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| Subject: | Science/Social Studies | Grade: | 2/3 | Duration: | OPEN |

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| Big Ideas: | Summative Assessment: |
| * Living things have life cycles adapted to their environment (Science 2) * Materials can be changed through physical and chemical processes (Science 2) * Wind, water, and ice change the shape of the land (Science 3) * Canada is made up of many diverse regions and communities (Social Studies 2) * Learning about indigenous peoples nurtures multicultural awareness and respect for diversity (Social Studies 3) | **Science Journal**: Students will have a completed science journal at the end of the unit documenting observations, investigations  **Project:** Students will create a project showing what an area of land looked like 100 years ago including habitat, landform, and/or settlement.  **Project:** In the same group, students will be able to recreate the same project showing the effects and impacts of how the area of land has changed with respect to habitat, landform, and settlement. |

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| Unit Understandings: | | | |  | Content: |
| * There is a link between the environment and human activities * Everything we do has an impact on the environment | | | |  | * Relationships between humans and the environment * Diverse features of the environment in other parts of Canada and the world First Peoples use of their knowledge of life cycles and ecosystems * Metamorphic and non-metamorphic life cycles of different organisms * Energy is needed for life * Observable changes in the local environment caused by erosion and deposition by wind, water, and ice |
| Transfer: | | | |  | Essential Questions: |
| **Interconnectedness and Transformation**   * Students will be able to understand that learning recognizes the role of indigenous knowledge * Observe and explore change and cycles to deepen scientific understanding | | | |  | * How are cycles related to one another? * How do we shape the land? How does the land shape us? * How has our community changed over time? * How are humans and natural systems interrelated? |
|  | Concepts: |  |  | | Curricular Competencies: |
|  | Change  Cycles |  |  | | * Sequence objects, images, and events, or explain why some aspects change and others stay the same * Recognize the causes and consequences of events, decisions, or developments * Demonstrate curiosity and a sense of wonder about the world * Make simple predictions about familiar objects and events * Experience and interpret the local environment * Consider some environmental consequences of their actions * Represent and communicate ideas and findings in a variety of ways, such as diagrams and simple reports using digital technologies as appropriate |
| First People’s Principles of Learning: | | | |  |
| Learning involves patience and time  Learning recognizes the role of indigenous knowledge | | | |  |
| Core Competencies: | | | | |
| **Communication**: I can take on roles and responsibilities in a group  **Creative Thinking**: I can get new ideas or build on other people’s ideas, to create new things within the constraints of a form, a problem, or materials  **Critical Thinking**: I can ask open-ended questions and gather information  **Social Responsibility**: I can identify how my actions and the actions of others affect my community and the natural environment, and can work to make a positive change | | | | |
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| Lesson Planning | | | | |  |
| Suggested Lessons: | | | | | Resources: |
| **Introduction:**  Weathering, erosion and deposition  (1-2 Lessons)  Stations Set-up representing different  components of weathering, erosion and deposition. This activity is set up as an introduction to this unit. Students will be able to visit stations and explore each topic.   * Examples of stations can include: Rocks and Minerals, Soil components, Natural Forces (Wind, Water, Ice), The Water Cycle, Landforms (In North Vancouver, Canada, Earth), Objects found around the school ground (rocks, branches, soil, plants).   Inquiry document: Students fill out what they know already, what they have learned and what they still wonder about. | | | | | School library: Various books, examples:   * “A Rock is Lively” by Dianna Hutts Aston * “Rocks & Minerals” by R.F. Symes * Cracking Up: A Story About Erosion (Science Works)” by Jacqui Bailey |
| Investigation: Nature Walk, Observations  (1 Lesson)  Students will be able to observe and find  examples/evidence of weathering, erosion and  deposition around the school grounds.  ● Students can draw/write observable examples of weathering, erosion and deposition in their Science Journals | | | | | Science Journal |
