

METAMORPHIC ROCK IDENTIFICATION

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IDENTIFY ROCK'S FOLIATION

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TEXTURAL FEATURES

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MINERAL COMPOSITION

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ROCK NAME

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PARENT ROCK



Fine-grained or no visible grains

Flat, slaty cleavage is well developed. Dense, microscopic grains, may exhibit slight sheen (or dull luster). Clanky sound when struck. Breaks into hard, flat sheets.

Fine, microscopic clay or mica.

SLATE

Shale

Medium- to coarse-grained

Finely crystalline; micas hardly discernible, but impart a sheen or luster. Breaks along wavy surfaces.

Dark silicates and micas.

PHYLLITE

Siltstone or shale

Schistose texture. Foliation formed by alignment of visible crystals. Rock breaks along scaly foliation surfaces. Medium to fine-grained. Sparkling appearance.

Common minerals include chlorite, biotite, muscovite, garnet and hornblende. Recognizable minerals used as part of rock name. Porphyroblasts common.

MICA SCHIST

Siltstone or shale

GARNET SCHIST

Gneissic banding. Coarse-grained. Foliation present as minerals arranged into alternating light and dark layers giving the rock a banded texture in side view. Crystalline texture. No cleavage.

Light-colored quartz and feldspar; dark ferromagnesian minerals.

GNEISS

Shale or granitic rocks

Medium- to coarse-grained crystalline texture.

Crystals of amphibole (hornblende) in blade-like crystals.

AMPHIBOLITE

Basalt, gabbro, or ultramafic igneous rocks

Fine-grained or no visible grains

Microcrystalline texture. Glassy black sheen. Conchoidal fracture. Low density.

Fine, tar-like, organic makeup.

ANTHRACITE COAL

Coal

Dense and dark-colored. Fine or microcrystalline texture. Very hard. Color can range from gray, gray-green to black.

Microscopic dark silicates.

HORNFELS

Many rock types

Microcrystalline or no visible grains with smooth, wavy surfaces. May be dull or glossy. Usually shades of green.

Serpentine. May have fibrous asbestos visible.

SERPENTINITE

Ultramafic igneous rocks or peridotite

Microcrystalline or no visible grains. Can be scratched with a fingernail. Shades of green, gray, brown or white. Soapy feel.

Talc.

SOAPSTONE OR TALC SCHIST

Ultramafic igneous rocks

Fine- to coarse-grained

Crystalline. Hard (scratches glass). Breaks across grains. Sandy or sugary texture. Color variable; can be white, pink, buff, brown, red, purple.

Quartz grains fused together. Grains will not rub off like sandstone.

QUARTZITE

Quartz sandstone

Finely crystalline (resembling a sugar cube) to medium or coarse texture. Color variable; white, pink, gray, among others. Fossils in some varieties.

Calcite or dolomite crystals tightly fused together. Calcite effervesces with HCl; dolomite effervesces only when powdered.

MARBLE

Limestone or dolostone

Texture of conglomerate, but breaks across clasts as easily as around them. Pebbles may be stretched (lineated) or cut by rock cleavage

Granules or pebbles are commonly granitic or jasper, chert, quartz or quartzite.

META-CONGLOMERATE

Conglomerate

