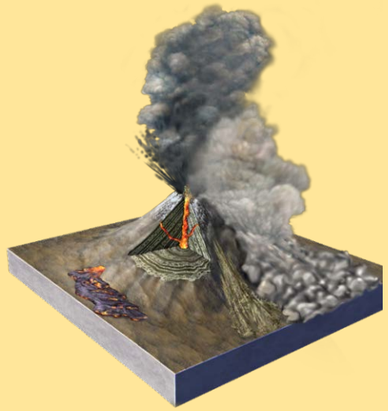


Igneous Rocks

When you hear the word ***IGNEOUS*** think of:

ignite, fire, volcanoes, lava, molten rock, magma.

Separate mineral crystals

What to look for:

Intrusive-inside the earth (Granite)

- Crystals of different minerals (different colors & shapes)
- Mineral crystals are easier to see (than in extrusive rocks).
- The crystal surfaces sparkle or shine when seen in the sun or bright light.

Extrusive-outside on the earth (Basalt)

- Mineral crystals are harder to see (than in intrusive rocks).
- The crystals are very, very small or may not be present at all.
- These rocks can come from volcanoes and can look many different ways, from very small mineral crystals to lava with bubble holes to broken pieces of rock.

Granite – became solid inside the Earth
Easy to see large mineral crystals

Interlocking mineral crystals in a granite.

feldspars

quartz

amphibole

mica

Basalt – became solid on the surface of the Earth
Difficult to see very, small mineral crystals

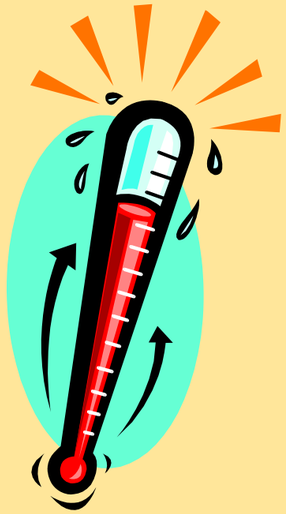
Pyroxene and other dark minerals

Questions or suggestions contact:
Randy Bechtel

Randy.Bechtel@ncdenr.gov

portal.ncdenr.org/web/lr/earth-science-outreach

Igneous Rocks



Environment where the rock formed:

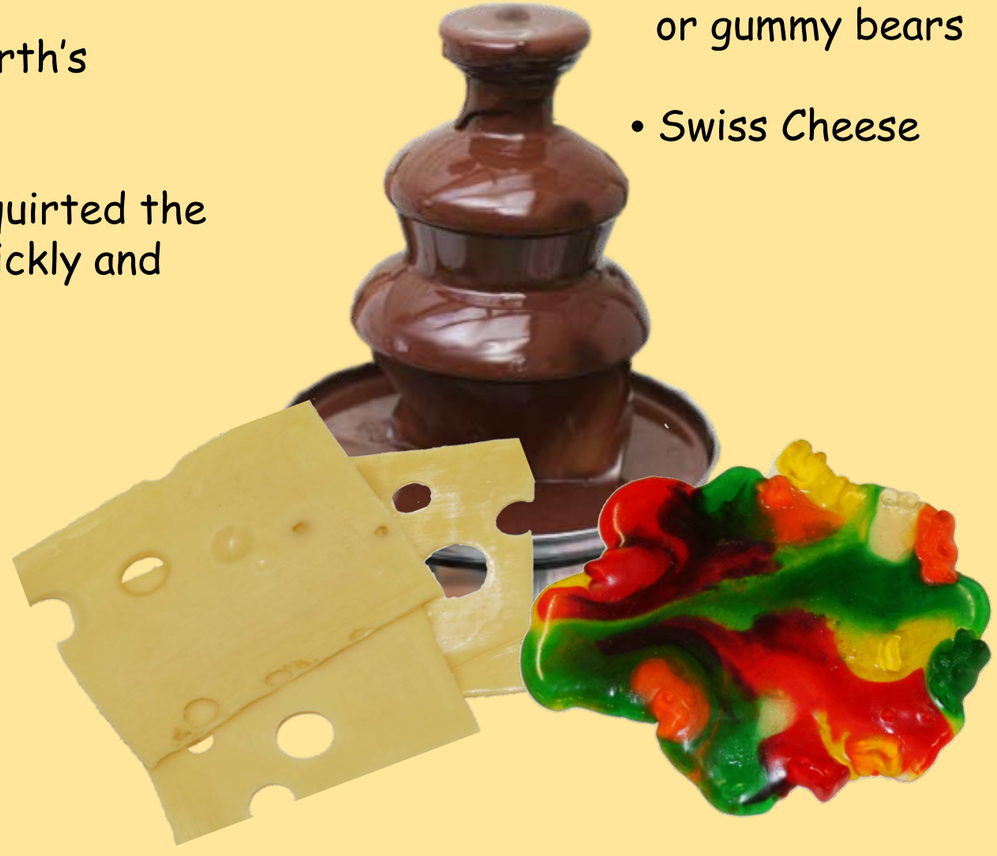
- These rocks were once totally molten
- They crystallized (became solid) on the Earth's surface or underground:

Lava (extrusive) – a volcano oozed or squirted the lava onto the Earth's surface, cooled quickly and became solid.

