

تم تحميل هذا الملف من موقع المناهج الإماراتية



مراجعة الأسئلة المهمة مع الحلول وفق منهج انسابير

موقع المناهج ← المناهج الإماراتية ← الصف السابع ← علوم ← الفصل الثاني ← حلول ← الملف

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ملفات اكتب للمعلم اكتب للطالب الاختبارات الكترونية الاختبارات حلول عروض بوربوينت أوراق عمل
منهج انجليزي ملخصات وتقارير مذكرات وبنوك الامتحان النهائي للمدرس

المزيد من مادة
علوم:

إعداد: Gumber Shreya

التواصل الاجتماعي بحسب الصف السابع



صفحة المناهج
الإماراتية على
فيسبوك

الرياضيات

اللغة الانجليزية

اللغة العربية

التربية الاسلامية

المواد على تلغرام

المزيد من الملفات بحسب الصف السابع والمادة علوم في الفصل الثاني

دليل الطالب التعلم القائم على المشاريع والتقييم

1

كتاب الطالب الوحدة السادسة الموجات والضوء والصوت

2

عرض بوربوينت حل درس الضوء من الوحدة السادسة الموجات والضوء والصوت

3

أسئلة الامتحان النهائي الورقي بريدج

4

حل أسئلة الامتحان التجريبي انسابير

5

EOT 2



مؤسسة الإمارات
للتعليم المدرسي
EMIRATES SCHOOLS
ESTABLISHMENT

Important questions and concepts

GRADE 7

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Dr. Charmi Shah
Mrs. Rasha

2024

Learning outcome-

1. Determine what energy can a particle have

Unit 1
Page - 17

Solid particles are very close to each other and have strongest force of attraction.

Gas particles are far apart and have smallest force of attraction.

Potential energy is stored energy due to interaction between particles.

Identify the substance that has the greatest amount of **energy**. **Explain** your choice.

1. An ice cube at 0°C or a recently melted ice cube at 0°C .

1. The melted ice cube because liquids have more potential energy than solids.

2. A puddle of isopropyl alcohol or evaporated isopropyl alcohol (both are at the same temperature).

2. The evaporated isopropyl alcohol because gases have more potential energy than liquids.

Learning outcome-

2. Write the chemical formula of a compound

Unit 1
Page - 25

A chemical formula is a group of chemical symbols and numbers that represent the elements and number of each elements that make up a compound.

Chemical Formula

A carbon dioxide molecule is made up of carbon (C) and oxygen (O) atoms.




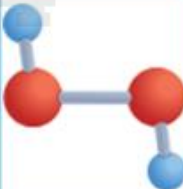

A symbol without a subscript indicates **one atom**. Each molecule of carbon dioxide has one carbon atom.

The **subscript** 2 indicates two atoms of oxygen. Each molecule of carbon dioxide has **two** oxygen atoms.

Write the chemical formula for each compound **model**.

Type in each box to complete the table.

Key  = N  = H  = O

Compound Model			
Formula	<input type="text" value="NH3"/>	<input type="text" value="H2O2"/>	<input type="text" value="HNO2"/>

Learning outcome-

3. Describe melting,freezing,boiling,evaporation,condensation and sublimation as processes that lead to state changes resulting from heating,cooling and pressure change



As energy is added, solid particles vibrate faster and temperature increases.



As particles move farther apart, the solid becomes a liquid. Temperature remains constant at the melting point.



Once all particles are in the liquid state, any additional energy increases the speed of the particles. Temperature increases.



