

RAIN PRINTS

Purpose

To study the formation of rain prints and to work out the conditions under which they form and may be preserved.

Instructions

- 1. Spread a thin even layer of clay on the board by placing the piece of wood on the side strips and pulling it across the clay.*
- 2. Smooth the surface if necessary with the plasterer's trowel.*
- 3. Place the board out in the rain on a stool until it is covered with pits but not so many that they are intersecting. Bring the board inside.*
- 4. Describe the shape of the rain prints.*
- 5. Place a scale beside them and take a vertical photograph.*
- 6. Put the board back in the rain and watch what happens to the pattern as more and more raindrops fall on it.*
- 7. Enlarge the photograph and measure the diameter of all prints*
- 8. Plot a graph of their sizes and give the maximum, minimum, and average diameters.*
- 9. Compare your prints with photographs of fossil rain prints.*

Teacher's Section

Requirements

Board 30cm by 30cm and at least 1cm thick.

Strips of hardboard 3mm thick, 1cm wide and 30cm long. These should be nailed with panel pins to opposite edges of the top surface of the board.

Piece of wood 5cm by 10cm by 40cm (10cm larger than the board)

Soft clay, about the consistency of yoghurt.

Camera, one which will focus down to 50cm. A digital camera is good because you can get instant results.

Plasterer's trowel.

Notes

Use newspaper on benches to stop mud getting on them. Students should ideally wear lab coats or old clothes. The mud can be made from cat litter providing it gives a smooth paste when soaked. Plaster of Paris does not work well. The trick is to get the mud with the right consistency; too runny and the pits fill in again, too thick and no prints are made. This experiment should be done when it is raining. It is not possible to make raindrops the right size or which fall at the correct speed with a spray can or nozzle. The board should be placed above ground level to prevent dirt splashing or being blown onto the clay. Photographs can be enlarged using a photocopier and students given photocopies.

Results

The largest are about 5mm diameter and the smallest 1mm. The size will vary with the type of rain.

There is slight rim 0.5 mm high around the circular depression. With continued exposure the pattern is lost and the surface slightly rough but with no clear circular depressions.

Time

10 minutes to prepare clay, less than 5 minutes in the rain, 15 minutes to measure 50 rain drop prints.