Everyday Geology

Name _____

Site #1: Mineral Uses - https://www.rocksandminerals.com/uses.htm

1. Based on current consumption, it is estimated that you - and every other person in the United States - will use more than a **MILLION** pounds of rocks, minerals and metals during your lifetime. How many pounds of the following will you use?

_____ Lead _____ Zinc _____ Copper _____ Aluminum

_____ Iron _____ Clays _____ Salt _____ Stone, sand, & gravel

2. Identify each resource based on the clues provided.

Name	Description
	Composed of calcium carbonate and is used in homes, sidewalks, bridges, and skyscrapers
	Compounds are used in ceramics and glass; may also be used for rocket propellants, batteries, and medicine
	Found in metal alloys for airplanes as well as in emeralds
	May be ground up to add "sparkle" to paints and cosmetics
	Most abundant element used to make containers and deodorants
	Native element used to make medicine, glass, and fireworks
	Primarily used for "sheet rock" or wallboard
	Primary ore of iron used to produce steel, automobiles, tools, & bridges
	Primary source of lead; used to make batteries, fishing weights, and lead shields used during X-rays
	Used as a food seasoning, water softener, and de-icer
	Used in dentistry, medicine, jewelry, art & computers; very malleable (can be made to be thinner than human hair)
	Used in photography, chemistry, jewelry, coins, mirrors, and silverware
	Used to make arrowheads, spear points, knives; may be used to start a fire
	Used to make computer chips, glass, ceramics, abrasives, and sweeteners
	Used to make electrical wires, brass, bronze, coins, plumbing, and jewelry
	Used to make fertilizer, paper, film, matches, tires, & medicines
	Used to make fluoride toothpaste, pottery, and hydrofluoric acid
	Used to make "copper" pennies, brass, & nails
	Used to make phosphate fertilizer and is found in soft drinks
	Used to produce the majority of electricity in the US

Site #2: Mineral Groups - http://www.galleries.com/Mineral_Groups

1. What are the "season" stones? How were they selected?

2. Some minerals "glow" under ultraviolet light. What is the glow called? List 3 examples.

3. What is a gemstone? Can all minerals be gemstones? Explain.

Site #3: Mineral Properties - http://galleries.com/Mineral_Properties

1. What is the difference between color and streak?

2. What is the difference between transparent, translucent, and opaque?

3. What is the difference between cleavage and fracture?

Site #4: Mineralogy4Kids - https://min4kids.org/

Click the "house" icon to learn more about minerals in your home.

1. Choose five items and list the minerals/resources used to make each one.

Item #1 - _____ - _____

Item #2 - _____ - _____

Item #3 - _____ - _____

Item #4 - _____ - _____

Item #5 - _____ - _____

2. Find pairs of items that have at least one mineral/resource in common. List the common material along with the items. You cannot use any of the items you listed in #1 for this section.

Set #1 - _____ & _____ contain _____

Set #2 - _____ & _____ contain _____

Set #3 - _____ & _____ contain _____

Everyday Geology

Name _____

Site #1: Mineral Uses - https://www.rocksandminerals.com/uses.htm

1. Based on current consumption, it is estimated that you - and every other person in the United States - will use more than a **MILLION** pounds of rocks, minerals and metals during your lifetime. How many pounds of the following will you use?

