Practice Questions:

1. Introduction to Matter

1. What is matter?
2. Give two examples of matter.
3. What are the characteristics of matter?
4. Why is air considered matter?
5. How does matter occupy space?

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2. States of Matter

6. Name the three states of matter.
7. What is the shape and volume of solids?
8. How do liquids differ from solids?
9. Why can gases be compressed easily?
10. Why do gases have neither a fixed shape nor a fixed volume?

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3. Characteristics of Particles of Matter

11. What is meant by the particles of matter?
12. Why do particles of matter attract each other?
13. What happens when we dissolve sugar in water?
14. What does the solubility of a substance depend on?
15. Why do gases mix easily compared to solids?

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4. Diffusion

16. What is diffusion?
17. Why is diffusion faster in gases than in liquids?
18. How does diffusion occur in solids?
19. Why can we smell perfume from a distance?
20. Why does the smell of food spread in a room?

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5. Kinetic Energy and Temperature

21. How does heat affect the movement of particles?
22. Why do gases have the highest kinetic energy?
23. What is the relationship between temperature and kinetic energy?
24. Why does a hot cup of tea cool down after some time?

25. What happens when we heat a solid?

6. Change of State of Matter

26. What is the effect of temperature on the state of matter?
27. Define melting.
28. What is freezing?
29. What is the melting point of ice?
30. What happens when a liquid is heated?

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7. Boiling and Evaporation

31. Define boiling.
32. What is the boiling point of water?
33. Why does water boil at 100°C?
34. What is evaporation?
35. How does evaporation differ from boiling?
36. Why does evaporation cause cooling?
37. Why do wet clothes dry faster on a windy day?
38. Why does sweat help cool the body?
39. How does surface area affect evaporation?
40. Why does water from a dish evaporate faster than from a glass?

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8. Factors Affecting Evaporation

41. How does temperature affect evaporation?
42. What is the role of humidity in evaporation?
43. Why does water evaporate faster on a hot day?
44. How does the wind speed affect evaporation?
45. Why do farmers sprinkle water on their fields during hot days?

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9. Latent Heat

46. What is latent heat?
47. What is latent heat of fusion?
48. What is latent heat of vaporization?
49. Why does ice not change temperature while melting?
50. Why does boiling water remain at 100°C?

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10. Sublimation

51. What is sublimation?
52. Name two substances that sublime.
53. Why does camphor disappear on heating?
54. How does sublimation differ from evaporation?
55. Why does dry ice change directly into gas?

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11. Plasma and Bose-Einstein Condensate

56. What is plasma?
57. Where is plasma found in nature?
58. What is Bose-Einstein Condensate (BEC)?
59. Who discovered Bose-Einstein Condensate?
60. How is BEC different from other states of matter?

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12. Pressure and Matter

61. How does pressure affect the state of matter?
62. Why do gases liquefy under high pressure?
63. What happens when a gas is compressed?
64. Why does a gas fill the entire container?
65. Why do deep-sea divers use compressed oxygen tanks?

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13. Miscellaneous Conceptual Questions

66. Why do solids have a fixed shape?
67. Why do liquids take the shape of the container?
68. Why do gases flow easily?
69. Why does a gas exert pressure?
70. How does a balloon expand when air is blown into it?
71. What happens to gas molecules in a closed container when heated?
72. Why does a solid not diffuse easily?
73. Why does water exist in all three states in nature?
74. Why do droplets form on the outer surface of a cold glass?
75. What happens when you heat a gas?

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14. Real-Life Applications

76. Why do we see fog on a cold morning?
77. Why do we store ice in thermocol boxes?
78. Why do we sprinkle water on the roof in summer?
79. How does sweating help in cooling the body?
80. Why does steam cause more severe burns than boiling water?

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15. Fun & Experimental Questions

81. Why does dry ice create fog?
82. Why do naphthalene balls disappear over time?
83. Why does a glass of cold water collect droplets on the outside?
84. Why does the water level remain the same when sugar is dissolved?
85. How can you prove that gases have mass?

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16. HOTS (Higher Order Thinking Skills) Questions

86. Why does the boiling point of water change at higher altitudes?
87. Why do ice cubes stick together in a freezer?
88. Why does a sharp smell spread quickly in a closed room?
89. Why does a metal plate feel colder than a wooden plank in winter?
90. How does latent heat play a role in cloud formation?

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17. Numerical-Based Questions

91. Calculate the heat required to convert 2kg of ice into water at 0°C.
92. A gas is compressed from 5L to 2L at constant temperature. What happens to pressure?
93. If 100g of water evaporates, how much heat is absorbed?
94. What is the energy required to melt 500g of ice at 0°C?
95. A 2L bottle of water is placed in sunlight. What factors affect its evaporation?

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18. True/False Questions

96. Evaporation is a cooling process. (True/False)
97. Gases have a definite shape. (True/False)
98. Solids can be easily compressed. (True/False)
99. Boiling occurs at all temperatures. (True/False)
100. Water boils at 100°C under normal pressure. (True/False)