

Activity 2: Making a fossil

Introduction: A practical activity where you can make your own 'fossils'.

Key Stage: Biology KS4

National Curriculum Ref: Sc1 2m, o; Sc2 4i

Time: 20 minutes preparation, then check whether the 'fossil' has set (at least 25 minutes) before starting the durability test.

Pupil learning outcomes: The fossil record is incomplete and some body parts are more likely to be preserved as fossils than other parts. Even where body parts are not fossilized, it is possible for other evidence of life – trace fossils – to be preserved.

Context: Investigating the processes involved in the formation of a fossil. The likelihood of an organism being preserved is very low, and the fossil record is therefore incomplete. Some fossils that are preserved may be destroyed by environmental factors.

Common misconceptions: It is often not appreciated that the fossil record has many gaps: it is not a complete record of all the plants and animals that have ever lived on the Earth. Not all fossils are of extinct groups of plants and animals (e.g. dinosaurs). Some fossils are very similar to plants and animals around today.

Resource list:

- Sand
- Plasticene™
- Plaster of Paris
- Water
- Plastic Cups
- Spoons
- Teaspoons
- Wide-mouthed screw-top plastic jar
- Shells (e.g. cockle shells)

Lead-in: Encourage pupils to share their knowledge of fossils and fossil collecting. Ask them whether they have seen fossils in museums, on television etc, or if they have collected them on holiday, field trips etc. Ask whether they have collected shells and whether they have seen fossilised shells.

Activity: See participant card.



Apparatus for activity 2

Follow-up:

- Are there any other ways that the fossils could be tested for durability apart from shaking? (*Hint: these might include leaving the fossils outside, burying them or running water over them in a sink or trough*)
- What deductions can you make from the results?
- Why can't these strictly be called fossils (they are not old enough)

Extension activity: Deform a trilobite using the ICT extension activity available at www.earthscienceeducation.com

All photographs can be found in colour on the Earth Science Education Unit website.

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Introduction:

A practical activity where you can make your own 'fossils'.

Activity:

- Take a shell and using modelling clay such as Plasticene™ make two impressions by pushing the Plasticene™ firmly around the shell.
- In a plastic cup make up a plaster of Paris and sand mix in the ratio of 2 sand to 1 plaster and add the appropriate amount of water to make a runny mixture.
- Pour just enough of the mixture into the Plasticene™ mould to fill it, and leave to harden.
- Repeat the procedure, but this time make the mixture with a 3:1 sand/plaster mix.

- When each 'fossil' is dry (approx 25 minutes) carefully remove them from the Plasticene™ mould then place each one *separately* in a plastic screw-top jar and shake moderately ten times.
- Examine each 'fossil'

Follow-up:

- Were there differences in the effects of shaking on the two 'fossils'?
- What deductions can you make from the results?
- How does this relate to the completeness of the fossil record?
- Why can't these strictly be called fossils?