



## OFFICIAL MID-HUDSON VALLEY GEM & MINERAL SOCIETY (MHVG&MS)

### 2018 EARTH SCIENCE SCAVENGER HUNT QUESTIONNAIRE

SHOW THEM - **“Fossils of New York”** *and more!*

**Please sign in at the Earth Science Table before you start answering the questionnaire!**

Name \_\_\_\_\_ School District \_\_\_\_\_

Teacher \_\_\_\_\_ Grade \_\_\_\_\_

*Instructions:* This scavenger hunt is designed so that you can find the answers easily. Each exhibit cube has the mineral's properties listed above it. Question numbers correspond to the number on each mineral exhibit cube. If you are unable to find a specific mineral cube, check the locator map at the Earth Science table.

The goal is to find the answers to earn extra school credit and to enjoy the gem & mineral show. 20 questions are to be completed for extra credit. In addition, if you fully complete the questionnaire, you will be given a raffle ticket for a student-only prize!

### Part 1 – Show Theme

Go to the Special Exhibits on the show theme, “FOSSILS” and/ or ask the Education Booth personnel to help you answer the following questions:

1 - What is the official New York State Fossil? \_\_\_\_\_

What is the common name of this fossil organism? \_\_\_\_\_

2 - Which of the 3 major classifications of rock are fossils commonly found in? \_\_\_\_\_

Why are fossils not found in the other rock classifications? \_\_\_\_\_

3 – List 3 locations in New York state where fossils are found.

1 \_\_\_\_\_

2 \_\_\_\_\_

3 \_\_\_\_\_

4 – The word ‘fossil’ is derived from the Latin word “fossilis”. What does ‘fossilis’ mean in Latin?

## Part 2 – Cubed Minerals

*Find the exhibit cubes (numbered) mentioned below. Read the properties and information about the mineral, and answer the questions below that correspond to that cube number.*

### **Cube 1:** Pyrite

Pyrite is known as Fool’s Gold. The metallic mineral pyrite, when struck with steel, will spark and emit a sulfurous odor. This mineral is used in the manufacture of \_\_\_\_\_.

### **Cube 2:** Calcite

Calcite, whose chemical name is Calcium Carbonate, reacts with acid in what way?  
\_\_\_\_\_.

### **Cube 3:** Talc

The Mohs scale measures the hardness of a mineral to being scratched. The scale ranges from 1 to 10. What number is Talc on the Mohs Scale? \_\_\_\_\_.

### **Cube 4:** Apatite

What is the chemical name of Apatite? \_\_\_\_\_.  
(Saying that ten times fast will surely work up an “appetite”!) What fossil animal parts are frequently found in phosphate deposits? \_\_\_\_\_.

### **Cube 5:** Kyanite

Is Kyanite a sedimentary, metamorphic, or igneous mineral? \_\_\_\_\_.

### **Cube 6:** Gypsum

Gypsum, which can be colored \_\_\_\_\_, has a streak that is white. This is part of what defines and identifies this mineral.

### **Cube 7:** Hematite

Hematite crystals come in a variety of forms—including thick to thin tabular, roses, botryoidal (resembling a bunch of grapes), micaceous (resembling mica), and earthy—but its crystal system is \_\_\_\_\_.

### **Cube 8:** Gold

Gold, whose chemical name is Native Gold because it is an element on the periodic table (like Sulfur—Cube 10), rarely combines with other elements. It is used for \_\_\_\_\_.

### **Cube 9:** Orthoclase

Orthoclase, potassium feldspar, is one of the major rock forming minerals in granite. Under short wave UV light, the mineral can fluoresce the following colors: \_\_\_\_\_.

\_\_\_\_\_ (You can see fluorescent and phosphorescent minerals at the Fluorescent Booth.)

**Cube 10:** Sulphur/Sulfur

During volcanic activity, bright yellow Sulfur precipitates directly from sulfur-rich gases. What type of acid can be made from sulfur? \_\_\_\_\_.

**Cube 11:** Ulexite

Ulexite is nicknamed \_\_\_\_\_ because its fibrous structure allows images and light to be transmitted through it.

**Cube 12:** Halite

Halite has a \_\_\_\_\_ taste. It is used for \_\_\_\_\_.

**Cube 13:** Tourmaline

Tourmaline and window glass fracture with the same pattern which is called \_\_\_\_\_.

**Cube 14:** Sphalerite

Sphalerite has an interesting property whereby it flashes orange when scratched or struck. What is this property called? \_\_\_\_\_.

