Chapter 3 Lesson 3

Plates- pieces of the Lithosphere that are seperated by cracks

Plates meet at boundaries

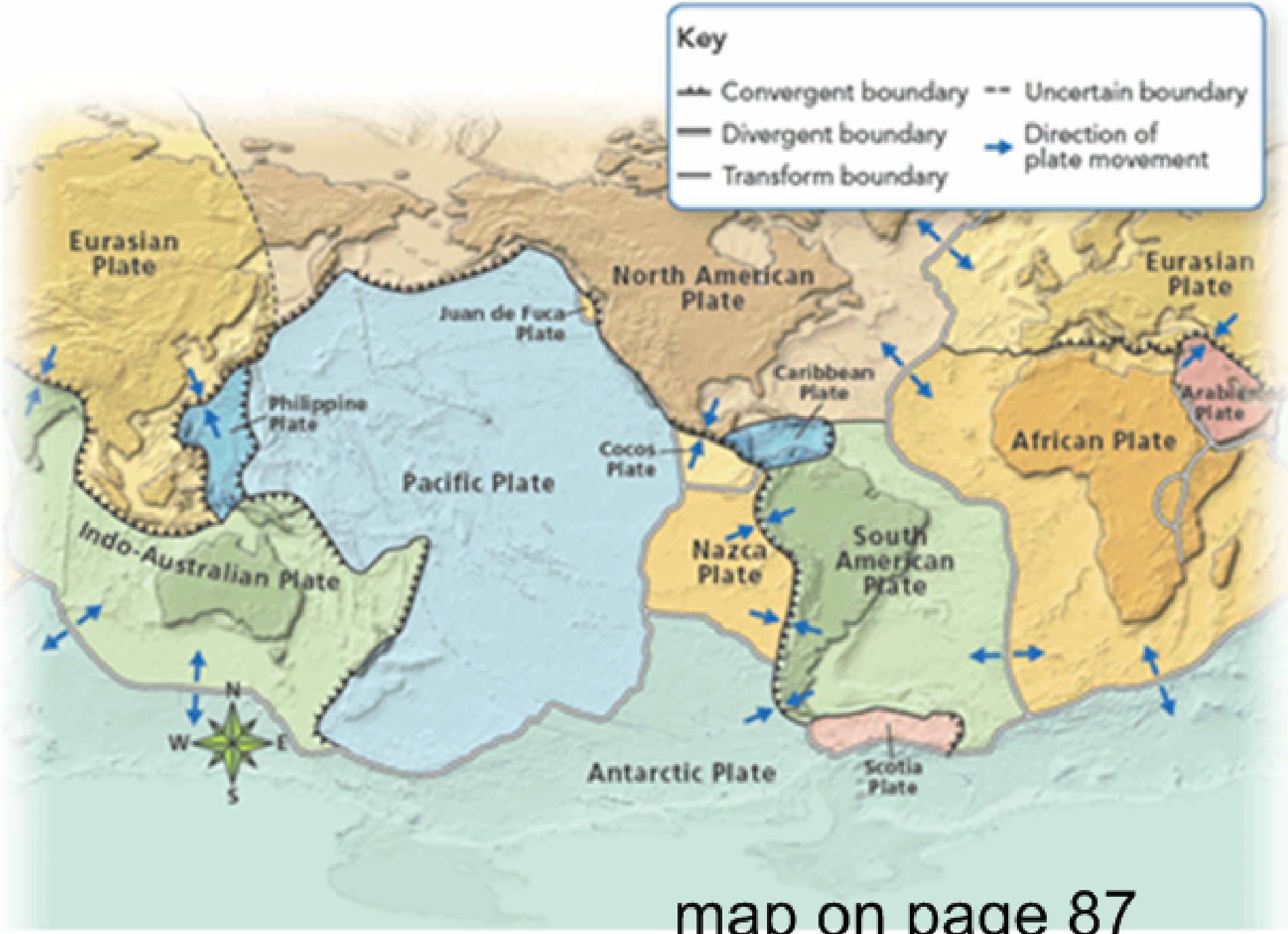
divergent boundary- a boundary where plates move apart

convergent boundary - a boundary where plates move together

transform boundary - a boundary where plates slip past each other

Theory of Plate Tectonics - earth's plates are in slow constant motion driven by convection currents in the mantle

subduction - gravity pulls denser plate edges down into the mantle



map on page 87

Plate Movement

- very Slow
- about 1 to 12cm per year
- N. American and Eurasian plates move at 2.5 cm per year

Plate movement has

- changed the location of continents and the size of oceans
- changed Earth's surface producing;earthqakes, volcanoes, mountain ranges, and deep-ocean trenches

Pangaea formed about 350 to 250 million years ago and began to break apart about 200 million years ago.

Faults-breaks in Earth's crust where rocks have slipped past each other- these form at the boundaries

Most divergent boundaries occur at mid-ocean ridges

- on land these divergent boundaries form rift valleys

- several are found in the East African rift system

Convergent Boundaries - the density of the plates determines which crust comes out on top

Ocean and Ocean crust collide- the cooler more dense crust will sink under the less dense crust (deep ocean trench)

Ocean and Continental crust collide- the oceanic crust is more dense and pushes the less dense continental crust up forming mountains like the Andes at the same time the ocean crust sinks through subduction- as it sinks water leaves the crust and rises melting the rock above into magma which rises forming a volcano

continental and continental crust collide - collision squeezes the crust to form high mountain ranges

Transform boundaries -

- sides of the plates are rocky and jagged
- two plates can get "locked" in place
- forces in the crust cause the plates to unlock causing earthquakes
- crust is neither created or destroyed
- San Andreas fault in California is an example