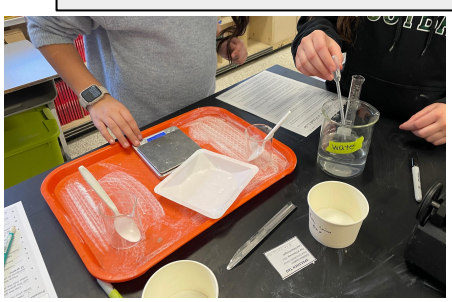
Play Dough Recipe: *This playdough lasts for months when refrigerated in an airtight container. For about 100 students to each have a 45-gram ball of playdough, I quadruple this recipe:*

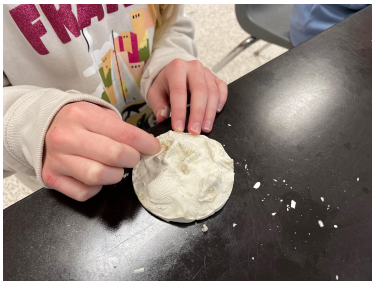
- 2 cups flour
- ⅓ cup oil
- 1 cup salt
- 2 cups cold water
- 4 teaspoons cream of tartar

1) Combine the ingredients and cook mixture in a large saucepan, stirring constantly, until the dough forms into a ball. This can take about 10 minutes!
2) Allow the dough to cool, then kneed it until smooth and elastic.
3) Store in a plastic ziplock bag or another airtight container.

Lab Facilitation and Tips:

1) So that I could assist my students with this activity, I split each class in half. I had half of the class working at their desks on independent work and half of the class doing the lab in pairs or trios (but each student makes their own fossil).
2) Ahead of time, prep the playdough and measure 45-gram balls. Keep this in a refrigerator prior to the lab.
3) Set up the lab trays – I did 4 stations and at each one I had the individual materials for the 2 or 3 students who would be working there. I divided the fossil items into a bowl for each group.
4) Print a lab procedure for each student so they can check off each step as they finish. If you only have quick-dry plaster of Paris, be sure to use the Quick Dry Plaster procedure!
5) Edit the Specimen Tags to reflect your school's name and the current year. You'll need one tag for each student.
6) Before students begin the lab, assign the Bellwork/Do Now activity - it's a Google Slides to review the names for the equipment that they'll use as well as measuring with a graduated cylinder.
7) Then, show the presentation so that everyone has an idea about what they'll be doing for the lab.
8) Some of my students wanted to dye their plaster a sedimentary rock color so I provided yellow and red food coloring. The best combo seemed to be 2 drops of yellow and 1 drop of red added to the wet plaster before pouring it into the mold.
9) After students make their fossil, set aside an area for them to leave their cups for about 48 hours.
10) On 'excavation day', give each student a toothpick. After tearing the paper cup away from their mold, they will carefully peel the playdough off (it will be reusable if no food coloring was used!) and use the toothpick to scrape away any small bits of playdough around their fossil!




Click on the links below to make your own copies of the materials for this activity!

Just a note– although these are digital resources, please respect my work. These resources are for personal classroom use for only you and your students to share via email, Google Drive, or Google Classroom. Please do not upload these resources online where they can be accessed by the general public. If you have a colleague who is interested in using this resource, please direct them to my store!

