1. \_\_\_\_\_\_\_ is something that has volume and mass, is made up of particles called molecules, and can be a solid, liquid, gas, or plasma.

1. Seawater
2. Matter
3. Mixture

7. A \_\_\_\_\_\_\_ is a characteristic that describes matter.

1. proton
2. property
3. popcorn
4. electron

8. Matter has both \_\_\_\_\_\_\_ properties.

1. chemical and physical
2. rented and leased
3. beneficial and harmful

9. The physical properties of a substance can be observed or measured without \_\_\_\_\_\_\_\_\_\_ the substance.

1. chemically changing
2. physically changing
3. paying for

10. Colour, shine, odour, taste, hardness, boiling point, and heat conductivity are all examples of \_\_\_\_\_\_\_ properties.

1. physical
2. chemical
3. non

11. \_\_\_\_\_\_\_ are those characteristics of a substance that can only be observed during a chemical change.

1. Chemical properties
2. Physical properties
3. States of matter

12. A chemical property is only observed during a chemical change. Another name for a chemical change is a \_\_\_\_\_\_\_.

1. chemical reaction
2. physical reaction
3. physical change

13. A chemical property is only observed during a chemical change. Chemical changes result in the \_\_\_\_\_\_\_.

1. blowing up of the lab
2. production of a new substance
3. change from liquid to solid

14. White phosphorous ignites (catches on fire) easily. This is an example of a \_\_\_\_\_\_\_ property.

1. physical
2. chemical

16. Iron rusts when it is exposed to air. This is an example of a \_\_\_\_\_\_\_ property.

1. Physical
2. Chemical

17. During photosynthesis, carbon dioxide and water react to form sugar and oxygen. This is an example of a \_\_\_\_\_\_\_ property.

1. physical
2. chemical

18. Baking soda and calcium chloride react with water and each other. This is an example of a \_\_\_\_\_\_\_ property.

1. physical
2. chemical

19. Mercury is a liquid at room temperature. This is an example of a \_\_\_\_\_\_\_ property.

1. physical
2. chemical

20. Carbon is grayish in color. This is an example of a \_\_\_\_\_\_\_ property.

1. Physical
2. Chemical

21. Cellulose is flammable. This is an example of a \_\_\_\_\_\_\_ property.

1. physical
2. chemical

22. Water freezes at 0 degrees Celsius. This is an example of a \_\_\_\_\_\_\_ property.

1. physical
2. chemical

23. We’ve studied three main states of matter. They are

1. solids, liquids, and gases
2. atoms, protons, and electrons
3. elements, compounds, and mixtures

24. The \_\_\_\_\_\_\_\_\_states that all matter is made up of moving particles called molecules.

1. the potential theory of matter
2. the kinetic theory of

25. The state that matter is in depends on how \_\_\_\_\_\_\_ the molecules are moving and how much attraction the molecules have for one another.

1. curvy
2. fast
3. straight

26. In a \_\_\_\_\_\_\_\_\_\_, the molecules are close together.

1. solid
2. liquid
3. gas

27. The force of attraction between a \_\_\_\_\_\_\_\_\_\_\_ molecules is strong enough to keep the volume constant, but not strong enough to give the matter a definite shape.

a. solid’s

b. liquid’s

c. gas’s

28. The molecules in a \_\_\_\_\_\_\_\_\_\_ do not move around freely, but they do vibrate.

a. solid

b. liquid

c. gas

29. The molecules in a \_\_\_\_\_\_\_\_\_\_ are very far apart and are also moving very quickly.

a. solid

b. liquid

c. gas

30. A \_\_\_\_\_\_\_\_\_\_ has a definite shape and volume.

a. solid

b. liquid

c. gas

31. \_\_\_\_\_\_\_\_\_\_ expand to fill and take the shape of whatever container they are in.

a. Solids

b. Liquids

c. Gases

32. If molecules of substance A have a medium attraction for one another, substance A is most likely a \_\_\_\_\_\_\_\_\_\_.

a. solid

b. liquid

c. gas

33. \_\_\_\_\_\_\_\_\_\_ have a definite volume, but not a definite shape.

a. Solids

b. Liquids

c. Gases

34. In order for matter to change from one state to another, \_\_\_\_\_\_\_\_\_\_ must be added or removed.

a. energy

b. layers

c. gravity

35. \_\_\_\_\_\_\_\_\_\_occurs when we add enough energy that a solid changes directly into a gas without first becoming a liquid.

a. Melting

b. Sublimation

c. Condensation

36. Evaporation occurs when a \_\_\_\_\_\_\_\_\_\_.

a. liquid changes into a gas

b. gas turns into a liquid

c. solid becomes harder

37. If we add enough energy (in the form of heat) to a solid, it will \_\_\_\_\_\_\_\_\_\_ and become a liquid.

a. melt

b. change colour

c. freeze

38. If we take away enough energy from a gas, it will \_\_\_\_\_\_\_\_\_\_ into a liquid.

a. freeze

b. condense

c. melt

39. If we take away enough energy from a liquid, it will \_\_\_\_\_\_\_\_\_\_ into a solid.

a. freeze

b. condense

c. melt

40. As Junior Scientists, which of the following properties would you use to identify a mystery substance?

Mass \_\_\_\_\_\_\_

Volume\_\_\_\_\_\_\_

Density\_\_\_\_\_\_\_

Colour\_\_\_\_\_\_\_

Odour\_\_\_\_\_\_\_

Electrical conductivity\_\_\_\_\_\_\_

Shape\_\_\_\_\_\_\_

Reactivity with water\_\_\_\_\_\_\_

Weight\_\_\_\_\_\_\_

Malleability\_\_\_\_\_\_\_

Flammability\_\_\_\_\_\_\_

Reactivity with air\_\_\_\_\_\_\_

Heat Conductivity\_\_\_\_\_\_\_

Lustre\_\_\_\_\_\_\_

Hardness\_\_\_\_\_\_\_

Boiling point\_\_\_\_\_\_\_

Freezing point\_\_\_\_\_\_\_

Combustibility\_\_\_\_\_\_\_

Now, go back and write a “P” or a “C” next to each intrinsic property in question 40, to indicate a “Physical” or “Chemical” property.