

Rocks in Saffron Walden Museum grounds

Boulders moved by glaciers, and left behind as the ice melted, are known as glacial erratics. You can find some examples outside the museum.

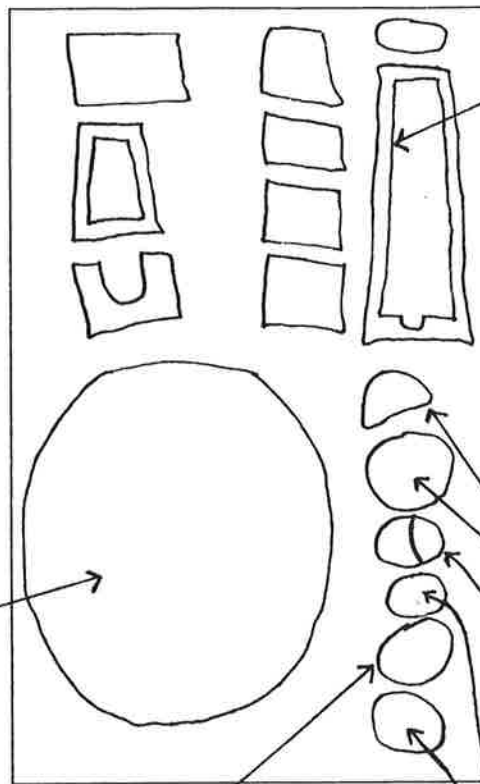
Basalt

A fine boulder of volcanic lava, known as basalt, can be seen by the museum entrance door. Scottish volcanoes formed this boulder 60 million years ago. It was probably moved to Essex by glaciers. This boulder was used as a mounting block for horse riders.

Giant Septarian Nodule

This giant boulder, called a septarian nodule, is one of the remarkable limestone concretions that are common in the Jurassic clays of the Midlands. They are formed as calcium carbonate in the clay slowly solidified. Inside it is riddled with cracks, called 'septa', which were created as the nodule slowly dried out over thousands of years. The cracks are filled with attractive crystals of calcite.

This nodule is from the Oxford Clay of the Peterborough area and is about 160 million years old. It was brought to Saffron Walden by the Anglian ice sheet which covered Britain during the Ice Age, about 450,000 years ago. The deep scratches on the surface were made by stones at the base of the ice sheet slowly scraping across the nodule. This one was found at the old Acrow factory in Ashdon Road, Saffron Walden.



Sarsen Stone

Sarsen stones are hard boulders of sandstone. They are the remains of a continuous layer of sand that once covered the whole area. The sand was cemented together by quartz during hot, desert conditions some 40 million years ago. The best local example is the 'Leper Stone' by the road in Newport.

Puddingstone

Puddingstone is a unique and unmistakable rock. It was formed in the same way as sarsen stones, but it contains flint pebbles. It takes a beautiful polish and has been used for jewellery.

Medieval Stone Coffins

These parts of stone coffins were made in the 13th and 14th centuries. They were presented to the museum in 1837. They are made of a limestone of Jurassic age, probably from Lincolnshire. The limestone is composed entirely of fossils, creatures that lived in the tropical seas of the Jurassic period 170 million years ago. The fossils are very difficult to see as the stone is now covered with lime-loving lichens.

Septarian Nodules

These are smaller examples of the giant septarian nodule. One of them is broken and it shows the cracks inside that are lined with calcite.

Clunch

This is a small boulder of clunch, a hard variety of chalk. It was quarried just over the border in Cambridgeshire. Most of the stone inside St. Mary's Church is clunch, and a fine clunch fireplace can be seen in the museum's local history gallery.

Carboniferous Limestone

This erratic boulder is typical of limestone from the Carboniferous Age. It is about 300 million years old. This rock makes up most of Yorkshire and the Peak District. Notice the vein of calcite on the surface of the rock. There is also cement on the rock, so it has been used in building at some time.

→ **Freeze-thaw in action**

Over the very cold winter of 2009/2010 this small boulder of clunch broke into two pieces. The breakage was caused by a process called freeze-thaw. Rainwater got into a crack in the boulder and froze. When water freezes to form ice it expands in size. This pushed the two sides of the boulder further apart and widened the crack. Each time more rainwater got into the crack and froze it widened the crack and eventually broke the boulder into two pieces.

2017 – the boulder has broken into three pieces due to cold weather.