**PFC2 Chapter 9 Section 1 Guided Reading**

1. Define *Brownian motion.*
2. An \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a pure substance that contains only one kind of atom.
3. A single \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the smallest particle of an element that has the chemical identity of that element.
4. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a substance that contains two or more different elements chemically joined and that has the same composition throughout.
5. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a group of two or more atoms joined together by chemical bonds.
6. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a combination of more than one kind of atom, molecule, or compound. Cola is an example.
7. Define *temperature*.
8. Complete the chart below:

|  |  |  |
| --- | --- | --- |
| **Phase of matter** | **Physical Characteristics** | **Motion of molecules** |
| SOLID |  |  |
|  | Has definite volume but doesn’t hold its shape--it flows |  |
|  |  | molecules have enough energy to break away from each other |

1. The forces between atoms or molecules that determine their phase (solid, liquid or gas) at any given temperature are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Chocolate is a solid at room temperature, but chocolate syrup is a liquid at room temperature. Which has stronger intermolecular forces?
3. As energy is added to a beaker of ice, either the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ changes or the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ changes but usually not both at the same time.
4. Define *evaporation*.
5. Write the equations for converting between Fahrenheit and Celsius. Label each variable as shown on page 222.
6. Do the Your Turn problem on page 222. Show your work. Check your solution against the answer provided at the end of the chapter.
7. Define *absolute zero*.
8. At what temperature does absolute zero occur on the Kelvin, Celsius, and Fahrenheit scales?
9. What is plasma?
10. Define *pressure*.