MELTING



Change from solid to liquid

FREEZING



Change from liquid to solid

EVAPORATION



Change from liquid to gas

CONDENSATION



Change from gas to liquid

SUBLIMATION



Change from solid to gas

DEPOSITION



Change from gas to solid

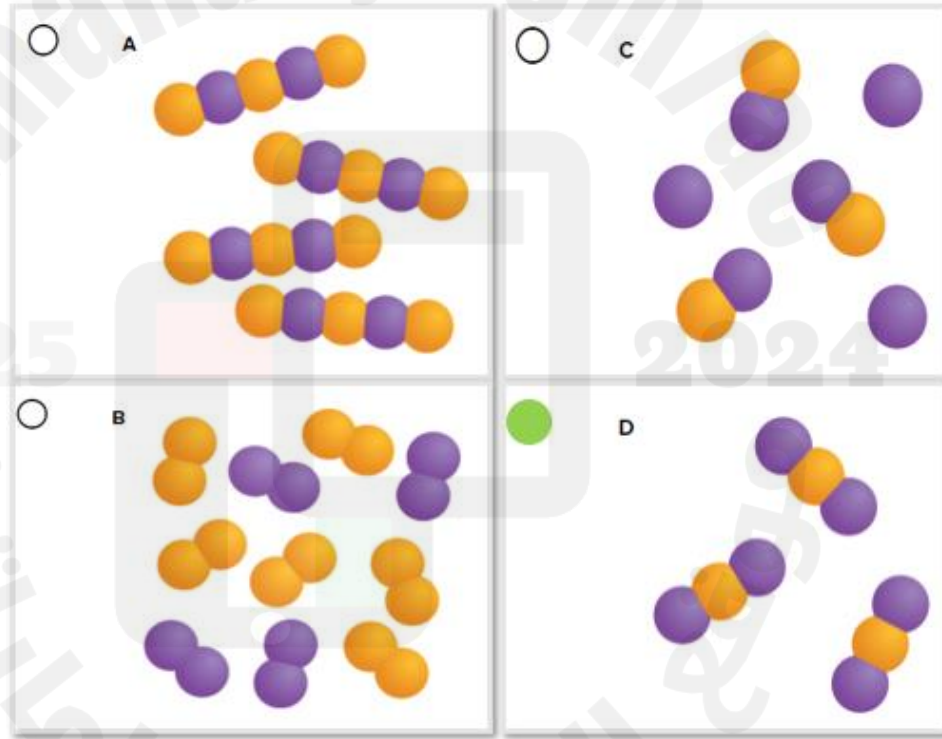
2024

Learning outcome-

4. Conclude that all materials are formed from different types of atoms combined together in different manners

Unit 1
Page - 27

2. Which model represents a compound with a 1:2 ratio?



Learning outcome-

5. Describe melting,freezing,boiling,evaporation,condensation and sublimation as processes that lead to state changes resulting from heating,cooling and pressure change

Unit 1
Page - 47/48

You might have seen puddle of water disappear. Which process is this when liquid converts to gas?

- melting
- evaporation
- freezing
- sublimation

During a hot shower, water vapor fogs up the cooler mirror when it turns to water. This is an example of _____.

- condensation
- deposition
- sublimation
- vaporization

Learning outcome-

6. Explain what happens to pressure ,volume and temperature when a liquid for example ,water or a gas , for example ,air, is pressured or heated without calculations

Unit 1
Page - 42

Pressure is the amount of force per unit area applied to object's surface.

The force caused by collisions of air particles around particles objects is called air pressure.

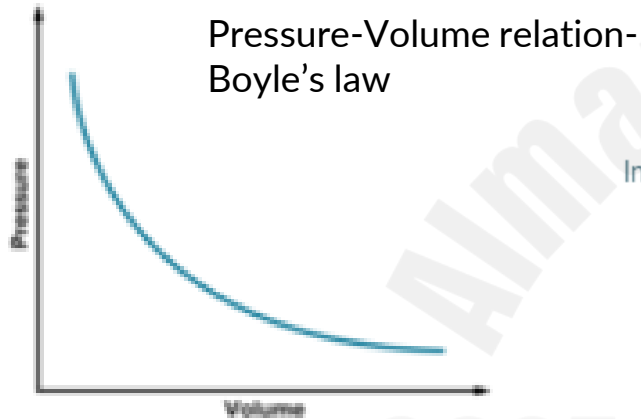
When temperature of gas increases, the pressure will _____

- decrease
- increase
- stay same
- none of the above

Learning outcome-

7. Determine the relationship between volume and pressure of gases as the temperature is constant

Unit 1
Page - 62



In a gas, which quantities relate in such a way that when one increases, the other one decreases?

- volume, pressure
- temperature, pressure
- temperature, volume
- number of particles, pressure

Pressure and volume have inverse relationship.

