

The Millennium Wall – Site F

Find a length of the Millennium Wall to match each one of the rock descriptions in the table below. Then use the information on the plaque to help you to complete the details.

- Then check with a water dropper to see if the rock is porous. (yes or No)
- Then decide, is the shape of the rocks 1. **flat** [easy to lay in a wall], 2. **blocky** [need fitting] or 3. **round** [difficult to lay].

To give you an idea, the first description matches the gritstone [coarse sandstone] used to in the first section of wall at the right of the circular plinth. Now find another piece of wall made of gritstone, and fill in the details in the table

Rock description	More details
<p>I am made of grains of sand or grit. They are mostly bits of a glassy mineral called quartz. They are stuck together with quartz cement. I split easily in layers.</p>	<p>Rock:</p> <p>From:</p> <p>Age in Ma:</p> <p>Geological Period:</p> <p>Porous [yes / no]: Shape:</p>
<p>I am made of shelly bits with lime mud sticking them together. Sometimes I have rounded grains, like fish eggs. I fizz when acid is put on me. I split easily in layers.</p>	<p>Rock:</p> <p>From:</p> <p>Age in Ma:</p> <p>Geological Period:</p> <p>Porous [yes / no]: Shape:</p>
<p>I am mostly made of small black or dark green minerals. My minerals interlock because they crystallised together. I am very hard and break into irregular lumps</p>	<p>Rock:</p> <p>From:</p> <p>Age in Ma:</p> <p>Geological Period:</p> <p>Porous [yes / no]: Shape:</p>
<p>I am made of microscopic minerals. I may be grey, purple or green in colour. I am quite hard and can often be split into thin sheets because I have been squeezed that way.</p>	<p>Rock:</p> <p>From:</p> <p>Age in Ma:</p> <p>Geological Period:</p> <p>Porous [yes / no]: Shape:</p>

To the left of the circular plinth is a wall that is only partly built. The plaque there is to show us how dry-stone walls are built. Use it to answer these questions:

1. What does "dry-stone" mean?
2. Why are some walls wider at the base than at the top?
.....
3. What is the name usually given to the long stones passing through the wall?
.....
4. What is the name given to the stones on top of the wall?
.....
5. What rock has been used to produce the thinnest wall?
.....
6. What else might this "thin" rock be used for?
.....
7. Which wall do you think was the most difficult to build and why?
.....
8. Look at the stones on the tops of the walls. Several are beginning to split. This is caused by the freezing and thawing of water in winter.
See if you can find an example and name the rock type.....
10. Look for walls which have lichen or moss growing on the stones. They are under trees where the damp may have helped them to grow.
Name one rock type with lichen or moss
.....
11. In what year was the Millennium Wall built ?
12. How many years has the Millennium Wall been standing here getting wet and dirty?
.....

Even though this is much less than the hundred or more years that the railway bridge has been built, many of the rocks in the wall are showing signs of weathering on the freshly broken faces. Lighter colours tend to darken and other things are happening. If you look at the limestone walls you may find that acid rain has been at work, but this will not be as clear as on the railway bridge.

South East Quarry – Site G

This is the view into the lowest part of the old quarries that make up the National Stone Centre site.

1. Is there any sign of water in the bottom of the quarry?
.....

2. We have tested and found that the limestone is not really porous, with very little water soaking into the rock itself. When it rains where does all the rainwater go?

Although the limestone is not porous, water can pass through beds and we can say that the limestone is permeable.

Return to the Discovery Centre for other activities.