

Igneous Rocks

Igneous Rocks: Rocks formed by the cooling and solidifying of molten materials. Igneous rocks can form beneath the earth's surface, or on its surface, as lava.

How to Describe an Igneous Rock

1. Origin: Refers to the position of rock forming

- a) Intrusive (**Plutonic**).
- b) Extrusive (**Volcanic**).

2. Textures: Refers to the size, shape, and arrangement of mineral grains. Size relates to cooling rate, and indicates an intrusive or extrusive origin.

- a) **Aphanitic:** fine grained, rapid cooling.
- b) **Phaneritic:** coarse grained, slow cooling.
- c) **Porphyritic:** phenocrysts and groundmass, two stage cooling history.
- d) **Glassy:** no crystal structure.
- e) **Vesicular:** gas cavities.

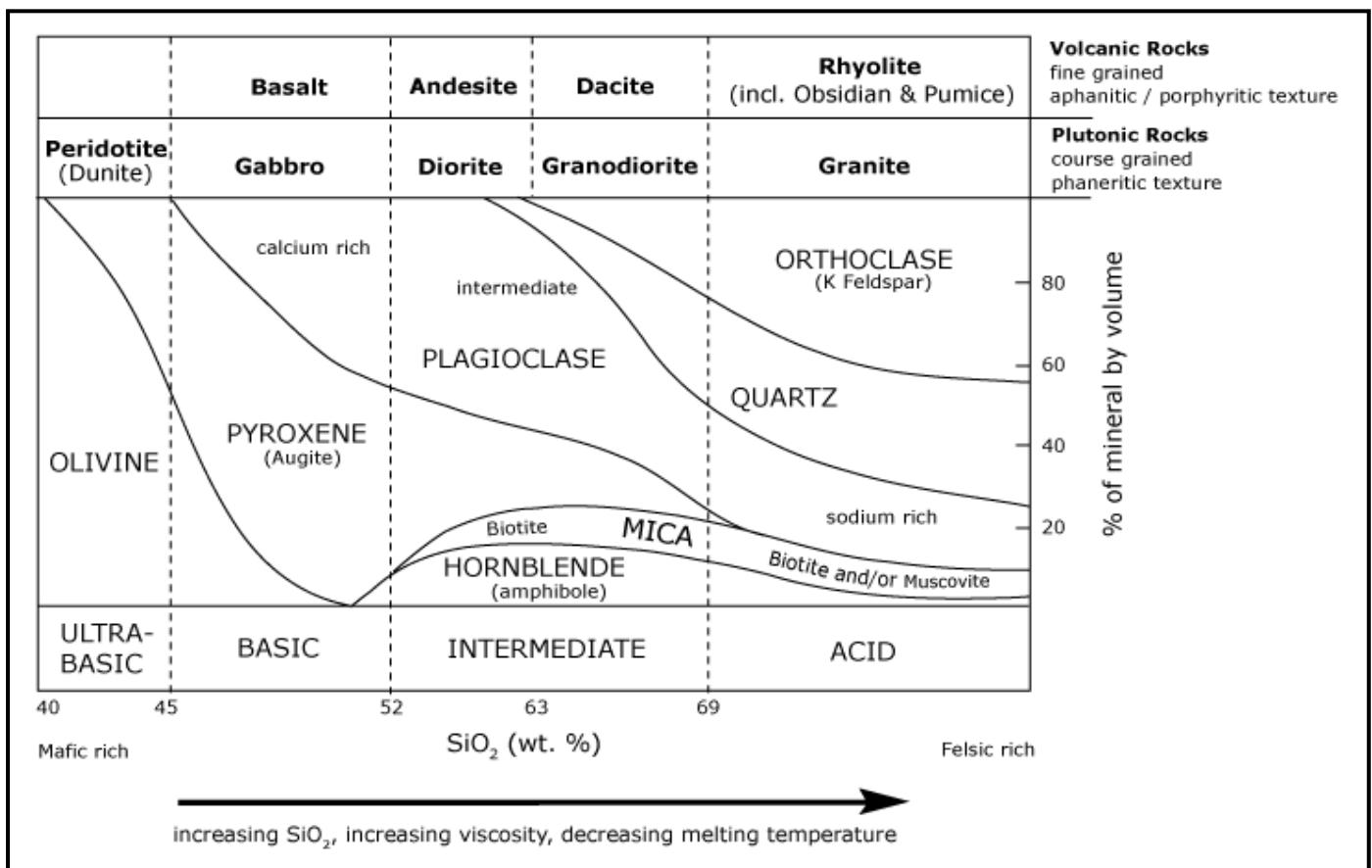
3. Color: Describe according to the mineral composition of light to dark.

- a) **Felsic:** light color.
- b) **Intermediate:** intermediate color.
- c) **Mafic:** to dark color.
- d) **Ultramafic:** dark color.

4. Acidity/or Chemical Classifications Describe according to **SiO₂ (Silica)** Content:

- a) 66 wt. % - **Acid**.
- b) 52-66 wt% - **Intermediate**.
- c) 45-52 wt% - **Basic**.
- d) < 45 wt % - **Ultrabasic**.

5. Mineral composition: Describe according to **minerals** Content.



Exercise:

No.	Names	Origin	Texture	Color	Acidity	Mineral Comp.
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						