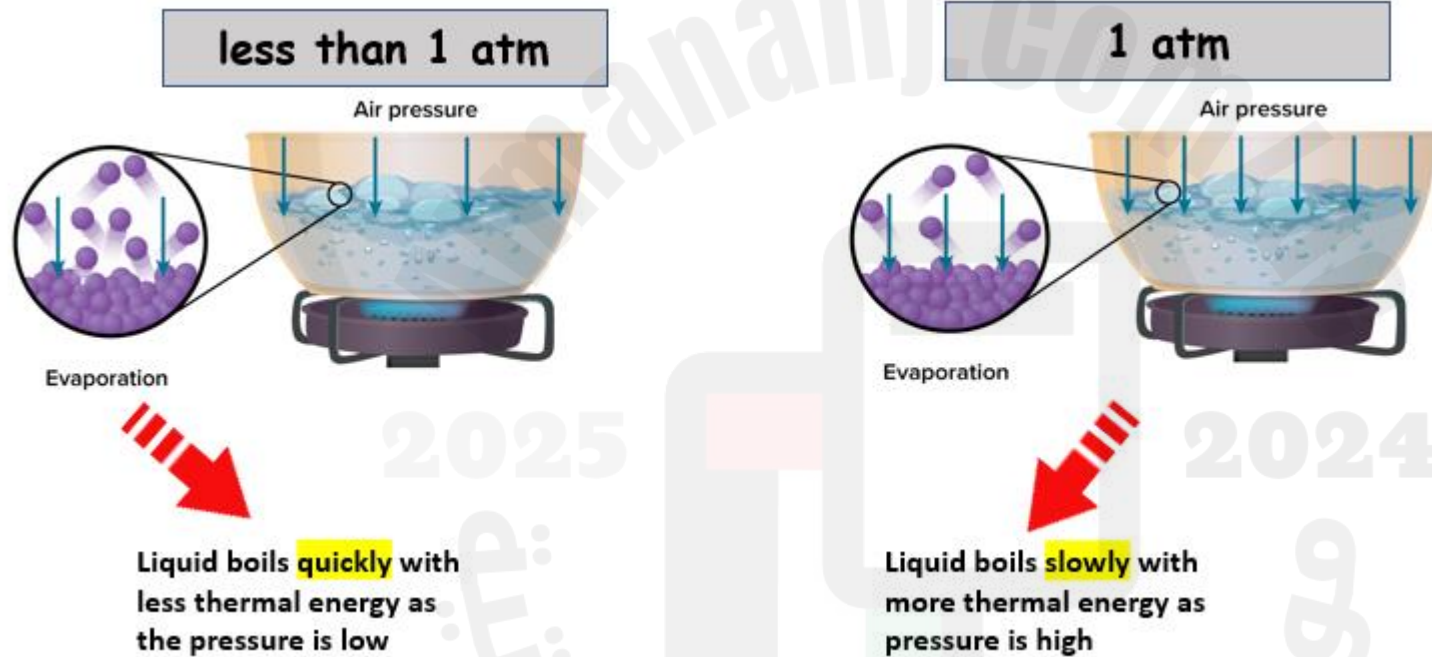
When pressure increases, the volume decreases.

When pressure decreases, volume increases.

Learning outcome-

8. Describe the relationship between pressure and state of matter

Unit 1
Page - 68



Learning outcome-

9. Investigate the physical properties of a substance e.g conductivity, melting point, density and the chemical properties of materials eg. reaction with water, through practical experiments

Unit 1
Page - 131

Physical Properties-Characteristics that you can observe (qualitative) or measure (quantitative) without changing the identity of the matter are physical properties of substances.

