



Aim:

To investigate the features produced at convergent and divergent plate boundaries

Materials:

- Deep plastic takeaway or storage box
- Cardboard
- Scissors
- Marking Pen
- Dry sand (appx 500 g)
- Flour (appx 100g)

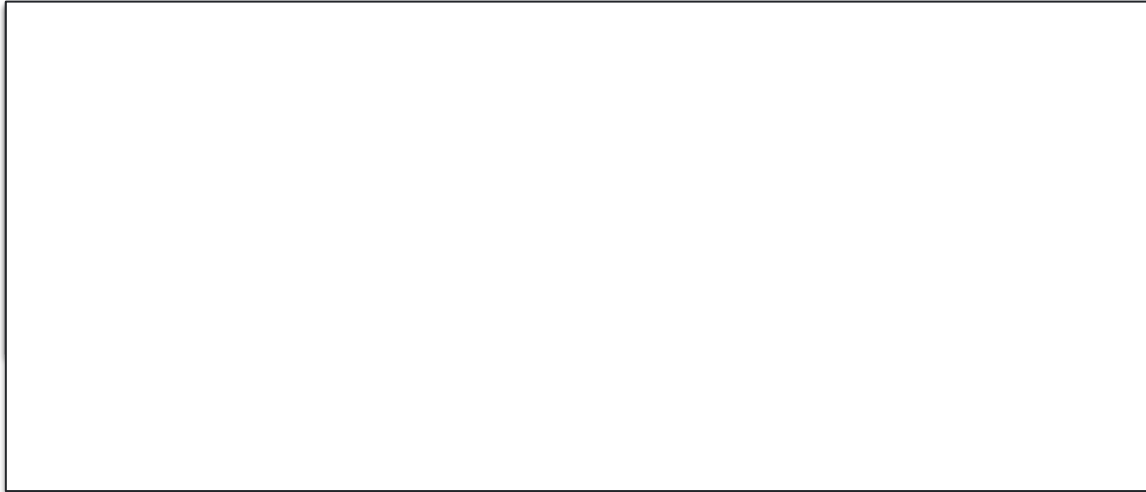
Method

A. Convergent boundary

1. Trace around the narrow end of the box twice on the cardboard.
2. Cut out the two pieces, leaving a few extra centimetres of height.
3. Place the cardboard pieces upright at one end of the box.
4. Create a thin layer of sand in the bottom of the box.
5. Alternate layers of flour and sand until there are five layers in total.
6. Slowly push the vertical cardboard pieces across the box, compressing the layers.
7. When you notice the layers beginning to bend, stop pushing and draw a scale diagram of the result.

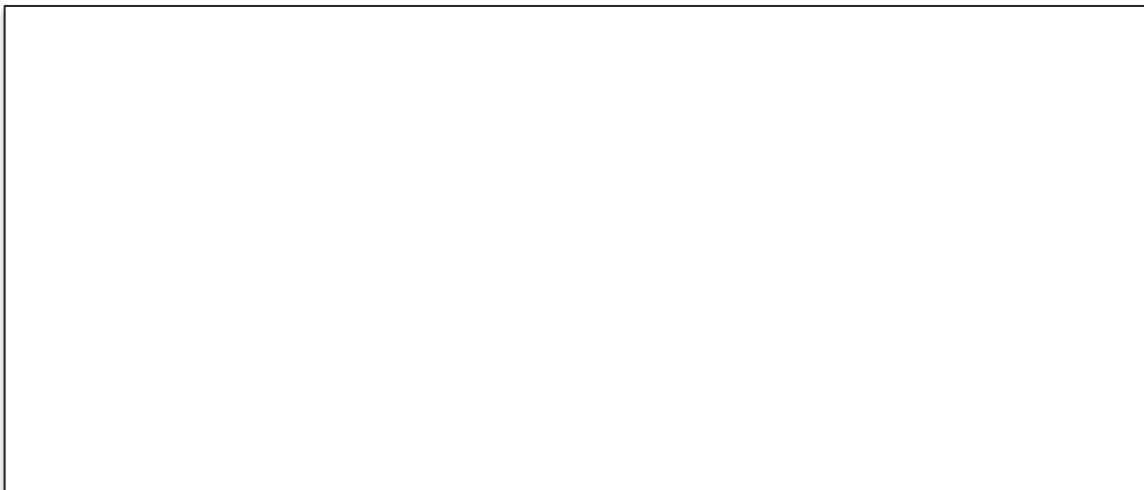


8. Continue pushing the layers until the sand is nearly at the top of the box. Draw a scale diagram of the result.



B. Divergent boundary

9. Hold the cardboard pieces upright in the centre of the box.
10. Create a layer of sand in the bottom of the box on one side only.
11. Alternate layers of flour and sand until there are five layers in total. These layers should fill most of one side of the box.
12. Slowly pull the vertical cardboard pieces across the empty side of the box.
13. When you notice the layers beginning to deform, stop pulling and draw a scale diagram of the result.



