**Viscosity of Fluids**

* Viscosity is the term we use to describe the “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_” or “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_” of a fluid and how well it flows
* Fluids that have a ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** are said to be very “thick” and do not flow easily

Examples would be: Honey, Molasses, Tar

* Fluids that have a ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** are said to be thinner and flow more easily

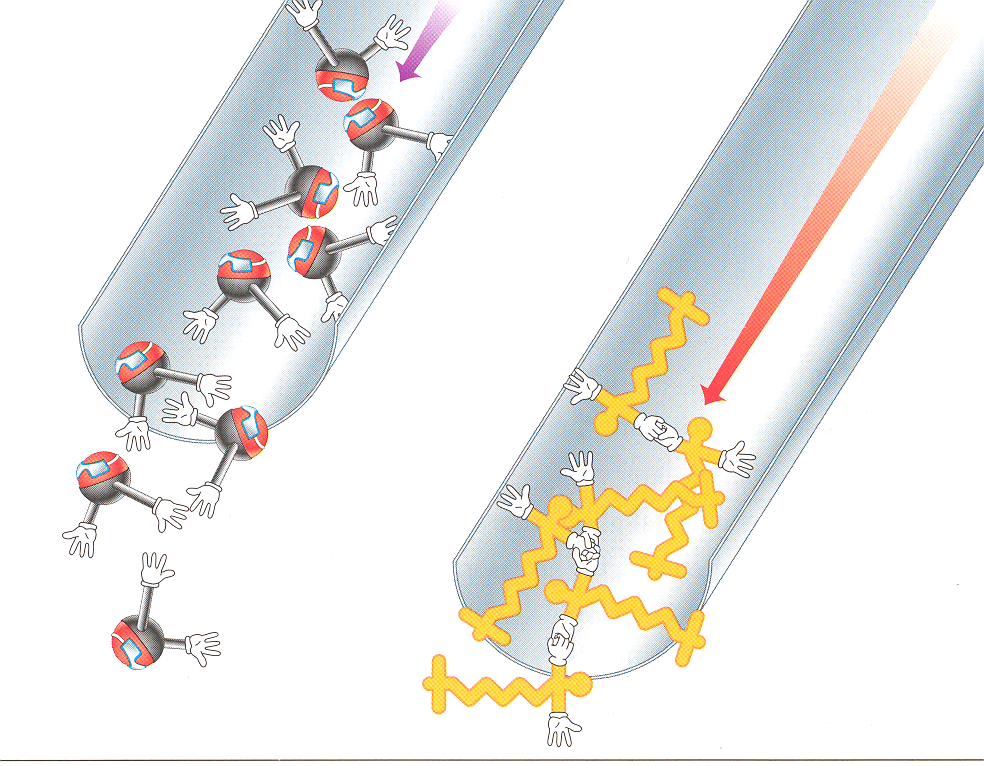
Examples would be: Water, Pop, Juice

*What is Viscosity?*

* Viscosity is a property of all fluids because it deals with the way the particles “\_\_\_\_\_\_\_\_\_\_\_\_\_” around one another… it is the thickness of the fluid
* Both \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_have some degree of viscosity, however, it is easier to comprehend viscosity in liquids because we can see and feel the “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_” of a fluid
* Viscosity of a fluid is a product of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ between the particles that make up the fluid
* Fluids that have particles that are strongly attracted to each other ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***flow as easily
* In contrast, fluids whose particles are not as strongly attracted to each other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_much more \_\_\_\_\_\_\_\_\_\_\_\_\_

**Strongly Attracted Particles (ex: syrup)**

These particles are more strongly attracted to each other so they don’t flow as easily.

*Practice Classifying:*

**Loosely Attracted Particles (ex: water)**

These particles are not strongly attracted so they flow more easily.

Please list these fluids in order from the *most* viscous to the *least* viscous:

Salad Dressing Molasses Water

Syrup Cream

\_\_\_\_\_\_\_\_\_ 🡪 \_\_\_\_\_\_\_\_\_ 🡪 \_\_\_\_\_\_\_\_\_\_\_ 🡪 \_\_\_\_\_\_\_\_\_\_ 🡪 \_\_\_\_\_\_\_\_\_

*Flow Rate:*

* Flow rate is the\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ at which fluids can flow
* Highly viscous (\_\_\_\_\_\_\_\_\_\_\_\_\_\_) fluids have a very \_\_\_\_\_\_\_\_\_ flow rate
* Less viscous (\_\_\_\_\_\_\_\_\_\_\_\_\_) fluids have a very \_\_\_\_\_\_\_\_\_\_\_ flow rate

*Factors Affecting Viscosity:*

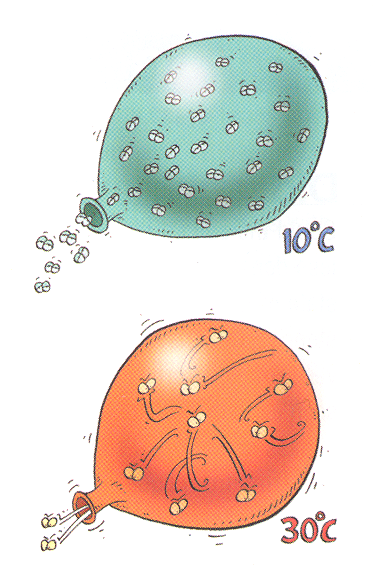
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ has the only major affect on viscosity in fluids
* Viscosity between gasses and liquids react \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to changes in temperature

*Temperature and Liquids:*

* If we increase the temperature of a *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*we excite the particles within the liquid causing them to flow more easily
* Increasing temp. causes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_between the particles of a liquid to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***THEREFORE***

* The viscosity of a liquid *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_* as it is *\_\_\_\_\_\_\_\_\_\_\_\_\_\_,* and *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_* as it is *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*



*Temperature and Gases:*

* If we increase the temperature of a *\_\_\_\_\_\_\_\_\_\_\_\_\_* we excite the particles within the gas causing them to move faster and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ more often
* The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ between particles has the opposite effect… its actually \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ between the particles and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_the flow rate

***THEREFORE***

* The viscosity of a gas *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_* as it is *\_\_\_\_\_\_\_\_\_\_\_\_\_*, and\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as it is *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*