

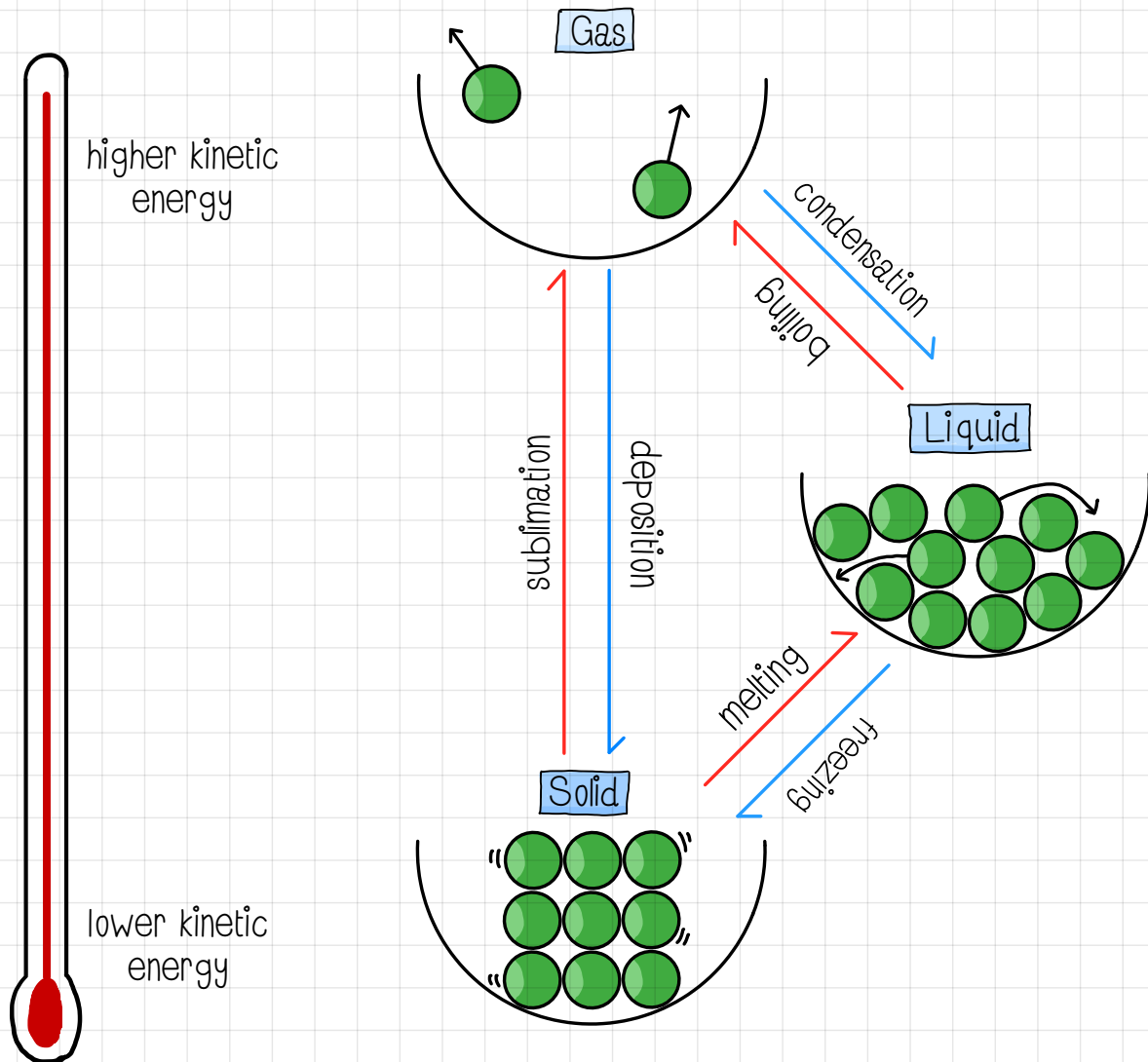
Change of state

Key stage 3 review

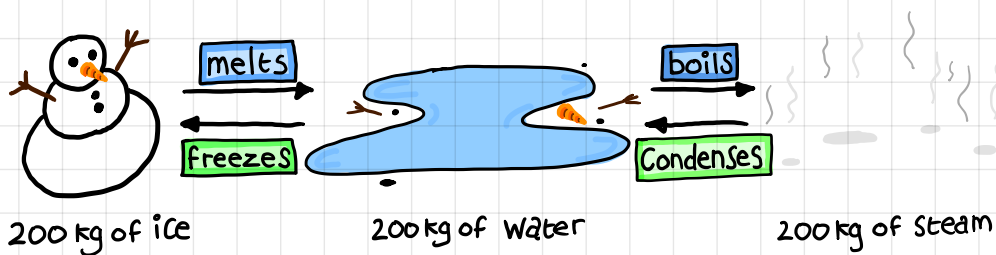
There are three states of matter (actually five!): solid, liquid and gas

plasma

Bose-Einstein condensate



Conservation of mass



Mass is conserved during changes in state.

Internal energy

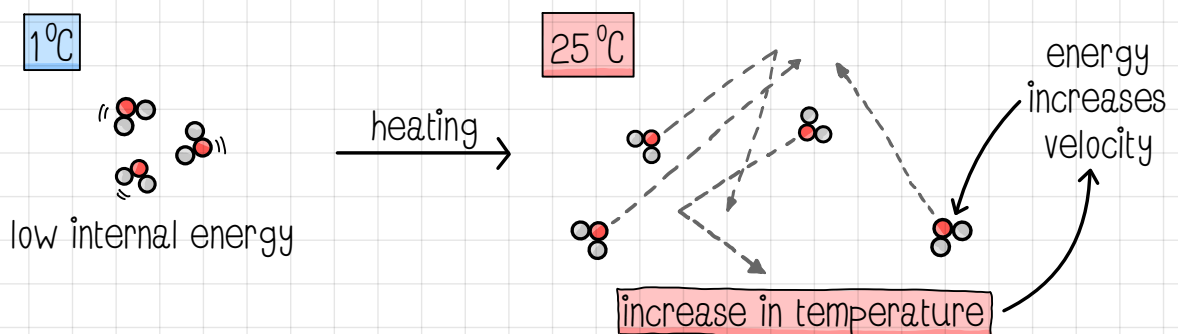
Energy is stored inside a system by the particles (atoms or molecules that make up the system). In a kettle, the energy of the boiling water is stored in the water molecules.

