

Slide 46

Classification of metamorphic rocks

Rock Name	Texture	Grain Size	Comments	Parent Rock
Slate		Very fine	Excellent rock cleavage, smooth flat surfaces	Slate, mudstone, or phyllite
Phyllite		Fine	Bands along wavy surfaces, shaly sheen	Slate
Schist		Medium to Coarse	Medium to coarse minerals, shaly texture	Phyllite
Gneiss		Medium to Coarse	Compositional banding due to segregation of minerals	Slate, gneiss, or various rocks
Marble		Medium to coarse	Interlocking crystals of calcite grains	Limestone, dolomite
Quartzite		Medium to coarse	Fused quartz grains, massive, very hard	Quartz, sandstone
Amphibolite		Fine	Very dark, regular rock that may exhibit microfractal textures	Diorite and gneiss

Slide 47

Metamorphic rocks

- ❖ Common metamorphic rocks
 - Foliated rocks
 - Gneiss
 - Strong segregation of silicate minerals
 - "Banded" texture
 - Nonfoliated rocks
 - Marble
 - Parent rock is limestone
 - Large, interlocking calcite crystals

Slide 48



Slide 49



Slide 50

Resources from rocks and minerals

- ❖ Metallic mineral resources
 - Gold, silver, copper, mercury, lead, etc.
 - Concentrations of desirable materials are produced by
 - Igneous processes
 - Metamorphic processes

Slide 51

Resources from rocks and minerals

- ❖ Metallic mineral resources
 - Most important ore deposits are generated from hydrothermal (hot-water) solutions
 - Hot
 - Contain metal-rich fluids
 - Associated with cooling magma bodies
 - Types of deposits include
 - Vein deposits in fractures or bedding planes, and
 - Disseminated deposits which are distributed throughout the rock
