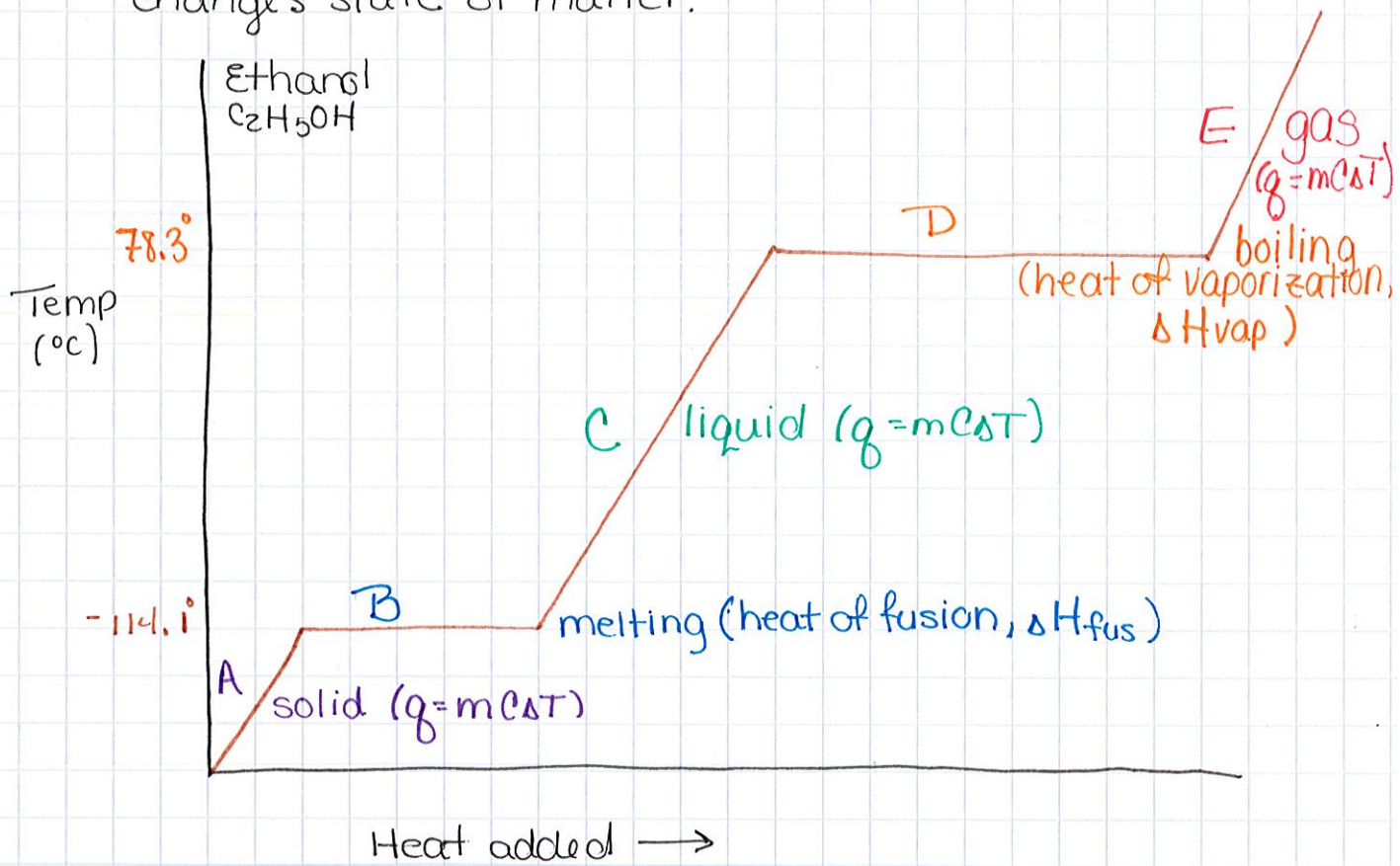
Heating Curves

show the change in energy (heat) as a substance changes state of matter.



A solid - by adding Heat, all of the energy goes into increasing the temp. (↑ kinetic energy) of the solid. IMFs in the solid start to weaken.

B melting - all of the heat added goes into further weakening of the IMFs so that the solid can melt. The temp. WILL NOT CHANGE UNTIL all the solid is melted.

C liquid - by adding heat, all of the energy goes into increasing the temperature (↑ kinetic energy) & further weakening the IMFS.

D boiling - all of the heat added breaks IMFs, letting the liquid become a gas. The temp. WILL NOT CHANGE UNTIL all the liquid is vaporized.

E gas - by adding heat, all of energy goes into increasing the temp.

It takes more energy to boil (D) a substance than to melt it (B) because it takes more energy to break an IMF than to weaken it.