

A flavour of the Burren – Teachers Notes

In this document you will find some information to accompany the powerpoint slide attached. Some key words worth explaining and learning will be highlighted in **bold**.

A suggested question relating to the information on the slide is also given in *italix*.

Slides 1- 3 General introduction

1. Welcome to the Burren! The Burren stretches between Counties Clare and Galway and is around 700 square kilometers in size. The word Burren comes from **Boireann** or 'place of stone' but it was also called the *Petra fertilis* or 'fertile rock'.

What do you think – is the Burren rocky or fertile or both?

2. Lots of people have heard the famous quote from one of **Cromwell's** soldiers in 1651 stating that the Burren is 'a country where there is not water enough to drown a man, wood enough to hang one nor earth enough to bury one ... yet their cattle are very fat'.

Would you agree with this soldier's opinion?

3. Today the Burren is most famous as a place for wildlife, monuments, rocks and culture, full of amazing flowers, insects and ancient structures! In fact it's so important that it is on Ireland's tentative list of **World Heritage Sites**, though it has not yet been put forward by the Irish Government for selection. This picture is of the Cistercian Abbey of Corcomroe.

Can you name a World Heritage Site in Ireland or elsewhere?

Slides 4 - 6 Geology

4. The Burren is a **limestone** landscape. It is well known for its wonderful geology which features a wide range of glacial and solutinal (water worn) features. In 2011 the Burren was awarded the designation of a 'Geopark' in recognition of its rich and varied geology. This new status highlights the importance of the Burren's geology and also the need to protect it.

What happens when rain – which is a very mild acid – lands on limestone? (slowly 'burns' it)

5. One of the great things about the Burren that over 360 million years of geology is all around us here, making it the perfect outdoor classroom, great for exploring. Limestone

pavement is one of the most obvious features of the Burren. It is made up of blocks of limestone called **clints** separated by vertical, linear fissures called **grikes**.

Can you tell which are clints and which are grikes in this picture?

6. While much of the Burren is composed of very angular blocks of limestone, in some areas giant round boulders may be seen. These were carried here by glaciers many Millennia ago. Known as **glacial erratics**, they are composed of large blocks of limestone – or sometimes granite – which were rounded as they were dragged along at the base of the glaciers before being dropped as the glaciers melted. Many of these erratics sit on a small pedestal. This is because the erratic has protected the limestone underneath from dissolution by the acid rainfall, while the limestone all around has been gradually eaten away over time.

Can you point out the pedestal under this erratic and explain how it formed?

Slides 7 - 9 Archaeology

7. The Burren has been aptly described as being like a book written in stone. This is because there are so many layers of monuments to be seen here, from the New Stone Age (**Neo-lithic**) to the present day. Each monument tells a story of its time – just like a chapter in a book. This is Poul nabrone portal tomb is a Burren icon which dates from c. 5,800 BP (before present). It was excavated and found to contain the remains of up to 21 people buried over six centuries.

How do you think they lifted the huge capstone onto the top of the dolmen?(rolled on logs)

8. A much more common type of Stone Age tomb is the **wedge tomb**. There are over seventy-five wedge tombs in the Burren, a high proportion of the 450 found in Ireland. They are usually c4,000 years old and get their name from their 'wedge' shape. Most of these tombs are orientated in a south-western direction – facing the setting sun.

What would these tombs face the setting sun? (looking towards the afterlife perhaps?)

9. The stone fort or **Cashel** is one of the most common and characteristic monuments in the Burren, with over 500 of them found here. They usually date from early Christian times (c.1200 years ago) and were built by farmers of the time to protect the highly coveted farmed animals from marauding wolves and raiding parties. At Cahercommaun– one of

Ireland's great stone forts - dated to c.800AD – some interesting items were found including silver and enamelled brooches and a skull with a large iron hook!

Why was Cahercommaun built on the edge of a cliff?

Slides 10-12 History

10. The Burren is very rich in historical sites. History refers to the period of time after which writing was used to record events – in Ireland this goes back over 1500 years ago. Some of the most common historical structures in the Burren are stone walls – there are thousands of miles of walls in the Burren. Some Burren walls are over 4,000 years old, so they are actually archaeological sites! This wall has an interesting feature known as a 'puicket' – a small stone gate – built into it.

What do you think the puicket was used for? (to allow sheep and goats move between fields)

11. Round towers are wonderful feats of engineering. The best example in the Burren is at Kilmacduagh near Gort. This is thought to be the tallest and best preserved round tower in Ireland. It leans a little to one side, like the leaning tower of Pisa in Italy. Round towers date from the **Medieval** period, 8-1100 years ago. One striking feature of these towers is the elevated entrance door which may have been used to escape from robbers or maybe to display valuable reliquaries to passing pilgrims.

Can you point out the door to the round tower and suggest why it is so high up?

12. One of the more common and curious structures in the Burren is the '**turf thuille**'. During the famine people could not afford to buy turf and, unlike today, there was no available wood to burn. As a result, people collected sods of earth and animal dung – as poor people still do in other parts of the world today – and packed them into the turf thuille which was then covered to keep the rain off. The wind, blowing through the side walls, would dry off the 'turf' which was then collected in baskets and brought home to burn!

