

DON BOSCO HIGH SCHOOL

LESSON 6 Materials Around Us

1. What is matter?

Matter is anything that has mass and occupies space.

2. Give some examples of matter.

Air, water, wood, stone, iron, and paper are examples of matter.

3. What are materials?

Materials are the substances from which objects are made.

4. Why do we use different materials to make different objects?

Different materials are used because they have different properties that make them suitable for specific purposes.

5. What are the common properties of materials?

The common properties of materials include colour, lustre, hardness, transparency, solubility, floating or sinking, and the ability to conduct heat and electricity.

6. What is lustre?

Lustre is the property of a material to shine or reflect light.

7. Which materials have lustre?

Metals such as gold, silver, copper, and aluminium have lustre.

8. What are lustrous materials?

Lustrous materials are materials that have a shiny surface.

9. What are non-lustrous materials?

Non-lustrous materials are materials that do not have a shiny surface.

10. What is transparency?

Transparency is the property of a material that allows light to pass through it.

11. What are transparent materials?

Transparent materials allow almost all the light to pass through them, making objects behind them clearly visible.

12. Give two examples of transparent materials.

Clear glass and clean water are examples of transparent materials.

13. What are translucent materials?

Translucent materials allow only some light to pass through them, so objects cannot be seen clearly.

14. Give two examples of translucent materials.

Butter paper and frosted glass are examples of translucent materials.

15. What are opaque materials?

Opaque materials do not allow light to pass through them.

16. Give two examples of opaque materials.

Wood and cardboard are examples of opaque materials.

17. What is solubility?

Solubility is the ability of a substance to dissolve in a liquid, usually water.

18. What are soluble substances?

Soluble substances are substances that dissolve in water.

19. Give two examples of soluble substances.

Salt and sugar are soluble substances.

20. What are insoluble substances?

Insoluble substances are substances that do not dissolve in water.

21. Give two examples of insoluble substances.

Sand and chalk powder are insoluble substances.

22. What is a solution?

A solution is a uniform mixture formed when a soluble substance dissolves in a liquid.

23. What is volume?

Volume is the amount of space occupied by an object or substance.

24. Which instrument is used to measure the volume of a liquid?

A measuring cylinder is used to measure the volume of a liquid.

25. What is the SI unit of volume?

The SI unit of volume is the cubic metre (m^3).

26. Which unit is commonly used to measure the volume of liquids?

The litre (L) and millilitre (mL) are commonly used to measure the volume of liquids.

27. How many millilitres are there in one litre?

There are 1000 millilitres in one litre.

28. What is the difference between mass and volume?

Mass is the amount of matter in an object, whereas volume is the space occupied by the object.

29. Can air be called matter? Why?

Yes, air is matter because it has mass and occupies space.

30. Why is water considered matter?

Water is considered matter because it has mass and occupies space.

31. What are the three states of matter?

The three states of matter are solids, liquids, and gases.

32. What are the characteristics of solids?

Solids have a definite shape, definite volume, and fixed arrangement of particles.

33. What are the characteristics of liquids?

Liquids have a definite volume but no definite shape. They take the shape of the container in which they are kept.

34. What are the characteristics of gases?

Gases have neither a definite shape nor a definite volume. They spread to fill the entire container.

35. Give two examples each of solids, liquids, and gases.

Stone and wood are solids; water and milk are liquids; air and oxygen are gases.

36. Why are metals used for making cooking utensils?

Metals are used for making cooking utensils because they are strong, lustrous, and good conductors of heat.

37. Why is glass used for making windows?

Glass is used for making windows because it is transparent and allows light to pass through.

38. Why is wood used for making furniture?

Wood is used for making furniture because it is strong, hard, and durable.

39. Why is plastic used for making bottles and containers?

Plastic is used because it is lightweight, waterproof, and does not break easily.

40. What happens when sugar is mixed with water?

Sugar dissolves in water to form a solution.

41. What happens when sand is mixed with water?

Sand does not dissolve in water and settles at the bottom.

42. What is meant by insoluble materials?

Insoluble materials are materials that do not dissolve in water.

43. How can materials be grouped?

Materials can be grouped on the basis of their properties such as lustre, hardness, transparency, solubility, and whether they float or sink in water.

44. Why is it important to group materials?

Grouping materials helps us identify them easily and choose the right material for a particular purpose.

45. Which type of material allows us to see objects clearly through it?

Transparent materials allow us to see objects clearly through them.

46. Which type of material allows only some light to pass through it?

Translucent materials allow only some light to pass through them.

47. Which type of material blocks light completely?

Opaque materials block light completely.

48. Why do different materials have different uses?

Different materials have different uses because they possess different physical properties.

49. What is the difference between soluble and insoluble substances?

Soluble substances dissolve in water, whereas insoluble substances do not dissolve in water.

50. Why is the study of materials important?

The study of materials is important because it helps us understand their properties and choose suitable materials for different purposes.