

Today we are going to learn about Matter and Energy!

teacher →

WAKE UP!

I need a vacation

Now that I have your attention, I shall teach you about Matter and Energy...

<p>Solid ex: Ice cube</p> <p>particle</p>	<p>Liquid ex: water</p> <p>particle</p>	<p>Gas ex: water vapor</p> <p>particle</p>
<p>Add heat to change to liquid</p>	<p>Add heat to change to gas cool to change to liquid</p>	<p>take heat away to turn to liquid</p>

Particle Theory of Matter

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

Now who here knows any ways to produce heat?

sun fire friction electricity heater body chemicals

Good job! Now, it's time for the assignment. You will have to prepare a presentation about what we have learned today by next week!

You are now dismissed. FINALLY!

1 Week Later...

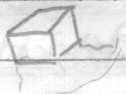
KYLE!

Matter and Energy. By Kyle.

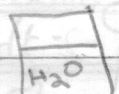
Matter is all around. From the chair we sit on to the air we breathe in. Everything is made out of Matter.

there are 3 types of forms.

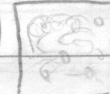
Solid ex: ice cube



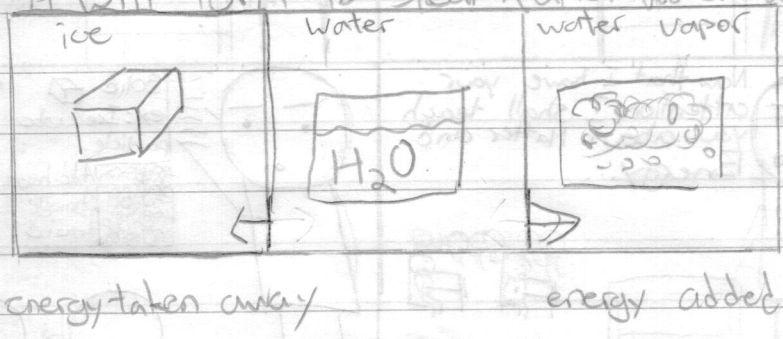
Liquid ex: water



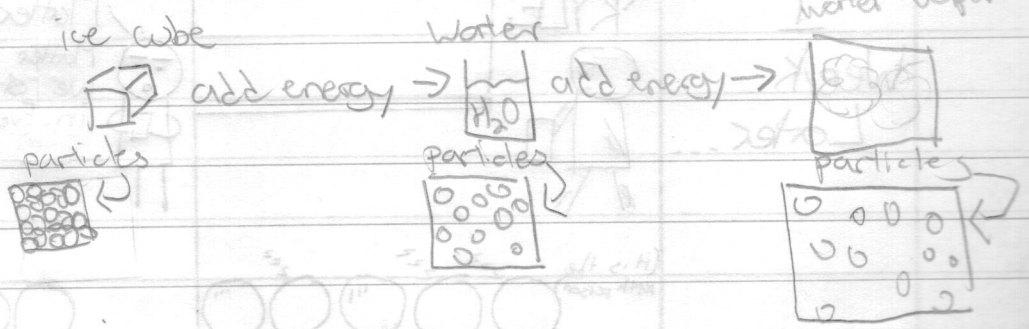
Gas ex: water vapor



Forms change when energy (also known as heat) is added or taken away from the particles. For example: When energy is taken away from water, the water turns to ice. But if energy is added to the water, it will turn to steam (aka water vapor).



When the particles are in a solid form, they are all packed very closely together and move slowly. But when energy is added to the particles, heat causes the particles to move faster and spread out, at the same time, the volume (space) will increase. And if you continue to add energy to the particles, it will just move faster, spread out more, and increase the volume. But if you do the opposite, then the particles will move slower instead of faster and the particles will become more packed together, so that means the volume will decrease as well.



Here are some ways to create heat:

- the sun
- friction
- chemicals
- the human body
- electricity



Now, I shall explain to you the particle theory.

Particle Theory of Matter

(water will be the example)

1. Matter is made up of tiny particles (Atoms & Molecules)

Water is a matter. It's made up of tiny particles.

2. Particles of matter are in constant motion. All particles of one substance are identical.

So the particles of water are constantly moving. All particles of water are identical.

3. Particles of Matter are held together by strong electric forces.

The particles of water are held together by strong electric forces, but not as strong as ice.

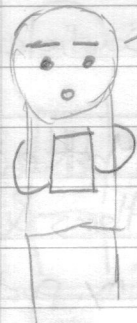
4. There are empty spaces between the particles of matter that are very large compared to the particles themselves.

There are empty spaces between the particles of water. The spaces are very large compared to the particles themselves. The more space between the particles, the greater the volume.

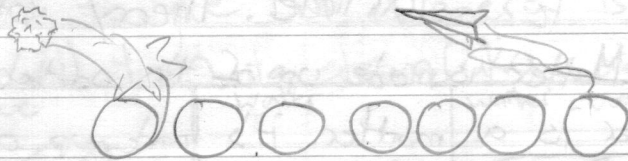
5. Each substance has unique particles that are different from the particles of other substances.

Water has unique particles that are different from apple juice.

6. Temperature affects the speed of the particles. The higher the temperature, the faster the speed of the particles. In a gas, there is a lot of space between the particles. In liquids and solids, the particles are closer together and have strong forces of attraction between them. Just like ice and water.



And lastly, Matter is everywhere!



When the particles are in a solid state, they are all packed closely together. But when energy is added, the particles vibrate more and eventually break apart, becoming a liquid or gas.