EDITABLE Student Lab Sheet

EDITABLE Bellwork / Do Now Activity

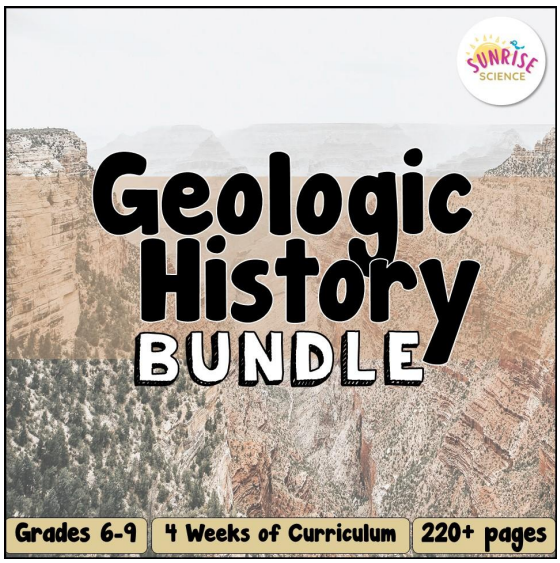
EDITABLE Presentation

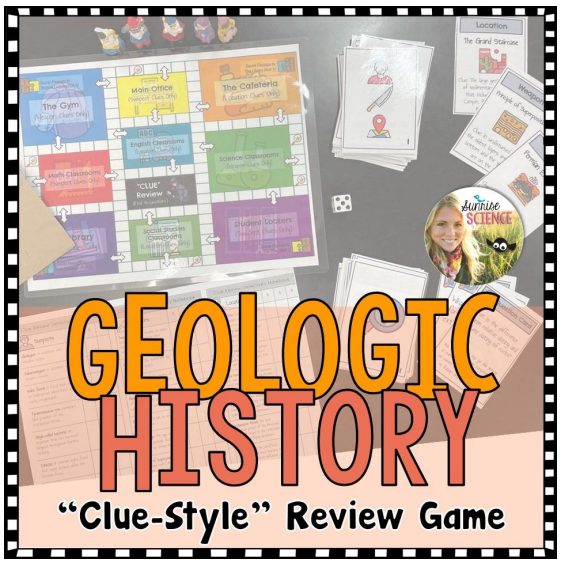
EDITABLE Specimen Tags

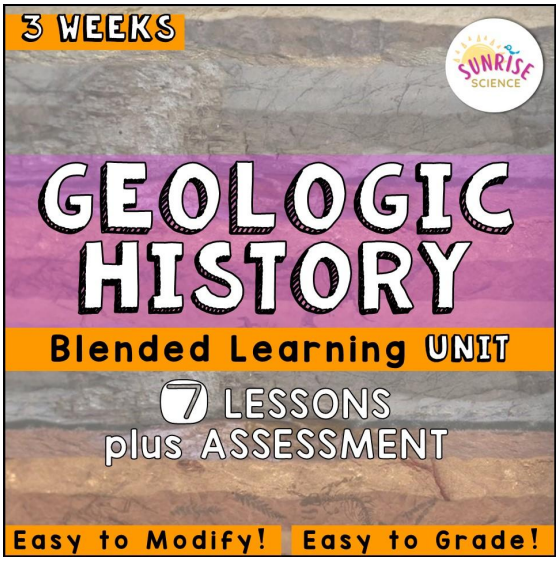
Please feel free to email me at SunriseScienceClassroom@gmail.com with any questions!

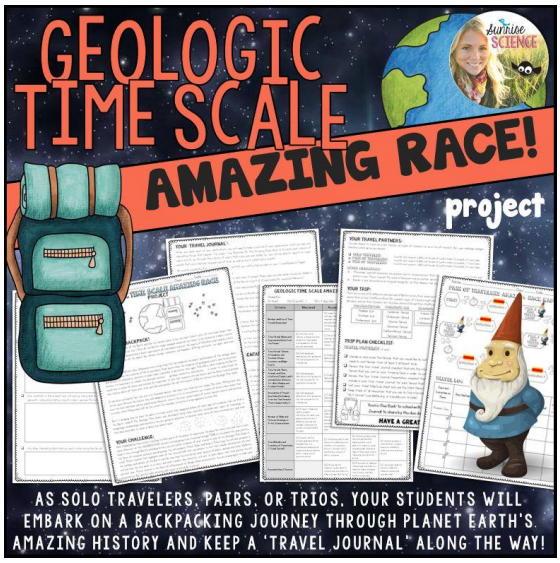
Karla @ Sunrise Science

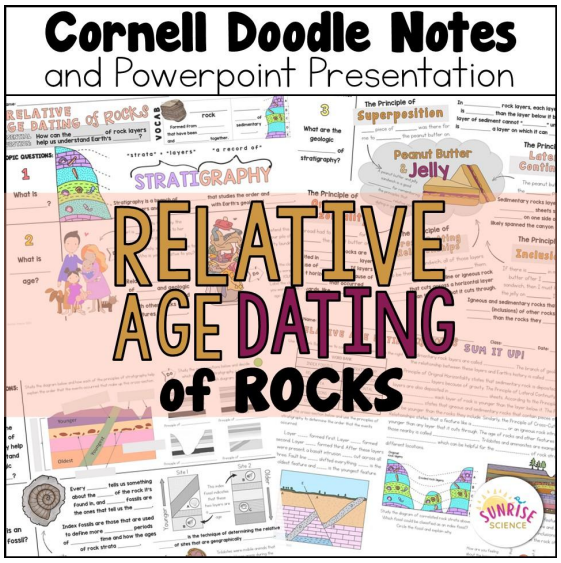
You may also be interested in these resources!











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