800 Lead **750** Zinc **1,500** Copper **3,600** Aluminum

32,000 Iron **27,000** Clays **28,000** Salt **1,000,000** Stone, sand, & gravel

2. Identify each resource based on the clues provided.

Name	Description
LIMESTONE	Composed of calcium carbonate and is used in homes, sidewalks, bridges, and skyscrapers
LITHIUM	Compounds are used in ceramics and glass; may also be used for rocket propellants, batteries, and medicine
BERYLLIUM	Found in metal alloys for airplanes as well as in emeralds
MICA	May be ground up to add "sparkle" to paints and cosmetics
ALUMINUM	Most abundant element used to make containers and deodorants
ANTIMONY	Native element used to make medicine, glass, and fireworks
GYPSUM	Primarily used for "sheet rock" or wallboard
HEMATITE	Primary ore of iron used to produce steel, automobiles, tools, & bridges
GALENA	Primary source of lead; used to make batteries, fishing weights, and lead shields used during X-rays
HALITE	Used as a food seasoning, water softener, and de-icer
GOLD	Used in dentistry, medicine, jewelry, art & computers; very malleable (can be made to be thinner than human hair)
SILVER	Used in photography, chemistry, jewelry, coins, mirrors, and silverware
FLINT	Used to make arrowheads, spear points, knives; may be used to start a fire
SILICON	Used to make computer chips, glass, ceramics, abrasives, and sweeteners
COPPER	Used to make electrical wires, brass, bronze, coins, plumbing, and jewelry
SULFUR	Used to make fertilizer, paper, film, matches, tires, & medicines
FLUORITE	Used to make fluoride toothpaste, pottery, and hydrofluoric acid
ZINC	Used to make "copper" pennies, brass, & nails
PHOSPHATE	Used to make phosphate fertilizer and is found in soft drinks
COAL	Used to produce the majority of electricity in the US

Site #2: Mineral Groups - http://www.galleries.com/Mineral_Groups

1. What are the "season" stones? How were they selected? **GEMS THAT ARE ASSOCIATED WITH EACH OF THE FOUR SEASONS, SUCH AS EMERALD FOR SPRING, RUBY FOR SUMMER, SAPPHIRE FOR AUTUMN, AND DIAMOND FOR WINTER.**

2. Some minerals "glow" under ultraviolet light. What is the glow called? List 3 examples. **THE GLOW IS CALLED FLUORESCENCE AND INCLUDES SODALITE, FLUORITE, AND GYPSUM.**

3. What is a gemstone? Can all minerals be gemstones? Explain. **A GEMSTONE IS A STONE THAT IS BEAUTIFUL, RARE, AND DURABLE (RESISTANT TO ABRASION, FRACTURING AND CHEMICAL REACTIONS). NOT ALL MINERALS ARE GEMSTONES ESPECIALLY THOSE THAT ARE TOO SOFT OR SCRATCH EASILY.**

Site #3: Mineral Properties - http://galleries.com/Mineral_Properties

1. What is the difference between color and streak? **THE COLOR OF A MINERAL REFERS TO THE COLORS WE CAN SEE IN THE MINERAL SAMPLE, WHILE THE STREAK IS THE COLOR OF THE MINERAL IN ITS POWDER FORM.**

2. What is the difference between transparent, translucent, and opaque? **IF THE LIGHT ENTERS AND EXITS THE SURFACE OF THE SUBSTANCE IN RELATIVELY UNDISTURBED FASHION, THEN THE SUBSTANCE IS REFERRED TO AS TRANSPARENT. IF THE LIGHT CAN ENTER AND EXIT THE SURFACE OF THE SUBSTANCE, BUT IN A DISTURBED AND DISTORTED FASHION, THEN THE SUBSTANCE IS REFERRED TO AS TRANSLUCENT. IF THE LIGHT CANNOT PENETRATE THE SURFACE OF THE SUBSTANCE, THEN THE SUBSTANCE IS REFERRED TO AS OPAQUE.**

3. What is the difference between cleavage and fracture? **CLEAVAGE REFERS TO A MINERAL THAT BREAKS ALONG EVEN SURFACES, WHILE FRACTURE REFERS TO THOSE MINERALS THAT BREAKS AND LEAVES IRREGULAR, JAGGED, OR SPLINTERY EDGES.**

Site #4: Mineralogy4Kids - https://min4kids.org/

Click the "house" icon to learn more about minerals in your home.

1. Choose five items and list the minerals/resources used to make each one.

Item #1 - _____ - _____

Item #2 - _____ - _____

Item #3 - _____ **ANSWERS WILL VARY** _____

Item #4 - _____ - _____

Item #5 - _____ - _____

2. Find pairs of items that have at least one mineral/resource in common. List the common material along with the items. You cannot use any of the items you listed in #1 for this section.

Set #1 - _____ & _____ contain _____

Set #2 - _____ **ANSWERS WILL VARY** _____

Set #3 - _____ & _____ contain _____