Can you guess what this structure was used for? (ask this before explaining above)?

Slides 13-15 Flora

13. The Burren is very famous for its flowers, and contains over 70% of all of Ireland's native flowering plants. The Burren has a wide range of **Habitats** - places where plants and animals live. Within a few steps in the Burren you can find habitats such as

grasslands, heaths, pavements, springs and woodland, each one of which has its own unique character and particular suite of plant and animal species. The presence of such a rich and diverse range of habitats in the Burren is a result of several factors - the unique nature of the Burren landscape with its thin, free-draining soils, the mild, wet climate and the low-input winter grazing farm systems that survive here.

How many different plants (flowers, grasses) can you spot in this grassland habitat?

14. In the Burren, plants from the icy Arctic such as the mountain avens may be found growing beside plants from Mediterranean countries such as the dense flowered orchid! But the most famous flower of all is the **Spring gentian** which is normally found in the Alps but bursts into flower every Spring (March-April time) in the Burren.

How come an Alpine plant likes the Burren so much – what are the similarities?(rock, light)

15. The Burren's grasslands are very species-rich and contain a rich diversity of flowering plants (over 28 per square metre on average according to one study). Among its best known flowers are **orchids** - 23 different types of which are found here (only c.26 in Ireland). These are the bee orchid and fly orchid – and a burnet moth is also shown here. *Which one is the fly (l) and which one is the bee (r) orchid – look at the shapes and textures?*

Slides 16 -18 Fauna

16. The Burren contains an abundant range of high quality habitats over a very extensive area. As such, it is the ideal place for a large number of animal species from mammals to birds, from butterflies to bumblebees. Collectively the animals of a region are known as the **fauna**, as distinct from the flora which refers to the plant life. At a time when biodiversity everywhere seems to be in decline, the Burren is a stronghold for wildlife and a great place to experience our wildlife close-up. The cuckoo for example, as shown here – dressed up for the *Fleádh na gcúach* festival in Kinvara.

Can you name any other types of fauna that live in the Burren?

17. The largest mammal to be seen roaming the Burren is the goat. These goats are called '**feral**' – meaning that they were once farmed, but now run wild – and number several thousand. Among them are thought to be some rare 'old Irish goats' which may have been here since the last ice age! Males goats are pucks, females billies and the young goats are called kids.

What can goats be used for? (milk, cheese, bodhrans)

18. The **slow worm** is one of the most surprising animals to be found in the Burren as it's not a native species but also because it looks like a snake! The slow worm is in fact a lizard which has evolved to lose its legs completely. They grow to 40-50 cm, half of which is their tail. Slow worms eat slugs, worms and caterpillars. How this curious animal came to be in the Burren is a source of some mystery but it is thought that they arrived as pets some 50 or more years ago. Some were released and found the Burren to their liking! *Grab this one by the tail and what happens? (it becomes detached to avoid capture).*

Slides 19-21 Culture

19. The Burren has been occupied by people for at least six thousand years. Over this time many monuments have been built, many traditions developed and stories told. People and their **culture** are very much a part of the Burren. In a recent excavation of a Burren cave, some human bones dating back almost 3,000 years were found. Remarkably, the DNA from these bones was found to match that from three local schoolchildren!

The Burren has more caves than anywhere else – why? (water burns through the limestone)

20. One of the most legendary characters to come from the Burren was Máire Rua, so called because of her red hair and fiery temper. She lived at **Leamanagh Castle** in the south of the Burren and legend has it that she had 25 husbands, all of whom died in mysterious circumstances! Her ghost is still reputed to haunt the castle.

Look closely at this picture – can you make out the old tower house on the right (c.1490) and the extended castle to the left (c.1650)?

21. Michael Cusack, founder of the GAA was born in humble circumstances in a small herdsman's cottage in the central Burren around the time of the famine. Today the GAA is one of the largest amateur sporting organisations in the world and his old cottage honours this fact.

How old is the GAA do you think? (1884)

Slides 22-24 Conservation

22. Farming and farmers are key to conserving the Burren. Every winter, Burren farmers drive their cattle onto the rocky hills, a tradition called **winterage** that goes back

hundreds of years. Though it sounds rough, the cattle thrive on the wide range of grasses and herbs, the fresh calcium-rich water and the warmth of the limestone, which is like an underfloor heating system! Without this tradition, scrub would grow over the Burren and a lot of the flowers and monuments would be in trouble.

What kind of farming do you think takes place in the Burren? (grazing for beef)

23. Tourism is one of the biggest industries in the Burren. But it can cause problems – traffic, littering and even something called ‘mini dolmen’ building, which this tourist is demonstrating.

What damage could this person be doing here?(damaging pavement, monuments, seed banks etc)

24. But you too have an important role to play in **conserving** the Burren. By understanding how important this place is you will be able to protect it. That’s why Burrenbeo have programmes like Eco Beo and Wild Child – so that you can learn about the Burren and help us all to protect it!

What is your favourite thing so far about the Burren?