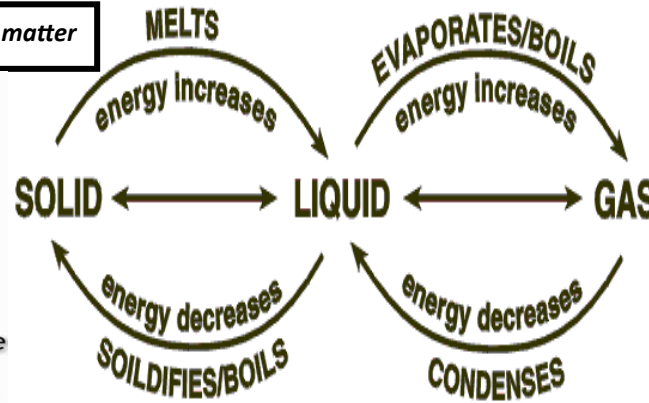
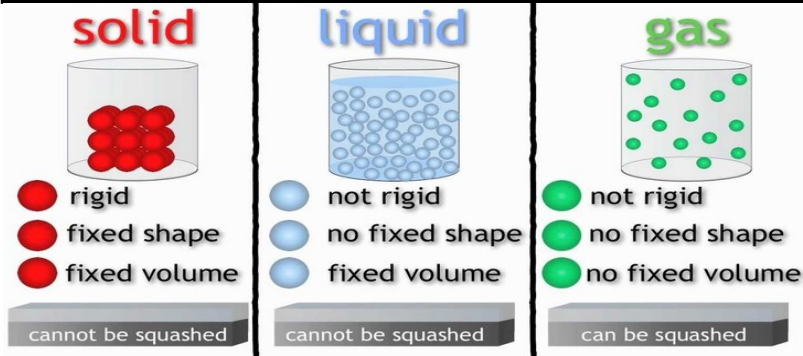


Particle model and heating and cooling Year 7

End point 1 : Draw and explain particle diagrams for all three states of matter



End point 2 : Recall the difference between heat and temperature

We think that heat and temperature are the same thing. Heat and temperature are related to each other, but are different concepts. Heat is the total energy of molecular motion in a substance while temperature is a measure of the average energy of molecular motion in a substance.

Conduction

When a substance is heated, its particles gain internal energy and move more vigorously. The particles bump into nearby particles and make them vibrate more. This passes internal energy through the substance by conduction, from the hot end to the cold end.

Convection

The particles in liquids and gases can move from place to place. Convection happens when particles with a lot of thermal energy in a liquid or gas move, and take the place of particles with less thermal energy. Thermal energy is transferred from hot places to cold places by convection.

Radiation.

Is the transfer of energy without particles. Thermal or infra red radiation is an electromagnetic waves. It can travel through a vacuum and is invisible.

End points 3, 4 and 5: Explain conduction, convection and radiation.

