



الإدارة المركزية للتعليم العام

مستشار مادة العلوم

Weekly Home Work

UNIT 4: LESSON TWO

**Materials Composing Lithosphere and Their
Role in Earth's Stability and Continuity**

Integrated Science Secondary one Second Term 2026

مراجعة

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مستشار مادة العلوم

Lesson Two(Part 2): Materials Composing Lithosphere and Their Role in Earth's Stability and Continuity

Choose the correct answer

- 1- The mineral group that "dominates" the composition of most of the Earth's crust is
A) Oxides
B) Silicates
C) Sulfides
D) Carbonates
- 2- Adjusting electronic signals" in mobile phones functionally depends on the mineral
A) Quartz
B) Iron
C) Gold
D) Cobalt
- 3- The element iron is used in the manufacture of "electric cars" to achieve the goal of
A) increasing weight
B) reducing speed
C) sustainability and reducing pollution
D) changing the shape of roads
- 4- Which of the following represents an application of the "electrical oscillation" of minerals?
A) High-speed train
B) Wind turbines
C) Lithium batteries
D) GPS devices
- 5- Imaging internal body organs with extreme clarity and high precision without surgical intervention is a description of the function of
A) Traditional X-rays
B) Sonar
C) Magnetic Resonance Imaging (MRI)
D) Electronic Microscope
- 6- The main component of "electronic chips" is
A) Silicon
B) Plastic
C) Feldspar
D) Iron

7- Sediments transform into "sedimentary rocks" as a result of

- A) Fragmentation by weathering B) Their accumulation and pressure over time
- C) Exposure to extreme cold D) Boiling in the seas

8 - The glass we use daily depends in its manufacture on

- A) cooling of magma B) pressure of limestone
- C) melting of marble D) Sands

9- The "movement of tectonic plates" leads to pushing rocks to great depths, causing

- A) formation of surface sand B) rainfall
- C) The start of the transformation process D) freezing of rocks

10- Lava on the surface" upon cooling gives rocks

- A) Stratified sedimentary B) Igneous
- C) Pressure-metamorphic D) Fine sand

11- Silicon extracted from sand is considered the basis of "processors and electronic circuits" because it

- A) is a semiconductor that controls the flow of current
- B) is very hard
- C) is green in color D) is never melts

12- The mineral called the "oil of the twenty-first century" is

- A) Quartz B) Titanium
- C) Calcite D) Lithium

13- Egypt's "Heading to Future" project primarily aims to

- A) extract gold from mountains
- B) enhance strategic connectivity and support export ports
- C) build new pyramids
- D) increase desert area

Essay Questions

1- Explain chemically why limestone rocks are more susceptible to chemical weathering compared to silicate rock.

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2- Infer the environmental role of iron in the modern transportation industry.

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3- Explain: Titanium is considered the first choice in bone implant surgeries.

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4- Explain: The lithosphere represents a "natural reservoir" that ensures technological development.

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Weekly Assessment

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والمشرف على مستشاري

المواد الدراسية

**Lesson Two(Part 2): Materials Composing Lithosphere
and Their Role in Earth's Stability and Continuity**

Model (A)

Choose the correct answer:

- 1) Which of the following minerals has an atomic structure that makes it more resistant to "acid rain" rich in dilute carbonic acid?
 - a) Calcite
 - b) Quartz
 - c) Hematite
 - d) Magnetite
- 2) The "High-Speed Electric Train" contributes to achieving a more sustainable future by
 - a) increasing fuel consumption
 - b) using coal as an energy source
 - c) relying on non-renewable energy sources
 - d) reducing carbon emissions
- 3) Calcium and Iron" compounds are used in the medical field as
 - a) Surgical scalpels
 - b) Anesthetics
 - c) Nutritional supplements
 - d) Equipment cleaners
- 4) The "Rock Cycle" often begins with
 - a) Igneous rocks
 - b) Sedimentary rocks
 - c) Metamorphic rocks
 - d) Fine sands

Essay Question

5- Explain: The importance of "sand" as a strategic element in modern technology.

Model (B)

Choose the correct answer:

- 1) When diluted hydrochloric acid is added to a rock sample and a strong "effervescence" occurs, which of the following ions appear in the resulting aqueous solution?
 - a) Silicon
 - b) Iron and magnesium
 - c) Calcium and bicarbonate
 - d) Titanium and cobalt
- 2) The element iron extracted from "magnetite" is considered the backbone of
- 3) Which of the following medical technologies depends on "Neodymium (Nd), Iron (Fe), and Boron (B) alloys"?
 - a) Microelectronic chips
 - b) Wind turbines
 - c) Nano-cancer treatment
 - d) Lithium batteries
- 4) The mineral "Silicon" is an element mainly extracted from
 - a) Sea water
 - b) Metamorphic rocks only
 - c) Active volcanoes
 - d) Sand

Essay Question

5- Explain: Lithosphere rocks remain an "inexhaustible treasure" despite consumption.

Model (C)Choose the correct answer

- 1) Which of the following is "NOT" among the requirements for defining a mineral geologically?
 - a) Organic substance
 - b) Regular crystalline structure
 - c) Naturally occurring solid substance
 - d) Definite chemical composition
- 2) Which of the following technological industries would be completely "disrupted" if quartz were lost?
 - a) Iron and steel industry
 - b) Building wind turbines
 - c) Artificial joint implants
 - d) Global Positioning System (GPS)
- 3) An element that plays a pivotal role in the manufacture of smart "lithium-ion batteries" is
 - a) Gold
 - b) Silver
 - c) Cobalt
 - d) Magnesium
- 4) Which of the following processes is responsible for transforming "igneous rocks" into sediments?
 - a) Crystallization
 - b) Erosion and transport
 - c) Melting
 - d) Pressure and heat

Essay Question

5- Explain: "Silicon" contributes to reducing reliance on fossil fuels .