This energy is called internal (or thermal) energy. The internal energy is equal to the total kinetic energy and potential energy of all the molecules in a system.

The kinetic energy relates to how quickly the particles are moving. The potential energy is related to the interactions between the particles.

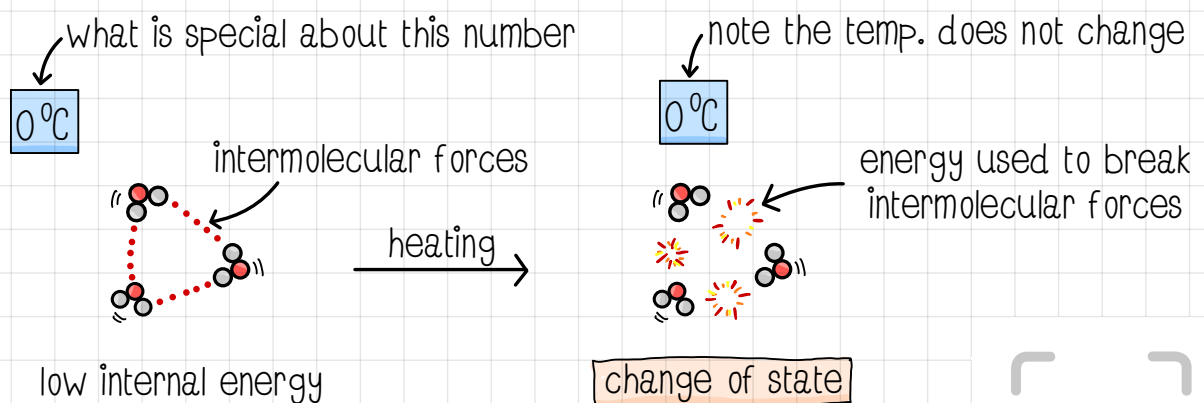
Heating a system increases the internal energy within a system.

Increasing the temperature of a system



Increasing the temperature has increased the kinetic energy of the molecules in the system

Changing the state of a system



Heating the molecules has increased the potential energy of the molecules in the system.