

Name of the student:.....

Grade 7-

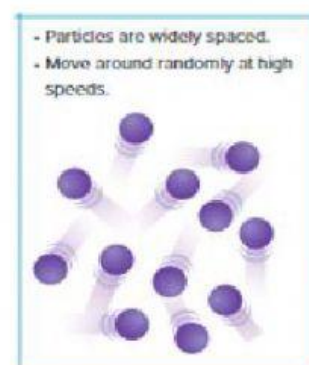
Instructions:

- * This question paper consists of three parts (PART A, PART B AND PARTC).
- * PART A Consist of 6 questions for 30 marks.
- * Part B Consist of 10 questions for 50 marks
- * PART C Consist of 4 questions for 20 marks.
- * Part 1 and Part 2 will be MCQs
- * Part C will be FRQs. (Free Response Questions)
- * Maximum overall Grade will be 110.

PART A (6*5=30 Marks)

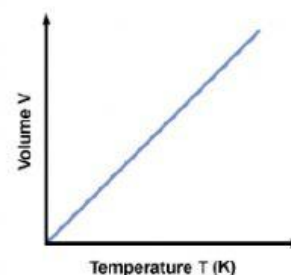
1. Identify the state of matter in the given picture below.

- A. Solid
- B. Liquid
- C. Gas
- D. Cannot be identified.

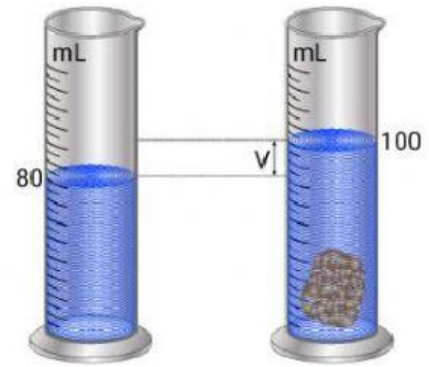


2. From the graph the relationship between the temperature and volume as per Charles law is

- A) Proportional
- B) Inverse
- C) Non-Linear
- D) Quadratic



3. Ahmad tended to find the **volume** of an irregularly shaped **stone**. He conducted the experiment shown in the image. What is the **volume of the stone**?



A) $V_{\text{stone}} = 100 \text{ mL} + 80 \text{ mL} = 180 \text{ mL}$

B) $V_{\text{stone}} = \frac{20 \text{ mL}}{80 \text{ mL}} = 0.25$

C) $V_{\text{stone}} = 100 \text{ mL} - 80 \text{ mL} = 20 \text{ mL}$

D) $V_{\text{stone}} = \frac{80 \text{ mL}}{20 \text{ mL}} = 4$

4. A **natural rock or sediment** that contains one or more valuable minerals, typically containing **metals**, that can be mined, treated, and sold at a profit is?

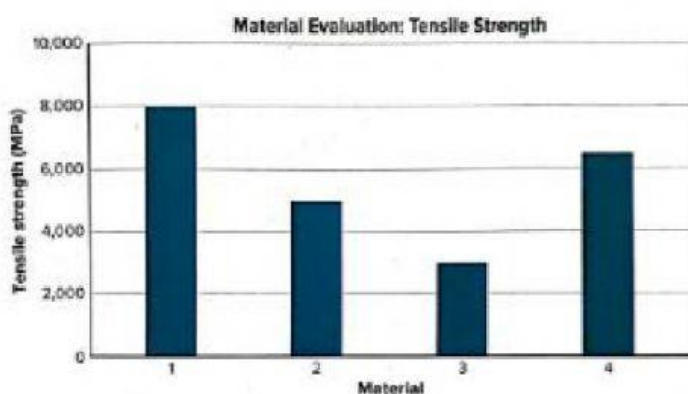
A) Ores

C) Mountain

B) Gas

D) Land

5. Which material should be considered if the product must be **tear-resistant**?



A) 1

B) 2

C) 3

D) 4

6. Study the table below showing worldwide production rates and total reserves for some of the more common mineral resources. Then answer the question that follow.

Mineral	Production (thousands of metric tons)	Reserves (thousands of metric tons)	Estimated Life of Reserves (years)
Iron ore	3,320,000	190,000,000	57
Aluminum ore (bauxite)	274,000	28,000,000	102
Phosphate rock	223,000	69,000,000	309
Chromium	27,000	>480,000	>18
Copper	18,700	720,000	39
Manganese	18,000	620,000	34
Zinc	13,400	200,000	15
Titanium concentrates	6,090	790,000	130
Lead	4,710	89,000	19
Nickel	2,530	79,000	31
Tin	294	4,800	16
Cobalt	124	7,100	57
Silver	27	570	21
Gold	3.0	56	19

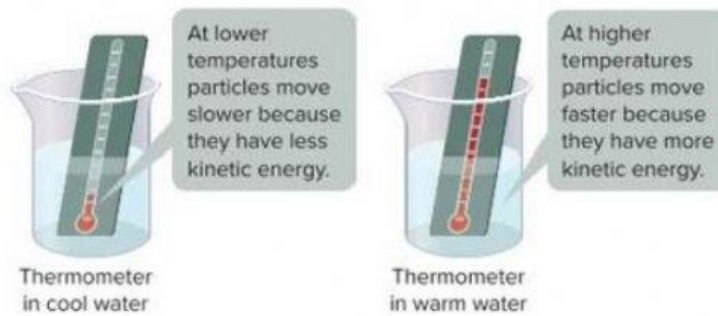
Source: U.S. Geological Survey Mineral Commodity Summaries

What is the estimated **life expectancy of tin** reserves?

