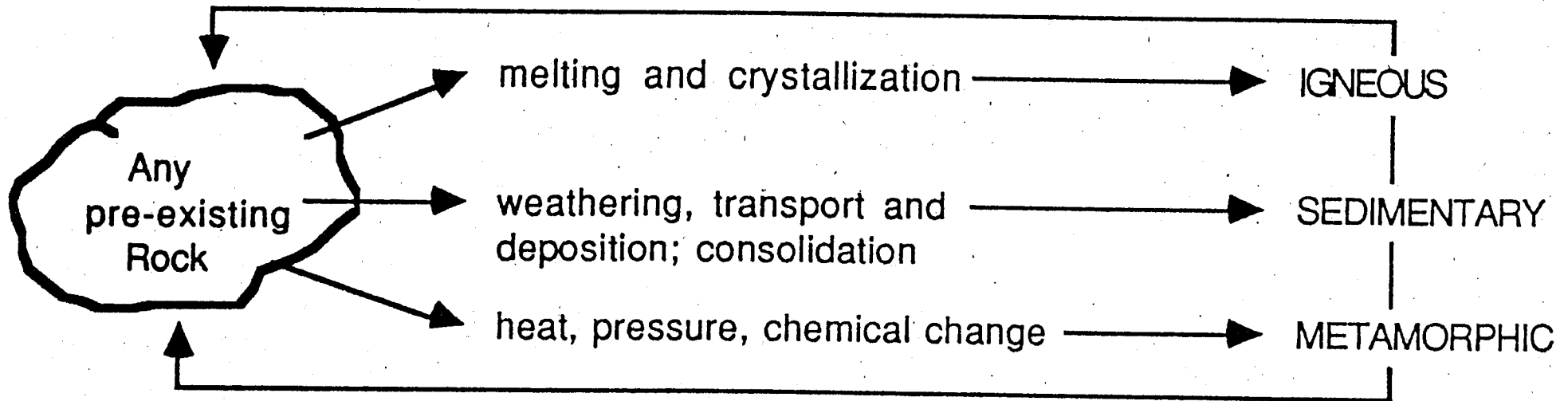


ROCK CYCLE

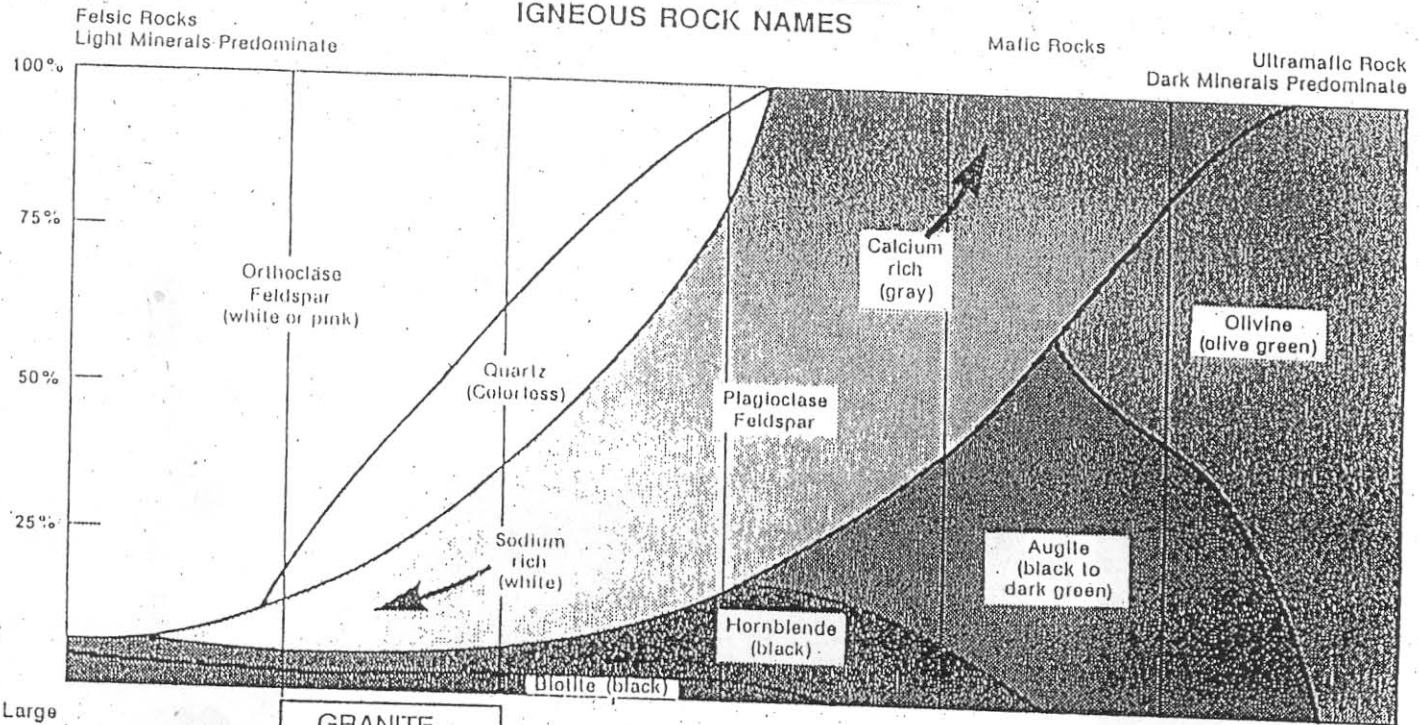
PROCESSES

ROCK TYPE



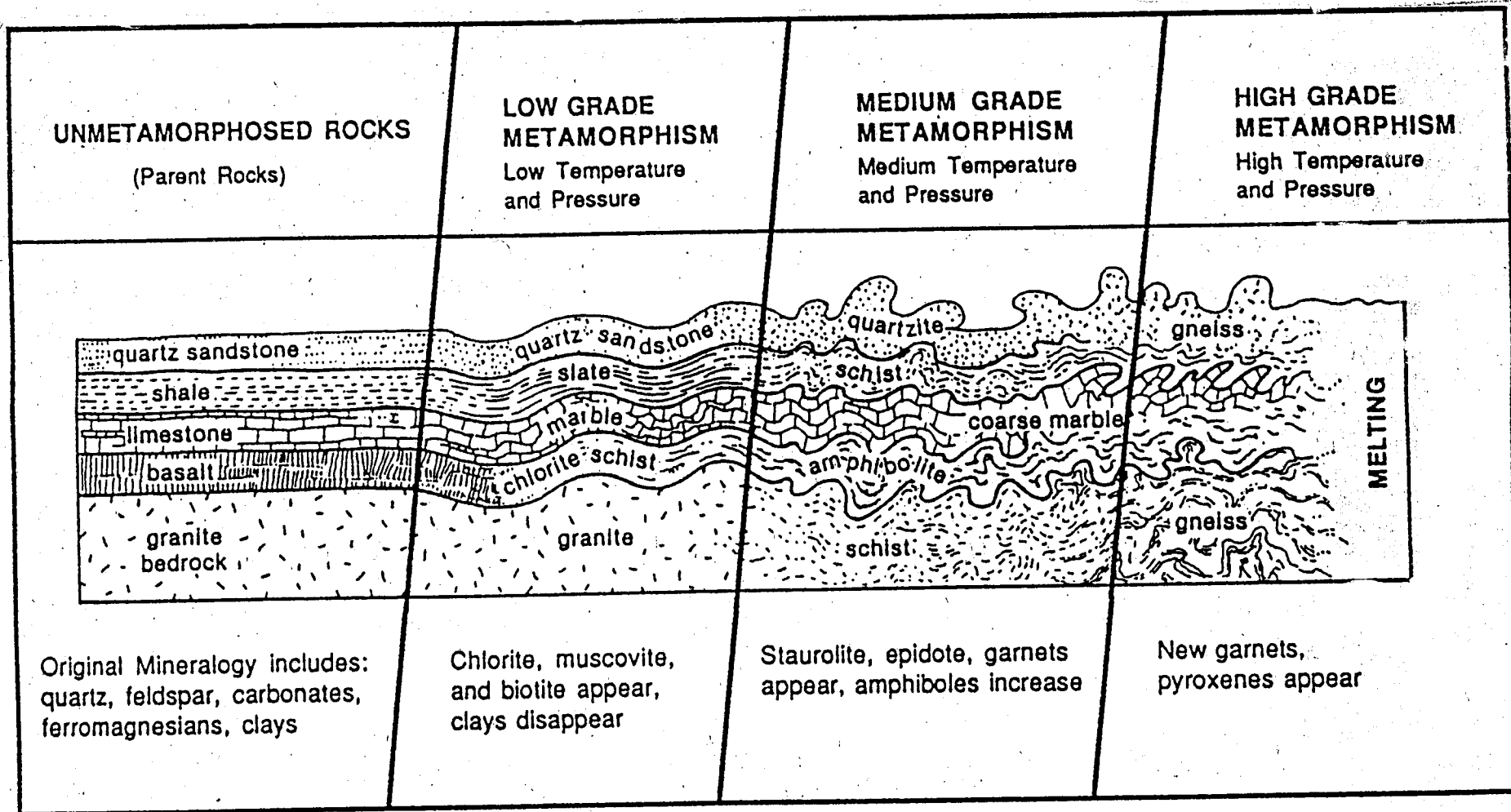
Color Index Chart of % Dark Colored (Ferromagnesian) Minerals in an Igneous Rock				
	Mineral Composition	≥ 5% Quartz. Potassium Feldspar > Plagioclase.	< 5% Quartz. Plagioclase > Potassium Feldspar.	No Quartz. Plagioclase = 50% No Potassium Feldspar
Mineral Composition Terminology	FELSIC (Light colored)	INTERMEDIATE	MAFIC (Dark colored)	ULTRAMAFIC
Texture Terminology	ROCK NAMES			
Pegmatitic	GRANITE-PEGMATITE	DIORITE-PEGMATITE	GABBRO-PEGMATITE	
Phaneritic	SYENITE → GRANITE	DIORITE	GABBRO	PERIDOTITE
Aphanitic	RHYOLITE	ANDESITE	BASALT	
Glassy	OBSIDIAN		OBSIDIAN	
Frothy or Cellular	PUMICE		SCORIA	
Pyroclastic	VOLCANIC TUFF (fragments < 2mm), VOLCANIC BRECCIA (fragments > 2mm)			

