



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

2019 EARTH SCIENCE SCAVENGER HUNT QUESTIONNAIRE

SHOW THEME - **“PYRITE....don’t be Fooled”** *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 (in display cases) on the show theme, **“PYRITE.... “don’t be Fooled!”**

Study exhibits to answer the following questions.

1. What two elements combine to form Pyrite? _____ and _____.

2. Pyrite and Gold both have the same crystal system which is? _____

3. The streak plate test shows Pyrite’s powder color is _____

Gold’s powder is _____.

4. Miners knew it wasn’t Gold because they knew decomposing Pyrite smelled like _____

5. Check display cases.....Name the minerals that are often associated with Pyrite _____

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: