

## Geology Sheet 1 Geological Time; billions of years of history



The Earth is immensely old - about 4,600 million years old. Scientists use modern dating techniques to uncover the age of the Earth. The rocks of North Clare range between about 341 million years and 318 million years old. This is still relatively young in terms of the total age of the Earth! The dinosaurs lived from about 230 million years ago until about 65 million years ago. Humans evolved only 2 million years ago.

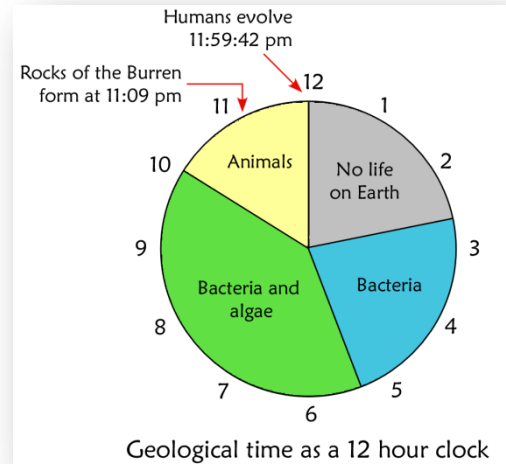


Fig. 1 Geological time as a clock

The diagram on the right shows the age of the Earth as a 12 hour clock. Notice how the rocks of the Burren form only at 11.09 pm, and humans appear at only 18 seconds to midnight. This shows how recently humans have lived on Earth!

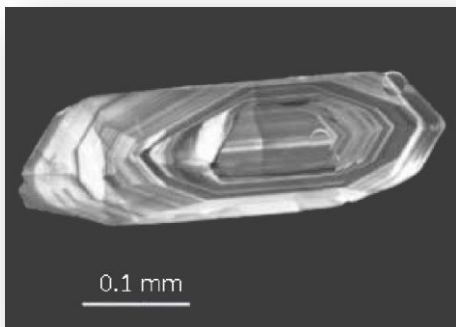


Fig 2. Zircon ( $ZrSiO_4$ ) crystals are often used for uranium-lead dating of rocks.

The oldest rocks in Ireland are found on the island of Inishtrahull, north of Malin Head, Co. Donegal, and in the very southeast of Ireland in Co. Wexford. The rocks are about 1,800 million years old. The oldest rocks in the world are found in northwestern Canada. These rocks are called the Acasta Gneiss rocks and they are 4,000 million years old.