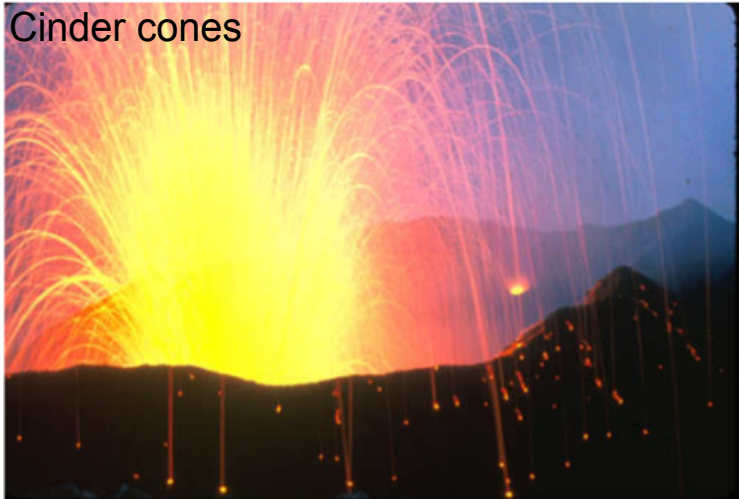


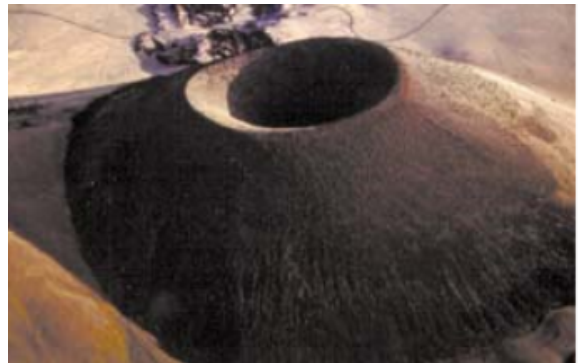
Igneous Rocks

Cooled from magma
or lava





Scoria



Composite (strato) volcanic eruptions



Pinatubo



Mt. St. Helens

Pumice





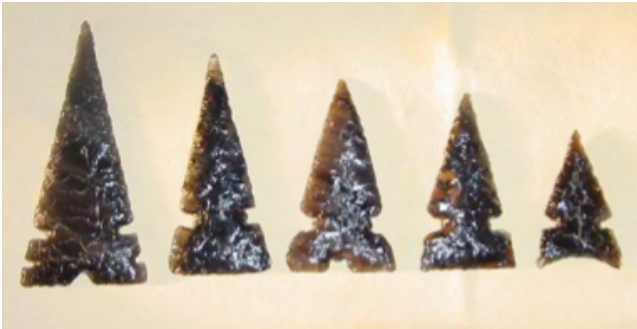
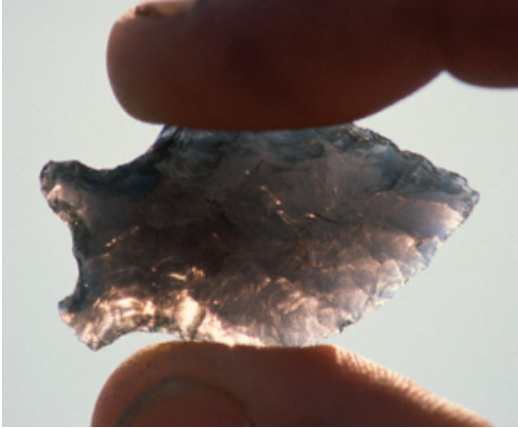
Cooled from
lava flows
both above
ground and
under the
ocean



