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| **IB DP Geography – Mechanisms of Plate Movement** |



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| **Task 1 – Complete the table below using the image above as a guideline**  |
| **Label**  | **Feature** | **Brief description after further research. Include one piece of data.**  |
| **1** | **Crust** |  |
| **2** | **Mantle** |  |
| **3** | **Core** |  |
| **3a** | **Outer Core** |  |
| **3b** | **Inner Core** |  |
| **4** | **Lithosphere** |  |
| **5** | **Asthenosphere** |  |
| **6** | **Liquid** |  |
| **7** | **Solid** |  |

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| **Task 2** – Using your own previous knowledge (and Google if really stuck), complete the map below. To save time, number and print the name on each plate.  |

Plate tectonics is the theory that Earth's outer shell is divided into several plates that glide over the mantle, the rocky inner layer above the core. The plates act like a hard and rigid shell compared to Earth's mantle. Developed from the 1950s through the 1970s, plate tectonics is the modern version of continental drift, a theory first proposed by scientist Alfred Wegener in 1912.



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| **Task 3** – Study the diagram below that shows the process of subduction. Using the key word box, complete the exercise below.  |



Subduction is a geological process that takes place at \_\_\_\_\_\_\_\_\_\_\_\_ boundaries of tectonic plates where \_\_\_\_\_\_\_\_\_\_\_ lithospheric plate collides with another plate (continental or oceanic) and is forced or sinks due to \_\_\_\_\_\_\_\_\_\_ into the \_\_\_\_\_\_\_\_\_\_. The subducting plate \_\_\_\_\_\_\_\_\_ the rest of the plate behind it. Regions where this process occurs are known as subduction \_\_\_\_\_\_\_. Rates of subduction are typically in \_\_\_\_\_\_\_\_\_\_\_\_\_ per year, with the average rate of convergence being approximately \_\_\_\_\_\_\_\_\_\_ centimeters per year along most plate boundaries.

**Key Words**

2-8 zones gravity drags convergent mantle centimetres oceanic

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| **Task 4** - Watch the second video on the website and make notes below on how large-scale convection currents in the mantle work |
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| **Task 5** - Watch the third video on the website and make notes below on how mantle plumes work.  |
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 [Source](http://www.writeopinions.com/mantle-plume)

**Rifting**



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| **Task 6** - Add the following labels to the diagrams above in the right place and in the correct order: |
| * Plates continue to move apart as a rift valley is formed.
* Tensional Faults and cracks appear in the surface allowing outgassing and steam eruptions.
* Upwarping of the crust takes place as magma rises and the plates are driven apart
* Crust above the current slumps into uneven sections
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| **Task 7** - Add the following labels to the diagrams above in the right place: |
| * Continental Crust
* Asthenosphere
* Mantle
* Movement of plates
* Upwelling magma creates volcanoes
* Western Rift Valley with lakes like Tanganyika
* Kenyan Rift in Eastern Rift Valley
* Central plateau sinks to give Lake Victoria.
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Credit: Thanks to Rob Gamesby and Cool Geography for the graphics above.