VOLCANOES

Reading: Chapter 9
Pages 249-267

Review Questions
1, 5, 8, 9, 10, 12
Table 8.1 Magmas have different compositions, which cause their properties to vary

<table>
<thead>
<tr>
<th>Composition</th>
<th>Silica Content</th>
<th>Viscosity</th>
<th>Gas Content</th>
<th>Tendency to Form Pyroclastics</th>
<th>Volcanic Landform</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basaltic (Mafic)</td>
<td>Least (~50%)</td>
<td>Least</td>
<td>Least (1–2%)</td>
<td>Least</td>
<td>Shield Volcanoes Basalt Plateaus Cinder Cones Composite Cones</td>
</tr>
<tr>
<td>Andesitic (Intermediate)</td>
<td>Intermediate (~60%)</td>
<td>Intermediate</td>
<td>Intermediate (3–4%)</td>
<td>Intermediate</td>
<td></td>
</tr>
<tr>
<td>Rhyolitic (Felsic)</td>
<td>Most (~70%)</td>
<td>Greatest</td>
<td>Most (4–6%)</td>
<td>Greatest</td>
<td>Pyroclastic Flows Volcanic Domes</td>
</tr>
</tbody>
</table>
Pahoehoe lava

http://www.doubledeckerpress.com/pahoe.htm
Mount St Helens

http://www.geology.mcmail.com/volcanoes.htm
http://ve.ou.edu/weaver/st_helens/sthelens.htm
Sept. 2002

Volcanocam see http://www.fs.fed.us/gpnf/volcanocams/msh/

Photo credit see http://www.roddyscheer.com/mt_st_helens.html
http://www.mistermoose.org/rtw/usa/hawaii/pahoehoe.html
http://www.bol.ucla.edu/~asuarezn/Paricutin_page.html
http://volcanoes.usgs.gov/Products/Pglossary/ShieldVolcano.html
Paricutin

http://www.greenville.k12.oh.us/volcano/cindercone.html
Cinder cones

http://courses.unt.edu/hwilliams/GEOG_3350/examreviews/volcanic_structures.htm
http://www.bol.ucla.edu/~asuarezn/Paricutin_page.html
A. Mauna Loa, Hawaii, a large shield volcano

B. Mt. Rainier, Washington, a large composite cone

C. Sunset Crater, Arizona, a large cinder cone
http://courses.unt.edu/hwilliams/GEOG_3350/examreviews/volcanic_structures.htm
Cascade Volcano eruptions

http://ve.ou.edu/weaver/st_helens/sthelens.htm
http://www.geog.utah.edu/~hmiller/photos/Mt_Hood.jpg
Blasted summit of Mt. St. Helens

http://ve.ou.edu/weaver/st_helens/sthelens.htm
Whaleback dome in Mt. St. Helens

http://ve.ou.edu/weaver/st_helens/sthelens.htm
Caldera initial stage

Eruption of Mount Mazama

Partiially emptied magma chamber
STAGE 1
INFLATION BEGINS

TILTMETER

GPS STATIONS

Magma reservoir begins to swell.

STAGE 2
INFLATION AT PEAK

Magma reservoir inflates.

Tilt increases
Stressed rocks - zone of earthquakes

Distances and elevations increase

STAGE 3
ERUPTION - DEFLATION

Volcano shape returns to normal

Distances and elevations decrease

A. Implacement of magma