UNIT ENQUIRY – How do tectonic forces make our landscape?

<u>Lesson 1</u> – What forces shaped the Earth?

1. Earth is shaped by **exogenic (external)** and **endogenic (internal) forces.**

2. **Exogenic** forces include agents such as:
    a. Weathering.
    b. Erosion.
    c. Transportation and deposition by the wind or water.
    d. Coastal process including tides and waves.
    e. Glacial activity.

3. **Endogenic** forces include agents such as:
    a. Tectonic.
    b. Volcanic eruptions.

<u>Lesson 2</u> – How do we know the continents move?

1. **Alfred Wegner**'s **theory of continental drift** suggests that continents once formed a single landmass (**Pangea**) before **breaking apart** and drifting to their present locations.

2. **Evidence** for continental drift includes:
    a. "**Jigsaw fit**" of continental coastlines.
    b. Matching **fossil** distributions across continents.
    c. Similarities in **rock** formations,
    d. Ancient **glacial** deposits.
    e. Evidence of **mountain** ranges.

3. This theory was not accepted by the scientific community at the time because Alfred Wegener **could not explain how and why the continents moved.**

<u>Lesson 3</u> – Why do continents move?

1. **Earth**'s surface is **split** into **tectonic plates,** which are **floating on the mantle.** This is where most **earthquakes and volcanoes** occur**.**

2. Hotter, less dense magma rises from the core towards the crust, cools, and then sinks back down, creating **convection currents** that drag the plates along.

3. **Ridge push** refers to the force exerted by the rising magma. It pushes newly formed oceanic crust away from the ridge.

4. **Slab pull** is the force exerted by the sinking of a dense oceanic plate (**subduction**) into the mantle, pulling the rest of the plate along with it.

<u>Lesson 4</u> – Why are plate margins popular places to live?

1. **Landforms** such as volcanoes, fold mountains, and ocean trenches are **found at plate margins.**

2. There are two types of plates - dense oceanic crust and the more buoyant continent crust. Plate boundary types are shown below:

3. **People choose to live near plate margins** despite the risks of earthquakes and volcanic eruptions because:
    a. Fertile land.
    b. Valuable resources.
    c. Opportunities for tourism.
    d. Geothermal energy.
    e. Family.
    f. Lack of awareness.
    g. Financial constraints.

<u>Lesson 5</u> – How has tectonic forces shaped the UK?

1. **Folding** refers to the bending or curving of rock layers due to compression.

2. **Faulting** refers to the fracturing and displacement of rock layers along a break or fracture called fault.

3. **The Great Glen Fault** in Scotland was formed due to a strike-slip fault, where land on either side of the fault moves horizontally in opposite direction. This formed deep valley and lochs (Loch Ness or Loch Lochy).