- mass
- volume
- density
- conductivity
- Boiling and melting points
- solubility

Chemical properties-A chemical property is a characteristic of matter that can be observed as it changes to a different type of matter

- flammability
- oxidation
- reactivity

Learning outcome-

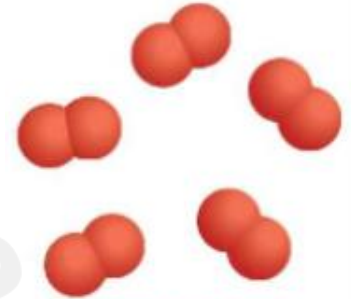
10. Compare the properties of metals and nonmetals

Unit 1
Page - 82

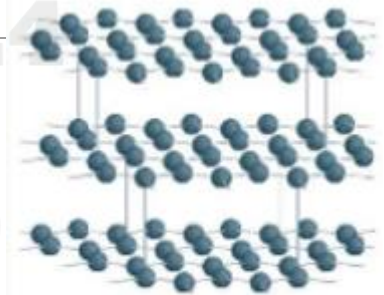
Metals	Non-Metals
Shiny	Dull
Form extended structures (large structures)	Are usually gases and solids
Have high melting and boiling points	Low melting and boiling points
Malleable (can be made into sheets)	Brittle (can be broken)
Ex: Copper, Gold	Ex: Sulfur, Oxygen gas



Type: **solid metal**



Type: **nonmetal gas**



Type: **nonmetal solid**

Learning outcome-

11. Compare the properties of ionic and covalent compounds

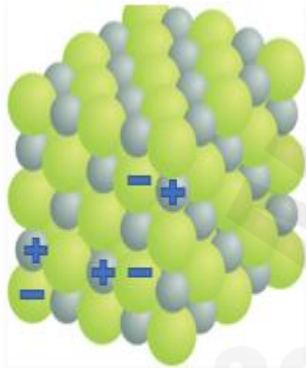
Unit 1
Page - 88-89
and 92

<u>Ionic Compounds</u>	<u>Covalent Compounds</u>
Forms between atoms of opposite charges	Form molecules
Strong attraction between atoms	Held together by bonds
Ionic compounds form extended structure with repeating subunits as solid (crystals)	Usually found as Gases or liquids
Have high melting and boiling points	Low melting and boiling points
Dissolve in water	
Conduct electricity	Poor conductors

Learning outcome-

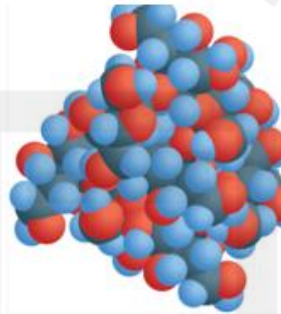
12. Compare the properties of ionic and covalent compounds

Unit 1
Page - 90



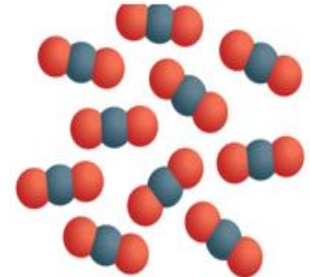
Sodium chloride is table salt.

IONIC COMPOUND



Sugar

POLAR COVALENT COMPOUND



NON-POLAR COVALENT COMPOUND

Learning outcome-

13. Compare the chemical properties and physical properties

Unit 1
Page - 128

The following are examples of physical properties except _____. _____ is a physical property.

- ability to dissolve in water
- ability to react with oxygen
- density
- shape

- Density
- Flammability
- Combustibility
- Oxidation

A characteristic of matter that allows it to change to something new is a _____.

- chemical change
- chemical property
- physical change
- physical property

The melting point of silver is a _____.

- chemical change
- chemical property
- physical property
- physical change

Learning outcome-

14. Conclude that density is a characteristic physical property of the material, and describe its relationship with mass and volume

Density is mass per unit volume of a substance.

