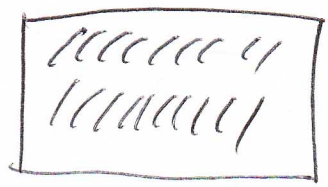


Solids -

crystalline - having a regular or periodic arrangement of atoms or molecules

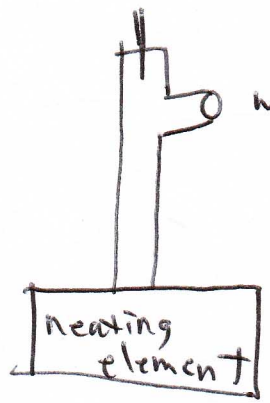
amorphous - "without form" - refers to a solid without any internal structure.



A phase change can occur when KE in the form of thermal energy is able to overcome the IMF,

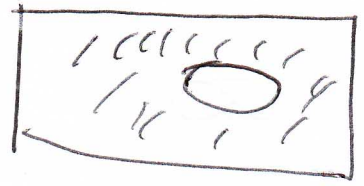
idealized solid

Thermal equilibrium - the point at which all molecules in a sample have roughly the same average energy.



When performing melting points, window heating must be conducted slowly (ideally  $10^{\circ}/\text{min}$ ) to ensure the entire device is @ thermal equilibrium. In this lab, if heating is conducted too rapidly,

heat will reach the sample before the thermometer, so the sample will appear to melt @ a lower temperature.



When an impurity is present, it interferes with the IMF of the target compound (lowering the IMF).

Less energy is needed to overcome the IMF, so the melting point is lower.

