WHAT HAPPENS IN AN EARTHQUAKE?

RESOURCE 7

RESOURCES

> A piece of paper towel and a piece of greaseproof paper
> An individual chocolate brownie
> 3 individual sponge cakes or squares of a layered cake like a Victoria sandwich or jam sponge
> Clean hands!

STEP 1

Put two cakes or pieces of sponge onto the piece of greaseproof paper. Very gently, with your palm, slide them towards one another until they collide.

> What happens? If the cake had layers what happened to the layers?
> One of your cake pieces represents the Indian tectonic plate and the other the Eurasian tectonic plate – each parts of the surface of the Earth.
> Draw a picture of your cake collision in the left hand box. Label the changes you can see.

Make your drawing here

Diagram of continental plates colliding to form mountains

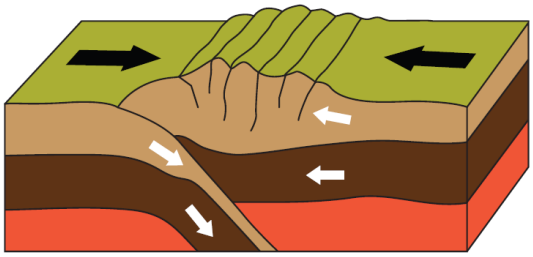

Diagram: Galapagos Conservation Trust

How does your model compare to the diagram above, showing how the earthquake in Nepal happened as the Indian tectonic plate moved towards the Eurasian tectonic plate?

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STEP 2

Repeat your experiment using the brownie and remaining piece of cake.

> Which cake crumbled first?
> How did they crumple?
> Did the levels change?
> Did any of one cake end up under or over the other?
> Again draw a picture of your results and label it.

Make your drawing here

Diagram of continental plates colliding to form mountains

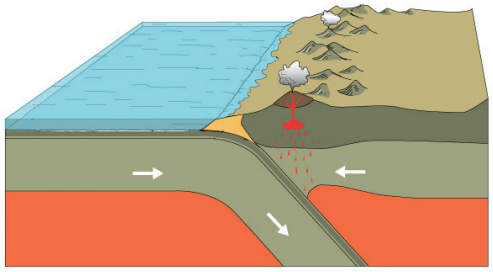

Diagram: brail@purdue.edu

How does your model compare to the diagram showing how earthquakes occur in Chile between the coast and the mountains?

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STEP 3

Use the words in the box below to write a paragraph to explain why an earthquake might happen in either Chile or Nepal. You could research to help your answer.

EARTH SURFACE CRUST PLATES JIGSAW
MOVE TOWARDS INDIAN PLATE EURASIAN PLATE
COLLIDE PUSH ROCK LAYERS
TOGETHER NOT SMOOTH FRICTION SHOCK WAVES
VIOLENT SHAKING EARTHQUAKE
OCEANIC CRUST SOUTH AMERICAN
CONVERGE CONTINENTAL CRUST PUSHED UNDER