

الإدارة المركزية للتعليم العام

مستشار مادة العلوم



# Weekly Home Work

## UNIT 4: LESSON ONE

### Lithosphere and the Stability and Balance of Earth

# Integrated Science Secondary one Second Term 2026

مراجعة

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Lesson one: The Lithosphere and the Stability and Balance of Earth

Choose the correct answer

- 1- The Lithosphere consists of ....  
A) The Earth's crust only      B) The entire mantle  
C) The crust and the uppermost part of the mantle  
D) The inner and outer core
- 2- The scientific term "Sial" refers to continental crust rocks rich in ....  
A) Silica and Aluminium  
B) Silica and Iron  
C) Magnesium and Nickel  
D) Calcium and Potassium
- 3- The largest of Earth's layers by mass (representing 67% of Earth's mass) is ....  
A) The Crust  
B) The Mantle  
C) The Outer Core  
D) The Inner Core
- 4- The currents responsible for tectonic plate movement originate in the .....  
A) Mesosphere  
B) Inner Core  
C) Asthenosphere  
D) Continental Crust
- 5- The Earth's magnetic field is generated by the movement of molten material in the ....  
A) Lower Mantle  
B) Outer Core  
C) Oceanic Crust  
D) Upper Mantle



## Essay Questions

1- Compare the continental crust and oceanic crust (considering their predominant chemical composition and density).

concept	continental crust	oceanic crust
predominant chemical composition		
density		

2- Explain: Although the speed of tectonic plates is very small, its effects are significant and visible.

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.....

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3- Describe (using equations or explanation) how the lithosphere helps regulate the carbon cycle and reduce atmospheric CO<sub>2</sub> levels.

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4- Explain: Convergent movement contributes to the formation of towering mountain ranges.

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# Weekly Assessment

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إعداد

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المواد الدراسية

**Lesson one: The Lithosphere and the Stability and Balance of Earth**

**Model (A)**

**Choose the correct answer:**

- 1) Which of Earth's layers accounts for only 1% of the planet's total volume?
  - a) Mantle
  - b) Core
  - c) Crust
  - d) Lithosphere
  
- 2) The phenomenon of "Water Hardness" results from an increased concentration of which ions?
  - a) Sodium and Potassium
  - b) Calcium and Magnesium
  - c) Iron and Nickel
  - d) Carbonates and Bicarbonates
  
- 3) How does the lithosphere contribute to mitigating the phenomenon of Global Warming?
  - a) By releasing volcanic gases
  - b) By absorbing oxygen
  - c) By increasing atmospheric humidity
  - d) By conversing CO<sub>2</sub> into bicarbonates
  
- 4) What is the driving force behind the movement of the tectonic plates above the asthenosphere?
  - a) Convection currents
  - b) Gravity of the moon and the sun
  - c) Strong winds
  - d) Pressure resulting from the weight of ocean waters

**Essay Question**

**5- How do porous volcanic rocks (such as Zeolites) function as a sustainable technological solution for water-related issues.**

**Model (B)**

**Choose the correct answer:**

- 1) **What is the primary constituent of the oceanic crust known as "Sima"?**
  - a) Silica and Aluminum
  - b) Silica and Magnesium
  - c) Iron and Nickel
  - d) Granitic rocks
  
- 2) **The interaction of rainwater charged with CO<sub>2</sub> with calcite rocks leads to the formation of ...**
  - a) Caves and cavities
  - b) Volcanic mountains
  - c) Igneous rocks
  - d) Continental crust
  
- 3) **What is the primary reason continents rise above sea level compared to the oceanic crust?**
  - a) Because the surface area of continents is larger than oceans
  - b) Because continental rocks are harder
  - c) Because the density of continental crust rocks is lower than that of oceanic rocks
  - d) Due to ice accumulation on continental mountain peaks
  
- 4) **The African Rift is an example of .....**
  - a) Convergent movement
  - b) Transform movement
  - c) Stability of the Lithosphere
  - d) Divergent movement

**Essay Question**

5- Explain: Silicate rocks (such as quartz) are considered more resistant to weathering than limestone.

### Model (C)

#### Choose the correct answer

- 1) The semi-molten rocks region of the upper mantle that allows for plate movement is called the ....
  - a) Mesosphere
  - b) Asthenosphere
  - c) Sial
  - d) Outer Core
- 2) Which of the following minerals decomposes to release potassium ions ( $K^+$ ) essential for plants?
  - a) Calcite
  - b) Phosphate
  - c) Feldspar
  - d) Quartz
- 3) Why does the inner core remain solid despite extreme temperatures?
  - a) Due to sudden cooling
  - b) Because it contains nickel
  - c) Because of its far distance from the surface
  - d) Due to immense pressure
- 4) Which of the following elements contributes to making the oceanic crust denser than the continental crust
  - a) Magnesium and Iron
  - b) Aluminum and Silica
  - c) Sodium and Potassium
  - d) Hydrogen and Helium

#### Essay Question

5- Explain: Why is the chemical weathering of rocks considering a "natural production line" for the sustainment of life?