

HOMOGENEOUS VS. HETEROGENEOUS MATTER WORKSHEET

Classify the following as either homogeneous or heterogeneous.

- | | |
|---------------------------------|----------------------------|
| 1. flat soft drink (no bubbles) | 2. air (with smog) |
| 3. chocolate chip ice cream | 4. paint |
| 5. Italian salad dressing | 6. alcohol |
| 7. sugar | 8. iron |
| 9. soil | 10. beach sand |
| 11. aluminum foil | 12. pure air |
| 13. black coffee | 14. chunky spaghetti sauce |
| 15. sugar water | |
-

PURE SUBSTANCES VS. MIXTURES WORKSHEET

Classify the following as pure substances or mixtures.

- | | |
|--|-----------------------------|
| 1. sodium | 2. iron |
| 3. water | 4. salt water |
| 5. soil | 6. chocolate chip ice cream |
| 7. coffee | 8. nitrogen |
| 9. oxygen | 10. eggs |
| 11. isopropyl alcohol (C ₃ H ₇ OH) | 12. blood |
| 13. carbon dioxide | 14. table salt |
| 15. cake batter | 16. nail polish |
| 17. air | 18. milk |
| 19. chicken noodle soup | 20. soda |
| 21. acetone (C ₂ H ₆ O) | |

CLASSIFICATION OF MATTER WORKSHEET

Check the appropriate categories for the substances listed below. All substances will have a check in more than one column.

| | <u>Substance</u> | <u>Heterogeneous Matter</u> | <u>Homogeneous Matter</u> | <u>Pure Substance</u> | <u>Solution</u> | <u>Element</u> | <u>Compound</u> | <u>Mixture</u> |
|----|---|-----------------------------|---------------------------|-----------------------|-----------------|----------------|-----------------|----------------|
| 1 | lead metal | | | | | | | |
| 2 | table salt (NaCl) | | | | | | | |
| 3 | Kool-Aid drink | | | | | | | |
| 4 | vegetable soup | | | | | | | |
| 5 | oxygen gas | | | | | | | |
| 6 | distilled water | | | | | | | |
| 7 | granite | | | | | | | |
| 8 | pure gold | | | | | | | |
| 9 | brass metal | | | | | | | |
| 10 | flat 7-Up soda | | | | | | | |
| 11 | raw egg (cracked open) | | | | | | | |
| 12 | air | | | | | | | |
| 13 | pure iron | | | | | | | |
| 14 | iron rust (Fe ₂ O ₃) | | | | | | | |
| 15 | soil | | | | | | | |
| 16 | baking soda (NaHCO ₃) | | | | | | | |

PHYSICAL VS. CHEMICAL CHANGES 1 WORKSHEET

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

1. Sodium hydroxide dissolves in water.
2. Hydrochloric acid reacts with potassium hydroxide to produce a salt, water, and heat.
3. A pellet of sodium is sliced in two.
4. Water is heated and changed to steam.
5. Potassium chlorate decomposes to potassium chloride and oxygen gas.
6. Iron rusts.
7. When placed in water, a sodium pellet catches on fire as hydrogen gas is liberated and sodium hydroxide forms.
8. Evaporation.
9. Ice melting.
10. Milk sours.
11. Sugar dissolves in water.
12. Wood rotting.
13. Pancakes cooking on a griddle.
14. Grass growing in a lawn.
15. A tire is inflated with air.
16. Food is digested in the stomach.
17. Water is absorbed by a paper towel.

PHYSICAL VS. CHEMICAL PROPERTIES & CHANGES 2 WORKSHEET

Part 1 - Indicate whether each of the following describes a chemical or a physical property.

1. Sulfur is a bright yellow solid.
2. Sulfur has a low melting point.
3. Sulfur causes silver to tarnish.
4. Aluminum is very malleable.
5. Monuments made of copper corrode in acid rain.
6. Copper is a good conductor of electricity.

Part 2 - Classify the following as chemical or physical properties.

- | | |
|---------------------------------|-----------------------------------|
| 7. color | 8. solubility (dissolve in water) |
| 9. reactivity | 10. expansion |
| 11. flammability | 12. melting point |
| 13. odor | 14. rusting |
| 15. porosity (absorb water) | 16. reacts with oxygen |
| 17. stability (like reactivity) | 18. density |
| 19. ductility | 20. conductivity |

Part 3 - Indicate whether these changes are chemical, physical, or nuclear.

- | | |
|---|------------------------------------|
| 21. Lead reacts with acid in a car battery. | 22. fusion of hydrogen into helium |
| 23. Gasoline burns in a car engine. | 24. liquefying oxygen |
| 25. Frost forms on a car window. | 26. digestion of food |