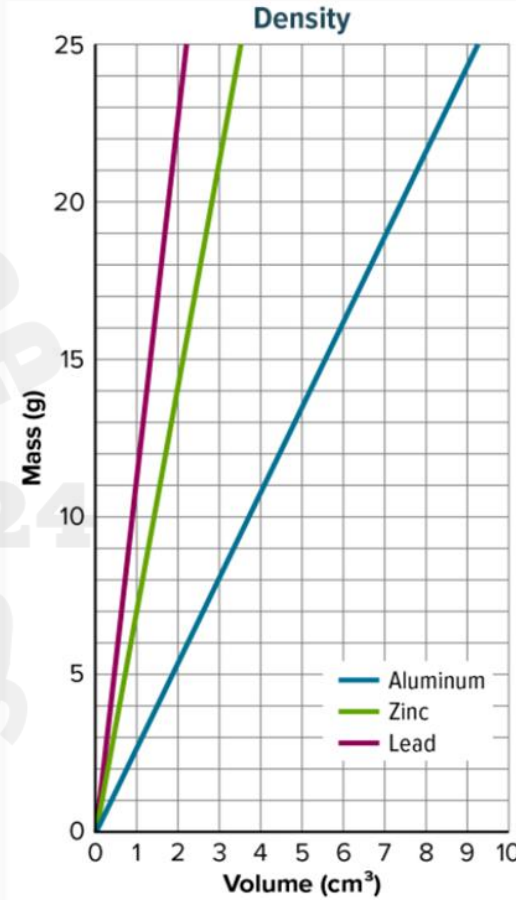
$$\text{Density (g/mL)} = \frac{\text{mass (g)}}{\text{volume (mL)}}$$
$$D = \frac{m}{v}$$

For graph on the right, densities are as follows:

Lead: 11 g/cm³

Zinc: 7.1 g/cm³

Aluminum: 2.66 g/cm³



Learning outcome-

15. Compare chemical changes physical changes in terms of the conversion of reaction of one or more pure substances that form reactants into different pure substances that form the resulting substances

Unit 1
Page - 144

Signs of chemical change

- color change
- smell (odor)
- texture change
- state of matter change
- temperature change

When a log burns in a fire, _____.

- a physical change has occurred
- mass is gained
- mass is lost
- new substances are formed

Titanium reacts less with oxygen than most metals do. This is a _____.

- chemical change
- chemical property
- physical change
- physical property

When a peeled banana turns black, it is a _____.

- change of state
- chemical change
- physical change
- thermal change

Learning outcome-

16. Conclude that the total mass before reaction is the same as the total mass after the chemical reaction

Unit 1
Page - 152
and 155

Which statement explains the law of conservation of mass?

- Every reaction creates an equal amount of mass related to the amount of energy required for the reaction.
- Substances cannot be created or destroyed in a reaction.
- The total amount of mass is equal to the volume of both chemicals in the reaction.
- The total mass before a chemical reaction is the same as the total mass after the reaction.

Which model shows that atoms are conserved in the reaction?

- $\text{CH}_4 + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O}$
- $\text{CH}_4 + \text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O}$
- $\text{CH}_4 + 2\text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O}$
- $2\text{CH}_4 + \text{O}_2 \rightarrow 2\text{CO}_2 + \text{H}_2\text{O}$

Learning outcome-

17. Determine the energy in chemical reactions as exothermic and endothermic reactions

Unit 1
Page - 166

Endothermic- Energy is absorbed-goes in-
temperature decreases

reactants + thermal energy → products

Breaking a chemical bond _____.

- absorbs energy from the surroundings
- creates energy that did not previously exist
- releases energy into the surroundings
- uses up energy that then no longer exists

Exothermic- Energy is released-goes out-
temperature increases

reactants → products + thermal energy

An exothermic reaction _____.

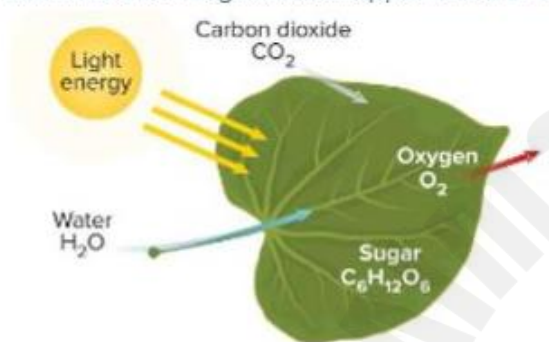
- absorbs thermal energy
- needs energy to be added constantly in order to continue
- needs more energy to break the chemical bonds than is released when products form
- releases thermal energy

Learning outcome-

18. Determine the energy transfers in chemical reactions

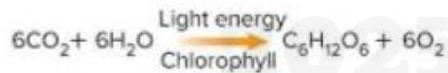
Unit 1
Page - 175

Examine the image. What happens to the energy from the Sun in the leaf?



