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STAGE 1 – DESIRED RESULTS	
<p>Unit Title: Rock Cycle</p> <p>Established Goals (big ideas): – include BC curriculum citation</p> <p>- Earth materials change as they move through the rock cycle and can be used as natural resources</p> <p>BC New Curriculum. (2016). Science 5 Building Student Success - BC's New Curriculum. Retrieved from https://curriculum.gov.bc.ca/curriculum/science/5</p>	
<p>Rationale <i>Why are you doing this and why is it relevant to your students</i></p> <p>Students will learn about the rock cycle and how Earth materials are affected by it. Students will have an understanding on what the three different types of rock are within the rock cycle, and they will be able to demonstrate this knowledge to others through descriptions and/or diagrams. Students will go through many hands-on activities throughout this unit: including games, experiments, and projects.</p>	
<p>Essential Question(s): <i>What drives the learning?</i></p> <ol style="list-style-type: none"> 1. What are the three different types of rock involved in the rock cycle? 2. What causes the rocks to go through the cycle and change over time? 3. Why does the rock cycle occur? 4. How can we recognize what kind of rock we are seeing? 	
<p>Students will be able to: <i>(competencies – include BC curriculum citation)</i></p> <p><u>Questioning & Predicting</u></p> <ul style="list-style-type: none"> - Demonstrate a sustained curiosity about a scientific topic or problem of personal interest - Make observations in familiar or unfamiliar contexts - Identify questions to answer or problems to solve through scientific inquiry - Make predictions about the findings of their inquiry <p><u>Processing & Analyzing Data and Information</u></p> <ul style="list-style-type: none"> - Experience and interpret the local environment <p><u>Evaluating</u></p> <ul style="list-style-type: none"> - Identify some of the social, ethical, and environmental implications of the findings from their own and others' investigations <p><u>Applying & Innovating</u></p> <ul style="list-style-type: none"> - Co-operatively design projects <p><u>Communicating</u></p> <ul style="list-style-type: none"> - Express and reflect on personal, shared, or others' experiences of place <p>BC New Curriculum. (2016). Science 5 Building Student Success - BC's New Curriculum. Retrieved from https://curriculum.gov.bc.ca/curriculum/science/5</p>	<p>Students will know; <i>(content– include BC curriculum citation)</i></p> <ul style="list-style-type: none"> - The Rock Cycle <p>BC New Curriculum. (2016). Science 5 Building Student Success - BC's New Curriculum. Retrieved from https://curriculum.gov.bc.ca/curriculum/science/5</p>

STAGE 2 – ASSESSMENT EVIDENCE	
<p>Performance Tasks and/or culminating tasks:</p> <ul style="list-style-type: none"> - <i>Rock Cycle Info Brochure</i> - <i>Rock Cycle Journal Entry</i> - <i>Rock Cycle Game</i> - <i>Rock Cycle Kahoot Quiz</i> - <i>Crayon Rock Cycle Experiment</i> 	<p>Other Evidence: formative and summative</p> <p><u>Formative</u></p> <p>Throughout this unit, students will be assessed formatively through several different assignments and classroom activities. I use formative assessment in order to determine</p>

<ul style="list-style-type: none"> - <i>Rock Cycle S'mores</i> - <i>Rock Cycle Final Projects</i> 	<p>how each individual's learning is going throughout the unit, and to make sure that we are moving at a pace that supports each learner within the class. I will use activities such as the <i>Info Brochure</i>, <i>Journal Entry</i>, and <i>Game</i> to assess my students formatively. Each of these activities will allow me to see firsthand how my students' learning is progressing, and whether or not we will need additional time or more personalized instruction in order to grasp on to certain concepts within this unit. The <i>Info Brochure</i> that we design together at the beginning of this unit will supply each student with information on each rock, as well as how the rock cycle works. I will look at each brochure that is created and assess whether my students have included information that is accurate, and helpful to them for using as a resource when designing their final projects. The <i>Journal Entry</i> will make it clear to me whether or not students know how to recognize certain rocks just by going off their appearance and characteristics – this activity will allow students to practice this skill and have an idea to what part of the cycle their chosen rock is currently in. Lastly, the <i>Game</i> will allow students to learn and demonstrate their knowledge in a fun, interactive way with their classroom. I will be rotating around the classroom during this gameplay and watching students as they attempt to answer questions that are based solely on the Rock Cycle.</p> <p><u>Summative</u></p> <p>Summative assessment will be used from the mid-point towards the very end of this unit. This type of assessment will be used in order to assess each student's mastery or competence in this unit's content. Students will experience this type of assessment in the following activities: <i>Kahoot Quiz</i>, <i>Crayon Rock Cycle Experiment</i>, <i>S'mores Activity</i>, and the <i>Final Projects</i>. Within the <i>Crayon Rock Cycle Experiment</i> and the <i>S'mores Activity</i>, we will be going through two experiments that will equally demonstrate how the rock cycle works, and what happens to the three different kinds of rock as they move on to the next stage in the cycle. During these activities, I will be leading a discussion with the students as we continue through both activities. This discussion will consist of 'what' questions for the students to answer, and 'why' questions for the students to provide their own input on why certain things happen to the rocks throughout the cycle. This will allow me to assess who in the class understands the Rock Cycle, and who may feel a little uncertain in areas. The <i>Kahoot Quiz & Final Projects</i> will allow students to work in groups and demonstrate their knowledge collaboratively. The quiz will provide an opportunity for students to show off their knowledge in front of their peers, while the project will allow students to work together creatively to deliver a final project in a format of their choice (poster, song, play, etc.) that will demonstrate their understanding of the Rock Cycle. Student's will also experience summative assessment through a science rubric that will highlight areas of each students' learning at the completion of this unit plan.</p>
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STAGE 3 – LEARNING PLAN	
Learning intentions	Learning activities
<p>Lesson 1</p> <ul style="list-style-type: none"> - Students will be able to demonstrate their understanding of what an Igneous Rock is, and how to recognize this type of 	<p>Lesson 1</p> <ul style="list-style-type: none"> - Introduce an Igneous Rock to the class – discuss this type of rock and how it comes to be

