Curriculum Sample Template
Max. 8 Pages

Grade Level	Grade 4	**Content Area**	Science
Course Title (grades 9-12 Only)			
Length of Unit	One week	**Time of Year**	4th quarter
Expected Prior Knowledge *The knowledge/skills mastered earlier in the year foundational to the mastery of the required Standard in the current sample.*	To complete this lesson, the students will know the five steps needed in scientific method (problem, prediction, procedure, observation, and conclusion). Students will be able to work in collaborative learning groups to create an experiment and collect data.		
Alignment to Program of Instruction *Briefly outline methods of instruction found in this sequence of lessons that align to the Program of Instruction described in A.3.*	Through this lesson plan students will become familiar with some of the characteristics of rocks through experimentation. Students will follow all five steps in scientific method to solve the problem (question) what type of rock is My Pet Rock?		
Standard Number and Description *List the Number* and full description for the required Standard.*	4.1.3.1 Analyze data obtained in a scientific investigation to identify trends (See MO 4-S2C1-03)		
Summative Assessment *Describe a cumulative and comprehensive activity, clearly separate from instruction and guided or independent practice, which allows each student to individually demonstrate mastery of the required Standard. A copy of the summative assessment must be attached to the curriculum sample.*	Summative Assessment over My Pet Rock lesson will be a six question test. The students will be required to name the type of rock from the illustration and give a brief explanation to how each type of rock was formed.		
Scoring Scale and Mastery Level *Explain how the assessment is scored, to include points per question, how points are awarded, total points possible, criteria necessary to demonstrate mastery, and grading scale. A copy of the answer key and scoring rubric (whichever applicable) must be attached to the curriculum sample.*	To show mastery of lesson, students will score five or better on the Summative Assessment.		
Materials/Resources Needed	**Per Student**: Each student will bring one rock they have found on the playground and science journal. **For Class (teacher)**: Science textbook, Computer for internet to access United Streaming Video, overhead projector, sentence strips with words and definitions written on them, Science Kit (Scale with gram weights, metric rulers, water container, eyedropper, graduated cylinders, magnifying glasses), 2 or more copper pennies, two or more steel nails, vinegar, yarn, My Pet Rock collection sheet		

* ***Standard Number**: For English Language Arts (Reading and Writing), use Grade, Strand, Standard (e.g., 3.RI.2). For K-8 Math, use Grade, Domain, Standard (e.g., 6.EE.7). For HS Math, use Conceptual Category-Domain, Standard (e.g., A-REI.6). For Science, use Grade, Strand, Concept, PO (e.g., 4.1.3.1).*

Lesson (add as needed)	**Instruction**	**Student Activities**
1	Students will be introduced to the rock lesson by reading the chapter in the text book over rocks. Throughout the reading, students will stop reading to examine the types of rocks that they are learning about. The students will compare the three different types of rocks by texture and sight.	Students will read the unit from the text book over rocks and discuss the questions at the end of the unit. Throughout the reading the students will familiarize themselves with the three different types of rocks they are learning about from the text. The students will use a magnifying glass to examine the rocks and use their hands to feel the difference in the textures of the rocks. The students may talk amongst their group and explain the differences between the rocks which they have found.
2	This lesson will begin with a review of the three different types of rocks and how they are formed. Students will then watch a 12 minute video (Geologist's notebook) from United Streaming explaining the rock formation. Teacher will place sentence strips with the definitions of the vocabulary words on the white board for the students to match up the word with the correct definition. Students will examine their own rock and predict what type of rock they have found using their information they have learned and record their prediction.	Students will answer questions from the teacher about the three different types of rocks such as what are the three different types of rocks we have been learning about, how are each formed, what are the textures of each. After the question and answer session, students will watch a 12 minute video from United Streaming explaining the rocks, showing how they are formed, and showing examples of each of the rocks. Students will then match the vocabulary word with the correct definition on the whiteboard using premade sentence strips. To complete the lesson, the students will start to use scientific method using their own prediction to predict what type of rock they found for this experiment.
3	To begin the lesson the students will review the three different types of rocks and explain how they are formed. The students will then be placed in groups of four or five to circulate the classroom in the five different centers set up to conduct the experiment to find out if they predicted the correct type of rock they have found	Students will use the worksheet and complete the top portion of the "My Pet Rock collection form". For this portion of the activity, the students will name their rock, and draw a picture with the correct colors of their rock. The students will then circulate the classroom visiting every center with their group to investigate if