Photosynthesis

Carbon dioxide + Water \rightarrow Sugar + Oxygen



- The light energy is consumed by the leaf and can no longer be used.
- The light energy is used to create energy that the plant uses.
- The light energy is used to break the bonds in the carbon dioxide and water molecules.
- The light energy is used to break the bonds in the sugar and oxygen molecules.

Learning outcome-

19. Distinguish between renewable and non-renewable Earth's resources

Unit 3
Page - 23

Renewable resources are resources that can be replaced by natural processes in a relatively short amount of time

Nonrenewable resources are resources that are being used up faster than they can be replaced by natural processes

3. When a biosphere resource is used up faster than it can be replaced, it is because

- A it is a natural resource.
- B it can be replaced in a short amount of time.
- C the resource forms very quickly.
- D the resource forms very slowly.

Which of the following is NOT a nonrenewable energy resource?

- oil
- coal
- uranium
- wood

2. Which of the following explanations best supports why land is considered to be a resource?

- A Using it has no consequences.
- B It is plentiful in all parts of the world.
- C It contains material needed by people.
- D It produces only renewable resources.

Learning outcome-

20. Determine the land resources

Unit 3
Page - 16

How do humans depend on land resources?

Land Resources People use land to grow food and for grazing animals. The wood used to make furniture, paper, cardboard, and other timber products comes from forests that cover the land. We build on land. We live and play on top of it. Land provides us with living space. People use land to create green spaces, or areas of natural vegetation in urban landscapes. Some land is also set aside for use as wilderness preserves and national parks. Development is limited in these places.



Certain minerals are mined to make products you use every day. These minerals often are called ores. **Ores** are deposits of minerals that are large enough to be mined for a profit. The average person uses 22,000 kg of mineral resources each year. For example, copper is used in electric wiring and plumbing fixtures, and quartz is used to make glass and ceramics. The automotive industry; agriculture and food production; and road, home, and building construction use mineral resources. These resources are mined from Earth.

A mineral is classified as an ore as long as _____.

- it is rare and valuable
- it can be used as jewelry
- it is profitable and useful
- it is solid and natural

If the cost of separating a mineral from waste rock becomes too great, the mineral may no longer be classified as an ore. This happens because _____.

- the mineral can no longer be mined at a profit
- the mineral has lost its usefulness
- the demand for the mineral has decreased
- none of the above

Learning outcome-

22. Determine the factor(s) affect the soil development

Unit 3
Page - 36
and 38

Soil is the loose, weathered material in which plants grow.

Soil Formation If you dig down into ground, you would see that soil has a layered structure. At some point in your digging, you would likely strike solid rock. Soil forms directly on top of the rock from which it is made. In most areas it takes 80 to 400 years to form about 1 cm of topsoil. It begins when weathering by water, ice, and other agents cracks and breaks down rock. Plants, bacteria, and burrowing organisms continue the process of weathering. They help break down rock. If all soil forms in a similar process, why does soil differ from place to place?

Factors Affecting Soil Formation The quality and **composition** of soil vary from place to place, depending on how the soil was formed. The many kinds of soil that form depend on five factors. These factors include **parent material, climate, topography, living things, and time.** Examine the table on the next page to learn more about each factor.

Warm, wet climates produce soil fastest. But large amounts of rain can wash away nutrients. The thickest, richest soils tend to be found in areas with moderate climates and gentle topography, where soils have been forming for a long period of time with little erosion.

How long does it take for soil to form?

