Chapter 5 Study Questions Name:

Definitions (Fill-in-the-Blank)

1. All matter is made up of _____.

2. A change from a solid to a liquid is called _____.

3. The reverse of melting is called _____.

4. The process in which a solid changes directly into a gas is called _____.

5. Adding _____ to matter makes particles move faster.

6. The _____ model explains the behaviour of matter.

7. A substance with no fixed shape but a fixed volume is a _____.

8. A _____ has no fixed shape or volume.

9. A _____ has a fixed shape and a fixed volume.

10. The change from a liquid to a gas is called _____.

11. The change from a gas to a liquid is called _____.

12. Changes in state are examples of _____ changes.

13. A physical change that cannot be reversed is called a _____ change.

14. When rust forms on iron, it is a _____ change.

15. A clue that a chemical change has occurred is the formation of a _____ in a liquid.

Fill-in-the-Blank (Converted from True/False)

16. The particles in a gas move much _____ than the particles in a liquid.

17. _____ is an example of a reversible change.

18. Burning a log is an example of a _____ change.

19. Ice melting into water is an example of a _____ change.

20. Freezing water into ice is an example of a _____ change.

21. A clue that a chemical change has occurred is the formation of a _____ in a liquid.

22. The process of condensation changes a _____ into a _____.

23. _____ is the process of a liquid changing into a gas.

24. _____ is the process where iron reacts with oxygen to form rust.

25. Cutting a piece of wood is an example of a _____ physical change.

26. Most chemical changes are _____ to reverse.

27. In a physical change, no new _____ are formed.

28. _____ speeds up the movement of particles in all states of matter.

29. A _____ has tightly packed particles that vibrate in place.

30. The process of sublimation involves a solid turning directly into a _____.

Matching

Match the terms on the left with the correct definition on the right.

31. Sublimation

32. Condensation

33. Chemical change

34. Physical change

35. Gas

36. Liquid

37. Solid

38. Evaporation

39. Reversible change

40. Freezing

A. Liquid to gas

B. Liquid to solid

C. Solid to gas

D. A change that can be reversed

E. A change that cannot be reversed

F. Has a fixed shape and volume

G. No fixed shape or volume

H. Gas to liqui

Short Answer

41. List the four key ideas in the particle model of matter.

- _____
- _____
- _____
- _____

42. Give three examples of physical changes.

- _____
- _____
- _____

43. Give three examples of chemical changes.

- _____
- _____
- _____

44. How does adding heat affect the particles in a substance?

- _____

45. What are five clues that indicate a chemical change has occurred?

- _____
- _____
- _____
- _____
- _____

46. Why is dissolving sugar in water considered a physical change?

- _____

47. What happens to particles during melting?

- _____
- _____

48. How does the particle model explain the change of state from liquid to gas?

- _____
- _____
- _____

49. Is cutting wood a physical or chemical change? Explain.

- _____

50. What is the difference between reversible and non-reversible changes?

- _____

Answer Key

1. tiny particles
2. melting
3. freezing
4. sublimation
5. heat
6. particle
7. liquid
8. gas
9. solid
10. evaporation
11. condensation
12. physical
13. non-reversible
14. chemical
15. precipitate
16. faster
17. Melting ice
18. chemical
19. physical
20. physical
21. precipitate
22. gas, liquid
23. Evaporation
24. Rusting
25. non-reversible
26. difficult
27. substances
28. Heat
29. Solid
30. gas

31. C

32. H

33. E

34. D

35. G

36. F

37. F

38. A

39. D

40. B

41. a) All matter is made up of tiny particles.

b) The particles of matter are always moving.

c) The particles have spaces between them.

d) Adding heat makes the particles move faster.

42. Melting ice, cutting wood, dissolving sugar in water.

43. Burning wood, rusting iron, baking a cake.

44. Heat causes particles to move faster and spread apart.

45. Color change, formation of gas, formation of a precipitate, temperature change, light or sound emitted.

46. The sugar particles mix with the water but remain sugar, no new substance is formed.

47. Particles gain energy and move faster, breaking free from their fixed positions.

48. Heat energy allows particles to move faster, and eventually, they break free from the liquid and become a gas.

49. Physical change, because no new substance is created, and the wood remains wood.

50. A reversible change can be undone, while a non-reversible change cannot be undone.