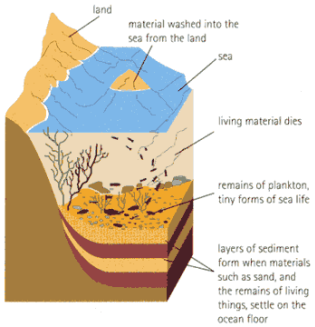
	for their Pet Rock. Each group of students will visit the measuring center to measure the length of their rock, then the weighing center to measure the weight, a scratch testing center, a vinegar center, and finally a water center to see if their rock will float. At the conclusion of the experiment, the students will return to their own seats to record their conclusion of their experiment and explain their findings of their rock.	their prediction of the type of rock they found is correct. To do this the students will measure the rock, scratch the rock, use vinegar to see if the rock will bubble, and test to see if the rock will float. At the end of the experiment, the students will return to their seats and record their findings; noting what happened to their rock through each process. Through this experiment, the students will be able to learn what type of rock they have for a Pet Rock.
4	On the last day of the rock lesson, the students again will be asked to explain the three different types of rocks and how they are formed. Students will then be instructed to bring their rocks to the front of the classroom where a large Venn Diagram (made out of yarn) is set up. The students will place their rock into the correct category (igneous, sedimentary, or metamorphic). The students will give a brief description as to why their rock is that type of rock. Students will then be given a quiz over the types of rocks and how they are formed as an assessment.	Students will review the three different types of rocks and how each was formed. The students will use the information that they learned from the previous days experiment to place their Pet Rock into the correct category of the Venn Diagram. Students will then tell the teacher and the class why they feel that their rock is what they categorized it as. Students will take a test naming the three different types of rocks and give a brief explanation of how each was formed.

Paste Summative Assessment Here:

Name _____ Date _____

Rock Formations

What does each picture show as a rock formation and how does it tell us about how the rock is formed?



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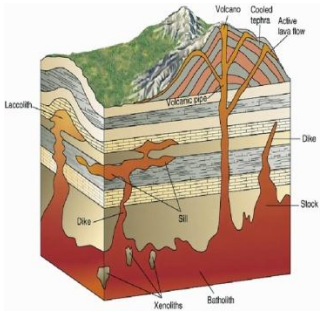

2._____
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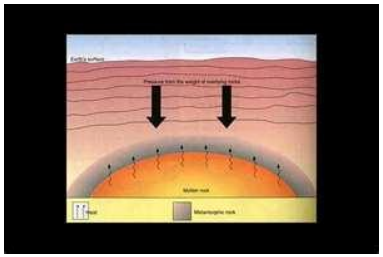

3._____

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Paste Answer Key/Scoring Rubric Here:

1. Sedimentary rock – when rocks are exposed to the elements- air, rain, sun, freeze/thaw cycle, plants-erosion occurs and the little bits of rock worn away get deposited as sediments. Over time, these sediments harden as they get buried by more sediments and turn into sedimentary rocks. Sedimentary rocks are usually formed in layers called strata.
2. Igneous rock is formed from fire or heat. When volcanoes erupt and the liquid rock comes up to the earth's surface, then new igneous rock is made.
3. Metamorphic rocks are racks that have changed. Metamorphic rocks were originally igneous or sedimentary, but due to movement of the earth's crust, were changed.