- A) 31 years
B) 21 years
C) 16 years
D) 130 years

PART B (10*5=50 Marks)

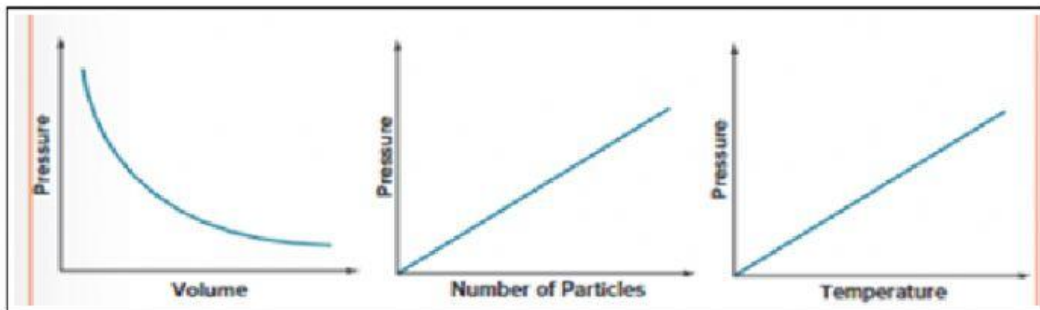
7.



The measure of the **average kinetic energy** of the particles in a material is called?

- A) Kinetic energy
- B) Potential energy
- C) Temperature
- D) Heat

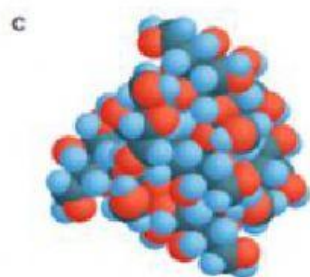
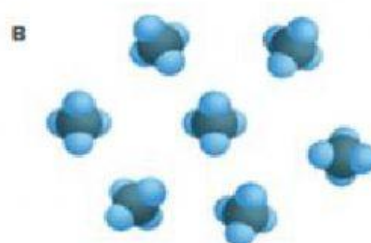
8. Analyze and interpret the below graph.



When the **temperature decrease**, pressure _____

- A. Increases
- B. Decreases
- C. Remains the same
- D. Doubles

9. In a lab you test the properties of a substance. The substance is a **solid**, with a **dull** appearance. It does **not conduct electricity**, but will **dissolve in water**. When hit with a hammer **it shatters in to pieces**. Which **structure** would you predict this substance to have?



10. In the figure below, identify the pair shows **flammability**?



A) A,E

B) D,C

C) B,C

D) A,B

11. Which model shows that **atoms are conserved** in the reaction?

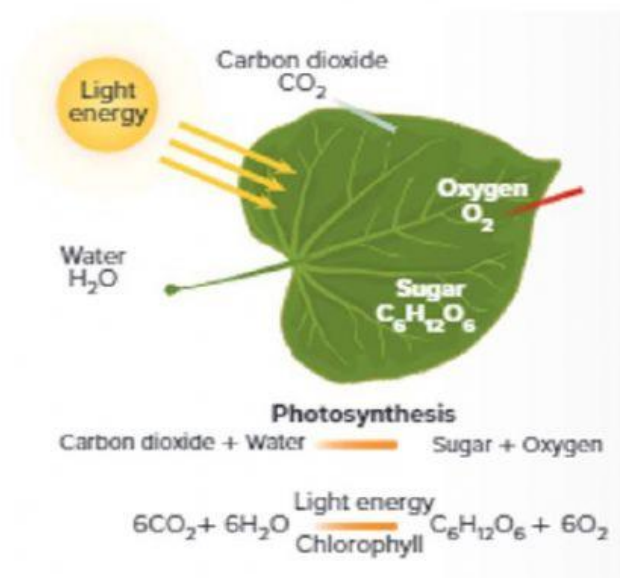


12.

Examine the image to the right.