Obsidian

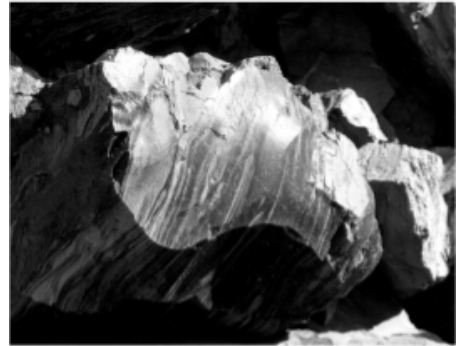
When lava cools very quickly







Obsidian Dome
Long Valley, California
1000 to 5000 year old rock



Obsidian from Obsidian
Dome



The edge of
Obsidian Dome

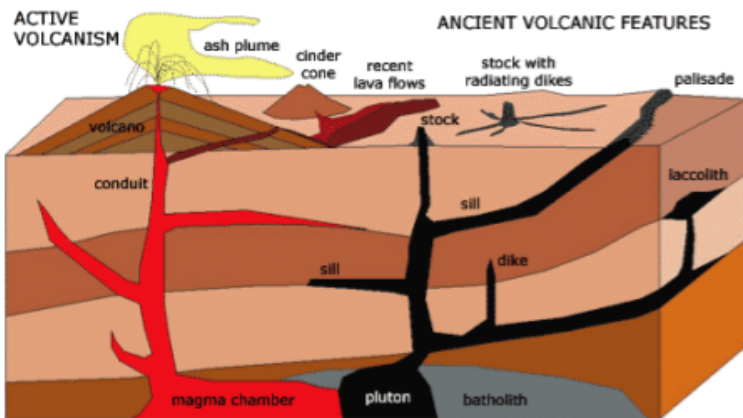


Glass Mountain, Northern California



Mono Craters, California
A mixture of pumice and
obsidian

4. The magma which forms intrusive igneous rocks cools very slowly – over tens to hundreds of thousands of years. Where does the magma cool?



Intrusive igneous rocks form in plutons. Plutons are large "bubbles" of magma in the lithosphere.

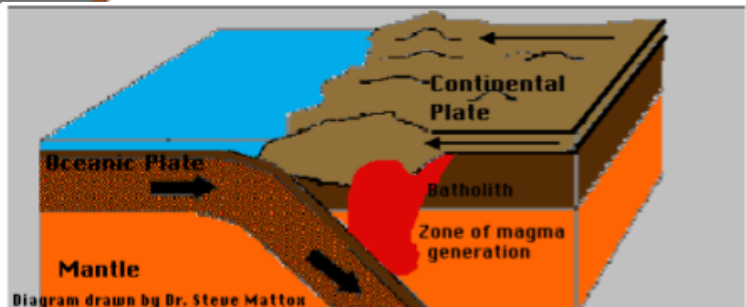
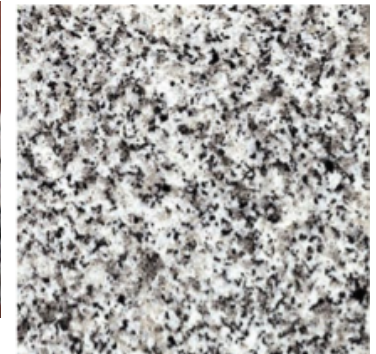
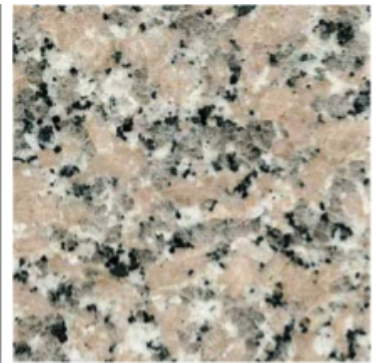


Diagram drawn by Dr. Steve Matton

5. What are some of the characteristics of intrusive igneous rocks?





Very slow cooling with intrusive igneous rocks grows large mineral crystals.



Locations with lots of granite.



Yosemite
National Park



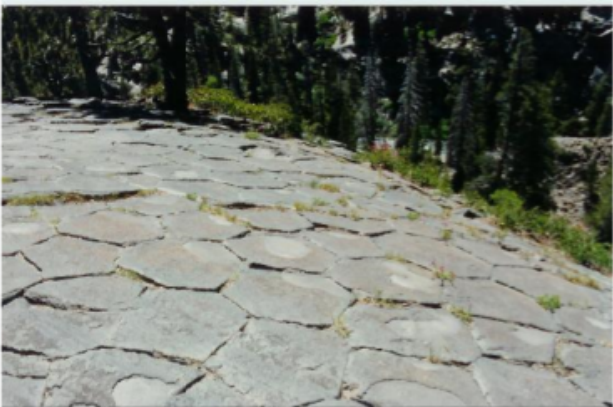
Devil's Tower,
Wyoming



Intrusive igneous rock

Basalt from a long ago magma chamber of
a volcano.

Devil's Postpile, California



More
basalt

