

## Matter Ch. 1-2

### Test Study Guide

Vocabulary words:

matter	chemistry	substance	physical property	chemical property
element	atom	molecule	compound	mixture
physical change	chemical change	energy	law of conservation of mass	
thermal energy	endothermic change	exothermic change		
solid	crystalline solid	amorphous solid	liquid	gas
viscosity	surface tension	melting	melting point	freezing
vaporization	evaporation	boiling	condensation	sublimation

You will need to know:

From Ch. 1, section 1

- What is a substance?
- Two properties of matter:
  - \* Physical Properties:  
color, size, shape, state of matter, texture, flexibility
  - \* Chemical Properties:  
flammability, ability to rust, sensitivity to light, reactivity
- An element is a pure substance made of only one type of atom
- Atoms are the smallest particle of an element
- Molecules are groups of two or more atoms held together by a chemical bond
- Compounds are pure substances made of two or more elements chemically combined
- Mixtures are two or more substances mixed together, but not chemically combined

From Ch. 1, section 3

- Physical change is a change in matter that changes the form or appearance, but does not change the substance into a new substance:

Changes of state	dissolving	bending
Change in shape	crushing	breaking
- Chemical change is any change in matter that produces one or more new substances:

burning	oxidation (rusting)	tarnishing
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- Law of Conservation of Matter – matter cannot be created or destroyed, only change forms.
- Energy: the ability to do work
- All changes in matter, physical or chemical require energy
- Thermal energy: always moves from warmer matter to cooler matter.
- Two types of changes:

<u>Endothermic change</u> energy is taken in feels cold ex: ice melting, frozen fertilizer	<u>Exothermic change:</u> energy is given off feels hot ex: fire burning, sizzling sunset
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From Ch. 2, section 1:

3 states of matter:

<u><b>solids</b></u>	<u><b>liquids</b></u>	<u><b>gases</b></u>
Have a definite shape and definite volume	Have a definite volume, but no definite shape. Take shape of container they are in	Have no definite or volume, spread out to fill the space they are in
Two types: Crystalline solid – repeating pattern, melt at a specific temperature  Amorphous solid – no repeating pattern, get softer and softer before turning to a liquid	Properties: Surface Tension: Inward pull of particles of a liquid  Viscosity: How fast or slow a liquid flows	
Examples: chair, gold, baking soda	Examples: water, vinegar, pop	Examples: air, oxygen, carbon dioxide

From Ch. 2, section 2:

Changes between states of matter:

Changes in state happen when thermal energy increases or decreases.

