INDIAN SCHOOL AL WADI AL KABIR		
CLASS: VII	**DEPARTMENT: SCIENCE 2025- 26**	**DATE: 19/10/2025**
TEXTBOOK Q & A	**TOPIC: THE WORLD OF METALS & NON-METALS**	**NOTE: A4 FILE FORMAT**
NAME OF THE STUDENT:	**CLASS & SEC:**	**ROLL NO:**

1. Which metal is commonly used to make food packaging materials, as it is cheaper, and its thin sheets can be folded easily into any shape?
(i) Aluminium
(ii) Copper
(iii) Iron
(iv) Gold
Ans: (i) Aluminium

2. Which of the following metal catches fire when it comes in contact with water?
(i) Copper
(ii) Aluminium
(iii) Zinc
(iv) Sodium
Ans: (v) Sodium

3. State with reason(s) whether the following statements are True [T] or False [F].
(i) Aluminium and copper are examples of non-metals used for making utensils and statues.
(ii) Metals form oxides when combined with oxygen, the solution of which turns blue litmus paper red.
(iii) Oxygen is a non-metal essential for respiration.
(iv) Copper vessels are used for boiling water because they are good conductors of electricity.
Ans:

i) **[F], Aluminium and copper are examples of metals, not non-metals.**
ii) **[F], Metal oxides are basic; they turn red litmus paper blue.**
iii) **[T], Oxygen is a non-metal and is essential for respiration.**
iv) **[F], Copper vessels are used for boiling water because copper is a good conductor of heat.**

4. Why are only a few metals suitable for making jewellery?

Ans: Only a few metals are suitable for making jewellery because they are lustrous. These metals can be easily shaped into various designs. Also, they do not react easily with air or water, so they do not rust or lose their shine over time.

5. Match the uses of metals and non-metals given in Column I with the jumbled names of metals and non-metals given in Column II.

COLUMN I	COLUMN II
(i) Used in electrical wiring	(a) E N X Y G O
(ii) Most malleable and ductile	(b) N E C O H I R L
(iii) Living Organisms cannot survive without it.	(c) P E P O R C
(iv) Plants grow healthy when fertilizers containing it are added to the soil.	(d) T E N G O I N R
(v) Used in water purification	(e) O G D L

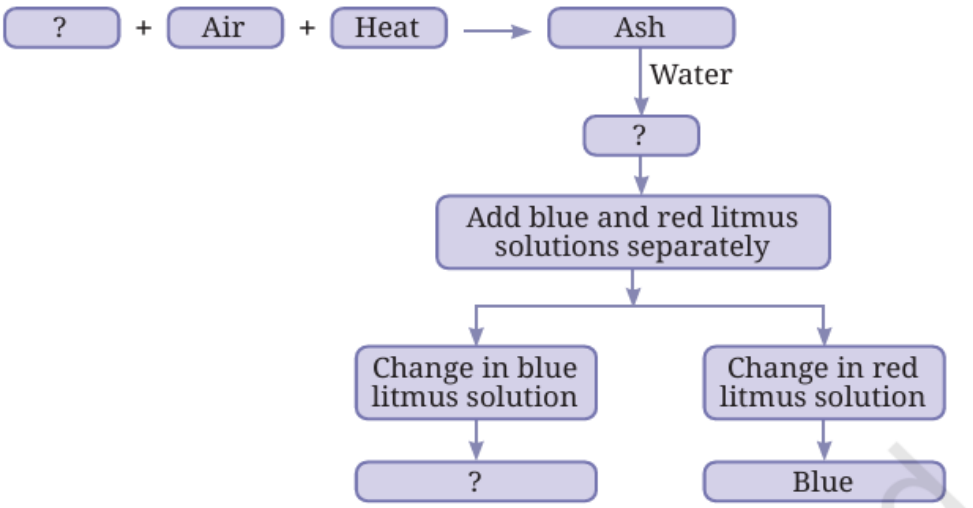
Ans:

COLUMN I	COLUMN II
(i) Used in electrical wiring	(c) COPPER
(ii) Most malleable and ductile	(e) GOLD
(iii) Living Organisms cannot survive without it.	(a) OXYGEN
(iv) Plants grow healthy when fertilizers containing it are added to the soil.	(d) NITROGEN
(v) Used in water purification	(b) CHLORINE

