Somerset
Earth Science Centre

# The Rocks
## Beneath Your Feet

The Mendip Hills is one of the most geologically diverse areas in Britain, with the age of the rocks spanning more than 300 million years. The geology has formed a unique landscape, which supports a rich variety of wildlife that thrives alongside the operational quarries of the Mendips.

This rock column shows the sequence of rocks that lie beneath your feet in this area, with the oldest rocks at the bottom, up to the grass on top of the present-day rocks. Grateful thanks to the late Chris King for the concept of this project and to John Wainwright & Co, Tarmac, and Doulting Stone quarries for donating the rocks.

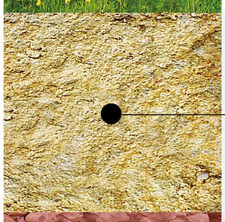
**Years Ago**

### Today

**Grass and Earth**

Over the last 145 million years, rocks from the previous time periods have been eroded away in the local area around Stoke St Michael.

**145 Million**

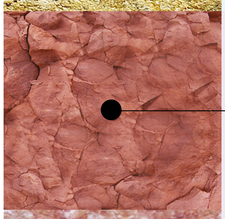


### Jurassic

**Doulting Stone**
Inferior Oolite
(Mid Jurassic)
Doulting Quarry

A rise in sea level during the Jurassic Period meant the Mendip Hills region was almost entirely submerged. Only a few areas of land, the 'Mendip Archipelago', islands, were exposed above sea level. Shell-rich oolitic limestone formed in shallow lagoons from warm coral seas.

**201 Million**

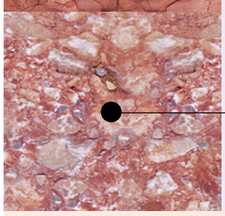


### Triassic

**Mercia Mudstone**
Shepton Mallet

During the Triassic Period, the climate was hot and dry. Red Mercia Mudstone formed in the lowland valleys.

**252 Million**



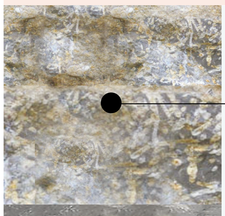
**Dolomitic Conglomerate**
Nettlebridge

The debris from the Permian erosion formed in wadis at the base of the Mendip Hills. This was then recemented with calcite and dolomite to form Dolomitic Conglomerate.

### Permian Unconformity

Over many millions of years, the Mendip mountains were eroded down to the hills we know today. No rocks permanently were laid down in this area until the Triassic Period.

**299 Million**

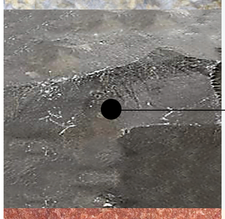


### Carboniferous

**Vallis Limestone**
(Lower Carboniferous)
Halecombe Quarry

During the Carboniferous Period, sea levels gradually rose. These warm seas, with coral reefs full of life, led to the formation of a range of fossiliferous limestones that now dominate the Mendip landscape.

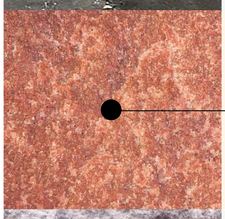
**359 Million**



**Black Rock Limestone**
(Lower Carboniferous)
Halecombe Quarry

At the end of this period during the "Variscan Orogeny" 290 million years ago, the Mendip Hills were uplifted and folded by earth crust movements, creating mountains over 1,000 meters high. Later during the Upper Carboniferous, coal seams in the nearby Nettlebridge valley were laid down in swamp-like conditions..

**419 Million**



### Devonian

**Old Red Sandstone**
(Portishead formation)
Stoke Quarry

Old Red Sandstone forms the core of the Mendip Hills at Blackdown, North Hill, Pen Hill, and overlays the Silurian rocks locally at Beacon Hill. It consists of a reddish-brown sandstone and conglomerate. These rocks formed when rivers crossed a coastal plain in an arid, desert environment.

**428 Million Years**

### Silurian

**Andesite**
(Wenlock Series
Coalbrookdale
Formation)
Moons Hill Quarry

Moons Hill was located south of the equator, at the edge of an oceanic plate margin, where a series of volcanoes formed an island arc. Violent eruptions of andesitic lava, tuff, and vent agglomerate became interbedded with mudstone known as the "Wenlock Shale". Such rocks are rare in the Silurian, making Moons Hill one of the few places they can be seen in the UK.