MINERAL COMPOSITION AND IGNEOUS ROCK NAMES



Igneous Rock Textural Terminology

Pegmatitic	Very Large Crystals		GRANITE PEGMATITE				
	Large Crystals	SYENITE	GRANITE	GRANODIORITE	DIORITE	GABBRO	PERIDOTITE
Aphanitic (Volcanic)	Large & Small Crystals		RHYOLITE PORPHYRY	DACITE PORPHYRY	ANDESITE PORPHYRY	BASALT PORPHYRY	
	Small Crystals		RHYOLITE	DACITE	ANDESITE	BASALT	
	Glassy		OBSIDIAN				



METAMORPHIC ROCK CLASSIFICATION

NON-FOLIATED		FOLIATED
	Typical Parent Rock Limestone Sandstone Basalt (Mafic or Ultramafic) Peridotite (Ultramafic) Any Fine-grained Rock Bituminous Coal	Typical Parent Rock Shale Shale, Siltstone, Slate Volcanic Rocks, Shale, Slate, Phyllite Mafic Igneous Rocks Granite, Shale, Schist
	Color Light Color Green (and White) Dark Gray to Black	Crystal Size Microscopic Crystals Macroscopic Crystals
	Distinctive Metamorphic Features Reacts with Hydrochloric Acid. Often white in color, color blotches or streaks may be present. Fused quartz grains will break across original grain boundaries. Often has a sugary texture, but smoother than sandstone. Lime green to dark green or black, heavy and dense. May have slickenside surfaces. Granular dark green rock studded with red garnets; may show weak foliation. Dense, fine-grained rock with conchoidal fracture. Shiny, low density black rock. May show conchoidal fracture and show parting or banding	Distinctive Metamorphic Features Dull to shiny; splits into thin slabs. Harder than shale. Commonly dark gray, brown, red, green. Nearly invisible mica crystals give this rock a satiny sheen on foliation surfaces. Often gray or gray-green. Visible aligned platy or elongate minerals cause foliation. Quartz, feldspar, or garnets common. Dark, heavy rock with aligned hornblende crystals and accessory feldspar. A coarse-grained rock with banded appearance due to mineral segregation.
← INCREASING METAMORPHISM		
	Metamorphic Rock Name Marble Quartzite Serpentinite Eclogite Hornfels Anthracite	Metamorphic Rock Name Slate Phyllite Schist Amphibolite Gneiss

METAMORPHIC MINERALOGY GRADATION

