1. Label each process as a physical or chemical change:

a. perfume evaporating on your skin
b. butter melting
c. wood rotting
d. charcoal heating a grill
e. autumn leaves changing color
f. a hot glass cracking when placed in cold water
g. melting copper metal
h. burning sugar
i. mixing sugar in water
j. digesting food

2. Which of the following would NOT be a physical change?

a. freezing water to make ice cubes
b. melting gold to make jewelry
c. burning gasoline in a lawnmower
d. boiling water for soup
e. tearing a piece of aluminum foil

3. Which of the following is NOT a physical change?

a. grating cheese
b. melting cheese
c. fermenting of cheese
d. mixing two cheeses in a bowl

4. Which are physical and which are chemical changes?

a. boil
b. burn (combustion)
c. condense
d. corrode
e. crumple
f. ferment
g. melt
h. rust
i. crush
j. freeze
k. oxidize
l. tarnish
m. explode
n. grind
o. rot
p. vaporize
q. photosynthesis
r. sublimation

5. If a certain mixture is homogeneous, you would properly conclude that the physical properties and the composition:

a. are different from one part of the sample to another
b. vary smoothly from top to bottom of the sample
c. are the same in every small volume element from the sample
d. none of these

6. Label each process as a physical or chemical change:

a. Moth balls gradually vaporize in a closet
b. hydrofluoric acid attacks glass (used to etch glassware)
c. A chef making a sauce with brandy can burn off the alcohol from the brandy, leaving just the brandy flavoring
d. Chlorine gas liquefies at -35 °C under normal pressure
e. hydrogen burns in chlorine gas

7. Label each process as a physical or chemical change:

a. fogging a mirror with your breath
b. breaking a bone
c. mending a broken bone
d. burning paper
e. slicing potatoes for fries
f. mixing sugar with coffee
g. frying chicken
h. a nail rusting
i. paper ripping
j. wood burning
k. mixing water and food coloring
l. food molding (rotting)
m. writing on paper
n. dyeing fabric