

Rock Identification Charts

Figure 1. Igneous rocks ID chart.

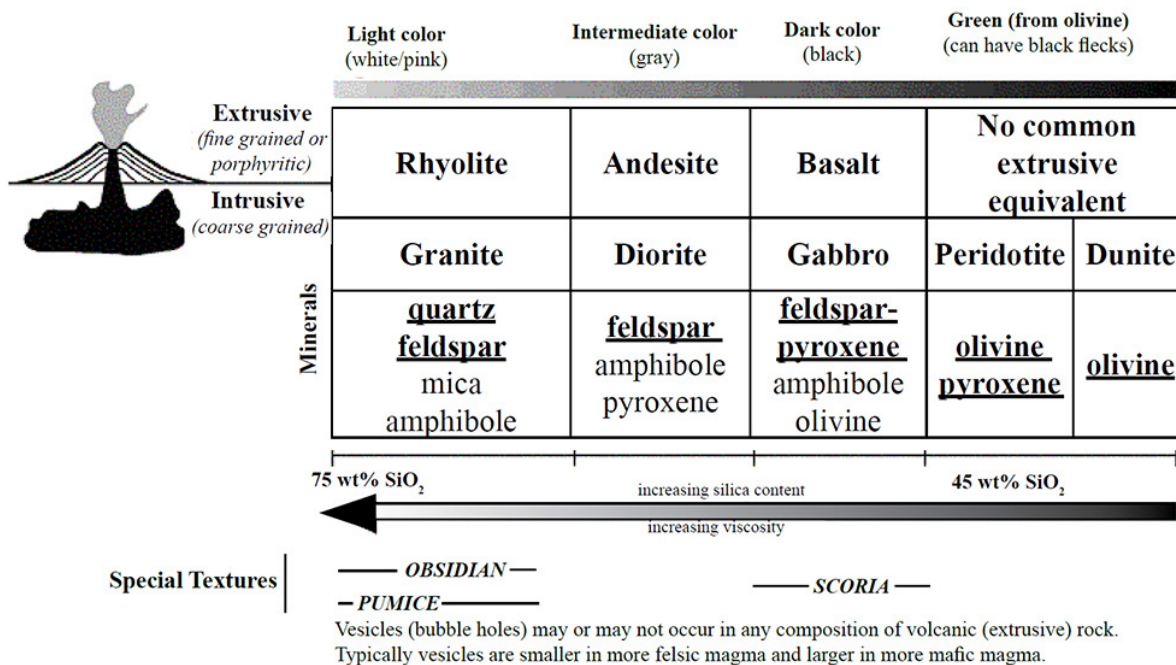
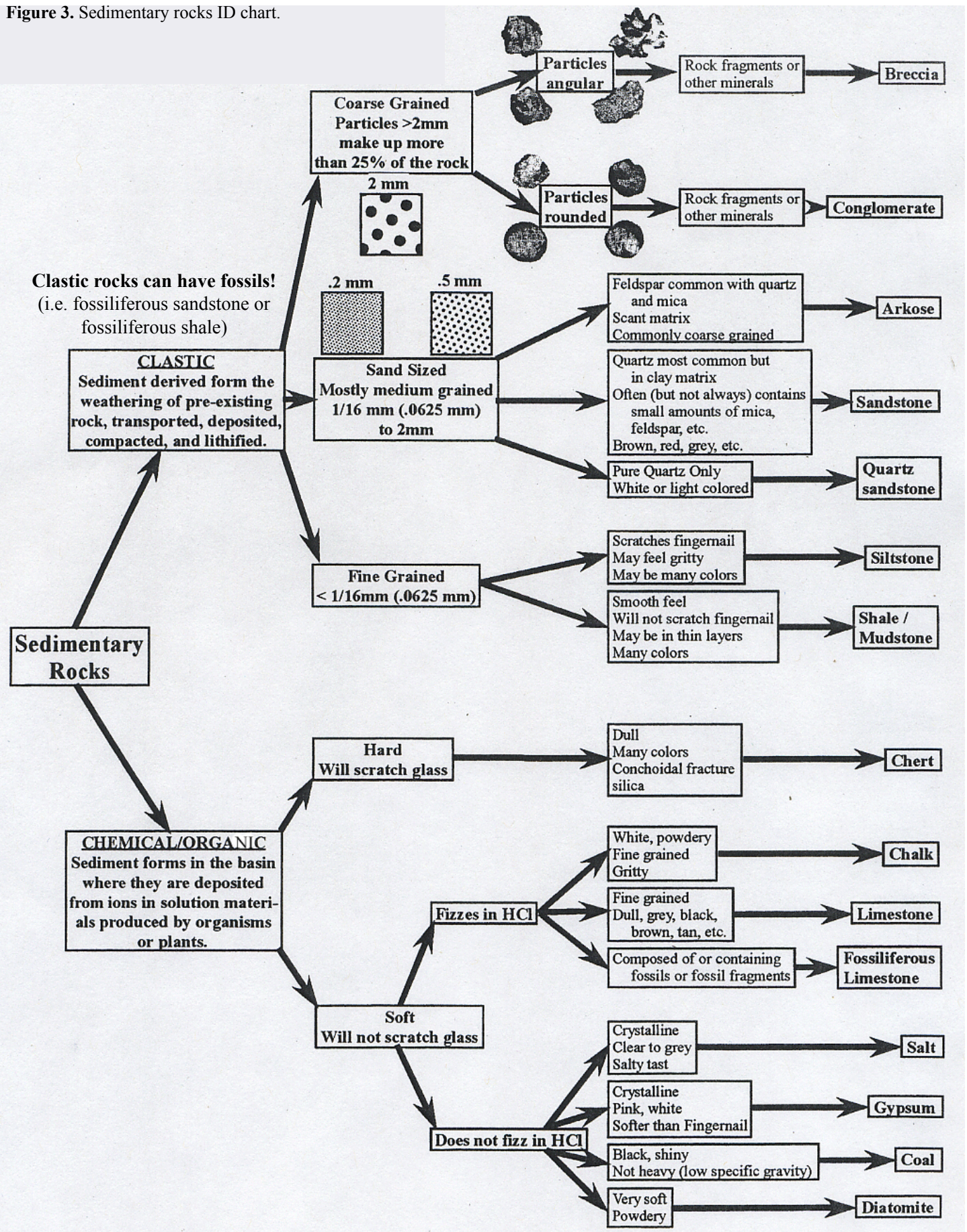


