

CHEMICAL vs. PHYSICAL CHANGE

Name _____

In a physical change, the original substance still exists, it has only changed in form. Energy changes usually do not accompany physical changes, except in phase changes and when substances dissolve.

In a chemical change, a new substance is produced. Energy changes always accompany chemical changes. Physical changes usually accompany chemical changes.

Classify the following as being either a chemical or a physical change.

1. Sodium chloride dissolves in water. _____
2. Hydrochloric acid reacts with sodium hydroxide to produce a salt, water and heat. _____
3. A pellet of sodium is sliced in half. _____
4. Water is heated and changed to steam. _____
5. Food is digested. _____
6. Starch molecules are formed from smaller glucose molecules. _____
7. Ice melts. _____
8. Plant leaves lose water through evaporation. _____
9. A red blood cell placed in distilled water will swell and burst. _____
10. The energy in food molecules is transferred into molecules of ATP. _____
11. The roots of a plant absorb water. _____
12. Iron rusts. _____
13. Oxygen is incorporated into hemoglobin to bring it to the cells. _____
14. A person gets cooler by perspiring. _____
15. Proteins are made from amino acids. _____
16. A match burns. _____
17. A toothpick is broken in half. _____

ELEMENTS, COMPOUNDS AND MIXTURES

Name _____

An element consists of only one kind of atom. A compound consists of two or more different elements chemically combined in a fixed ratio. The components of a mixture can be in any proportion and are not chemically bound.

Classify each of the following as an element, compound or mixture by writing E, C or M in the space provided.

1. sodium _____
2. water _____
3. soil _____
4. coffee _____
5. oxygen _____
6. alcohol _____
7. carbon dioxide _____
8. cake batter _____
9. air _____
10. soap _____
11. iron _____
12. salt water _____
13. ice cream _____
14. nitrogen _____
15. eggs _____
16. blood _____
17. table salt _____
18. nail polish _____
19. milk _____
20. cola _____

