



Grade 8 Science

Unit 3: Fluids



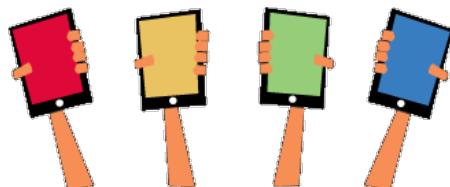
Matter

Today we will start our unit on fluids. To begin the unit, we will review the states of matter.

If you have brought a wi-fi enabled device to class, please bring it out now. If not, please get a laptop and login.

We will use Kahoot to do a quick quiz about the states of matter. Be sure you can clearly see the board.

Once you are online, please go to <https://kahoot.it/> and enter the PIN that will be seen on the Smartboard.



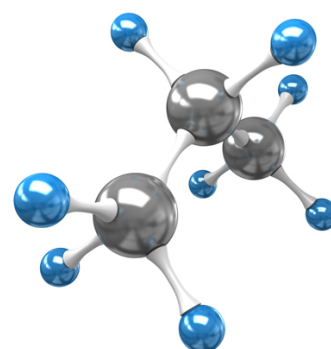
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The Particle Theory of Matter

Last year you were told that the most important thing you would learn all year was the particle theory of matter. It will, again, be very important to this unit. Please review the five postulates and make sure you know them well.

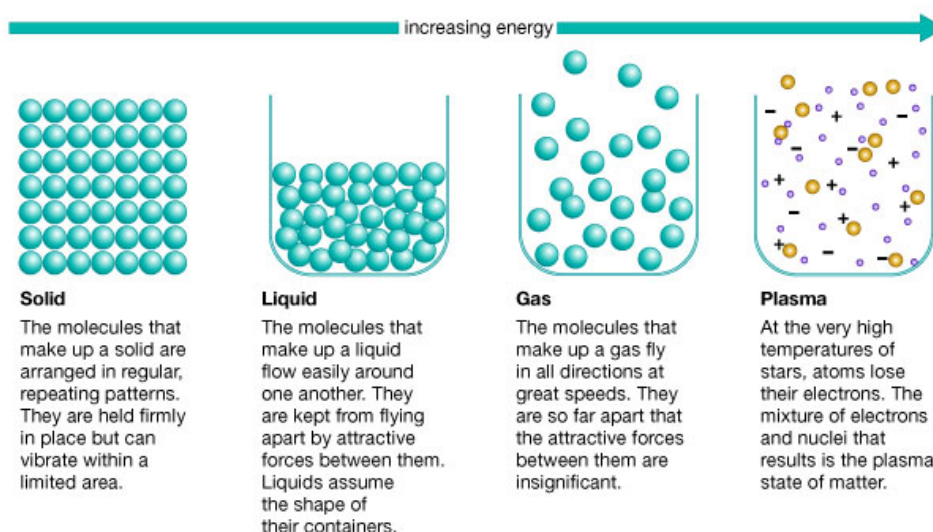
1. All matter is made up of particles
2. All particles in a pure substance are identical (no two different pure substances have the same particles)
3. All particles have space between them
4. All particles are always moving – more energy (heat) produces more movement
5. All particles are attracted to one another

Particles refers to either atoms or to molecules.



The States of Matter

Although modern science has allowed scientists to discover several states of matter, there are only four that occur naturally. The state at which you will find any bit of matter depends on the level of energy contained within it at the time.





Fluids

Of the four naturally occurring states of matter, we will look at two of them; liquids and gases. Combined we refer to these states of matter as "Fluids." A fluid is defined as *any substance that is able to flow or will change shape continually under a constant force.*

In this unit we will study fluids, the properties of fluids, and how humans take advantage of these properties. Our list of topics will include:

- Viscosity
- Flow Rate
- Density
- Buoyancy
- Pressure
- Compressibility
- Hydraulics
- Pneumatics

For homework, you are to ponder this question: Is peanut butter a solid or a fluid?

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