

Grade 8 Science: Unit 2-Fluids

Chapter 7: Viscosity describes a fluid's resistance to flow.

Key Terms:

- Boiling, boiling point, concentration, condensation, evaporation, flow rate, fluid, freezing point, gas, Liquid, melting, melting point, solid, solidification, viscosity

The Particle Theory of Matter (PTM)....

The 5 main points that make up this theory are:

1. _____

2. _____

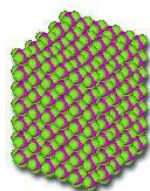
3. _____

4. _____

5. _____

The 3 states of matter...

State	Shape	Volume	Particle Arrangement	Particle Movement



Solid



Liquid



Gas

Fluids

Any form of matter that _____.
_____ and _____ are fluids.
_____ are NOT!!

We use fluids everyday ...

- _____
- _____
- _____
- _____

Viscosity...

A measure of a liquid's _____ to flow.
The _____ or _____ of a fluid.
A fluid that is viscous is one that is _____.

Viscosity & Friction

_____ resists movement.
The greater the friction, the _____ the viscosity.

Number the fluids below with 1 being the least viscous and 4 being the most viscous.



Flow Rate...

The speed at which a fluid flows from _____

Example:

Slow	Medium	Fast

Comparing viscosity and flow rate:

Viscosity	Flow Rate	Description

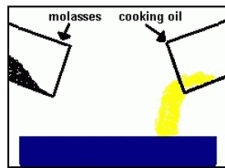
Factors that affect viscosity:

1. _____

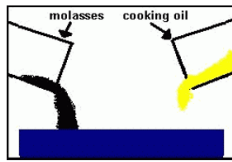
- As you _____ temperature, you _____ a fluid's viscosity. As you _____ temperature, you _____ a fluid's viscosity.

Example: As the temperature of molasses is increased it flows faster: low viscosity!

- *(PTM: particles are constantly in motion. As they acquire more energy, they move faster. As liquids are heated the particles move faster and further apart).*
- The _____ is true of gases.



At room temperature



As the temperature of molasses is increased it flows faster: low viscosity
As the temperature of cooking oil is decreased it flows slower: high viscosity

2. _____

- The _____ of substance dissolved in a specific volume.
- _____ the concentration, _____ the viscosity.
- *(PTM: There is empty space between the particles).*

Example:

Skim milk → 1% milk → 2% milk → whole milk → cream

3. _____

- If the attractive forces are _____, it is difficult for the particles to pull away, therefore the fluid flows _____ and is _____ viscous.
- Can stick to each other or the container
- *(PTM: There is a force of attraction between particles that can be either strong or weak).*

4. _____

- The _____ the particle size, the _____ the fluid flows and is _____ viscous.