

# Preservation Predictions

## You will need

- Seed tray with at least 9 inserts
  - Any sort of container/s can be used if a seed tray is not available
- Soil
- 3 different materials (3 items of each)
  - E.g. Wood, plastic, paper, cloth, metal
- 9 Plant Labels
- Vinegar or Lemon Juice

## This activity counts towards

Scouts Derbyshire Archaeology Badge Requirement 3

## Activity Details

Time: Two Weeks

\$ ££

Indoors & Outdoors

Individuals & Teams

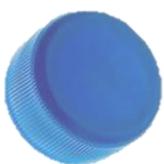
Scouts

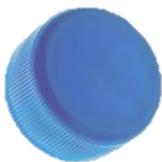
## Before you begin

- The person leading the activity should fill the seed tray with soil
  - Each individual or group should have a seed tray
- The person leading the activity should then prepare 3 items of each material (3 materials in total)
  - Each individual or group should have 9 items, 3 of each material
    - The items used for the materials can be anything and everything. For example, plastic bottle caps, screws and old cut up t-shirts could be used for the experiment. It's just important to make sure the item is one material and doesn't have to many parts
- The person leading the activity should make sure they have the resources available to create the three different environments:
  - Wet: Water the flowerpot daily, making sure it's constantly wet
  - Dry: No resources needed
  - Acidic: Vinegar or Lemon Juice

## Activity

1. Take a picture or write down what the 3 different materials look like at the start of the experiment.
2. On the labels write out one of the materials and one of the environments (dry, wet or acidic). You need the same material to experience all three environments
3. Place the 9 items into the seed tray, one at a time and making sure the labels are placed at the same time, so they don't get mixed up
4. See example at the end





5. The dry environments don't need to be adjusted so can now be left for the next two weeks
6. Add water to all the wet environments, making sure the soil is completely soaked through
7. Add 2 teaspoons of vinegar to the acidic environment
8. Add water to the wet environments each day
9. Add 2 teaspoons of vinegar to the acidic environments each day
10. After two weeks, take out the 9 different items from the tray, keeping track of which environment they were in
11. Compare the 3 items made of the same material, each from a different environment. Have a look at what difference the environments made
12. Compare the 3 items from the same environment, what difference did the material make in the environment
13. Finally, compare all 9 items to what they looked like at the beginning of the experiment

## Reflection

Degradation of archaeological remains can be a big problem for archaeologists trying to piece together information about the past. Not everything survives, and so it is hard to know whether things are missing or that they never existed. From the experiment, what do you think survives the most and the least? What effect do you think this may have on an archaeological excavation and its interpretation?

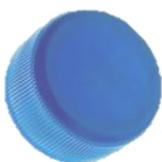
## Safety

The person leading the activity should make sure the 9 items are safe to handle and will not cause any injuries

Everyone should make sure they are dressed suitably and safely

Everyone should discuss how to keep themselves and others safe when conducting experiments like this one, which uses the power of chemical reactions for degrading materials. Highlight the importance of:

- reading all warning labels on the materials being used
- carefully following directions
- wearing eye protection
- wearing gloves
- wearing protective clothing (such as a lab coat) or something with long sleeves
- tying back long hair
- keeping all chemicals away from your mouth, nose and eyes
- not consuming any food or drink near an experiment





## Change the level of challenge

For the budding scientist, you could try a variety of other environments such as hot or cold.

This experiment can be done with just one environment, and therefore only 3 items are needed if less resources are available or the person leading the activity would like to make it simpler. If one environment is used, acidic will produce the most interesting results.

## Make it accessible

If anyone struggles with fine motor skills, another young person or adult could help in whichever way they need

Anyone who doesn't want to touch the items/chemicals/soil can direct another person on the team, or you could offer them gloves.

