

STUDENT DAY ACTIVITIES

RICHMOND ROCK & GEM SHOW

Your name: _____

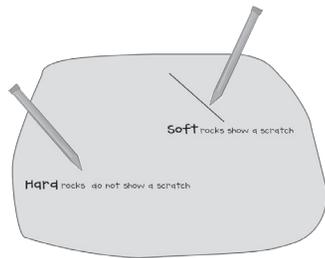


- Can you find & name 2 yellow minerals?
- Can you find & name 4 green stones?
- Can you find & name 3 animal fossils?
- Can you find & name 3 plant fossils?
- Can you name 3 copper-based minerals?
- Can you find a fossilized mud puddle? What is one called?
- What is your favorite rock or fossil?

**Kuhlman Center
Wayne County Fairgrounds**
861 N Salisbury Rd; Richmond, IN 47374



sponsored by the Eastern Indiana
Gem & Geological Society



HARD AS A ROCK

Hardness can be determined by the ability of one mineral to scratch another. The softer mineral gets scratched by the harder one. You test a mineral's hardness by scratching the unknown mineral with an object of known hardness.

Use the provided materials to conduct scratch tests of the sample rocks. After doing so, rank the rocks from softest to hardest.

List rock name/number on the lines below.

Softest (#1 is the softest rock you tested)

↑

1. _____

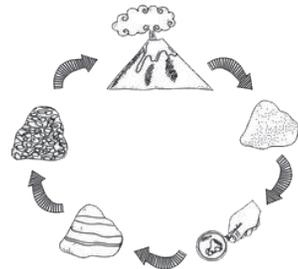
2. _____

3. _____

4. _____

5. _____

Hardest (#5 is the hardest rock you tested)



THE ROCK CYCLE

Rocks are formed in three main ways. Some are formed from hot magma (Igneous). Others are formed from deposits that collect out of water or the air (Sedimentary). Still others are formed when rocks change from one form to another (Metamorphic).

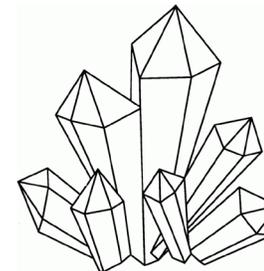
Examine the provided materials and then name the three types of rocks and list two examples of each type of rock.

Three rock types

1. _____
example 1 _____
example 2 _____

2. _____
example 1 _____
example 2 _____

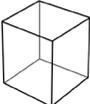
3. _____
example 1 _____
example 2 _____



CRYSTAL STRUCTURE

If a mineral grows without interference, it forms crystals. Minerals "grow," or crystallize, from many types of solutions such as evaporating sea water, or they crystallize from magmas when lava cools. While growing, minerals may develop a distinct crystal form with smooth, flat planes called crystal faces. The geometric pattern of the crystal faces reflects the internal atomic arrangement of the crystal structure.

Match the crystal shape to the mineral name.

	cube	quartz
	hexagonal prism	topaz
	tetragonal pyramid	pyrite
	orthorhombic prism	fluorite
	monoclinic prism	gypsum



DO ROCKS SINK OR FLOAT

The Law of Buoyancy, also called Archimedes Principle, determines whether objects will sink or float when placed in a liquid. An object will float if it displaces (or moves) as much liquid as it weighs.

Examine each of the provided rocks and materials and predict which ones you think will sink or float.

Rock or material name/#	Sink	Float
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Test each rock in the provided water
Then **circle** your correct predictions.



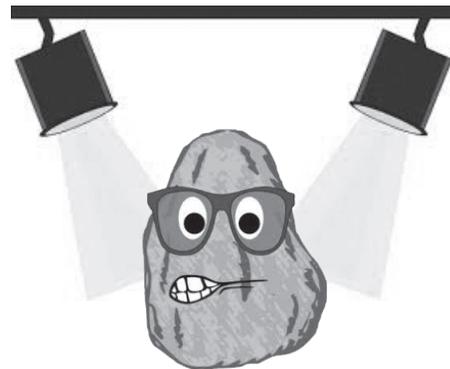
EXAMINING FOSSILS

Fossils are the remains or impressions of ancient plants and animals. Fossils help us learn about life on earth long ago.

Examine the provided fossils and categorize them according to their type.

Plant	Animal	Unknown
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Choose one fossil and explain below what it tells you about life on earth long ago.



FLUORESCENT MINERALS

Fluorescence means having the ability to temporarily absorb a small amount of light and an instant later release a small amount of light of a different wavelength.

Examine the provided fluorescent rocks. List the name of the rock, the original color of the rock and the color of the rock when viewed under UV lighting.

Name of rock	Original color	Color under UV
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____



MINERALS IN THE HOME

Rocks and minerals are all around us, and many are a part of our everyday lives. Examine the minerals in the home display case then see if you can match these minerals to their every day uses.

Match the minerals below to the everyday items that contain them.

Clay	Aspirin
Coal	Baby powder
Copper	Cake Mix
Fluorite	Chewing gum
Gypsum	Eyeglass lens
Limestone	Matches
Petroleum	Powder makeup
Sulfur	Shower curtain
Talc	Speaker wire