

Video question script, KS3 Geography: Circus activity 8. How long does it take? – quick to very, very, very slow

| Question/Activity | Likely response | Rationale |
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| When teaching about the Earth we often use practical activities to explore Earth processes. Here we are going to see how long it takes for some processes of Earth activity to happen. | | |
| What is this? | Two photos, showing Earth processes which take place on two very different time scales – a lava eruption and a reconstruction of how two ancient continents might have looked millions of year ago, when the Atlantic Ocean was forming, as they moved apart | Concrete preparation |
| And this? Whereabouts on the chart do you think these two photographs should go? | A chart showing time, ranging from a few seconds to millions, or even billions of years. Lavas may take from weeks to years to cool down and crystallise. It would take millions of years for a new ocean to form when a supercontinent begins to break up, since they only move apart at a few centimetres per year. | Pupils are asked to construct a pattern in the rates of Earth processes; processes with unknown rates will cause cognitive conflict. |
| Here is a wide selection of photos of geological processes, which take place over very different time scales. Pause the video and discuss where each photo should be placed on the chart. If you have a set of cut-out photos in front of you, then you can slide them around and see where they might fit. There may be several answers for some of them. Meanwhile, I'll go and cut up my set of pictures. <i>(Sources of photographs – as shown on each card)</i> | Show the complete set of photos at first. Demonstrate the placings of the cards, with a very brief comment about each. <i>(see table below)</i> | See above Metacognition is involved in the discussions |

| Very quick | How long: |
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| From seconds to minutes | <ul style="list-style-type: none"> • for an earthquake to happen? • for a landslide to happen? • for a pebble to be eroded from a river bed in a storm? |
| From minutes to weeks | <ul style="list-style-type: none"> • for mud cracks to form and be preserved? • for a flood deposit to be laid down? |
| From weeks to years | <ul style="list-style-type: none"> • for lava to crystallise and become solid? |
| From years to thousands of years | <ul style="list-style-type: none"> • for a glacial lake to fill with sediment? • for a monument to erode away |
| From thousands of years to millions of years | <ul style="list-style-type: none"> • for an intrusive igneous rock to crystallise? • do ice ages last? • does the Earth's magnetism stay in the same direction without reversal (the N magnetic pole staying near the N geographical pole)? |

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| From millions of years to thousands of millions (billions) of years | <ul style="list-style-type: none">• for a supercontinent to break up and reform• a new ocean to become 1000 km wide• for oceanic lithosphere to be recycled from spreading centre to subduction and up again? |
| Very, very, very slow | |