

Table 2.5 Metamorphic rock identification key. Metamorphic rocks are divided into the two textural groups, foliated and nonfoliated. Foliated rocks are further subdivided based upon the size of the mineral grains.

Texture		Grain Size		Rock Name		Comments
Foliated	Orientated	Very fine (not visible)		Slate	metamorphism increasing ↓	Often shiny, hard, smooth. Parent rock; shale
		Fine (barely visible)		Phyllite		"Silky" appearance. Parent rock; shale
		Medium to coarse (visible)		Schist		Various types based on mineral content, e.g. biotite schist. Parent rock; shale, granitic and volcanic rocks from Carbon Material element
	Banded	Banded (with segregation) medium to coarse		Gneiss		Color banding due to segregation of minerals into layers. Parent rock; shale, granitic and volcanic rocks
		Banded (with segregation) medium to coarse		Amphibolite		Black & white color Parent rock: Basalt
	Nonfoliated	Crystalline (fine to coarse)		Marble		Interlocking calcite or dolomite grains, forms from limestone or dolostone
Fused quartz grains (fine to coarse)			Quartzite	Interlocking quartz grains, forms from quartz sandstone		
Fine			Anthracite Coal	Bright, hard coal, forms from bituminous coal		

Scheme for Metamorphic Rock Identification							
Texture	Grain size	Composition	Type of metamorphism	Comments	Rock name	Map symbol	
Foliated	Mineral alignment	Mica Quartz Feldspar Amphibole Garnet Pyroxene	Regional (Heat and pressure increase with depth) ↓	Low-grade metamorphism of shale	Slate		
				Fine to medium	Foliation surfaces shiny from microscopic mica crystals	Phyllite	
				Medium to coarse	Platy mica crystals visible from metamorphism of clay or feldspars	Schist	
	Banding			High-grade metamorphism; some mica changed to feldspar; segregated by mineral type into bands	Gneiss		
Nonfoliated	Fine	Variable	Contact (Heat)	Various rocks changed by heat from nearby magma/lava	Hornfels		
	Fine to coarse	Quartz	Regional or contact	Metamorphism of quartz sandstone	Quartzite		
		Calcite and/or dolomite		Metamorphism of limestone or dolostone	Marble		
	Coarse	Various minerals in particles and matrix		Pebbles may be distorted or stretched	Metaconglomerate		

Figure 12-6 Scheme for identifying metamorphic rocks.