Magma (intrusive) – blob of magma rose (think of a lava lamp blob), became solid below the Earth's surface, sometimes *miles* underground, and cooled very slowly.

Food:

- Chocolate fountain
- Melted chocolate bar or gummy bears
- Swiss Cheese

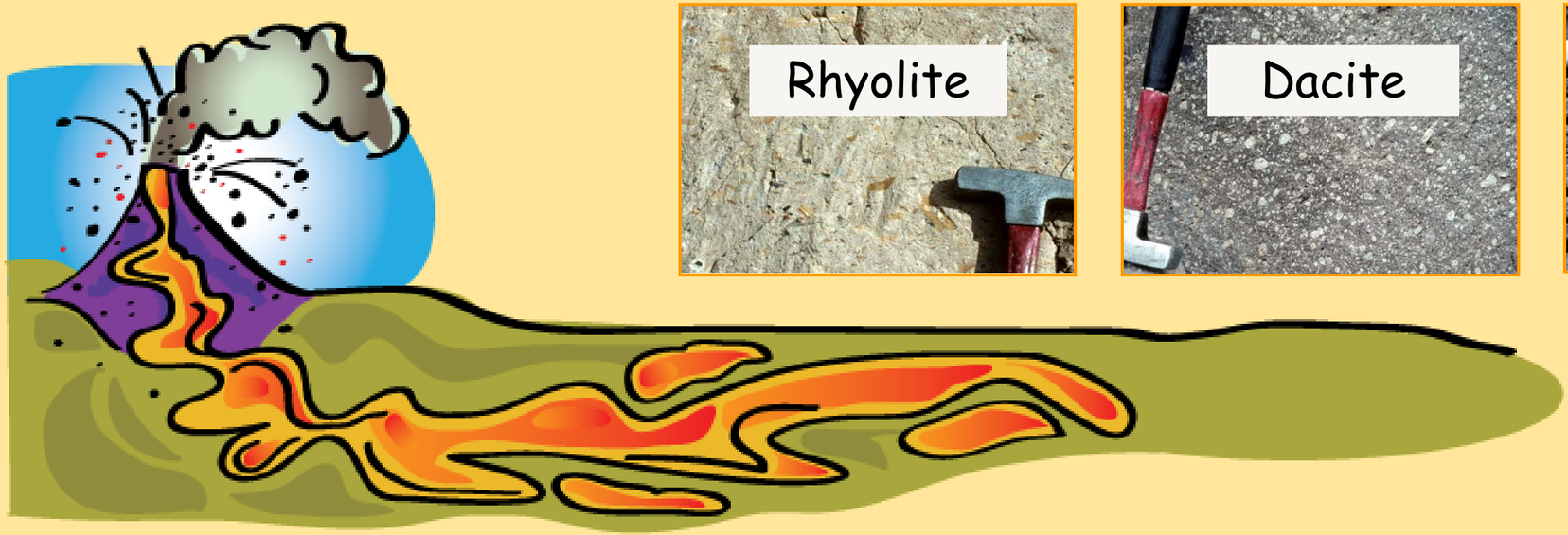


Questions or suggestions contact:
Randy Bechtel

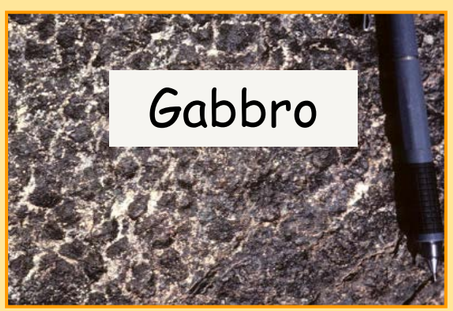
Randy.Bechtel@ncdenr.gov

portal.ncdenr.org/web/lr/earth-science-outreach

A Few Types of Igneous Rocks:



Extrusive -
Erupted as **LAVA**
& other pieces **ON**
the Earth's **SURFACE**

Light Colored Igneous Rocks	*In- between*	*Dark Colored Igneous Rocks*
Have a lot of silica (Felsic-feldspar & silica)	(Intermediate)	*Does not have a lot of silica* (Mafic-magnesium & iron)
Rhyolite	Dacite	 Basalt
 Granite	 Diorite	 Gabbro

Intrusive –
Never erupted. Blobs
of molten rock **MAGMA**
solidified **BELOW**
the Earth's **SURFACE**
(think lava lamp blob)

Questions or suggestions contact:
Randy Bechtel

Randy.Bechtel@ncdenr.gov

portal.ncdenr.org/web/lr/earth-science-outreach