14. Continue pulling the cardboard until it reaches the other side of the box. Draw a scale diagram of the result.



15. Add arrows to your diagrams to show the directions of the forces in each case.

Analysis:

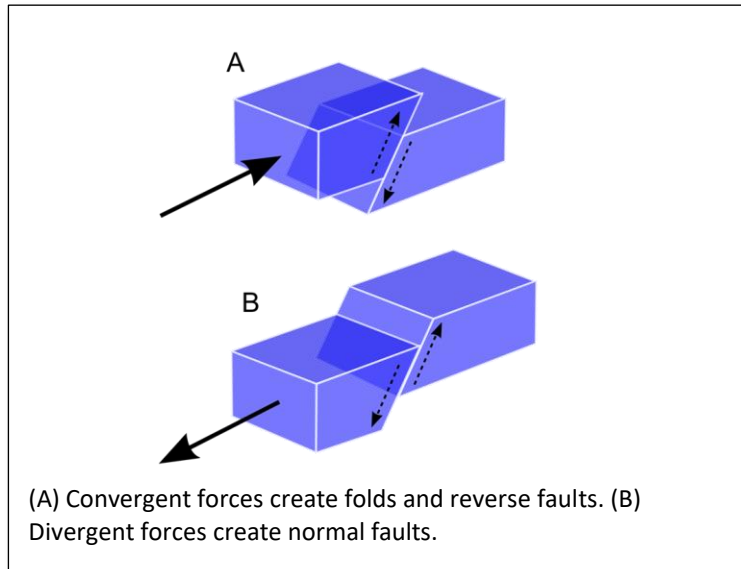
How did the convergent (pushing) forces affect the layers of your model? _____

What changes occurred in the surface of the convergent model? Relate these to landforms. _____

How did the divergent (pulling) forces affect the layers of your model? _____



What changes occurred in the surface of the divergent model? Relate these to landforms. _____

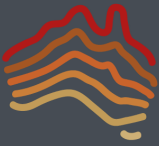


Use your knowledge of forces and faults to relate the geological features below to a type of plate boundary.



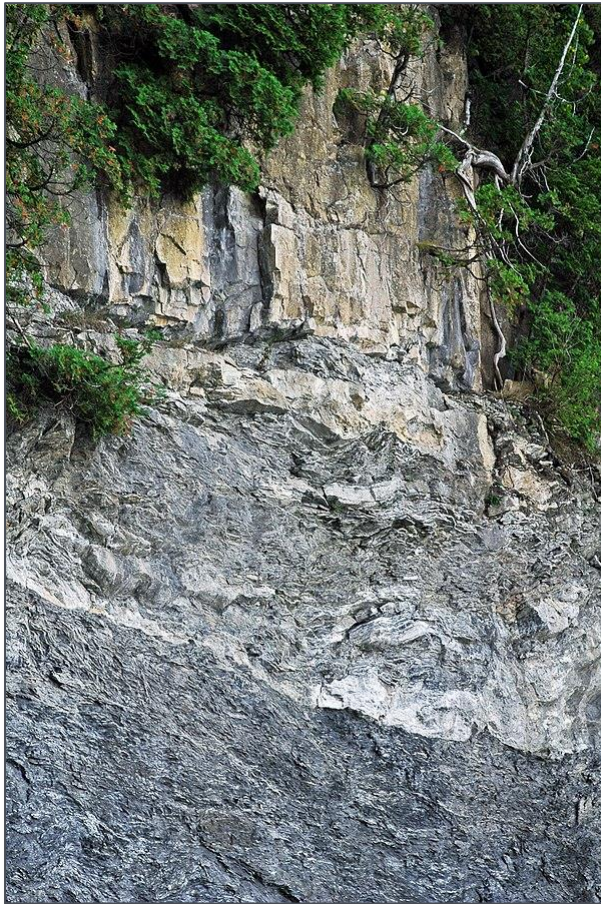
What type of fault? _____

How can you tell? _____



What type of fault? _____

How can you tell? _____



What tectonic setting? _____

How can you tell? _____

References:

Available in teacher notes

Resourced by

