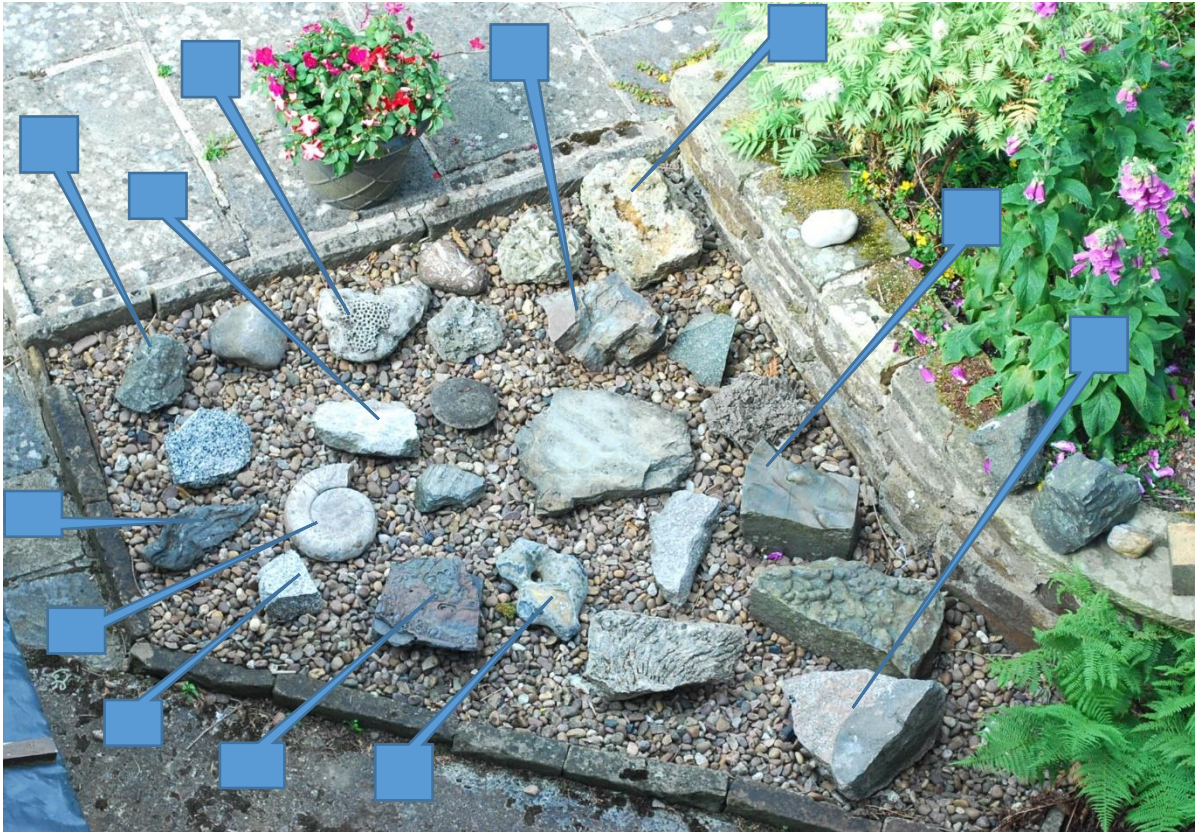


## A forgotten rock garden - 1

### Help a geologist identify a treasured outdoor collection

A geologist has assembled 24 large specimens, which were collected from field trips throughout the UK, into a “rock garden”. The identification, description and location of most specimens were recorded into a key, but unfortunately this has become lost. Help to link the correct description

and name to each of 12 specimens from the photographs below. A second Earth Learning activity will look at the other 12 specimens. *(The individual photos may need enlarging for clarity)*



The rock garden

Study each photograph below, and match it up with the appropriate letter and description from Table 1. Then label each arrow with the

appropriate letter on an enlargement of the rock garden photo above.

