

## ***Rocks and Minerals Webquest***

**Directions:** Answer the following questions using the websites provided for each question (the titles are hotlinks).

**Rock Cycle :** <http://www.cotf.edu/ete/modules/msese/earthsysflr/rock.html>

1. What are the three main types of rocks?
2. How does a sedimentary rock turn into a metamorphic rock?
3. How does an igneous rock turn into a metamorphic rock?
4. How do metamorphic rocks change into sedimentary rocks?
5. How do igneous rocks change into sedimentary rocks?
6. What is the beginning of the rock cycle? The end?

**View this Rock Cycle animation:**

[http://www.classzone.com/books/earth\\_science/terc/content/investigations/es0602/es0602page01.cfm](http://www.classzone.com/books/earth_science/terc/content/investigations/es0602/es0602page01.cfm)

7. Quick cooling forms many small what?
8. When you look at the desert monuments, what eroded away?
9. The microscopic view of sandstone contains what two components?
10. What two things are needed to turn igneous rock into metamorphic rock?

**Rocks:** <http://www.learner.org/interactives/rockcycle/>

11. List **and** define the 6 key characteristics that can help you identify rocks within the three main classes.
  - a.
  - b.
  - c.
  - d.
  - e.
  - f.

**Rock Identification Key:** [http://www.minsocam.org/msa/collectors\\_corner/id/rock\\_key.htm#TOC](http://www.minsocam.org/msa/collectors_corner/id/rock_key.htm#TOC)

12. For igneous rock, when magma cools slowly the crystals...
13. For igneous rock, when magma cools quickly, the crystals...
14. Of the types of igneous rock formed underground, which one is most familiar?

15. When looking at sedimentary particle size, which material type has the largest particles and which has the smallest particles?

16. Which metamorphic rock forms under the highest temperature and highest pressure?

**Mystery Rocks:** [http://www.windows2universe.org/earth/geology/sed\\_intro.html](http://www.windows2universe.org/earth/geology/sed_intro.html)

17. How much of earth's surface is made of sedimentary rock?

18. Give 4 examples of sediment that might eventually become sedimentary rock.

19. What caused the appearance in the sedimentary rock in picture B?

**Mohs Scale:** <http://www.oakton.edu/user/4/billtong/eas100lab/hardness.htm>  
<http://geology.com/minerals/mohs-hardness-scale.shtml>

20. What is Mohs Scale used for?

21. What mineral is a 10 on Mohs Scale?

22. Give an example of a mineral with a hardness of 7 (according to Mohs Scale). Tell me about that mineral.

23. If a mineral can scratch a penny, what number is it on Mohs Scale?

**Streak:** <http://academic.brooklyn.cuny.edu/geology/grocha/mineral/streak.html>

24. Sometimes the color and the streak of a mineral are very different. Which of the examples shows a difference between color and streak?

**Density:** <http://www.nyu.edu/pages/mathmol/textbook/density.html>

25. Show your work for calculating the density of block 1 and 2. Write down the problem you entered into the calculator and your answers.

Block 1:

Block 2:

26. Submit your answers to verify your correctness. If you are incorrect, correct your answers and resubmit. Then see what each block was made of by clicking the link and going to the next page.

Block 1:

Block 2:

**Samples Video:** <http://viewpure.com/egEGaBXG3Kg>

**Mount Nyiragongo** is an active volcano in central Africa. Not much is known about how long the volcano has been erupting, but since 1882, it has erupted at least 34 times (once every 4 years), including many periods where activity was continuous for years at a time, often in the form of a churning lava lake in the crater.

27. Watch the video. Would you get this sample? Why or why not?

## Uses of Common Minerals

<http://www.nma.org/index.php/minerals-publications/40-common-minerals-and-their-uses>

<http://utahscience.oremjr.alpine.k12.ut.us/sciber00/7th/earth/sciber/mineruse.htm>

28. Which is the most abundant element in the Earth's crust?

29. Complete the chart by listing common uses for each mineral. You will need to use both sites.

clays	
cobalt	
copper	
halite	
mica	
Bauxite	
Calcite	
Graphite	
Quartz	
talc	

30. Define the following terms: <http://dictionary.reference.com/science>

ores	
metals	
nonmetals	
gemstones	

31. Use the mineral identification key to identify the following minerals:

	Hardness= 3.5, color is yellow, it breaks into jagged pieces, light cannot pass through it
	Hardness= 6, color is yellow, breaks in identical cone shapes, light cannot pass through it
	Hardness= 2, metallic black silver or gray in color, cleavage when broken, light cannot pass through
	Hardness= 5, color is yellow, light can pass through, cleaves in one direction, appears silky