### ACTIVITY 3: NEVADA MINERAL LOCATION MAP EXERCISE

NOTE TO TEACHERS: This activity conforms to the Nevada Science Content Standards listed below:

## Grade 4 and 5

Scientific Inquiry (Nature of Science Unifying Concept A):

USING DATA N.5.A.1 – Investigations ACCURACY N.5.A.4 – Graphic Representations of Recorded Data SAFE EXPERIMENTATION N.5.A.5 – Plan and Conduct a Safe and Simple Investigation

Science, Technology and Society (Nature of Science Unifying Concept B):

# **COLLABORATION**

N.5.B.3 – Team Work and Sharing

Earth's Composition and Structure (Earth and Space Science Unifying Concept C):

## EARTH'S COMPOSITION AND RESOURCES

E.5.C.4 – Rock is Composed of Different Combinations of Minerals E.5.C.5 – Soil Varies from Place to Place

**INTRODUCTION:** Did you know that all of the minerals in your kit come from mines in Nevada? Who knows what a mine is? (A mine is an excavation in the earth from which "ore" or valuable rock is taken.) Let's look at a few pictures of Nevada mines. Minerals are where you find them!! Nowhere is that more true than in the State of Nevada. The geologic processes that formed the tremendous variety of geologic environments in the state also provided us with a wide assortment of valuable and useful minerals. This activity will familiarize students with the locations of some of the mineral resources in Nevada.

#### ITEMS NECESSARY FOR THIS ACTIVITY:

- A "Mineral Location Map Exercise" directions sheet.
- 12 each: 3/8-inch to ½-inch diameter colored stick-on dots, numbered 1 to 12.
- "Major Mines, Oil Fields and Geothermal Plants 2004" map (published by the Nevada Division of Minerals). 8 1/2" by 11" version.
- Pens or pencils.
- D Photographs of Nevada mines, if available.

**ACTION:** Let's get started!! (**NOTE FOR TEACHERS:** The mineral samples from the Nevada Mining Association kit will not be used for this activity so place them back in their proper places in the box. Notice that each sample has been assigned a number just above its name on the key or explanation sheet located in the box lid. It is a good idea to mark the number on each sample with a permanent marker -- this helps to avoid mix-ups. Read the names of each mineral. A few facts about each sample, including the location where each was mined, are given under the name and number.)

- 1. Each student should have a copy of the direction sheet, the numbered stick-on dots, and the "Major Mines, Oil Fields, and Geothermal Plants 2004" map.
- 2. Reading the direction sheet **CAREFULLY**!, students will place the dots for the mineral locations on or near the corresponding number and symbol on the map.
- 3. This activity will be timed. Students have 5 to 10 minutes to place your dots in the proper location on the map. Ready, begin!!

- 4. Distribute copies of the answer sheet to students or have a master map available that students can use to verify their map reading ability.
- **SUMMARY:** By placing the sample number dots over the mine numbers/symbols or locations on the map, students can see at a glance where the samples from the mineral kit were mined or collected in Nevada. Notice, too, how widely useful mineral deposits are distributed throughout Nevada.

# ADDITIONAL ACTIVITIES:

- Visit an active mine.
- For more information on mineral deposits, minerals and their uses, visit the Nevada Division of Minerals web site at:

#### http://minerals.state.nv.us

• Check your school library for books on minerals and geology.

#### **DIRECTION SHEET**

#### ACTIVITY 3: NEVADA MINERAL LOCATION MAP EXERCISE

BARITE:	Place the	1	dot $\frac{1}{2}$ " due south of map symbol $\blacktriangle 5$
FLUORITE:	Place the	2	dot 1/2 inch south-southwest of map symbol • 21
GARNET:	Place the	3	dot 1/2 inch to the left of map symbol <b>24</b>
GALENA:	Place the	4	dot on map symbol • 19
FELDSPAR:	Place the	5	dot outside the Nevada state line just west of Reno
GYPSUM:	Place the	6	dot on map symbol <b>A</b> 8
CALCITE:	Place the	7	dot on map symbol •13
MAGNETITE:	Place the	8	dot just south of map symbol ● 5
AZURITE/ MALACHITE/	Place the	9	dot next to <b>DOT number 4</b>
PYRITE:	Place the	10	dot on map symbol ● 12
QUARTZ:	Place the	11	dot $\frac{1}{2}$ " southeast of <b>DOT number 1</b>
SULFUR :	Place the	12	dot on map symbol • 10

(Use the "Major Mines, Oil Fields and Geothermal Plants - 2004" Map, published by the Nevada Division of Minerals, for this activity.)