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Answers

Quiz: Geological timescale

This short quiz could be used as a brief introductory activity to begin discussion about geological timescales, an important concept in physical geography and climate change. It's designed to help students understand the timescales involved. The correct answers are given below, along with some additional information.

1 The correct answer is A, periods. These include the Carboniferous, Cretaceous and Tertiary (Neogene). They are often used to refer to UK rock types, e.g. Carboniferous limestone or Tertiary basalt. They are between 2 and 250 million years long.

See: www.tinyurl.com/y4y5zzp8

2 The correct answer is C, 2.7 billion years. These are the Lewisian Gneiss rocks outcropping in the far northwest of Scotland and Outer Hebrides. The oldest rocks in England are found in Charnwood Forest, Leicestershire, and are 600 million years old.

3 The correct answer is B, Carboniferous. These are the coal-bearing rocks exploited during the Industrial Revolution as well as gritstones used for millwheels and limestone used in industry, e.g. steel making.

4 The correct answer is D, Quaternary. A period characterised by global climate fluctuations. Pleistocene and Holocene are the early and late epochs of the Quaternary. Neogene is the preceding period (sometimes called the Tertiary, its older name).

5 The correct answer is C, Anthropocene. This proposed geological period emerged as an idea in the 1970s. Start dates for range from 15,000 years ago to the 1960s. The basic concept is to recognise the scale of human interference in natural processes such as the carbon cycle.

See: www.tinyurl.com/yfprc3hs

6 The correct answer is A, Cretaceous. This covers the period 66–145 million years ago. The name comes from the Latin 'creta' meaning chalk. Its end point, 66 million years ago, was marked by a global extinction event.

7 The correct answer is C, 44 million years ago. During the Tertiary (Neogene) period volcanoes were active in the west of the Scotland (Isle of Skye, Hebrides). These were caused by the Atlantic

Ocean opening up at a newly formed constructive (divergent) tectonic plate boundary. The active boundary today is the Mid-Atlantic Ridge.

8 The correct answer is B, trilobite. These extinct marine arthropods existed from the Pre-Cambrian to the Devonian periods (the last survivors became extinct at the end of the Permian). Bivalves and Brachiopods have existed since the Cambrian period, but Brachiopods (superficially similar) are now much less common. Ammonites evolved in the Devonian period and became extinct at the end of the Cretaceous.

9 The correct answer is C. These large land mammals are often called the ice-age megafauna and died out as climate warmed into the Holocene epoch and early human numbers multiplied. The 'B' group (dinosaurs) died out 66 million years ago. The 'A' group all became extinct in the last 300 years.

10 The correct answer is A, Permian, Triassic and Jurassic. These rocks are porous and permeable sandstones and limestones and as such can store liquid oil and gas so long as they have impermeable cap-rocks above them.