

Rocks and Mineral Mapping

UTAH CORE CURRICULUM

Grade K Standard III Objectives 3 a, c

Grade 1 Standard III Objectives 3 c

Grade 4 Social Studies Standard VI Objective 4

BACKGROUND

Utah is a great place to find many different types of rocks and minerals. Find out which rocks and minerals are found where you live. Collecting rocks and minerals is a lot of fun, but remember that there are rules for collecting. Look on the Utah Geological Survey website (<http://geology.utah.gov>) for specific rules of collecting.

MATERIALS

- Rocks and Minerals (obsidian, geode, wonderstone, sandstone, gneiss, etc.)
- Copies of Utah Map
- Colored pencils
- Book: *Rocks, Minerals, and Fossil Localities of Utah*

PROCEDURE

1. Pass around each rock or mineral specimen as the teacher reads about where it might be found and any special information about it.
2. Have students draw a picture of the rock on the legend sheets (page 40-41).
3. Have students choose a color or pattern to represent the rock they have colored. Color the county in the legend this color or pattern.
4. Using the same color or pattern, mark the same county on the map of Utah (have students find the county by matching it to the shape on the legend).
5. Use the *Rocks and Minerals Localities of Utah*, *A Collector's Guide to Rocks, Minerals and Fossils* books, and the provided list to find other rocks and minerals found in Utah. Add on to the legend with this information.

ROCKS AND MINERALS FOUND IN UTAH

1. Obsidian is a dark, glassy rock that is formed when lava cools quickly. It is usually black, but it can also be red, brown, and white specked (snowflake). Obsidian has been used as an arrowhead, a cutting tool, and in jewelry. One of the places where obsidian is found in is the Black Rock Desert of Millard County.
2. Geodes are usually hollow rocks filled with minerals like quartz (which can be different colors). Geodes form when rocks have little holes or cavities that water is able to get into. The water allows minerals to precipitate into the holes and create crystals. A famous place in Utah to find geodes is known as the Dugway Geode Bed in Juab County.
3. Wonderstone, also known as “picture stone,” is a volcanic rock with iron staining that gives it banded colors and designs. Wonderstone can be found in Tooele County.
4. Granite is speckled with white and black colors. The Temple Quarry Nature Trail on the south side of Little Cottonwood canyon (Salt Lake County) is a great place to see this rock.
5. Sandstone is a rock made of layers of sand and can be found many places in Utah. Many of the features in Arches National Park (Grand County) are sandstone rock.
6. Gneiss is a rock with layers of minerals like mica, quartz and feldspar. A good place to see gneiss is in Farmington Canyon in Davis County.

ADDITIONAL ROCKS AND MINERALS BY COUNTY

(For a more comprehensive list, refer to the *Rock, Mineral, and Fossil Localities of Utah* or other resource guides)

BEAVER

Quartz, malachite, magnetite, pyrite, galena, calcite

BOX ELDER

Gypsum, fossils

CACHE

Fossils, quartz, malachite, galena

CARBON COUNTY

Coal, fossils

DAGGETT COUNTY

Garnet, staurolite, kyanite, tourmaline, anthophyllite, beryl

DAVIS

Migmatite, pegmatite, gneiss

DUCHESNE

Gar fish fossils

EMERY COUNTY

Agate, petrified wood, jasper, quartz, calcite, geodes,

GARFIELD

Petrified wood, agate, stibnite, gypsum, hornblende, agate, jasper, sand calcite crystals,

GRAND

Agate, petrified wood,

IRON

Agate, topaz, quartz, fluorite, hematite, fluorite, chalcedony

JUAB

Agate, geodes, Calcite, Pyrite, Aragonite, Topaz, Red Beryl, Hematite, Chalcedony, Amethyst, Fluorite,

KANE

Petrified wood, Agate, Jasper

MILLARD

Fossils, Sunstone, aragonite, obsidian, quartz, chalcopryite, garnet,

MORGAN

Pyrite, calcite

PIUTE

Alunite, fluorite, calcite, quartz, stilbite, Amethyst

RICH COUNTY

Fossils

SALT LAKE

Pyrite, galena, hemimorphite, marble, magnetite, ludwigite, vesuvianite, garnet, serpentine, quartz,

SAN JUAN

Agate

SAN PETE

Quartz, aragonite, magnesite

SEVIER COUNTY

Gypsum, Anhydrite, Halite,

SUMMIT

Fossils

TOOELE

Agate, Gypsum, oolitic sand, cinnabar, gypsum sand, orthoclase feldspar, calcite, azurite, malachite, hemimorphite, pyrite, galena, Wonderstone, Calcite, fluorite, Azurite

UINTAH

Hydrocabons (like oil shale), fossils, pyrite, quartz, marble, Limestone

WASATCH

Spinel, garnet, vesuvianite, titanite, hematite, quartz,

WASHINGTON

Petrified wood, agate, Garnet

WAYNE

Agate, jasper, chert, petrified wood

WEBER

Calcite, fossils

UTAH ROCKS AND MINERALS LEGEND:

Obsidian

Millard County

Drawing

GEODE

Juab County

Drawing

WONDERSTONE

Tooele County

Drawing

GRANITE

Salt Lake County

Drawing

SANDSTONE

Grand County

Drawing

GNEISS

Davis County

Drawing

ROCKS AND MINERALS MAP

