

ACTIVITY 6.1

CONTINENTAL DRIFT



Geological data indicate that around 250 million years ago there was a single, massive supercontinent on Earth. It extended virtually from the South Pole to the North Pole. Most of the rest of the surface area of the planet was covered with water. This continent has been named Pangaea. Pangaea was formed when several large tectonic plates – fragmented pieces that make up the Earth's crust – collided with each other.

Map based on plate tectonic maps by C. R. Scotese, PALEOMAP Project (<http://www.scotese.com>)

ACTIVITY 6.1 (continued) CONTINENTAL DRIFT



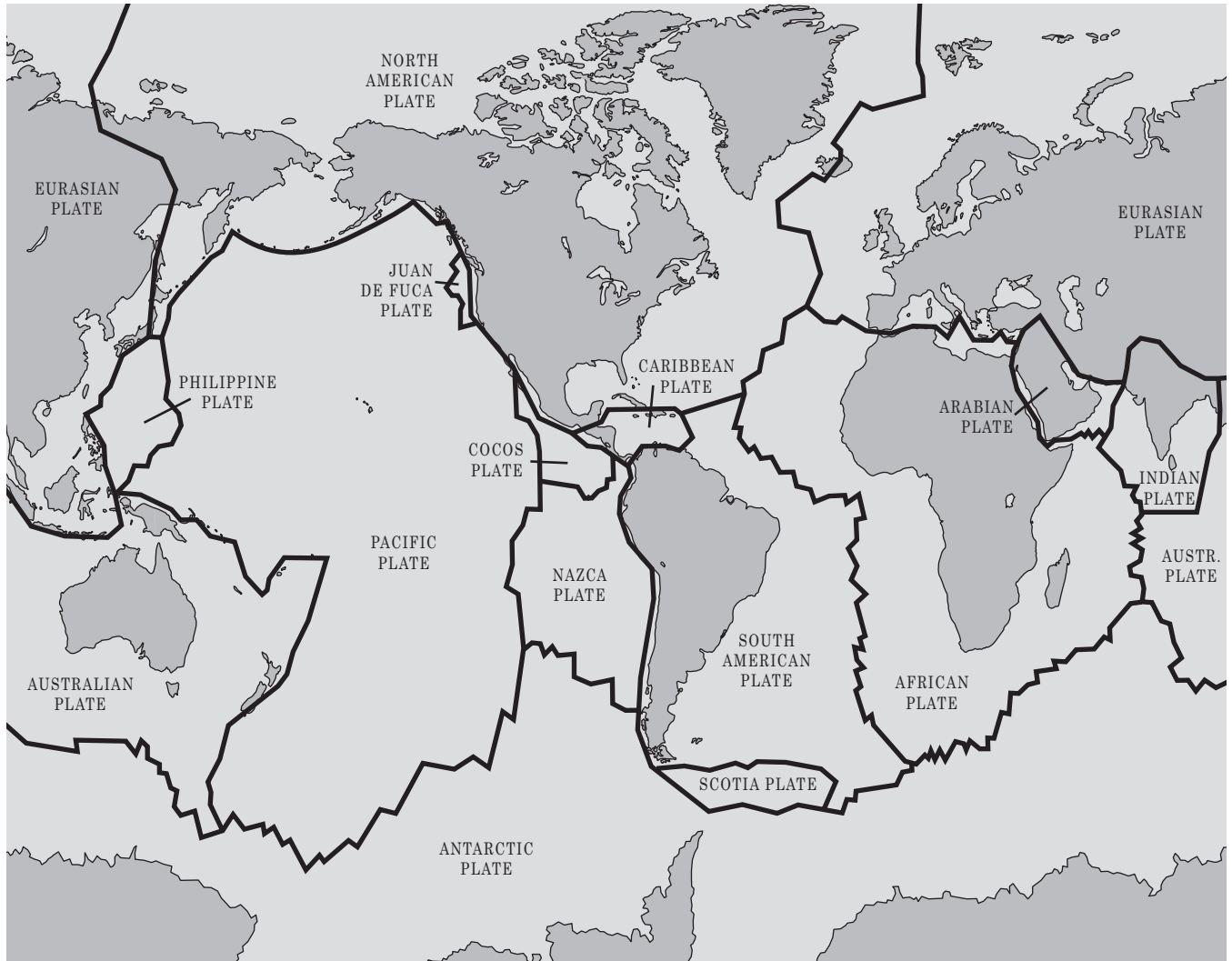
But these plates never stopped moving. Spurred on by the heat of the planet's mantle and gravity, Pangaea was eventually torn into two great continents: Laurasia to the north and Gondwana to the south.

During the past 150 million years, these great continents also were torn apart to form smaller continents. Laurasia fragmented into North America, Europe and Asia while Gondwana separated to become South America, Africa, Australia and Antarctica.

Map based on plate tectonic maps by C. R. Scotese, PALEOMAP Project (<http://www.scotese.com>)

ACTIVITY 6.1 (continued)

CONTINENTAL DRIFT



Base map by Mapquest Source: U.S. Geological Survey

Today the plates on which these continents ride are still in motion. They are moving at approximately the same speed that your fingernails grow: about an inch each year! This may not seem very fast, but over millions of years the plates can travel large distances at this speed. Furthermore, geologists hypothesize that this movement has been responsible for the formation of great mountain ranges when the plates collide, great rifts on land and ridges in the oceans where the plates have torn apart and violent earthquakes and volcanoes where they come into contact and put pressure on each other.