Video question script: The big picture, 'facts', earthquakes and plates

Question/Activity	Likely response	Rationale
The 'Big picture and the 'facts' of plate tectonics' short PowerPoint presentation gives an introduction into how plate tectonics can be taught from an 'evidence' perspective		To provide a framework into which ideas of plate tectonics can be fitted – for those unfamiliar with the plate tectonic story

The big picture and 'facts'		
Go through the presentation presenting each of the slides with diagrams – presenting all the information as fact		
Explain, as on the first text slide, that plate tectonics is not a series of facts, but is a theory supported by evidence		Cognitive conflict: plate tectonics as theory and not fact
For those who think that theories are woolly, unproven and therefore worthless – remind them that particle theory is a theory, not fact – but has so much evidence, that we can almost regard it as fact – like plate tectonics		Cognitive conflict: Theories are not woolly
Exploring the evidence for plate tectonic theory helps to understand it better, but may provoke more questions – the test of a good theory		Concrete preparation: to put activities used to teach plate tectonics into context

Earthquake and volcano distribution evidence		
Ask: Where on Earth are earthquakes and volcanoes? Answer the question by using the Geobattleships game with pairs of pupils. Use the Earthlearningidea: 'Geobattleships, do earthquakes and volcanoes coincide?'	Someone wins each game – but the 'winning' actually means that they have spotted the earthquake/ volcano pattern	Construction: pupils spot a pattern between earthquakes and volcanoes – many are in similar places
For the distribution of earthquakes slide, ask: 'What does the distribution show?	• Many parts of the Earth have no earthquakes • Elsewhere earthquakes occur in belts • These belts link up around the world • Intermediate and deep focus earthquakes o are associated with continents and islands o occur in sloping zones	Construction: pupils spot or are introduced to the pattern
Explain that plate tectonic theory helps to explain this pattern – as on the following slide		Bridging: from the pattern to plate tectonics

China plate summary		
Show a china plate. Ask: why are the Earth's tectonic plates called plates?	Both are: • solid • rigid • brittle • thin with a large surface area • chipped on the edges (where all the changes take place)	Bridging: from a china plate to a tectonic plate Consolidation