

### **© UKRIGS Education Project: Earth Science On-Site**

Funded by Defra's Aggregates Levy Sustainability Fund, administered by English Nature.

This website and all of its contents are the copyright of UKRIGS and reproduction is only permitted in accordance with the following terms:

You may view, download and print any material for non-commercial educational use, research or study.

Any commercial use requires the prior written permission of UKRIGS.

Contact: [info@ukrigs.org.uk](mailto:info@ukrigs.org.uk)

### In-school learning in preparation for field visit to Knowle Quarry.

The preparation activities for a combined visit to The Ercall and then Knowle Quarry are to be found in the ESO-S materials for The Ercall, on this website (**ERC6 KS3 prep**), and are not reproduced here. Those materials provide an appropriate set of Earth science activities for Key stage 3 pupils prior to any field work, and should be included in the planning of a visit to Knowle Quarry.

The preparation for the specific activities at Much Wenlock and Knowle Quarry involve pupils being familiar with:

- identification of different types of limestone, and a variety of sedimentary rocks used as building stones such as sandstones and gritstones;
- the way they become weathered;
- some general familiarity with fossil solitary and colonial corals, brachiopods, and crinoid fragments.

These activities require the following slight modifications to the preparation programme outlined in **ERC6 KS3 prep**:

- Include photographs of limestones in the weathering section 1;
- Include at least two limestones (one fossiliferous) in The Rock Cycle section 2;
- Include photographs, or better still, specimens, of colonial corals, solitary corals, crinoids and brachiopods, which are fossil groups they will see on the visit.

In the index for this site is a link to an animation called Bl.exe. This animates, in section, a sequence of plate movements from the beginning of the Cambrian, through to the Devonian, by which time the fragments of the British Isles had become welded together by plate tectonic forces.

### BUILDING STONES SURVEY:

Using the ideas from the preparation exercises pupils conduct a survey of the use of different building materials in the area of the school, using the worksheets at the end of this document. This could be usefully conducted as a homework exercise.

The term “building” may need to be very loose. Suitable sites could include a local church, gravestones (helpfully dated), school buildings, local walls, high street shop fronts, kerbstones, cobblestones, local monuments, bridges, and the pupil’s own home. In particularly unhelpful areas concrete, cement and bricks could be designated as “man-made” stone for the purpose of this exercise.

Teachers (or pupils) should identify two sites to work on. Remind pupils about situations where permission is required, and appropriate behaviour is expected. Also, draw attention to thoughts about safety, if kerbstones, or a cobbled road is chosen.

Pupils should record:

- the location or address of the building / construction.
- a sketch of the relevant part of the site, labelling the rock being surveyed, and the use to which it has been put.
- A description of at least two different rocks (perhaps on two buildings) and the use to which they have been put. For each describe the rock, identify it as igneous, metamorphic, or sedimentary, and give the reason it has been used for this purpose.
- Finally record the evidence for the effects of weathering on the chosen rock, identifying the kind of weathering responsible, giving the reasons for their conclusion.

Suitable copies of homework record sheet for the follow-up exercise are to be found on the following page.

## BUILDING STONE SURVEY.

Page 3 of 3