Video question script, KS2: Starter: Running the fossilisation film backwards to 'bring a fossil back to life'

Question/Activity	Likely response	Rationale
When teaching about the Earth we often use practical activities to explore Earth processes. This example asks how we might "run the fossilisation film backwards to 'bring a fossil back to life'" from the evidence of the fossil, and the material in which it is found.		Preparation for bridging from the fossil to the living animal
What is this? [Photo of a specimen in the Jura Museum, Eichstätt, Bavaria (*Dee Edwards*)]	A photograph of a fossil of a horseshoe crab (*Mesolimulus walchi*) about 20cm long	Concrete preparation = asking them to describe the item
We are going to see if we can bring a fossil horseshoe crab back to life in our imagination. What clues can you see which might help you to explain how it lived and how it might have died?	Horseshoe crabs today live in the sea, so it is most likely that the fossil one did too. The flat shape suggests that it crawled around on the sea bed or swam near the sea floor. It is all in one piece, so the sea bed was calm at the time, and it wasn't killed by a predator. The marks in the sediment show its last dying movements.	Construction = applying their previous knowledge (Uniformitarian principle)
Now imagine that a film had been taken as the animal died. Imagine this film being run backwards. Describe what you would see.	Legs might appear from underneath the shell and the crab would slither backwards across the former sea bed, with the legs scrabbling in the sediment. It would move in an irregular line, perhaps through weakness, and might swim up a little into the water above.	Pupils have to use their creativity and imagination to bring the animal back to life, whilst 'bridging' between life today and in the past. Discussion about the activity is metacognition.
Now we'll ask a pupil to lie on the table, arms folded beneath the body, but feet resting on the floor, to represent the horseshoe crab lying on the former sea bed. Ask him/her to demonstrate the last moments of the animal, based on the answers above.	See how closely the pupil can recreate the dying moments of the animal in reverse.	Consolidation of the suggestions raised above
Were we right? The next photograph shows more of the same slab of former sea bed with an irregular set of footmarks. [Photo Dee Edwards]	The dying trail of the horseshoe crab indicates how the animal apparently 'staggered' to its last resting place.	Construction as evidence builds up and is evaluated
Now try to imagine this ammonite coming back to life. Cut a disc of card to represent the ammonite and use it to show what happened. You need to know that ammonites swam in the sea and probably only touched the sea bed as they died. Sometimes the sediment of the sea bed shows "bounce marks" as the ammonite hit the sea bed in a vertical position and bounced along before it settled out to lie on its side. *[Photo P. Kennett].*	Demonstrate with a disc of card	Pupils have to use their creativity and imagination to bring the animal back to life, whilst 'bridging' between life today and in the past. Discussion about the activity is metacognition.

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Now try this one for yourselves, and we are not going to give you the answers this time. *[From the American Geological Institute, Earth science World Image Bank http://www.earthscienceworld.org/images/index.html. Photo ID: hpdzvh, copyright Abi Howe, AGI.]*	Photo of *Albertosaurus*, 4m across	As above.