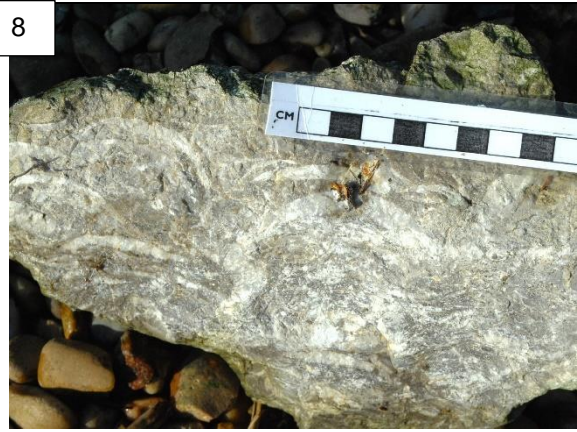




2



8



3



9



4



10



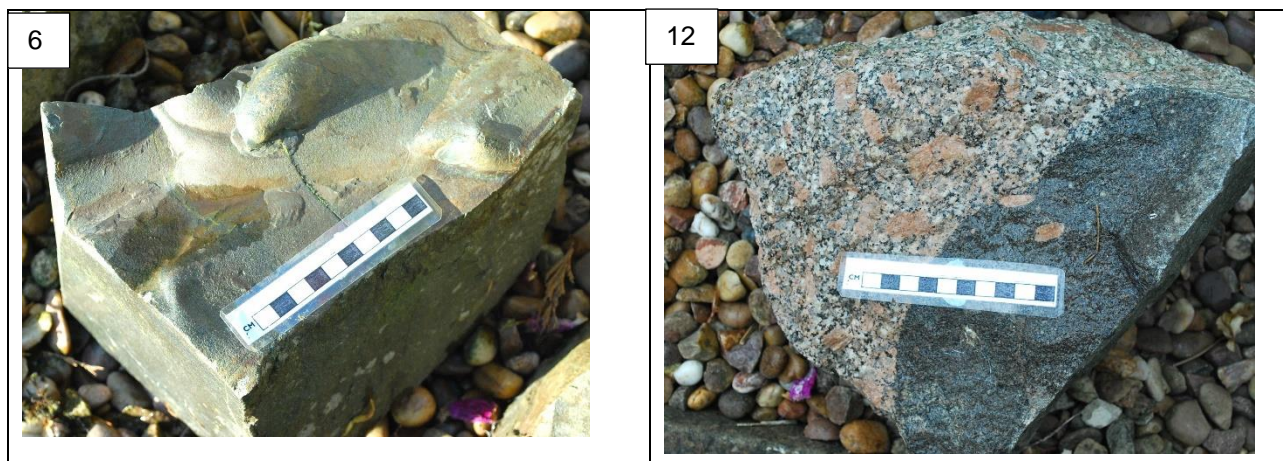
5



11







A. Flute casts on the base of a graded sandstone block (showing palaeocurrent direction from bottom left to top right) ; Aberystwyth Grits; Aberystwyth, Wales	G. Flint nodule, eroded from the Cretaceous Chalk; Sheringham, Norfolk. The hole may be where a fossilised sponge has been weathered out of the flint.
B. “Big-Feldspar Basalt” – a dark, fine-grained porphyritic dyke rock with very large feldspar phenocrysts; Tertiary; Ardnamurchan, W. Scotland	H. Cubic crystals of fluorite in a Carboniferous Limestone host rock; Peak District
C. Slag from an 18 <sup>th</sup> Century copper smelter with ‘bubble-like’ features on the surface; Ecton Mine; Peak District	I. Colonial coral, <i>Lonsdaleia</i> ? Part preserved in chert; the rest in limestone; Carboniferous Limestone; Peak District
D. Ammonite <i>Apoderoceras</i> ; Frodingham Ironstone Formation; Jurassic; Lincolnshire	J. Foliated and folded phyllite (a low-grade schist); Precambrian; Onich, West Scotland
E. Ganister (Seatearth) –a siliceous rock with dark fossilised plant rootlets; Carboniferous Coal Measures; Sheffield	K. Limestone with large brachiopods in cross-section; Carboniferous; Peak District
F. Porphyritic granite, with a large dark xenolith; Shap Fell, Cumbria	L. Granite, Devon. Part of a polished, carved broken gravestone, (with permission from the mason’s yard!)

Table 1: Descriptions of the geological specimens. (These could be printed off and cut up for pupils to match up physically to the photos).

## The back up

**Title:** A forgotten rock garden - 1

**Subtitle:** Hel

Help a geologist identify a treasured outdoor collection

**Topic:** An exercise in matching a set of photographs to their descriptions and locating them on an overall scene

**Age range of pupils:** 14 years and above

**Time needed to complete activity:** 20 minutes

**Pupil learning outcomes:** Pupils can:

- examine photographs of geological specimens carefully and match them to a written description;
- spot the appropriate specimens among a wider variety of material;
- enhance their observational skills as a prelude to field work;
- explain the importance of labelling the names and locations of specimens promptly.

**Context:** This could form a useful revision activity, once pupils have acquired experience of a range of rocks, minerals and fossils. Answers to the matching exercise are: 1D, 2B, 3G, 4H, 5J, 6A, 7L, 8K, 9E, 10C, 11I, 12F.

Answers to the labels on the photograph, clockwise from top left are: B, K, I, E, H, A, F, G, C, L, D, J

**Following up the activity:** Use any of the Earthlearningidea activities in the “Picturing...” series to heighten students’ skills in identifying geological phenomena from photographs. e.g. [https://www.earthlearningidea.com/PDF/396\\_Picturing\\_igneous\\_rocks\\_2.pdf](https://www.earthlearningidea.com/PDF/396_Picturing_igneous_rocks_2.pdf)

**Underlying principles:** This strategy provides training in careful observation and interpretation of all relevant features.

**Thinking skill development:** Construction skills are developed during the matching of descriptions to the photographs, with some metacognition where there is debate over the correct

assignment. The inclusion of a slag may cause cognitive conflict, but pupils need to be aware that they will often find manufactured materials, along with natural ones.

**Resource list:** (per small group of pupils)

- a set of photographs
- an enlarged copy of the photo of the rock garden

- a set of description cards, preferably cut up, to allow physical matching with the photos.

**Useful links:** See Following up the activity above.

**Source:** Written by Peter Kennett of the Earthlearningidea team. All photographs by Peter Kennett.

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