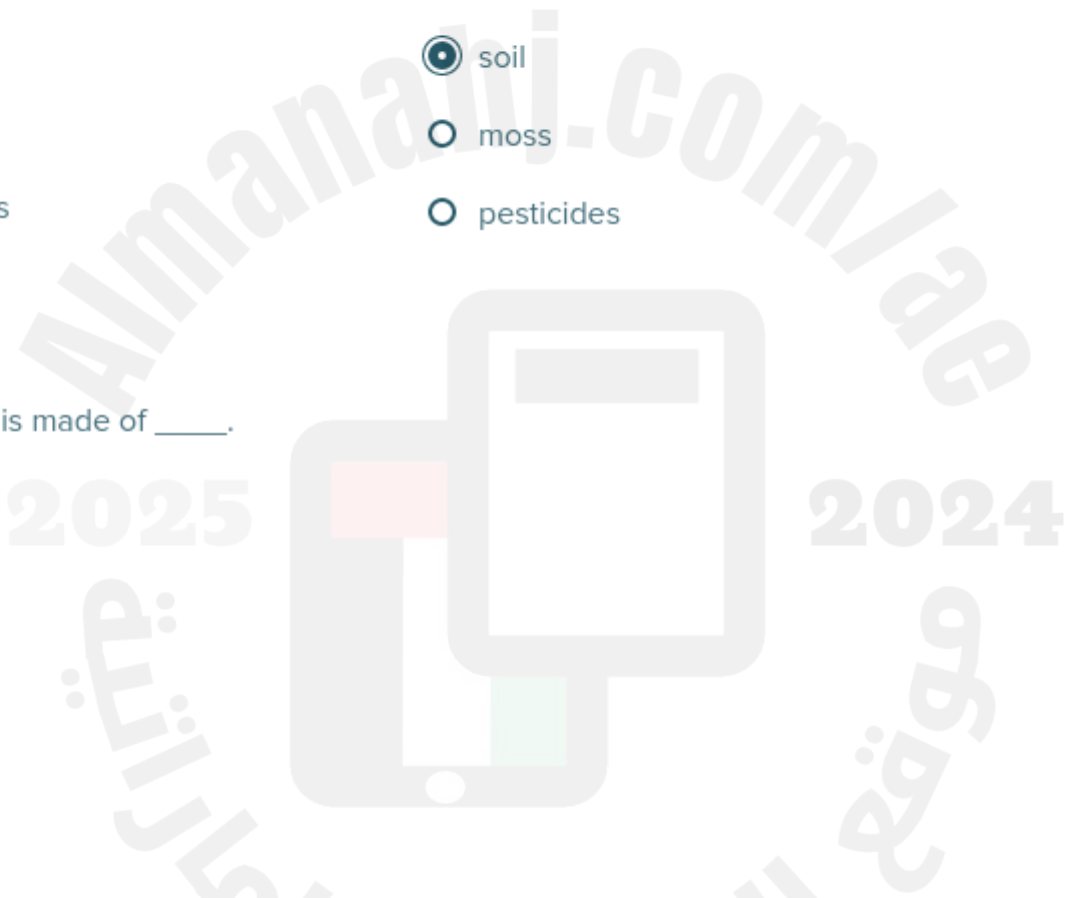
- a few hours
- a few days
- a few years
- thousands of years

Plants cannot grow without _____.

- rocks
- soil
- moss
- pesticides

The organic matter in soil is made of _____.

- dead worms
- stems
- roots
- all of the above



Learning outcome-

23. Determine where are minerals found on earth

Unit 3
Page - 32

Metallic minerals, including copper, gold, silver, lead, iron, and zinc, are associated with igneous intrusions and tied to plate tectonics.

Minerals that crystallize from these fluids are called hydrothermal deposits. Some of these deposits closely correspond to subduction zones—areas where one tectonic plate sinks beneath another.

Minerals are also found along boundaries where plates pull apart. Water moves through cracks in the rocks, carrying dissolved minerals. The water can gush out of a hydrothermal vent, or opening, on the ocean floor. Minerals precipitate out of solution and are deposited around the vent. These minerals form large chimney structures as seen to the right.



Distribution of Minerals Because of the geoscience processes that form minerals, they are not distributed evenly across Earth's surface. Many of the deposits we mine on land were actually formed on the ocean floor. These rocks were uplifted from the seafloor to become dry land. For example, the copper mines located on the island of Cyprus in the Mediterranean Sea were formed by hydrothermal activity on the seafloor millions of years ago.

Which is an example of a mineral being used in everyday life?

