**Igneous Intrusions and Relative Dating**

**A Refresher on Plutons**

A **pluton** is created when magma rises up from the mantle, “invades” an area, and hardens into solid igneous rock.

- The hardened magma (i.e. the pluton) is an example of an   
  
 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

- The surrounding rock material is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
 and is generally \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than the pluton.

**Tips for Relative Dating**

When magma contacts the country rock, two things happen:

The county rock gets “baked” and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  
This is useful for distinguishing a lava flow from a sill.

The magma in contact with the country rock cools faster, so the outside of the pluton has smaller crystals than the inside.