Notes on Plate Tectonics

Plate tectonics states that the Earth's crust and upper mantle are broken into sections, called plates.

These plates move around the mantle.

Plates are composed of the crust and a part of the upper mantle, these two parts together are called the lithosphere.

The layer below the lithosphere is the asthenosphere.

The lithosphere floats or moves around on the asthenosphere.

Three ways the plates can move.

1. move apart
2. move together
3. move past each other

Name of the three types of boundaries.

1. Divergent boundary
2. Convergent boundary
3. Transform fault boundary

Effects of each type of boundary on the earth's surface

1. seafloor spreading - when magma from the Earth's mantle rises to the surface at mid-ocean ridges and cools to form new seafloor, which new magma slowly pushes away from the ridge.

2a. subduction zone-
forms when ocean floor plate collides with a less dense continental plate, the ocean plate sinks under the less dense continental plate. This is where volcanoes tend to occur.

2b. subduction zone-
forms when two ocean plates collide, one plate bends and slides under the other. Volcanic arcs forms at this type of boundary.

2c. mountain ranges-
When two continental plates collide, they crumple up and form mountain ranges. Earthquakes are common at these boundaries.

3. When two plates slide past each other, either in opposite directions or in the same direction at different speeds. Earthquakes occur at transform fault boundaries.

Example of the effects of each type of boundary.

Divergent

1. North American plate moving away from the Eurasian and the African plates causing the Mid Atlantic ridge
2. Great Rift Valley in eastern Africa

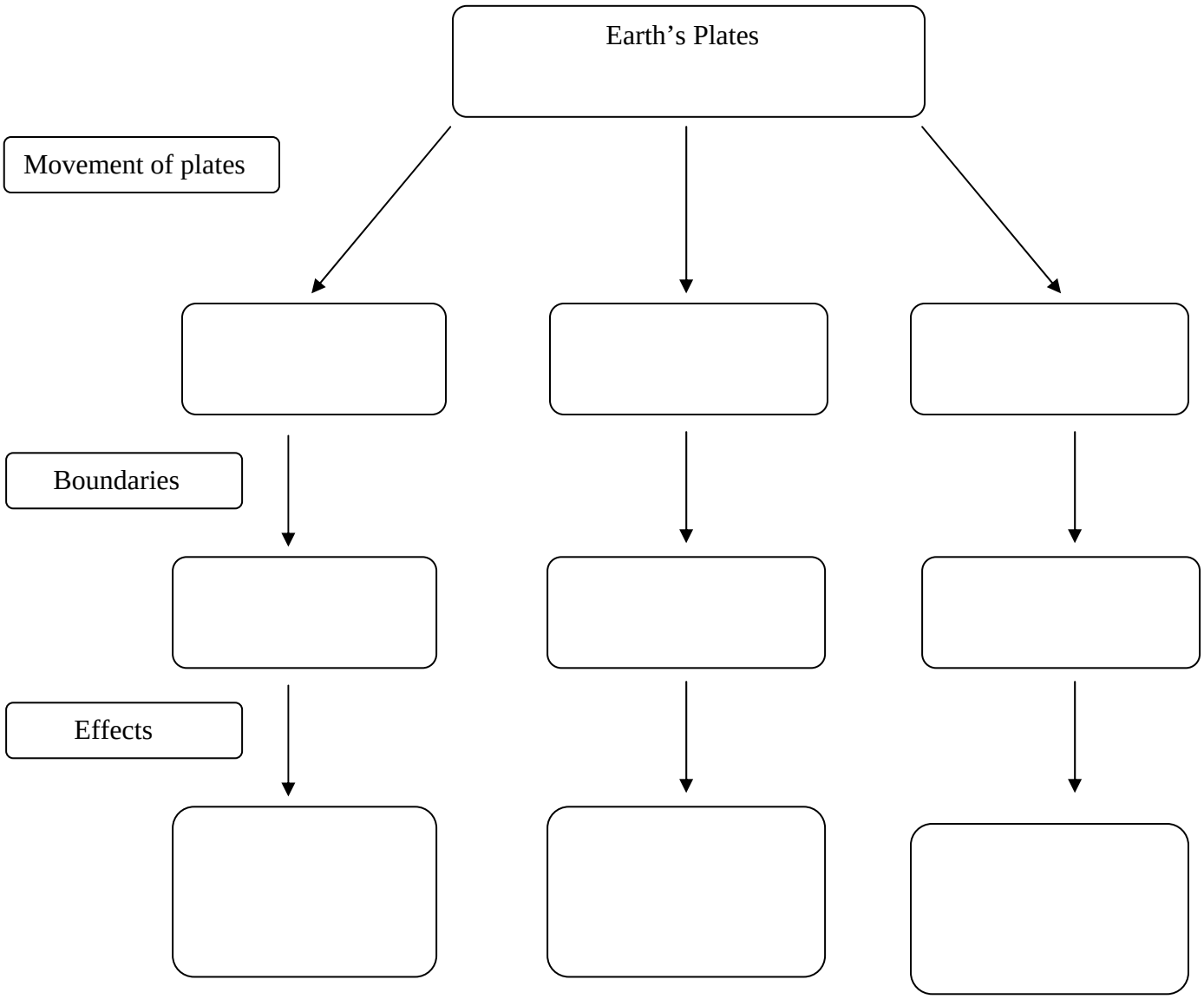
Convergent

1. Andes Mountains of South America formed at the convergent boundary of the Nazca and the South American plates.
2. Himalayan Mountains in Asia were formed when the Indo-Australian Plate collided with the Eurasian Plate

Transform Fault Boundary

1. The San Andreas Fault is a transform fault boundary and has been the site of many earthquakes.

Concept Map



Theory of Plate Tectonics

1. The theory of _____ states that the earth's crust and upper mantle are broken into sections called plates.
2. These plates are composed of the crust and a part of the upper mantle, these two parts together are called the _____.
3. These plates float on the _____.
4. Plates that move together form _____boundaries.
5. Plates that move apart from _____boundaries.
6. Plates that slide past each other form _____ boundaries.
7. _____ occurs when magma from the Earth's mantle rise to the surface at mid-ocean ridges and cools to form new sea floor. This occurs at _____ boundaries.
8. Subduction zones occur at _____boundaries.
9. Earthquakes tend to occur at _____boundaries.
10. Volcanoes tend to occur at _____boundaries.
11. Mountain ranges are formed at _____ boundaries.
12. The San Andreas Fault is an example of the effect of a _____ boundary.
13. The Himalayan Mountain Range is an example of an effect of a _____ boundary.
14. The Mid Atlantic ridge is being formed at a _____ boundary.

Answer Key **Theory of Plate Tectonics**

1. Plate Tectonics
2. lithosphere
3. mantle or asthenosphere
4. convergent
5. divergent
6. transform fault
7. sea floor spreading, divergent
8. convergent
9. transform fault
10. convergent
11. convergent
12. transform fault
13. convergent
14. divergent

Concept map answer key

Movement of plates		
move together	move apart	move past each other
Boundaries		
convergent	divergent	transform fault
Effects		
Subduction zone	sea floor spreading	earthquakes
Volcanoes	ridges	
earthquakes		
mountains		