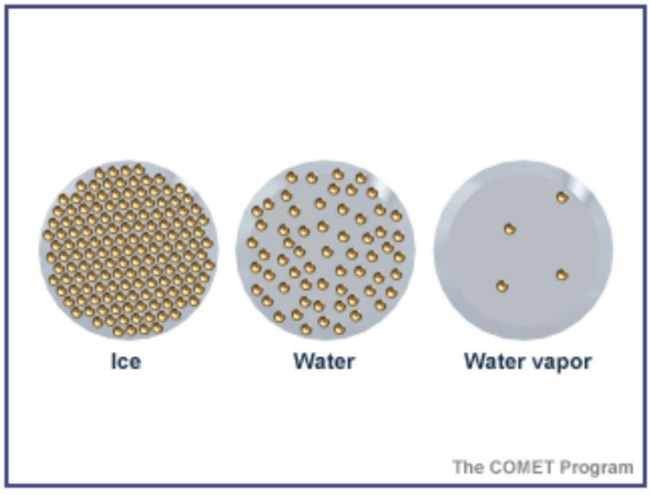
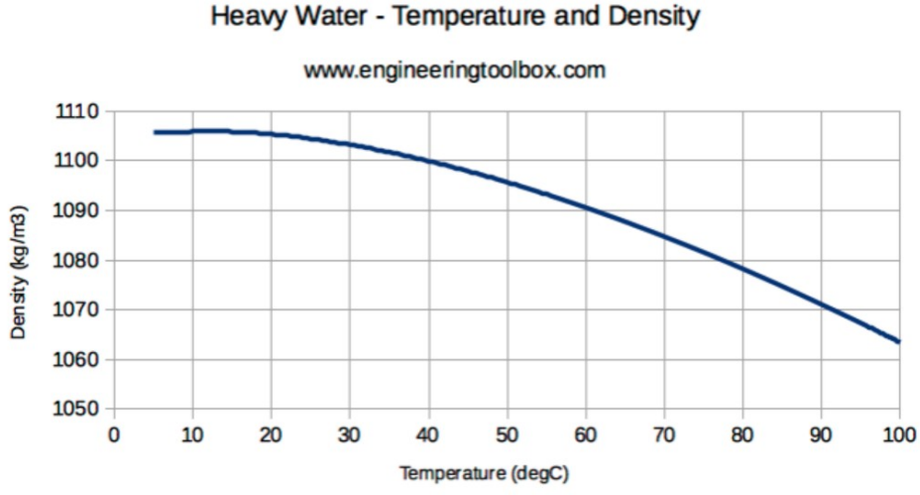


You can see with ice there is more particles bunched together in the area. Water the particles are spread out some BUT with water vapor the particles are really spread out.

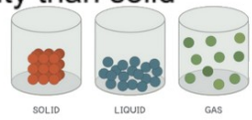
<u>As temperature increases the density of water decreases</u>



Density of Solids, Liquids, and Gas

The only way the density of a substance will change is if it changed states.

Ex) Liquid water is a different density than solid water and water vapor



Water

Both liquid water and water vapor have the same type of particles and the particles are all the same size.

Why is water vapor less dense than liquid water?

According to the particle theory of gas, gas particles have more space between them than liquid particles. Therefore, water vapor would have fewer particles than liquid water.

The density of the water vapor is less than the density of the liquid water.

Most substances become more dense when they freeze because their particles move slower and pack closer together.

Water is different.

Hi

When water freezes, its particles arrange themselves into a special crystal pattern. This pattern leaves empty spaces between the particles.

Liquid water particles are close together and can slide around.

Ice particles are locked into a structure that spreads them farther apart.

The same mass of water now takes up more space as ice.

Overall

Most solids are denser than their liquids, but water is unusual because when it freezes its particles form a crystal structure with extra empty space, making ice less dense than liquid water and allowing it to float.

Dolphin can leap through the air and dive back into water smoothly and effortlessly.



Solid objects can move easily though liquids and gases. The particle theory states that fluid properties of water and air allow water particles and air particles to move out of the way solids.



You cannot push through a solid substance, like ice, since the particles are held strongly together and will not push aside.