**Cube 15:** Beryl

Specific gravity is a measurement of how heavy an object is relative to the weight of water. What is the specific gravity of Beryl? \_\_\_\_\_.

**Cube 16:** Quartz

The tip of Quartz crystals are terminated by hexagonal pyramids. The crystal structure is \_\_\_\_\_.

**Cube 17:** Copper

Copper's crystal system is isometric. Its crystals can be various shapes, including \_\_\_\_\_.

**Cube 18:** Hornblende

The cleavage angles of Hornblende are \_\_\_\_\_ and \_\_\_\_\_ degrees.

**Cube 19:** Galena

The chemical name of Galena is \_\_\_\_\_. Galena is the most important ore of Lead.

**Cube 20:** Willemite

Willemite, a zinc ore, is strongly fluorescent and phosphorescent. What color is created by using short-wave UV light? \_\_\_\_\_. (You can see fluorescent and phosphorescent minerals at the Fluorescent Booth.)

**Cube 21:** Trilobite.

Trilobites were once widespread throughout the ancient oceans. How long ago did Trilobites become extinct? \_\_\_\_\_million years ago.

**Cube 22:** Sodalite

The chemical name of Sodalite is \_\_\_\_\_. Its crystal system is \_\_\_\_\_.

**Cube 23:** Chalcopyrite

Chalcopyrite has a \_\_\_\_\_ streak.

**Cube 24:** Siderite

In acid (HCl), Siderite \_\_\_\_\_.

**Cube 25:** Malachite

Malachite is a semi-precious gemstone. Is the gemstone opaque or transparent? \_\_\_\_\_.

**Cube 26:** Stibnite

Stibnite crystals are striated lengthwise and slightly flexible. The crystal system is \_\_\_\_\_.

**Cube 27:** Horn Coral

Corals make their own skeletons out of which mineral? \_\_\_\_\_.

**Cube 28:** Cinnabar

The chemical name of Cinnabar is \_\_\_\_\_.

**Cube 29:** Fossil Hash

Fossil hash forms in what kind of environment, marine (ocean), or terrestrial (land)?

\_\_\_\_\_.

**Cube 30:** Barite

Barite is the most common barium minerals. It is used for \_\_\_\_\_

\_\_\_\_\_.

**Cube 31:** Muscovite

Muscovite is a light-colored mica. Its chemical name is \_\_\_\_\_.

**Cube 32:** Almandine Garnet

Almandine Garnet is the New York State Gemstone. Its color is \_\_\_\_\_.

**Cube 33:** Diopside

Diopside has short prismatic crystals with good terminations. Its crystal system is \_\_\_\_\_.

**Cube 34:** Fluorite

Fluorite can be the following colors: \_\_\_\_\_.

**Cube 35: Diamond**

Diamond and Graphite (Cube 35-B) are both formed from pure carbon. Diamond is at the top of the Mohs hardness scale at \_\_\_\_\_.

**Cube 36: Wollastonite**

The crystal system of Wollastonite is \_\_\_\_\_.

**Cube 37: Magnetite/Lodestone**

Magnetite crystals are usually octahedrons, sometimes dodecahedrons with striations, cubic (rare), and also massive. Its crystal system is \_\_\_\_\_.

**Cube 38: Clam.**

Is a clam a bivalve, a brachiopod, a gastropod, or a cephalopod?

\_\_\_\_\_.

**Cube 39: Bornite**

Bornite, known as Peacock Ore, has a \_\_\_\_\_ luster.

**Cube 40: Graphite**

Graphite has a streak that is \_\_\_\_\_. It is mixed with clay and fired to be pencil "lead."

**Part 3 – Additional Questions**

A) What is your favorite thing you saw at the show? Why? \_\_\_\_\_

\_\_\_\_\_

B) What is one fact about a mineral, rock, or fossil you find very interesting? \_\_\_\_\_

\_\_\_\_\_

**CONGRATULATIONS! YOU HAVE COMPLETED THE EARTH SCIENCE SCAVENGER HUNT. GO TO THE EARTH SCIENCE TABLE AND HAVE YOUR QUESTIONNAIRE STAMPED WITH THE MID-HUDSON VALLEY GEM & MINERAL STAMP.**

**PLEASE FILL OUT A FORM FOR A CHANCE TO WIN A MINERAL SPECIMEN.**

**PLEASE TAKE TIME TO ENJOY THE GEM & MINERAL SHOW!**

*Place MHVG&MS stamp here:*