

Adventure Description:

In this adventure, students will think like an archaeologist and figure out which ingredients are best to clean artifacts!



Activity

Step One: Background Information on Archaeologists and Cleaning Artifacts (5 minutes)

- Explain to students that archaeologists are people who learn about what life was like a long time ago. One way that archaeologists learn about people from a long time ago is by looking at artifacts. Artifacts are items that were made or used a long time ago. Show [Handout: Examples of an Artifact](#).
- Ask students why archaeologists would look at artifacts to learn about people who lived a long time ago. Explain that we cannot talk to people who lived a long time ago! There also wasn't technology a long time ago, so we don't have videos of people. As a result, archaeologists look at artifacts to learn about people. The artifacts are clues that tell us about what languages people spoke, what toys they played with, and what food they ate.
- Next, explain to students that archaeologists have to clean artifacts off after they find them in the ground. Show [Handout: Cleaning off Artifacts](#). Discuss how archaeologists need to be very careful when they clean artifacts. They have to be careful not to break or ruin the artifacts!

Step Two: Activity Setup (5+ minutes)

- Explain to students that they will imagine they are archaeologists who will be cleaning an artifact. They will be in charging of making 2 different cleaning solutions and figuring out which one works best to clean the artifact!

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- Provide students with two regular pennies. Explain that students will imagine that these pennies are artifacts. Provide students with **Handout: My Artifact**. Give students a few minutes to decide what artifact their pennies represent. Their pennies could be a necklace, a bag, or a piece of pottery! Have them fill out the handout. Encourage students to get creative!
- Next, provide students with the following materials:
 - 2 small bowls or cups
 - 1/2 cup vinegar
 - 2 tablespoons salt
 - 1/2 cup water
 - Dish soap
- Explain to students that they will now be creating their cleaning solutions.
- Instruct students to pour the water into one of the bowls you provided for them.
- Have students add 3-4 drops of dish soap to the water in the bowl and stir. They have now created their first cleaning solution!
- Instruct students to pour the vinegar into the other bowl that you provided for them.
- Have students add the salt to the vinegar and stir. They have now created their second cleaning solution!

Step Three: Making Predictions (5+ minutes)

- Explain to students that they will now make a prediction about what will happen when they put their penny artifacts in their cleaning solutions. Explain that a prediction is a guess about what will happen in the future.
- Provide students with **Handout: Making a Prediction**. Have students draw or write their prediction about what which cleaning solution will work better to clean a penny.
- If students need help making a prediction, ask the following question:
 - Do you think that the vinegar + salt solution will clean the penny better than the dish soap + water solution?

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Step Four: Cleaning Pennies (15+ minutes)

- Explain to students that they will now test their cleaning solutions to see which one works better at cleaning their penny artifact.
- Have students place one penny in the vinegar solution, and the other penny in the dish soap solution.
- Explain that the bowls will sit for there for five minutes! After five minutes, students will look at the pennies and make observations of them. This means they will get to look at the pennies and see if they look different from when they first put the pennies in the bowl.

Step Five: Making Observations (10+ minutes)

- After ten minutes are up, tell students they will look at their bowls and see what their pennies look like!
- Explain to students that they should remove their penny from the dish soap solution and wash it off in the sink. Have them place the penny on a paper towel in front of the bowl.
- Instruct students that they should now remove their penny from the vinegar solution and wash it off in the sink. Have them place the penny on a paper towel in front of the bowl.
- Explain to students that they will make observations of their freshly cleaned pennies. Provide students with **Handout: Making Observations**. Have students write or draw their observations.
- Teacher note:
 - The pennies that were placed in the dish soap solution will be free of dirt, but the dish soap will not remove any tarnish.
 - The pennies that were placed in the vinegar solution should be sparkly and free of tarnish.

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Materials List

Provided online:

- Handout: Examples of Artifacts
- Handout: Cleaning off Artifacts
- Handout: My Artifact
- Handout: Making a Prediction
- Handout: Making Observations

Not provided (each student or group needs):

- 2 pennies
- 2 small bowls or cups
- 1/2 cup vinegar
- 2 tablespoons salt
- 1/2 cup water
- Dish soap

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