

ROCKS

A natural substance, a solid aggregate of one or more minerals or at time mineraloids.

Types of Rocks

**Igneous
rocks**



**Sedimentary
rocks**



**Metamorphic
rocks**



ROCKS Exposure



Igneous



Sedimentary



Metamorphic

Igneous Rocks

Igneous rocks are further subdivide into various types, which solely depend upon its:

❑ Place of emplacement

- Extrusive/Volcanic
 - ✓ E.g., Basalt, Rhyolite
- Intrusive
 - Plutonic
 - ✓ Granite, Gabbro
 - Hypabyssal
 - ✓ Dolerite

❑ Texture:

- Fine
- Coarse

❑ Chemical Composition (Based on Silica)

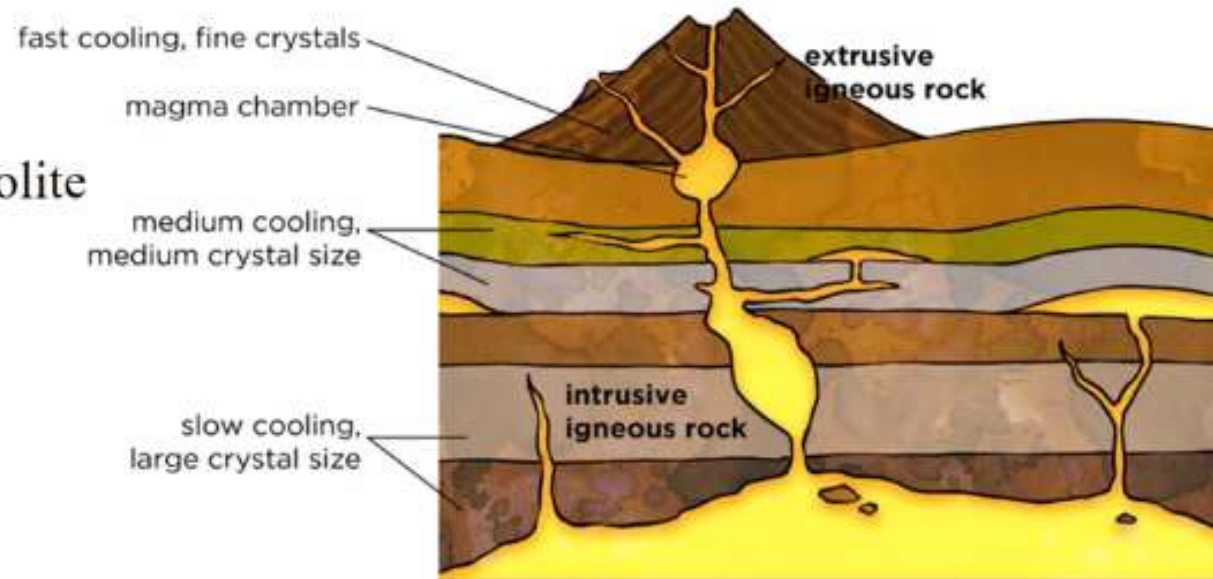
- Acidic (66% Silica)
- Intermediate (66-55% Silica)
- Basic (55-44% Silica)
- Ultrabasic (<44% Silica)

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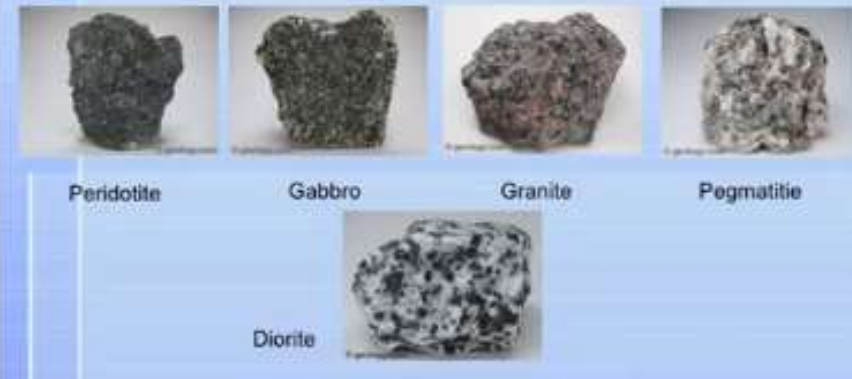
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- Intrusive igneous rocks
- Formed when magma "inside" the volcano cools s-l-o-w-l-y
- Forms large grain crystals



Texture: Arrangement of grains (mineral) in a rock

Size, shape, orientation.

