

Water Worksheet

1. Why do you suppose a wet cloth that is hung outdoors in freezing weather can be retrieved later in a dry state?
2. When might you see condensation, evaporation, melting, or freezing as part of a normal weather pattern? What evidence do you have that these changes have occurred?
3. How is it possible for water to fracture rock when it freezes?
4. What do you suppose would happen if you placed an ice cube in a beaker containing pure ethanol (density = 0.789 g/mL)? Would it sink or float?
5. How can a solution be classified as aqueous?
6. Define solvent and solute.
7. Construct a diagram showing what happens on the molecular level when the following substances are added to water:
 - a. A soluble compound that dissociates into ions
 - b. A soluble compound that does not dissociate into ions
 - c. An insoluble compound

8. You mix 50 mL of pure water with 30 mL of 95% ethanol and stir until a completely homogeneous mixture is produced. You then measure the new volume of the solution.
- What might you expect the new volume to be?
 - When you put the solution into a graduated cylinder, you see that it has a volume of 76 mL. What might be your explanation for this?
9. What differentiates the particles that make up colloids and suspensions?
10. Categorize each of the following substances as a foam, aerosol, emulsion, gel, sol, or solid sol:
- jelly
 - shaving cream
 - car exhaust
 - Aquanet hairspray
 - salad dressing
 - paint
 - glass