GPS (Global Positioning System) has been used to map plate boundaries and monitor plate movement. GPS satellites send out signals to receivers on Earth. The returned signals can be used to pinpoint the location of the receivers. So far the evidence collected from all these sources supports the theory of plate tectonics.

Scientists use the information they gather from satellite images to determine the distribution and location of rocks. This satellite image shows Death Valley in the USA. The red areas are quartz sandstones and the green areas are limestones.

Earthquakes, volcanoes and mountains

If magma bursts through from ridges under the sea where plates move apart, do volcanoes also occur on the continents where plates meet? The answer is yes. Volcanoes do occur at plate boundaries, which are weak spots in the Earth's crust. The diagram top right on the previous page shows how volcanoes occur in subduction zones. Volcanoes also occur where plates move past one another. A lot of earthquake activity around the world occurs at plate boundaries.

Subduction zones are also areas where mountains form. For example the subduction of the Cocos and Nazca plates under the South American plate has formed the Andes Mountains. A lot of pressure and volcanic activity occurs here because of the trench formed where these three plates meet. There are many active volcanoes in the Andes, and it is also one of the most earthquake-prone places in the world.

You will need: a copy of the cartoons below, scissors
Cut out each cartoon and stick it in your notebook.
Write a caption for each cartoon, tracing the development of plate tectonics as a theory.