- A) Coal is used for heating.
- B) Mica is used in the manufacturing of cosmetics.
- C) Lumber is used to build shelters.
- D) all of the above

Minerals from Cool Solutions Not all minerals are associated with plate tectonics. Sometimes minerals can crystallize as water evaporates. As water seeps into the ground or flows over Earth's surface, it interacts with minerals in rocks and the soil. The water dissolves some of these minerals and picks up elements such as potassium, calcium, iron, and silicon. These elements become dissolved solids. During dry conditions, as water evaporates, solids crystallize out of the water and form minerals. A deposit of the mineral halite—common rock salt—forms when water evaporates, as shown

Learning outcome-

24. Determine the groundwater distribution

Unit 3
Page - 48

Processes in the water cycle, including precipitation, infiltration, groundwater flow, and the volume of groundwater naturally moved back to the surface, can all affect groundwater distribution.

depth of impermeable rock, such as granite, can support or block large amounts of groundwater from collecting.

The rock cycle also plays an important role in the distribution of groundwater. Surface drainage and the porosity and permeability of rocks below Earth's surface or sediment can influence where water collects underground. Some layers of rock, especially sedimentary rock, tend to be more porous than others and allow water to flow freely. The best groundwater basins are in valleys where a large amount of sediment has continuously been eroded and deposited. These

2024

Learning outcome-

25. Determine the factor(s) affect the soil formation

Parent Material Parent material is the starting material of soil. It is made of the rock or sediment that weathers and forms soil. Soil can develop from rock that weathered in the same place where the rock first formed. It can also develop from weathered pieces of rock that were carried by wind or water from another location. The particle size and the type of parent material help determine the properties of the soil in an area.

Climate Temperature and precipitation help determine an area's climate, or average weather. If the climate is warm and wet, soil formation can be rapid. But heavy rains carry away nutrients, so the soil is not good for growing plants. Rates of weathering tend to be low in dry climates and cold climates, so soils form slowly in these places. Areas with moderate temperatures and moderate amounts of precipitation tend to have rich soils.

Topography

Topography is the shape and steepness of the landscape. The topography of an area determines what happens to water that flows over the surface. In flat landscapes, most of the water enters the soil. In steep landscapes, most of the water flows downhill. It carries soil with it, leaving some slopes bare of soil. The soil is often deposited at the bottom of the slope. Here, soils tend to be thick.

Living Things

The organisms in soil range from tiny bacteria to furry moles. Living things help speed up the process of soil formation. They form passages for water to move through. When they decompose, they add organic matter to the soil.

Time

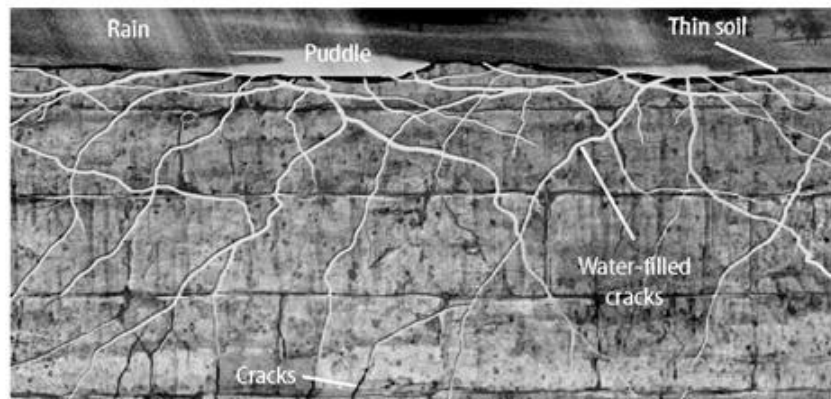
As time passes, weathering is constantly acting on rock and sediment. Soil formation is a slow, but steady process. Mature soils develop layers as new soil forms on top of older soil. Each layer has different characteristics as organic matter is added or as water carries elements and nutrients downward.

_____ is a factor that affects soil development.

- Time
- Slope
- Type of rock
- all of the above

Warm, wet climates produce soil fastest. But large amounts of rain can wash away nutrients. The thickest, richest soils tend to be found in areas with moderate climates and gentle topography, where soils have been forming for a long period of time with little erosion.

As the rain and water-filled cracks and other factors begin to break down the rock shown in the picture, it will begin to form soil. What is this rock called?



- source rock
- parent material
- core material
- organic



GOOD LUCK
FOR YOUR

EXAM A
N
D

DO THE BEST

