Magma Notes

What is Magma made of:

1. Mafic:
   1. Metal rich, mostly iron.
   2. High melting point
2. Felsic or Silicic
   1. Metal-poor, mostly oxygen and silicon
   2. Low Melting point
3. Combinations of 1 and 2
   1. New magma is made when continental sediments are subducted with oceanic plates

In general:

* Continental Crust is felsic
* Ocean crust is mafic
* Mantle material is mafic or “ultra mafic” (even more metal containing)

How is Magma made?

1. Excess radioactive decay
2. Heat from the friction of subducting plates
3. Releasing pressure of diverging plates

Sources of Magma:

3 places where magma is created

1. Subduction Zones
   1. when mafic oceanic plates with continental felsic sediments are subducted it produces mixed magma of mafic and felsic composition
2. Hot Spots
   1. Produced from excess radioactive decay
   2. Magma tends to be mafic as it comes from mantle
3. Spreading ridges (divergent boundaries)
   1. Crust opens up, lowering pressure and bringing magma to the surface to create new crust
   2. Magma is mafic as it rises from mantle