

## Video question script: Convergent margins

Question/Activity	Likely response	Rationale
Exploring convergent plate margins using the Earthlearningideas. 'Continents in collision' and 'The Himalayas in 30s'		Introduction to convergent margin characteristics
Explain that what happens at convergent margins differs depending on whether the plates carry continents or not. There are three types: <ul style="list-style-type: none"> <li>describe ocean v ocean convergent plate margins</li> <li>describe ocean v continent convergent plate margins</li> <li>describe continent v continent convergent plate margins</li> </ul>		All concrete preparation for an understanding of convergent plate margins
Demonstrate the cardboard plate model Ask what each of the parts represents	<ul style="list-style-type: none"> <li>slit = subduction zone</li> <li>down going card = subducting plate</li> <li>wooden blocks = continents</li> <li>tissues in between = sea floor sediments</li> <li>crumpled tissues = mountain ranges – being formed by compression</li> </ul>	Bridging: from the model to reality
Show slide of how the model can be extended to include new oceanic plate being formed		
Show the box with layers of sand and flour, add the piece of board at one end. Say that we are going to move the board slowly along the bottom of the box, keeping it vertical Ask what they expect to happen	The layers might buckle up The sand and flour might become mixed up together	Construction: applying previous experience of the patterns when things are compressed Cognitive conflict: working out what is likely
Move, or ask a class member to move the board along the box. Stop after about 3 cm of horizontal movement. Examine the results on both sides		
Move the board about another 3 cm and view the results again		
Point out the angular chevron folds and any reverse fault that forms Point out which direction the fold axes are running Ask how the direction of movement relates to the direction of the fold axes	The axes are at right angles to the pressures	Cognitive conflict: working out how stress (applied pressure) relates to strain (the result)
Note that the Himalayan mountain chain has folds and faults like this running roughly east-west. <ul style="list-style-type: none"> <li>What were the directions of pressures causing this deformation?</li> <li>What might have caused the deformation?</li> </ul>	The pressure directions came from the north and south The Himalayan chain was deformed and uplifted by the plate carrying the continent of India colliding with the plate carrying the continent of Asia.	Bridging: applying the ideas from the model to the world
Note that the same principles can be applied to any mountain chains formed by folding and to any folded rocks		Bridging: applying the ideas from the model to the world