Video question script, KS3 Geography: Circus activity 7: The washing line of time

Question/Activity	Likely response	Rationale
When teaching about the Earth we often use practical activities to explore Earth processes. This example looks at the order in which fossilised organisms appeared in the rocks and how long ago each group appeared.		Preparation for bridging from picture cards of fossils to evolution theory
What is this?	A set of 16 cards; a piece of string about 5m long; a tape measure; 16 paper clips. (It will be best if you can make your own sets of cards from the workshop pack, rather than just pausing the video when we come to it).	Concrete preparation = asking them to describe the items
13 of the cards show pictures of various organisms that people have found as fossils in the rocks; 2 cards show extinction events. This means times when many different groups of organisms died out and no more are found as fossils. Try to place the cards on the bench in the order in which you think each organism first appeared on Earth (so far as we can tell from the fossil record); then add the 'extinction' cards. (Display cards in groups of 4 and comment briefly on each)	Cards will be placed in a wide range of order, depending on pupils' background knowledge. They can write down the names on the cards if they are simply pausing the video.	Understanding the pattern of increasing complexity of organisms (construction): deciding the correct order of appearance of organisms in the geological record (cognitive conflict): reasoning behind the final sequence (metacognition): The fossil record provides evidence for evolution and tells the history of life on Earth (bridging).
Here is a table showing the order of appearance of the main groups of organisms and 2 major extinction events (There are others). Try rearranging your cards to match the table (Don't show dates yet)	Rearrange cards or lists of names, while pausing video.	Following instructions
Now we know the order in which these organisms appeared in the rocks we need to say how long ago each type first appeared. Before we start; how old do you think the Earth is?	Answers will vary widely, but the figure of 4567 million years is the closest and is easy to remember. Call it 4600 million years or 4.6 billion years.	Previous knowledge
We'll use a piece of string 4.6 metres long to represent 4.6 billion years, to make our sums easier. You will need space to do this, such as a school hall or outdoors and I shall go into the garden. Now hang each card onto the string at the date where you think the first organism on that card appeared in the rocks. Remember to keep	Positions will also vary widely, with many pupils placing their cards evenly along the line.	Deciding the correct order of appearance of organisms in the geological record (cognitive conflict): reasoning behind the final placings (metacognition): The fossil record provides evidence for evolution and tells the history of life on Earth (bridging).

them in the correct order.		
Demonstrate correct positions for the cards on the garden line.	Wow!	-
If you would like to place your own cards more accurately, here is a table showing the millions of years and also the distance from “today” on the line to represent the time before the present.	-	-
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