

Burrenbeo Trust Geology Quiz

All answers to our geology quiz can be found in the geology section on our website and the website of the Burren and Cliffs of Moher Geopark:

<https://burrenbeo.com/the-burren/natural-heritage/geology/>

<https://www.burrengeopark.ie/learn-engage/the-geology-of-the-burren/>

1. What geological period do the limestone rocks of the Burren belong to and roughly how old are these rocks?

Did you know:

The limestone of the Burren is older than the dinosaurs.

Ireland was located near the equator when the rocks of the Burren were formed.

2. In what environment was the limestone of the Burren formed and what clues can be found in the limestone to prove this?

Can you give any examples of these 'clues' found in the limestone?

Did you know:

Ireland was located near the equator when the rocks of the Burren were formed.

3. Limestone is composed mainly of what mineral?

Did you know:

This mineral is easily dissolved by rainwater (by a process called carbonation, a little bit like sugar dissolving in a cup of tea) resulting in limestone often being referred to geologically as a 'soft rock' – be wary though as it still hurts if you bang yourself on it!

4. Roughly how thick is the limestone of the Burren and how long did it take to form?

Did you know:

Sea level is constantly rising and falling and during the formation of the Burren limestones there were periods where the freshly formed limestone would have been exposed.

5. What is the hard substance shown in this picture that can be found in the limestones of the Burren and what mineral is it composed of?

Did you know:

This substance is much harder and more difficult to wear away than the limestone it is found in so it can often be found standing out from the limestone. This is called differential erosion.



6. Name the type of rock found in some locations in the Burren overlying the limestone (e.g. at Doolin and Slieve Elva).

Did you know:

This rock type only reached a thickness of about 12m in the Burren area and took between 5 – 8 million years to form. Compare this to nearly 800m of the Burren limestone forming in about 20 million years and you can see what a slow process this was.

7. Which of these fossils is a:

A) colonial coral

B) crinoid (or sea lilly)

C) brachiopod (shell)

(you may need to use google to help with this one!)



Did you know:

There are around 600 species of sea lilies (crinoids) alive today. They are not a plant as the name suggests (and as the organism can actually look like) but actually a marine animal. What we most commonly find in the Burren limestone is broken segments of the crinoid stem. Find out more at

<https://fathomlessinnerspace.wordpress.com/2014/05/13/living-fossils-crinoids/>



8. What is this classic Burren geological feature?
Can you correctly identify the clints and grykes?

Did you know:

Gykes are lines of weakness in the limestone enlarged by rainwater through the process of carbonation. They give the limestone secondary permeability – allowing water to pass through the rock.



9. What is a turlough?

Did you know:

Turlough is an Irish word and is used worldwide in limestone regions to describe these features.

10. How did the boulder in this Burren picture get here?
How long could it have been in this location for?

Did you know:

There are hundreds of boulders similar to this one found throughout the Burren. The process that moved them to where they are today also formed many of the shapes that we see in the Burren landscape today.



Answers:

1. The rocks of the Burren were formed during the carboniferous period, roughly 340 million years ago.
2. The Burren limestones were formed in a warm, shallow sea. Fossils found in the rocks such as corals, crinoids and shells are evidence to support this.
3. Calcium carbonate (CaCO₂).
4. Up to about 800m thick and 20 million years to form.
5. Chert is composed of silica – the second most common mineral group on the planet.
6. Shale. The Clare Shale is made up of particles of clay settling out of sea water in a deep, dark sea basin.
7. A is the middle fossil, B the right fossil and C the left.
8. A limestone pavement. The grykes are the gaps in the pavement and the clints are the chunks of rock surrounded by the grykes.

9. A turlough is otherwise known as a vanishing lake. It is a lake found in limestone regions whose water levels fluctuate dramatically being very full (and often flooding roads) in winter and very low or occasionally totally gone in the summer. Find out more at [https://en.wikipedia.org/wiki/Turlough_\(lake\)](https://en.wikipedia.org/wiki/Turlough_(lake))
10. This boulder is what's known as a glacial erratic and was dropped here when the last ice age in Ireland ended - roughly 12,000 to 14,000 years ago, so this erratic has been sitting there for quite a long time. The Burren is full of erratics like this and often they sit on small pedestals created by them sheltering the limestone underneath from rainwater whilst the rest of the surrounding limestone is slowly weathered away by the rain (a bit like an umbrella).