

1 Fill in the Blanks

_____ properties can be observed without chemically changing matter.

_____ properties describe how a substance interacts with other substances.

_____ have definite shapes and definite volumes.

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Phase changes are _____ changes. _____ point is the temperature at which a liquid turns to a solid. It is also equal to the _____ point which is the temperature at which a _____ turns to a _____. _____ point is the temperature at which a liquid turns to a gas, and _____ point is the temperature at which a gas turns to a liquid. Occasionally, a solid turns directly into a gas without turning into a liquid first. This is called _____.

2 Label these properties as chemical (C) or physical (P). Be certain to know the definition of each of these properties.

_____ combustibility

_____ tendency to corrode

_____ Sour taste

_____ density

_____ weight

_____ oxidizing ability

_____ malleability

_____ volume

_____ Reactivity with water

_____ failure to react

_____ odor

_____ State of matter

_____ melting point

_____ flammability

_____ Solubility in water

_____ ductility

_____ texture

_____ color

3 Label these changes as chemical (C) or physical (P).

- | | |
|-----------------------|------------------------------|
| ___ digestion of food | ___ explosions |
| ___ getting a haircut | ___ lighting a candle |
| ___ evaporation | ___ dissolving salt in water |
| ___ ice cube melting | ___ tarnishing silver |
| ___ crushing rocks | ___ formation of acid rain |

4 Describe the change(s) that you see in the following illustration. Was this a physical or a chemical change?



5 State whether each of the following represents a chemical change (C) or a physical change (P):

- ___ (a) A steak is cooked on a grill until well done.
- ___ (b) In the lab, students firepolish the end of a glass rod. The jagged edge of the glass has become smooth.
- ___ (c) Chlorine bleach is used to remove a coffee stain on a white lab coat.
- ___ (d) When two clear and colorless aqueous salt solutions are mixed together, the solution turns cloudy and yellow.
- ___ (e) One gram of an orange crystalline solid is heated in a test tube, producing a green powdery solid whose volume is 10 times the volume of the original substance.
- ___ (f) In the lab, a student cuts a 20-cm strip of magnesium metal into 1-cm pieces.