<p>rock</p> <ul style="list-style-type: none"> - Students will start their <i>Rock Cycle Brochure</i> and have the Igneous Rock section complete 	<ul style="list-style-type: none"> - Allow each student to feel the rock and look at it closely - Introduce the <i>Rock Cycle Brochure</i> assignment – instruct students to complete the Igneous Rock section of the brochure (drawing with characteristics)
<p>Lesson 2</p> <ul style="list-style-type: none"> - Students will be able to demonstrate their understanding of what a Sedimentary Rock is, and how to recognize this type of rock - Students will have both the Igneous Rock and Sedimentary Rock sections of their brochures completed 	<p>Lesson 3</p> <ul style="list-style-type: none"> - Introduce a Sedimentary Rock to the class – discuss this type of rock and how it comes to be - Allow each student to feel the rock and look at it closely - Students will complete the Igneous and Sedimentary Rock sections of their brochures
<p>Lesson 3</p> <ul style="list-style-type: none"> - Students will be able to demonstrate their understanding of what a Metamorphic Rock is, and how to recognize this type of rock - Students will have all three rock sections completed of their brochures – igneous, metamorphic, & sedimentary 	<p>Lesson 3</p> <ul style="list-style-type: none"> - Introduce a Metamorphic Rock to the class – discuss this type of rock and how it comes to be - Allow each student to feel the rock and look at it closely - Students will complete all three rock sections of their brochures
<p>Lesson 4</p> <ul style="list-style-type: none"> - Students will be able to demonstrate an understanding on each type of rock within the cycle, included with a diagram on how the rock cycle works - Students will feel competent enough to share their brochures with their peers 	<p>Lesson 4</p> <ul style="list-style-type: none"> - Show example drawings of the Rock Cycle diagrams, provide students with ideas on how they can create a visual on the last page of their brochures that will ultimately demonstrate how the cycle works - Pair and share their brochures with classmates or in front of the class
<p>Lesson 5</p> <ul style="list-style-type: none"> - Students will be able to find a rock within their community/backyard - Students will present their rock to a classmate, or allow me to present the rock that they found - As a class, we will be able to determine what kind of rock it is, and what stage it is at within the Rock Cycle 	<p>Lesson 6</p> <ul style="list-style-type: none"> - Present rocks through pair and share - Present any rocks that students want to present in front of class - Discuss type of rock and its background story
<p>Lesson 6</p> <ul style="list-style-type: none"> - Students will play the <i>Rock Cycle Game</i> in class and test their knowledge with their peers - Students will further their knowledge on the Rock Cycle through game play 	<p>Lesson 6</p> <ul style="list-style-type: none"> - <i>Rock Cycle Game</i>
<p>Lesson 7</p> <ul style="list-style-type: none"> - Students will again further their knowledge on the Rock Cycle through a classroom lab experiment – <i>Rock Cycle S'mores</i> - Students will be able to better their understanding on the Rock Cycle in order to prepare for our <i>Rock Cycle Kahoot Quiz</i> 	<p>Lesson 7</p> <ul style="list-style-type: none"> - <i>Rock Cycle S'mores</i>
<p>Lesson 8</p> <ul style="list-style-type: none"> - Students will be able to demonstrate their knowledge through our <i>Kahoot Quiz</i> - Students will gain information and learn aspects about the Rock Cycle that they may not have already known through the quiz and prep with their group beforehand 	<p>Lesson 8</p> <ul style="list-style-type: none"> - <i>Rock Cycle Kahoot Quiz</i>

<p>Lesson 9</p> <ul style="list-style-type: none"> - Students will further their knowledge on how the Rock Cycle works through our <i>Crayon Rock Cycle Experiment</i> - Students' inquiry questions regarding the cycle before this experiment will get answered throughout this lesson 	<p>Lesson 9</p> <ul style="list-style-type: none"> - <i>Crayon Rock Cycle Experiment</i>
<p>Lesson 10</p> <ul style="list-style-type: none"> - Students will work together in their group in deciding what they want to do for their final project in this unit - Students will present their idea to me by the end of class 	<p>Lesson 10</p> <ul style="list-style-type: none"> - Group brainstorm on final project ideas
<p>Lesson 11</p> <ul style="list-style-type: none"> - Students will start working on their rough draft of the final project 	<p>Lesson 11</p> <ul style="list-style-type: none"> - Group work towards completing the final project
<p>Lesson 12</p> <ul style="list-style-type: none"> - Students will continue working on their final project 	<p>Lesson 12</p> <ul style="list-style-type: none"> - Group work towards completing the final project
<p>Lesson 13</p> <ul style="list-style-type: none"> - Students should be wrapping up their final projects and getting prepared to present them in the next class 	<p>Lesson 13</p> <ul style="list-style-type: none"> - Group work towards completing the final project - Prepping for final presentation
<p>Lesson 14</p> <ul style="list-style-type: none"> - Students will enjoy the final project presentations from each group 	<p>Lesson 14</p> <ul style="list-style-type: none"> - Final project presentations - Celebration

Reflections:**References:**

BC New Curriculum. (2016). Science 5 | Building Student Success - BC's New Curriculum. Retrieved from

<https://curriculum.gov.bc.ca/curriculum/science/5>

Sallas, J. (2015, September 11). Rock Cycle. Retrieved from <https://betterlesson.com/lesson/638329/rock-cycle>