| Investigation: Soil composition and Soil erosion  (1-2 Lessons)  Activity 1: Soil Sieving, looking at the different  components that make up the soil (Beach soil, forest soil, school soil)  Activity 2: Soil components, have each group look with magnifying glasses at examples of different components that could be found in soil such as humus, sand, gravel, and/or clay.  Activity 3: Introducing water and wind as a natural physical force that weather and erode our soil. Have students mix the components used in Activity 2 and make a mound in a container. Use straw to blow (wind) and eyedropper with water (precipitation) to  observe the change. | | | | | Ingrid Science:  ● http://www.ingridscience.ca/node/338  ● http://www.ingridscience.ca/node/339  Science Journal |
| Experiment: Erosion and Stream flow (Water)  Students will observe the natural force of water and how the water cycle create and shape landforms.  This lesson can be used as an introduction to one of three natural forces (Water, wind and ice) on Earth that weather, erode and aid in the deposition process. | | | | | Ingrid Science:  ● <http://www.ingrids> cience.ca/node/432  Youtube Video, example:  ●https://www.youtube.com/watch?v=YETdZyZI6s  Science Journal |
| Experiment: Natural Forces (Physical Forces: Water, Wind, and Ice)  Students will be able to identify and see how different types of forces aid in the process of weathering (Physical and chemical change).  Example:  Students will break down items through different methods. Items can be skittles, chalk, dried clay etc.   * Rubbing sandpaper * Placing in water * Placing in vinegar   Placing in water and freeze overnight | | | | | Video as Hook, example:  https://www.youtube.com/watch?v=oZZEJMtLOKU  https://www.youtube.com/watch?v=cIBFAke90SI  <https://www.youtube.com/watch?v=W1InAfn7am0>  Science Journal |
| **Experiment:**  Weathering and Erosion in a Jar, Erosion Terrarium (4-5 Lessons)  Students will be able to create an experiment, observe it over time, document observable changes, and make predictions centred around the experiment.  Simulation of weathering/erosion with rocks and found objects in a jar by introducing natural forces such as shaking, heat/cold exposure, acids and water to the jar. | | | | | Science Journal   * See an example of pages you can insert in the Science Journal teachers can create below |
| **Game:**  Sorting/matching photos and examples of Weathering, erosion and deposition.  Have pictures of contextual and real life examples of weathering, erosion, and deposition. Each picture will have a corresponding and matching statement. Students will decide which card matches with what picture and decide/explain which part of the process it belongs to. | | | | | Watch videos, example:   * https://www.youtube.com/watch?v=SoOb4fg7cqk   Powerpoint of images  Paper/word document to glue examples to |
| Field Trip: Britannia Mine Museum,  Britannia Beach (1 Day)  Investigate, engage and question the cause and  consequences related to mining, geology and  resource usage. | | | | | Information:   * https://www.britanniaminemuseum.ca/pages/school-visits   Science Journal |
| School Program: In class Field Trip:  North Vancouver Museum and Archive,  North Vancouver  (2-3 lessons)  Take the Museum into your class with the new  “North Vancouver: Then and Now” kit for your  classroom. Some examples of activities and tasks included are:  ● Photo detectives, photograms are connected  with directed learning activities  ● Critical analysis of historic and modern  images  ● Consider, evaluate and observe the changes  that have taken place in their community over  time | | | | | North Vancouver Museum Information:   * <https://nvma.ca/wp-content/uploads/2018/09/CDNV_DISTRICT_HALL-3704140-v1-Rack_Card__NVan__Then_and_Now__final__pdf.pdf>   <https://nvma.ca/wp-content/uploads/2018/10/CDNV_DISTRICT_HALL-3742655-v1-Then_and_Now__Teacher_s_Package_2018_19_Updates.pdf> |
| Project:  Students will be able to connect what they have learned to the cycles and changes of the local environment. Students will create a project showing what an area of land looked like 100 years ago including habitat, landform, and/or settlement.  In the same group, students will be able to recreate the same project showing the effects and impacts of how the area of land has changed with respect to habitat, landform, and settlement.  In this project, students will address:   * How do we shape the land? How does the land shape us? * How has our community changed over time? * How are humans and natural systems interrelated? | | | | | North Vancouver Museum Information:  <https://nvma.ca/wp-content/uploads/2018/09/CDNV_DISTRICT_HALL-3704140-v1-Rack_Card__NVan__Then_and_Now__final__pdf.pdf> |
| Resources / Related Books | | | | | |
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