Additional resources: Can anything become a fossil?

Different soils have different properties depending on what they are made from:



Clay soil is usually sticky and has small particles. They contain very few air gaps and water does not drain through it easily.



Sandy soil is pale coloured and has large particles. These create lots of small air gaps. Water drains through them easily so it usually feels dry.



Chalky soil is a light brown soil and water drains through it quickly.



Peat does not contain any rock particles. It is made from very old, dead plants and it is dark, crumbly and rich in nutrients.

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Sheffield



Stop 1 on the map: Eliza West

This monument is made from red granite called the Rose Swede. It has red feldspars and pale bluish quartz which have formed from the Earth's movements. The rest of the monument is made of grey granite.

Stop 2 on the map: Ann Meller

This monument is made of Kemnay granite from Aberdeen. It is both rough and polished. The base is made from local sandstone which was cheaper to use than granite.

Stop 3 on the map: Marmaduke Wardlow

Turn slight left off the path. This monument has grey granite columns. The inset slabs with the writing on are made of marble, most likely from Carrara in Italy. Marble is made of calcium carbonate, which means it can be weathered from acids in the rain. The plinth is local sandstone.

Stop 4 on the map: Group of headstones laid on the bank of grass

The red cross here is made from Balmoral Red granite. The rock is actually from Finland! The other gravestones are made of sandstone and one is very local in origin – Banner Cross.

Stop 5 on the map: Joseph Hadfield

Turn right and walk along the path until you reach Joseph Hadfield's monument. This monument is made mainly of sandstone, but the inscription is on marble. The marble has weathered badly and Mr Hadfield actually owned Marble Works where the headstones were made!

Stop 6 on the map: Thomas Burch

Walk up the Chapel steps to reach Thomas Burch's monument. This monument is made from Carrara marble and pink Peterhead granite. There are also sandstone scrolls near the base. Which of these rocks has lasted from the weather?

Stop 7 on the map: William Parker

Walk towards the large white monument near the curve of the path. This monument is made from dolomite. Dolomite is a type of limestone. It is rich in magnesium carbonate and calcium carbonate. Small holes and wavy lines show where marine organisms burrowed into the sediment.



Stop 8 on the map: Art deco stones

Walk back to the right side of the Chapel. The stones stacked are made from limestone. However, among them is at least one made from concrete which is possibly because during the war things were more expensive or harder to get. Can you spot the difference?

Stop 9 on the map: Mark Firth

Walk back to the junction to the monument within the red railings. Can you spot the silvery crystals, sticking out of the base? These are muscovite mica. Mica is one of the essential minerals in granite.



Stop 10 on the map: The Geological Stone Spiral

Sedimentary rocks:

- **sandstones** (1-10 and 19-24). These were formed by deposition of eroded fragments of older rocks. Some have good sedimentary structures, and one has fossil plant impressions.
- **limestones** (25-26). These were formed from the dead remains of sea creatures. Look for crinoid fossils in 26.

Metamorphic rocks:

• **slate** (11-18). These were formed by intense pressure pushing on sea-bed mudstones. **Igneous rocks:**

• **grey, pink and white granites** (27-29). These were formed from molten rock pushing into the Earth's crust.

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Spot that rock!



Red granite



Marble



Mica



Sandstone



Grey granite



Balmoral red granite



Pink Peterhead granite



Dolomite



Kemnay granite



Mary Anning - palaeontologist and fossil collector

Read more about Mary's story here - Natural History Museum



Image: Mary Anning, Wikipedia, Creative Commons

Read about different fossils that have been found - Natural History Museum



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