Name: _____
Date: _____

THE PROPERTIES OF MATTER

Review of Terms and Concepts Worksheet

1. **FILL IN THE BLANKS** Fill in the blanks with the terms/words that complete each statement.

   a) A _____ property is characteristic of matter that can be _____ or measured _____ changing the identity of the substance. Meanwhile, a chemical property is one that is observed when a substance _____ with another substance resulting in a _____ to the identity of that substance.

   b) When you look at a lawn, you can tell that the grass is green and not red (unless you are color blind). In this case you are noticing the property of _____ in the grass. You can also detect how much light can pass through the object, and this physical property is called _____ . If an object, like a ceramic mug, does not allow any light through it, then it is called _____ . If an object only lets some light through it, like a stained glass window would, then the object is called _____ . If an object lets all of the light pass through it, like a clean window would, then the object is called _____ . Another physical property you can determine about an object while looking at it is how much light reflects off of its surface, and this physical property is called _____ , otherwise known as shininess. Substances like liquid mercury are very _____, but substances like rubber are very _____ .

   c) When you touch an object, you can get information about two other physical properties. You can see how easy it is to scratch or dent the object, and this property is called _____ . The substance that is the most difficult to scratch in the world are _____ . Another physical property you can determine by touching the object is how the surface of the object feels, and this property is called _____ . Substances like fur are _____ , spoons are _____ , and sandpaper is _____ .

   d) Many metals have physical properties in common. For example, _____ is a physical property many metals have because they can be hammered into thin sheets. A good example of a metal that is malleable is _____ . Many metals also share the physical property of _____ which means that they can be shaped into a thin wire. The most common metal that is used to create wiring is _____ . As well, many metals share the physical property of _____ because they are able to allow electricity to flow easily through them. An example of a good conductor is _____ and an example of a bad conductor is _____ . Many metals are also _____ because they attract magnets.

   e) When dealing with liquids, one physical property that is easy to observe is _____ which you can observe by trying to pour the liquid out of its container. _____ is simply how easy it is for a liquid to flow depending on its thickness. Substances like mud have a higher _____ than substances like shampoo. As well, some liquids can dissolve solids and some liquids can dissolve into other liquid. This ability of a substance to dissolve into another substance is called _____ . Water and oil are a famous pair that do not dissolve well in one another so they are considered _____ . Water and sand are also _____ .Water and vinegar however can easily dissolve into one another so they are considered _____ . Water and sugar are also _____ .

f) _____ is the physical property that measures the amount of _____ of a substance in a given volume of that substance. Substances that are less dense will _____ on top of a liquid that is more dense. Substances that are more dense will _____ in a liquid that is less dense.

g) The particles of some solids bond in such a way as to form specific geometrical shapes when viewed under a microscope. This is the physical property of _____.

h) One chemical property involves the ability of a substance to burn and this is called _____ . Sand is not _____ while paper is easily _____ . Another chemical property is reactivity with _____ . Some substances react to the presence of water by forming new compounds and releasing a lot of energy. Elements like _____, an element in group 1 of the periodic table, react in this way.

2. **MATCHING** Match the following definitions of properties with the correct name of the property. Each property may be used once, more than once, or not at all.

boiling point	crystal form	hardness	melting point	state of matter
clarity	density	luster	odor	taste
color	ductility	magnetism	reactivity with water	texture
combustibility	electrical conductivity	malleability	solubility	viscosity

Property	Definition
_____	1. The property of a solid that is the measure of its resistance to being scratched or dented.
_____	2. The ability of an object to reflect light.
_____	3. The ability of a substance to be stretched into a long wire-like shape.
_____	4. The property of a substance that activates the sense of smell.
_____	5. The ability to burn.
_____	6. The ability of an object to be hammered into a sheet.
_____	7. Whether it is found in a liquid, solid or gas.
_____	8. The ability of a substance to react with H_2O.
_____	9. The amount of light that can pass through the object.
_____	10. The specific amount of mass found in a given volume of a substance.
_____	11. The temperature at which the substance turns from a liquid into a gas.
_____	12. The geometrical structures of a substance produced by the arrangement of bonds in a solid substance.
_____	13. The tactile quality of the surface of an object.
_____	14. The ability to dissolve in a liquid.
_____	15. The ability to pass an electrical current through a substance.
_____	16. The flavour of a substance as experienced by the taste buds.
_____	17. The wavelength of light that is reflected by an object and perceived by the eyes as either red, green, yellow etc.
_____	18. This property describes how well a liquid can flow.
_____	19. The temperature at which the substance turns from a solid to a liquid.
_____	20. The attraction of a substance to a magnetic field.

3. **MATCHING** For each description below identify the property that is being described and indicate whether it is a physical property (PP) or a chemical property (CP) being described. Use the list of properties below for reference. Each property can be used once, more than once, or not at all.

boiling point	crystal form	hardness	melting point	state of matter
clarity	density	luster	odor	taste
color	ductility	magnetism	reactivity with water	texture
combustibility	electrical conductivity	malleability	solubility	viscosity

Property	Description	PP or CP?
_____	1. Your fridge door can hold magnets but your bathroom door cannot.	_____
_____	2. A piece of chalk breaks if you try to bend it.	_____
_____	3. Salt is made of tiny cubes.	_____
_____	4. Water turns to steam at 100°C.	_____
_____	5. The chrome fenders of vintage cars are very shiny.	_____
_____	6. A diamond can scratch glass.	_____
_____	7. Vinegar has a fixed volume and takes up the shape of its container.	_____
_____	8. Sugar cubes disappear after you stir them into your tea.	_____
_____	9. Sandpaper feels rough when you touch it.	_____
_____	10. You can see through olive oil.	_____
_____	11. Air can fill a football as well as a bike tire.	_____
_____	12. Sugar disappears when you mix it with coffee.	_____
_____	13. Gold is used for wiring in circuits in a spacecraft.	_____
_____	14. Sodium catches fire when placed in water.	_____
_____	15. Molasses pours very slowly.	_____
_____	16. Chocolate is delicious.	_____
_____	17. Copper can be hammered into many different shapes.	_____
_____	18. Mercury metal is a liquid above - 39°C.	_____
_____	19. Paper catches fire at 235°C.	_____
_____	20. Sulphur smells like rotten eggs.	_____
_____	21. Water sloshes around easily in a bucket.	_____
_____	22. A steel feather is much heaver than an ordinary feather.	_____
_____	23. Vegetable oil is yellow.	_____
_____	24. Baking soda is a very fine powder.	_____
_____	25. Rubber coating on metal wires can prevent shocks.	_____
_____	26. Oil cannot dissolve in lemon juice.	_____
_____	27. It takes a long time for corn syrup to pour out of its container.	_____
_____	28. Butter melts at 20°C.	_____
_____	29. One bottle of wine can fill three wine glasses.	_____

_____ 30. You can remove oil paint from your hands using turpentine, but not water. _____