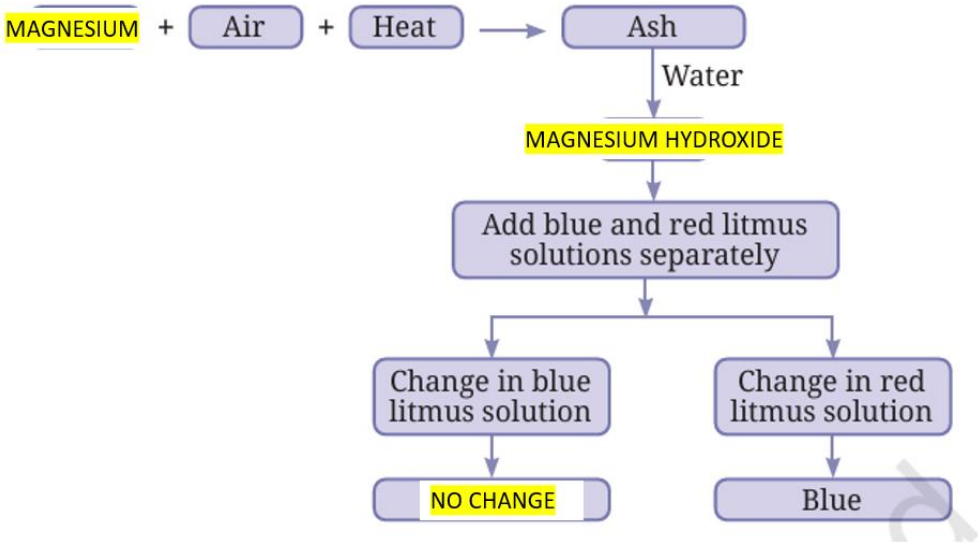
6. What happens when oxygen reacts with magnesium and sulfur? What are the main differences in the nature of the products formed?

Ans: When oxygen reacts with magnesium, it forms magnesium oxide, which is a basic oxide and turns red litmus paper blue. However, when oxygen reacts with sulfur, it forms sulfur dioxide, which is an acidic oxide and turns blue litmus paper red.

7. Complete the following flowchart:



Ans:



8. You are provided with the following materials. Discuss which material would be your choice to make a pan that is most suitable for boiling water, and why?

Iron copper sulfur coal plastic wood cardboard

Ans: For boiling water, the pan must be made of a material that is a good conductor of heat. Among the given materials, only iron and copper are metals, and both are good

conductors of heat. However, copper is the best choice because it is highly resistant to rust compared to iron. Therefore, a pan made of copper is the most suitable choice for boiling water.

9. You are provided with three iron nails, each dipped in oil, water, and vinegar. Which iron nail will not rust, and why?

Ans: The iron nail dipped in oil will not rust because the oil prevents the iron nail from coming into contact with air or moisture. It forms a protective layer on the metal, which prevents rusting.

10. How do the different properties of metals and non-metals determine their uses in everyday life?

Ans: Metals and non-metals have various properties that make them useful in our everyday life.

Metals:

- **Metals are malleable, for example, aluminium foil is used for wrapping food.**
- **Metals are ductile, and wires made of copper or aluminium are used in electrical fittings.**
- **Metals are sonorous; they produce a ringing sound and have applications like making musical instruments like cymbals.**
- **Metals are good conductors of heat, so they are used in making cooking vessels.**
- **Metals are good conductors of electricity, making them ideal for electrical wires.**

Non-metals:

- **Generally, non-metals are poor conductors of heat and electricity; for example, sulfur and carbon are used in insulating materials to prevent the transfer of heat or electricity.**
- **Non-metals are brittle: for example, sulfur and phosphorus are often used in matchsticks as they break easily or react quickly.**
- **Some Non-metals are gaseous at room temperature: for example, oxygen is essential for breathing.**
- **Non-metals are non-lustrous: carbon (as graphite) is used in pencils and dry cell batteries.**

11. One of the methods of protecting iron from getting rusted is to put a thin coating of zinc metal over it. Since sulfur does not react with water, can it be used for this purpose? Justify your answer.

Ans: No, sulfur cannot be used to protect iron from rusting. Even though sulfur does not react with water, it is brittle and does not stick well to iron. It can crack or peel off easily, allowing air and water to reach the iron.
Zinc is better because it forms a strong layer and protects iron from rusting.

12. An ironsmith heats iron before making tools. Why is heating necessary in this process?

Ans: For making tools, an ironsmith first heats a piece of iron until it becomes red-hot. This is because heating makes the iron soft, more malleable, and easier to bend, hammer, and mold into the desired shape for tools.

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