Figure 2. Metamorphic rocks ID chart.

Foliation	Possible Parent Rock (Original Rock)	Texture	Appearance Characteristics	Metamorphic Rock Name
FOLIATED	Low Grade Shale/Mudstone	Slaty cleavage 	Variety of colors, Microscopic grains, Splits in flat sheets	SLATE
	Shale/Mudstone, Siltstone	Phyllitic sheen 	often grayish-green, Mica grains too fine to see individually, Sheen or slightly shiny	PHYLLITE
	Shale/Mudstone, Siltstone, Arkose	Schistose 	aligned minerals, Medium to coarse-grained visible minerals, Quartz, Mica, some accessory minerals	SCHIST
	High Grade Shale/Mudstone, Siltstone, Arkose, Granite, Diorite, Gabbro	Gneissic banding 	Coarse-grained, Minerals segregated into alternating bands of light and dark minerals	GNEISS
NON-FOLIATED	Quartz Sandstone	Granular Texture	Very hard, does not fizz with HCl	QUARTZITE
	Limestone	Granular Texture	Fizzes with HCl	MARBLE
	Basalt	Non-Granular (Massive)	Hard and dull green	GREENSTONE
	Peridotite	Non-Granular (Massive)	Very shiny green	SERPENTINITE


↑ INCREASING METAMORPHIC GRADE
 ↑ INCREASING PRESSURE & TEMPERATURE
 ↑ INCREASING GRAIN SIZE

Figure 3. Sedimentary rocks ID chart.



Mineral Identification Tables

Important Igneous Minerals

<u>Mineral</u>	<u>Diagnostic Mineral Properties</u>	<u>Composition</u>
Quartz	Many colors (often dull, sometimes translucent), hard (scratches glass), conchoidal fracture (can break in smooth curves), <u>no cleavage</u>	Felsic  Mafic
Mica	Brown/translucent, soft (scratches with fingernail), 1 good cleavage (flakes off into thin sheets)	
Feldspar	White/pink/tan, hard (scratches glass), good cleavage in 2 directions	
Amphibole/ Pyroxene	Dark (black or greenish gray), hard (scratches glass), good cleavage	
Olivine	Green (weathers to orange), hard (scratches glass), no cleavage	

Important Sedimentary Minerals

<u>Mineral</u>	<u>Diagnostic Mineral Properties</u>
Quartz	Many colors (often dull, sometimes translucent), hard (scratches glass), conchoidal fracture (can break in smooth curves), no cleavage
Gypsum	White (can be almost clear), soft (can be easily scratched with a fingernail), good cleavage in 2 directions (but not at 90°)
Calcite	White, crystals can be rhombic, reacts (fizzes) with dilutes acid (HCl), soft (scratched with a glass but not with a fingernail)
Halite	White or translucent, soft, 3 cleavage planes (cubic crystals), salty taste (taste at your own risk!)
Limonite	Yellow-orange, soft, amorphous (no constant or regular shape)
Feldspar	White/pink/tan, hard (scratches glass), good cleavage in 2 directions

Important Metamorphic Minerals

<u>Mineral</u>	<u>Diagnostic Mineral Properties</u>	<u>Metamorphic Grade</u>
Quartz	Many colors (often dull, sometimes translucent), hard (scratches glass), conchoidal fracture (can break in smooth curves), <u>no cleavage</u>	Any
Garnet	Often dark red, hard (scratches glass), can have conchoidal fracture (break in smooth curves), <u>no cleavage</u> , crystal is 12-sided	Medium-high or higher
Calcite	White, soft (scratched with a knife but not with a fingernail), cleavage in 3 directions (rhombic), reacts (fizzes) with dilute acid	Any
Mica	Brown/translucent, soft (scratches with fingernail), 1 good cleavage (flakes off into thin sheets)	Medium-low or higher
Actinolite	Light to dark green, hard, good cleavage, needle-shaped crystals. A type of amphibole	Medium-high or higher
Feldspar	White/pink/tan, hard (scratches glass), good cleavage in 2 directions	High

