

Properties of Rocks & Minerals

Created by: Miss deBoth

Date: October 18, 2015

Length: 45 Minutes

<p>Content: (Topic)</p> <ul style="list-style-type: none">● Exploring Physical Properties of Minerals and Rocks	<p>Instructional Strategies: (Specific)</p> <ul style="list-style-type: none">● Direct Instruction (Compare and Contrast)● Interactive Instruction (Discussion, Brainstorming)
<p>Outcome(s):</p> <ul style="list-style-type: none">● RM4.1: Investigate physical properties of rocks and minerals, including those found in the local environment. [CP, SI]	<p>Indicator(s):</p> <ul style="list-style-type: none">● Observe and record physical properties of rocks and minerals using appropriate terminology such as colour, luster, and hardness. Cleavage, transparency and crystal structure.
<p>Cross Curricular Competencies:</p> <ul style="list-style-type: none">● Developing Thinking: Thinking Contextually	
<p>Prerequisite Learning:</p> <ul style="list-style-type: none">● Properties● Categorizing	
<p>Adaptive Dimension:</p> <ul style="list-style-type: none">● Students are engaged in direct instruction, exploration, and investigation as well as discussions and brainstorming.● Students can write or draw in the spaces on their worksheets.	
<p>Preparation: (Equipment/materials/set-up)</p> <ul style="list-style-type: none">● Collection of rocks and minerals● Magnifying Glasses	



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| <ul style="list-style-type: none">• Whiteboard• Technology (Computer, iPad, Tablet for Research)• 30 Pre-Made Rock Analysis Worksheets |
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<p>Set: (10 Minutes)</p> <ul style="list-style-type: none">• Set our rocks on a table with labels and the write the following onto the board. “Color, Hardness, Luster, Cleavage, streak, texture” on the board at the front of the room. <i>“Good Afternoon friends, we will be exploring some of the rocks that I have in front of me. Can anyone tell me what the words on the board behind me are?”</i> Work with students to define each property on the board.	<p>Student Engagement/Classroom Management Strategies:</p> <ul style="list-style-type: none">• 1-2-3 Eyes on Me• Clap if you can hear me.• 10, 5 and 1 minute warnings
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technology to find out answers that you could not test for.

- Hand out a rock to each group and a worksheet to each student.
- Walk around and interact with students as they learn to encourage further thoughts.
- After 15 minutes, gather the group back together and collect all the rocks once more. Get volunteers to come up and decide what category they want to sort the rocks by. Record the categories on the board.

Closure: (10 Minutes)

- Did you find anything interesting about your rock?
- How did the properties of rocks help us with our categorizing activity?
- If you ever pick up a rock and are wondering what it may be, please keep in mind that you can use these properties to distinguish which rock yours is.

MOHS HARDNESS SCALE

		Wax 0.2, Graphite 0.5-0.9
1	TALC	Soapstone 1, Lead 1.5, Tin 1.5-1.8, Alabaster 1.7
2	GYPSUM	Halite (Rock Salt 2, Magnesium 2.0, Aluminum 2-2.4, Amber 2-2.5, Galena 2.5, Copper 2.5-3, Gold 2.5-3, Mica 2.8
3	CALCITE	Limestone 3, Boric Acid 3, Barite 3.3, Brass 3-4, Marble 3-4, Serpentine 3-4, Dolomite 3.5-4
4	FLUORITE	Bell Metal 4, Iron 4-5, Platinum 4.3, Soda (soft) Glass 4.5, Glass 4.8-6.6, Opal 4-6
5	APATITE	Asbestos 5, Manganese 5.0, Steel 5-5.5, Hornblende 5.5, Stainless Steel 5.5-6.3
6	ORTHOCLASE	Feldspar 6, Hematite 6, Magnetite 6, Pumice 6, Pyrite 6.3, Agate 6.5-7, Garnet 6.5-7.5
7	QUARTZ	Flint 7, Silicon 7.0, Tourmaline 7.3, Emery 7-9, Beryl 7.8
8	TOPAZ	Case Hardened File Steel 7.8-8.5
9	CORUNDUM	Alundum 9+, Chromium 9.0, Carborundum 9.3, Boron 9.5
10	DIAMOND	

