



Engaging Places

A resource to support teaching and learning through buildings and places



Roofs over our heads (3), by Rob Deane, Teacher, Oak Hill School

Curriculum subject/s	Science
Key stage/s	KS2
Curriculum outcomes	Sc1 Scientific enquiry 1b, 2a, b, c, f. Sc3 Materials and their properties 1a.
Lesson objectives	Students can carry out a fair test. Students can record and analyse their results. Students can work as part of a team.

This is the third of three lessons investigating the properties of materials that could be used for building roofs. These three lessons could easily be combined with lessons investigating forces and buildings.

Starter:

- Students prepare their experiments in groups (you may want them to do this outside if there is a lot of water involved). (5)

Main:

- Each group carries out their test and records the results. How this works will depend on their test but is likely to involve measuring the amount of water that seeps through their roof into a jug or a tray. (25)
- Each group analyses their results and reports their findings back to the class. (15)

Just around the corner (repeats from lesson one – decide when to apply)

Take pupils out and observe the different types of roofs they can see. They could conduct a survey/tally chart of styles and materials. The data could be put in a bar chart. This trip could be a walk around the local area or it could be restricted to roofs that can be seen from the school grounds.

Plenary

- Students to self-assess their understanding of their tests and ability to work in a team: what went well, what could be better. Groups can also self assess.
- Students work as a group to clean up and tidy away. (5)

Homework

Research task. Ask pupils to think about different types of roofs and the functions they perform (ie: benefits of a pitched roof compared to a flat roof, and vice versa?)

Assessment for learning

Formative:

Ask students to predict what may go wrong with their tests.

Summative:

Assess group reports of findings. Group and self assessment at end of lesson 3.

Resources

- Images of roofs ideally to include: flat roof, tiles, slate, thatch, steeply pitched, glass and felt, etc.
- Selection of roofing materials to test. A piece of roofing felt (ask the caretaker!), thatch (use straws), tiles (use small bathroom or kitchen tiles), slate, glass (use Perspex or clear plastic)
- A suitable construction kit such as connex.
- Trays
- Watering cans (garden club?)
- Measuring jugs
- Paper towels
- Engaging Places 'in your area' - www.engagingplaces.org.uk

Cross-curricular links

Numeracy: Handling data.

ICT: Use computer to make a data collection form.

Personal, learning and thinking skills: Self-assessment and critical evaluation.
Communicating to the class.

This resource is from a bank of resources created for Engaging Places by practising teachers and education professionals. If you have ideas for using buildings and places in teaching and learning, and would like to help us create further resources, please email: engagingplaces@cabe.org.uk