EPSC 221: GENERAL GEOLOGY

Lab 4:

Metamorphic Rocks

Metamorphic Rocks—Definitions

"CHANGE IN FORM"

Sedimentary → Metamorphic

OR

Igneous → Metamorphic

PRESSURE and TEMPERATURE

Metamorphic Rocks—Definitions

Identify:

1. Texture
2. Grain Size
3. Mineralogy

Metamorphic Rocks—Texture

- **Texture** is controlled by alignments of mineral grains

- *Foliation*
- *Cleavage*

Marble

Protlith: Limestone

Unfoliated

Metamorphic Rocks—Texture

Slate

Protolith: Pelitic rock

Slatey clevage

Metamorphic Rocks—Texture

Schist

Protolith: Pelitic or igneous rock

Schistose

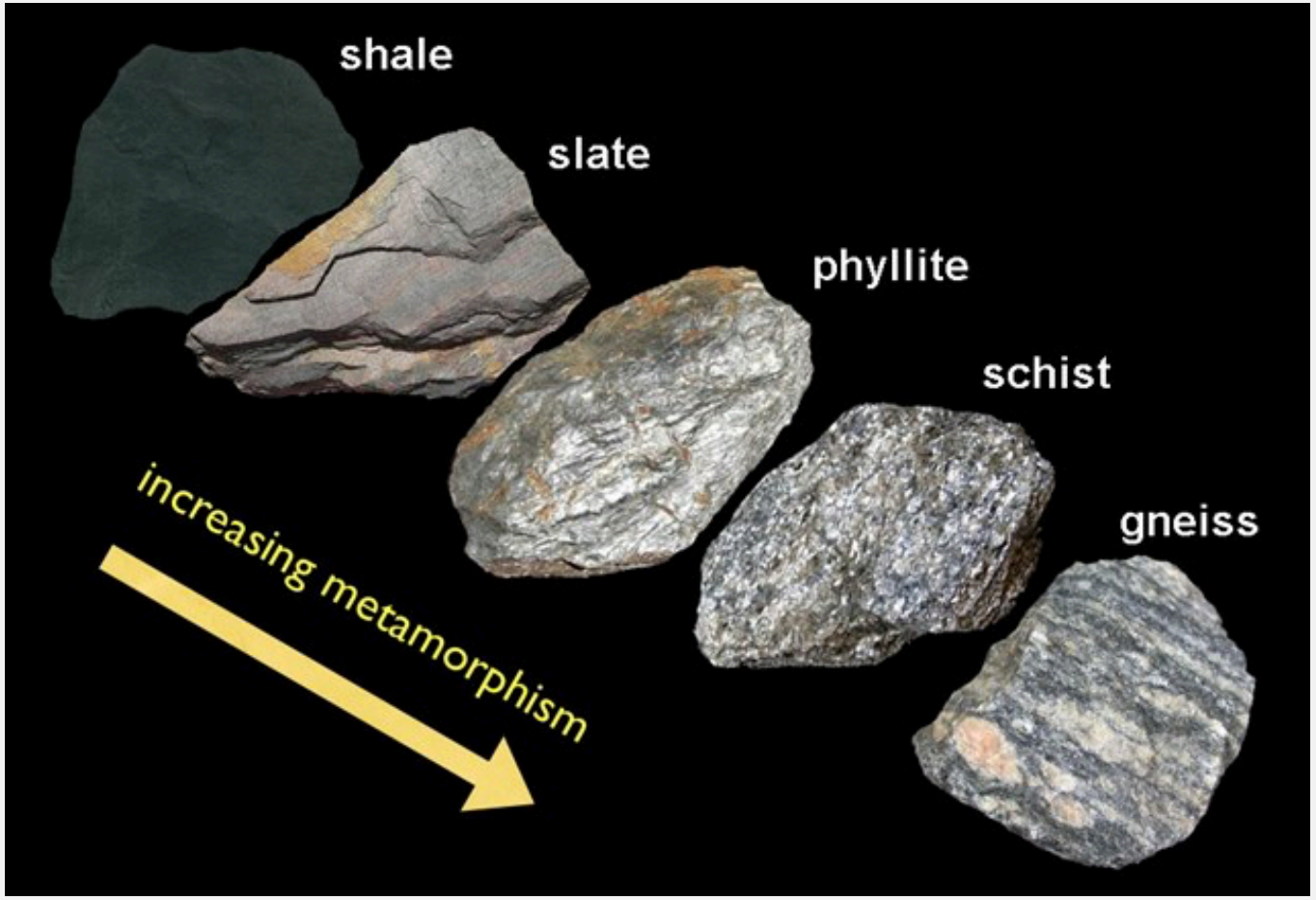
Metamorphic Rocks—Texture

Gneiss

Protolith: Pelitic or igneous rock

Gneissic banding

Metamorphic Rocks—Texture



Metamorphic Rocks—Mineralogy

Important Minerals

Garnet

Chlorite

Quartz

Pyroxene

Calcite

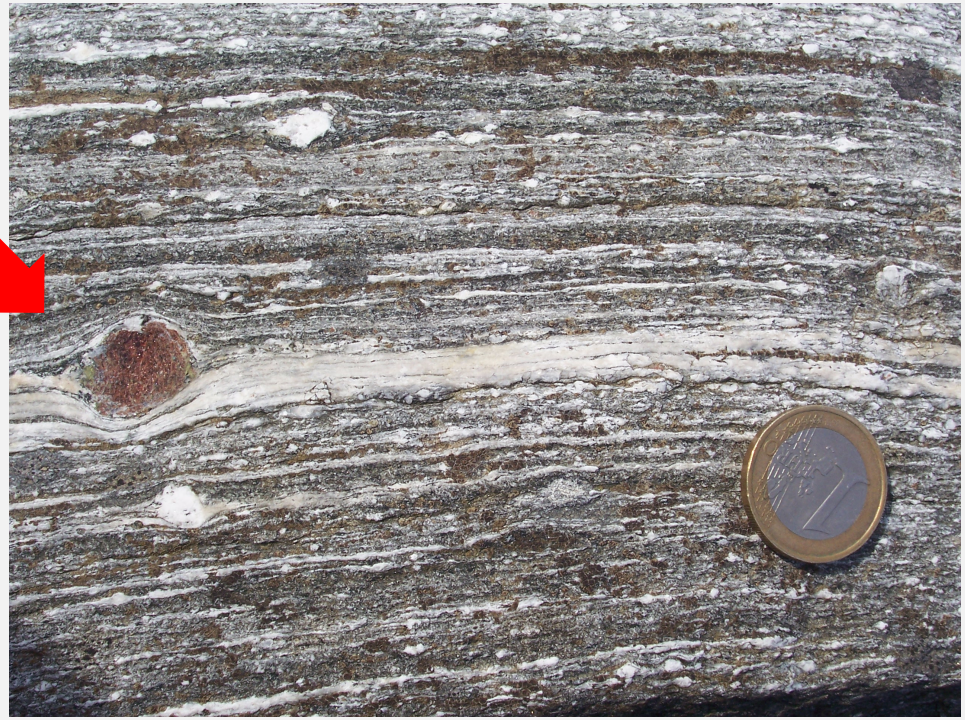
Amphibole

Feldspar

Metamorphic Rocks—Mineralogy

Porphyroblasts

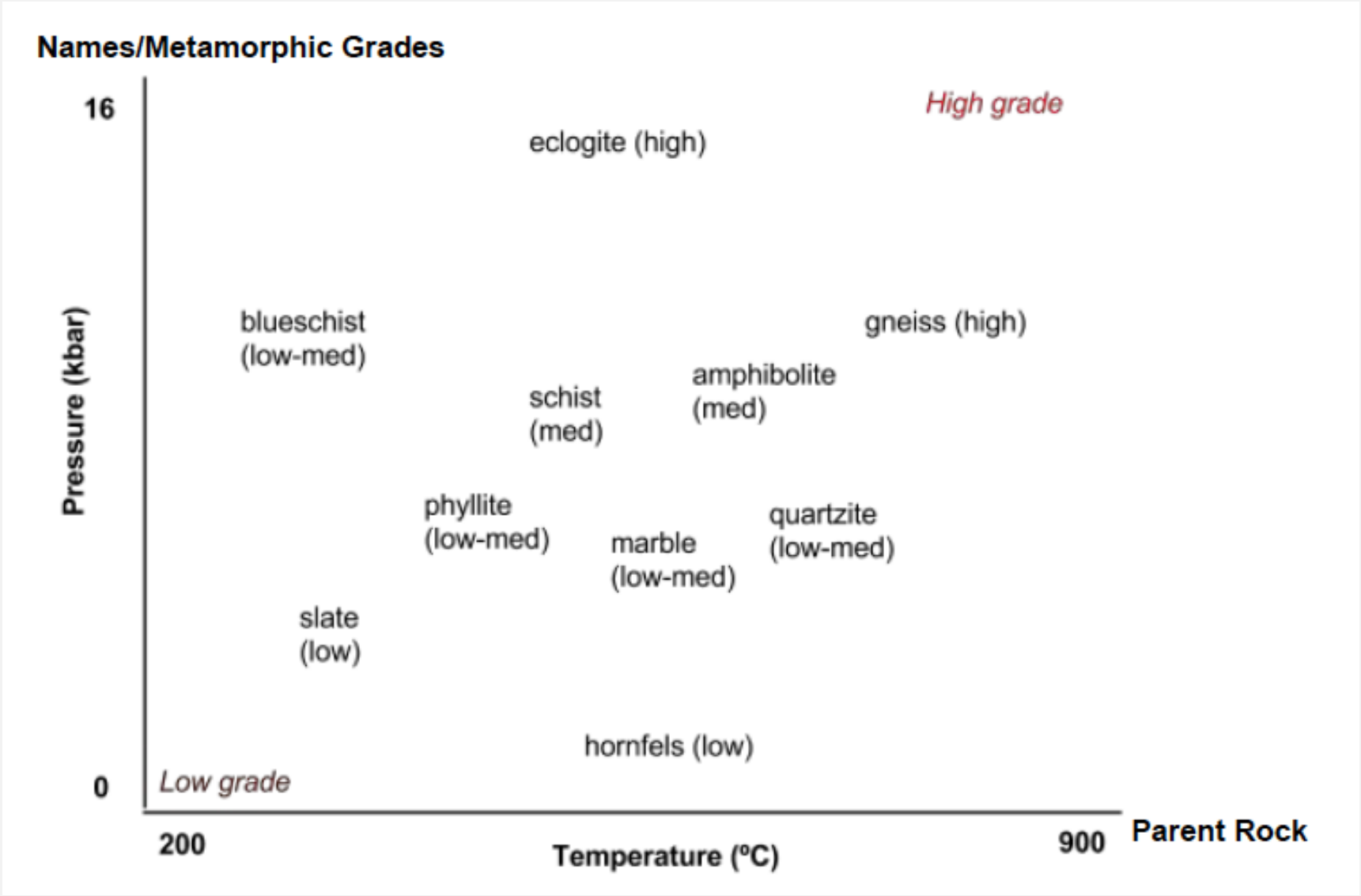
Garnet



Large minerals that grow during metamorphism

<u>Examples</u>:
Garnet
Staurolite
Sillimanite
Kyanite
Andalusite
Chloritoid

Metamorphic Grade



Metamorphic Grade