

# NOTES — PLATE TECTONICS

Plate Tectonics	<p>Plate tectonics is a unifying _____ that attempts to explain _____ phenomena such as _____ and _____.</p>
Continental Drift Review	<p>Alfred Wegener -1912</p> <p>large “supercontinent” ( _____ ) existed and then split into pieces</p> <p>Wegener not able to provide _____ for his theory</p> <ul style="list-style-type: none"> <li>■ Jigsaw _____ fit of the continents</li> <li>■ _____ of plants and animals of the same age on continents separated by oceans</li> <li>■ _____ evidence in Brazil, where it is tropical</li> <li>■ Identical rocks in _____ ranges, now separated by the Atlantic Ocean</li> <li>■ _____ which only forms under wet / warm conditions have been found _____ the _____ ice</li> </ul>
New Evidence	<p>After World War II, there was a sustained effort by the U.S. to chart the _____ floor</p> <p>A. This _____, combined with several other discoveries, led to a rebirth of the continental drift model</p> <p>B. By the late _____, virtually all geologists _____ continental drift.</p>
Supporting Evidence for Plate Tectonics Theory	<p>1. Discovery of the Mid-Atlantic Ridge (Ewing) - Ocean floor mapping led to the discovery of a global _____ ridge mountain chain zig-zagging around the continents.</p> <p>2. Magnetic Variations on the Ocean Floor (Palaeomagnetism) - during cooling, minerals in the Basaltic rock, align themselves along the Earth's magnetic field - producing almost symmetrical <u>magnetic</u> patterns in the rocks either side of the _____ ridge (alternating stripes of magnetically different rocks).</p> <p>3. Theory of Sea-Floor Spreading (Hess) - development of _____ oceanic crust.</p>

<p>Seafloor Spreading</p>	<p>Since World War II research vessels with _____ depth recorders have crisscrossed the oceans, resulting in the construction of detailed _____ of the ocean surface</p> <p>Mid-ocean ridges were found to be _____ features of the ocean floors</p> <p>Examples</p> <ol style="list-style-type: none"> <li>1. Mid-Atlantic Ridge</li> <li>2. East _____ Rise</li> </ol>
<p>Paleomagnetism and Polar Wandering</p>	<p>The earth is structured as if a giant bar _____ is oriented north-south within the earth</p> <p>The orientation today is not exactly north-south, but is off by _____ degrees</p> <p>Compass _____ line up with magnetic field</p>
<p>The Rules of Plate Tectonics</p>	<ol style="list-style-type: none"> <li>1. _____ crust is _____ dense, or lighter, than Oceanic crust so it doesn't sink. It is never destroyed and is considered permanent.</li> <li>2. _____ crust is _____ dense so it can _____ below Continental crust. It is constantly being formed and destroyed at ocean ridges and trenches.</li> <li>3. Continental crust can carry on beyond the edges of the land and finally end far below the sea. This explains why the edges of all the continents don't have deep _____ right up against their coastlines.</li> <li>4. Plates can never overlap. This means that they _____ either _____ and both be pushed _____ to form mountains, or one of the plates must be pushed _____ into the mantle and be _____.</li> <li>5. There can never be gaps between plates, so if two plates move _____, as in the middle of the Atlantic, _____ rock will be formed to _____ the space.</li> <li>6. Earth isn't getting bigger or smaller, so the amount of new _____ being formed must be the _____ as the amount being destroyed.</li> <li>7. Plate movement is very _____. This is partly why Wegener's original ideas were ignored. Nobody could ' _____ ' the continents moving. When the plates make a sudden movement we call it an _____.</li> </ol>