⇒ fine & coarse :-

grained

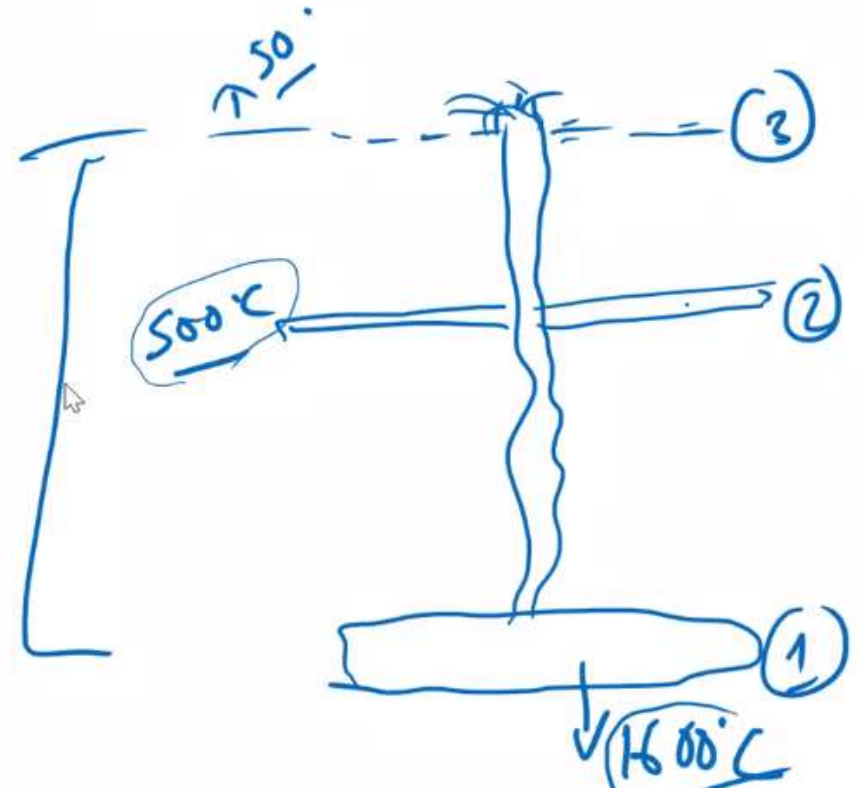
porphyrocrystalline

$$(3) \quad 1600 - 50 = 1550^{\circ}\text{C}$$

↓
Cool down ↓

Solidify

→ granitic



③ 100

Cool down ↓
Solidify
→ Quenching

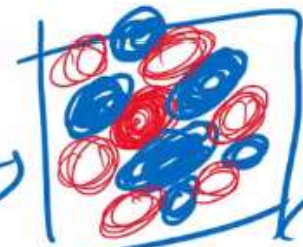
Gradually.
→ very slow cooling

① ↓ 1600 ↑ ↑
↓ ↓ ↓
↓ ↓ ↓
600°C

→ 2-mixed (600°C)

1000°C

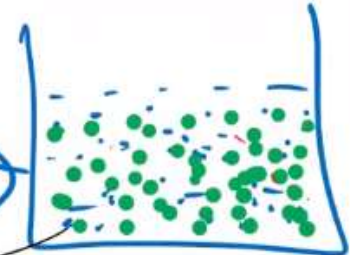
large
coarser



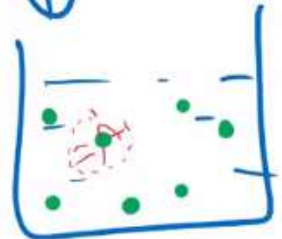
1600 ↓
600°C

500°C

1600 → 500



1600 - 500



fine grained