4. What happens to the energy from the Sun in the leaf?

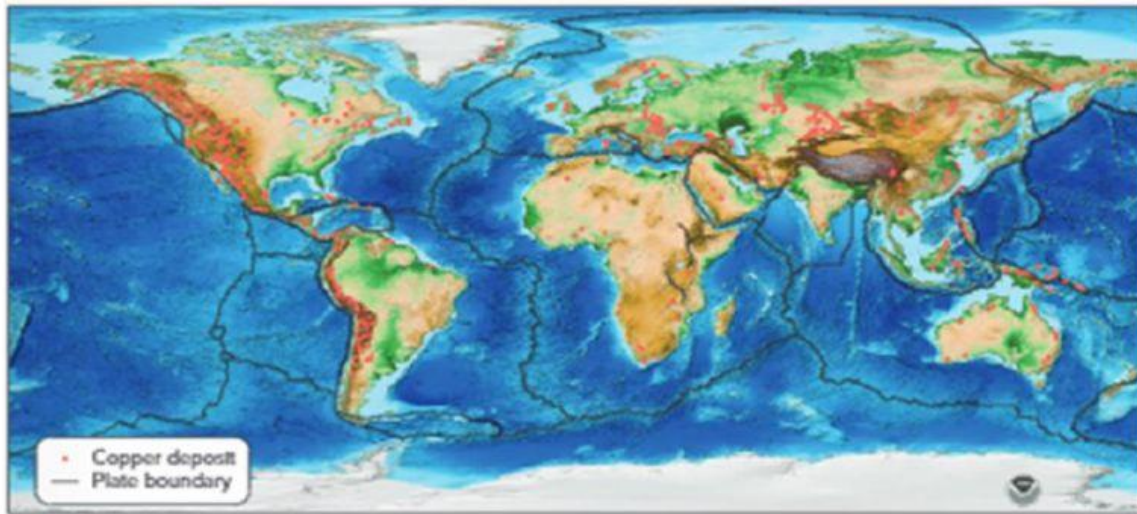
- A The light energy is consumed by the leaf and can no longer be used.
- B The light energy is used to create energy that the plant uses.
- C The light energy is used to break the bonds in the carbon dioxide and water molecules.
- D The light energy is used to break the bonds in the sugar and oxygen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



13. In many areas of the world, **ground water is being withdrawn from aquifers faster than natural recharge** can replace it. This is known as.

- A) Mining
- B) Up-coning
- C) Digging
- D) Ground water overdraft.

14. The map below shows the location of copper deposits that are associated with igneous intrusions.



What patterns do you notice among the **distribution of copper deposits** (Red dots in the map)?

- A) Evenly distributed around the world.
- B) Unevenly distributed around the world.
- C) Accumulated on one area.
- D) No such distribution in the given map.

15. During the reaction, small organic molecules called **monomers bond with each other to form a polymer.**


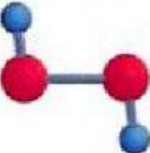

- | | |
|---------------|-------------------|
| A) Plastic | C) Physical |
| B) Combustion | D) Polymerization |

16. The following conditions determines the **production and uses of synthetic materials** of a country **EXCEPT**

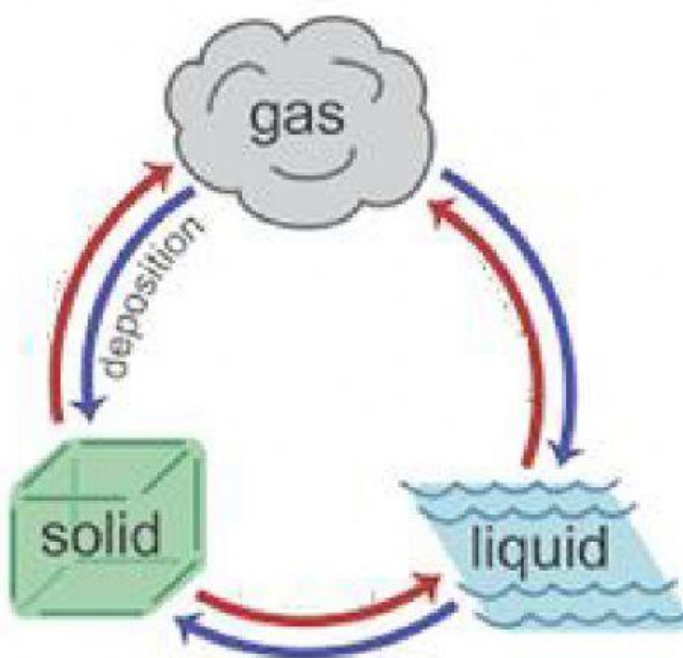
- | | |
|---------------|--------------------------------------|
| A) Climate | C) Availability of natural resources |
| B) Population | D) Economic conditions |

PART C (Free Response Questions) (4*5=20 Marks)

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

<p style="text-align: center;">Key</p> <p style="text-align: center;"> ● = N ● = H ● = O </p>			
Compound Model			
Formula			

18. Label the **phase changes of matter** on the given phase change diagram.



19. Differentiate between **endothermic** and **exothermic** reactions:

Reaction	Reactant + thermal energy → Product
Type	
Energy change	
Bonds that contain more energy	
Reaction	Reactant → thermal energy + Product
Type	
Energy change	
Bonds that contain more energy	

20. Complete the below graphic organizer on pressure.

