

Limestones

Describing limestones

A P 15 min

Students are given samples of a variety of types of limestone e.g. bioclastic, shelly, chalk, micrite, crinoidal and oolitic, and a nail and acid. They must describe what they have in common as well as describing each one.

Purity of limestones

E P F 30 min

A variety of limestones of different colours are dissolved in acid to determine the percentage of impurities and whether there is a relationship between colour and purity.

Shaking shells

E P F 30 min

A variety of shells are shaken in a container to see which is the most resistant to attrition.

Crinoidal limestone

E P 30 min

Students are provided with a large rock slab or photo showing many crinoid stems. A north-south line is marked on it. Students measure the length, diameter and orientation of the crinoids. Students can then work out whether those crinoids in which the length is several times the diameter are better orientated than those whose length is similar to the width by plotting rose diagrams of each group. They can also plot a size frequency diagram of the diameters.

Orientation of crinoid stems

A P 10 min

Cylinders made of Fimo are used to represent crinoid stems. They are then placed in a trough to see how they become oriented by waves.



Uses of limestones

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Ask the students what the following have in common: Houses of Parliament, bread, beer, toothpaste, steel making, glass, cement, soil improvement, aggregate, paper manufacture.

Uses of limestone display

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Make a display on pegboard with a sample of limestone at the centre surrounded by samples or photos or its uses.

Kettles and carbonate

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Calcium carbonate is deposited as the water warms (it is more soluble in cold water) and this is why kettles get deposits in them