

Cycle 1 Week 21 – (Abecedarians)

MINERALS

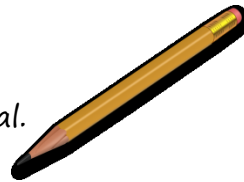
Introduction

-Do you remember when we made our crystals? Well this week we will discuss another type of crystal – MINERALS!

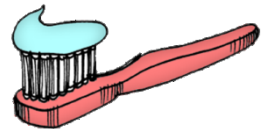
-Here are the names of some minerals: Iron, graphite, aluminum, copper, gold, lead, mica

-Where do we see minerals around us?

- The graphite at the end of your pencil is a mineral.



- You can find limestone and aluminum oxide in some toothpastes.



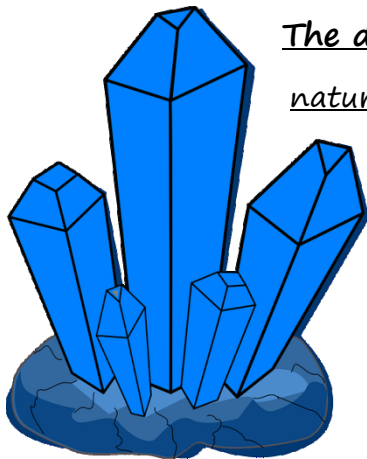
- Our pennies are made of copper, which is a mineral.



- The mineral, Feldspar, is used in glass and pottery – so it must be very strong!



- Gold is a very precious mineral – what can gold be used for?



The definition of a mineral is: an inorganic (not living) element or that is naturally formed and has a particular chemical composition, crystal structure, and physical properties.

- *Is a cow a mineral?* (No! Animals are living!)
- *Is a tree a mineral?* (No! Plants are living!)
- *Is a house a mineral?* (No! Houses are not naturally formed, they are built by people!)
- *Are YOU a mineral?* (No! We are living!)



Geologist Detectives!

-What is the name of a person who studies minerals and rocks? A geologist!

-We are going to be geologists for the next few weeks. First, we need to know what to look for when we find and study minerals.

-I went on a big mineral expedition and I found these two minerals (pick two that look similar). Can you think of any ways I can try to tell them apart and know what kind of minerals I found? (let them look at the minerals and brainstorm ideas)

-That is an excellent start! Fortunately, the geologists and scientists that lived a long time ago created 4 tests that we can use to find out what kind of minerals these are.

4 MINERAL TESTS



Test #1: Streak Test

(the kids will be trying these tests on week 22 – right now, demonstrate)

- If I take my mineral and rub it along the back of this tile, I can see what color powder it leaves behind. This is called a **Streak Test**.

-What color powder did my two minerals leave behind?

WE JUST FOUND OUR FIRST CLUE!



Test #2: Luster Test

-Luster is a word that tells us how light is reflected off of something.

There are 3 types of “luster” on a mineral.

- Glassy- light can shine through, similar to a glass window.
- Metallic- light bounces off like on a metal surface.
- Dull- mineral that does not reflect light or reflects it poorly.

-What is the luster of these minerals?

WE JUST FOUND OUR SECOND CLUE!

Test #3: Transparency

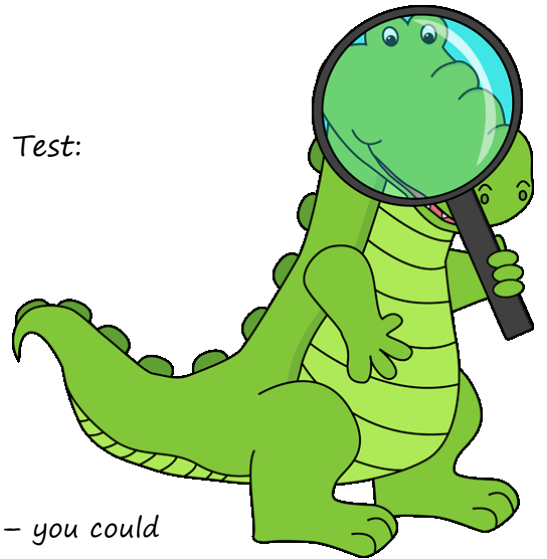
-Here are three words we need to know for our Transparency Test:

- **Opaque**- NO light to pass through it (like a wall)
- **Transparent**- light to pass through it (like a window)
- **Translucent**- some light to pass through it, but not a lot (like a foggy window)

(Using the flashlight, demonstrate these three transparencies – you could use black construction paper, wax or plain paper, & Saran wrap.)

-What is the **transparency** of my minerals?

WE JUST FOUND OUR THIRD CLUE!



Test #4: Hardness

-We have one final test we need to do on our mineral.

That is a **Hardness Test**. What do you think we will be looking at

for this last test? **Hardness!** That's right! The hardness of a mineral tells us how strong it is!



-Here is a piece of glass, and a steel nail. Let's see what my mystery minerals do if I try to scratch the glass with them. Did it leave a mark? What if I rub the nail on the mineral –did it make a scratch?

WE JUST FOUND OUR FOURTH CLUE!

Conclusion – Next week we will use these tests together and you will get to test out your own minerals! What were the 4 tests we used? (**Streak, Luster, Transparency, Hardness**)