| Month | IB Unit/Topic | Assessments and Activities | CCR and CCW | Curriculum Standards and IB Criterion and Strands |
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| **September - week One of October** | Inland Seas/Matter and Energy in Organisms and Ecosystems. | Activities: Great Lakes Invaders Case Study Fresh water of the world, Wanted Posters, Research, Invasive species matching<br>Formative: Wanted posters, definitions, Case Study graphs and assignments<br><br>Summative: Inland Seas Field Trip | CCSS.ELA-LITERACY.RST.6-8.2<br>CCSS.ELA-LITERACY.RST.6-8.4 | Standards:MS-LS2-3 **Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.**<br><br>**MS-LS1-6. Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.**<br><br>IB Criterion and Strands |
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| **October -** | Matter and Energy in Organisms and Ecosystems. | Activities:<br>http://isleroyalewolf.org/sites/default/files/annual-report-pdf/annual%20rep%202016%20webversion.pdf<br>http://www.michaelpnelson.com/Publications_files/Vucetich_Nelson_Peterson_GWF_2012.pdf<br>https://prezi.com/xbvw9arjntee/case-study-the-wolves-of-isle-royale/<br><br>Formative; quizes, notes,etc...<br><br>Summative: Should we save/reintroduce the wolf population to Isle Royale | | Standards: **MS-LS2-1. Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.**<br><br>IB Criterion and Strands |
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| **November** | Waves and Electromagnetic Radiation | Activities:Waves and Energy book.<br>ib project: Passive Solar Home<br><br>Formative:drawings, quizes, notes,worksheets, mathematical equations and problems, etc...<br><br>Summative: Create a Passive Solar Home Model to test Solar energy retention<br>Hand Warmer<br>https://www.stevespanglerscience.com/lab/experiments/homemade-hand-warmer/ | CCSS.ELA-LITERACY.RST.6-8.9 | Standards: **MS-PS4-2 Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.**<br>MS-PS4-1 **Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave.**<br>*MS-PS1-6 Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes.*<br><br>ib Criterion and Strands |
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| **December** | Planet X: Design Unit | Activities: Intro to the 3D printer<br>Inspiring Creativity and Design:<br>http://www.youtube.com/playlist?list=PLacZ3HxdySDmzaMi73h5bO97q_SIBmKCq<br><br>Formative: Design ideas, Design drawings, Reflections and changes, 3D clay (other material) models.<br>3D software: Tinkercad:<br>https://www.tinkercad.com/learn/<br>MatterControl:<br>https://www.matterhackers.com/store/l/mattercontrol/sk/MKZGTDW6<br><br>Summative: http://www.cityxproject.com/ | CCSS.ELA-LITERACY.RST.6-8.8<br>CCSS.ELA-LITERACY.RST.6-8.3 | Standards:<br>MS-ETS1-1: **Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.**<br><br>**MS-ETS1-3 Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.**<br><br>ib Criterion and Strands |

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| **January** | Science Project: | Activities: Develop the Problem to be solved Scientific Procedure - Problem, Background Information, Hypothesis, Materials, Procedure, Data, Conclusion spread throughout the remainder of the year.<br>Letter and Dates:<br>https://docs.google.com/document/d/1OLm8ojR2o9zVREn6amqvfJHqZ7dkmBjRh1dqA3d-cR4/edit<br><br>Formative: To be completed at dates in above letter. | CCSS.ELA-LITERACY.RST.6-8.3 | Standards: **MS-ETS1-4: Develop a model to generate data for interactive testing and modification of a proposed object, tool, or process such that an optimal design can be achieved**<br><br>IB Criterion and Strands |
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| **February -**<br><br><br><br><br><br><br>**March -**<br><br><br><br><br>**April -** | MS.Structure, Function, and Information Processing<br><br><br><br><br><br>MS. Growth, Development, and Reproduction of Organisms | Activities: Cells and Heredity Text<br>Draw, label cells. Make models<br>Would like to get https://backyardbrains.com/ materials for MS-LS1-8<br><br><br><br><br>Formative: Paper Pets (Heredity)<br><br><br>Summative:Cell Analogies (ib) | **CCSS.ELA-LITERACY.RST.6-8.8**<br><br>**CCSS.ELA-LITERACY.RST.6-8.6** | Standards:MS-LS1-1. Conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells.<br>MS-LS1-2. Develop and use a model to describe the function of a cell as a whole and ways the parts of cells contribute to the function.<br>MS-LS1-3. Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.<br>MS-LS1-8. Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate |

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| **May** | | | | behavior or storage as memories.<br><br>MS-LS1-4. Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.<br>MS-LS1-5. Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.<br><br>MS-LS3-2. Develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation.<br><br>IB Criterion and Strands |
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| **May - June** | Science Project Final | Activities:Create Exhibit of their findings in a effective manner<br><br>Formative: Checkpoints along the way<br><br>Summative: Final Display of information | CCSS.ELA-LITERACY.RST.6-8.10 | Standards:<br><br>IB Criterion and Strands |

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| | | Activities:<br><br>Formative:<br><br><br>Summative: | | Standards:<br><br>IB Criterion and Strands |
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| **May** | | Activities:<br><br>Formative:<br><br><br>Summative: | | Standards:<br><br>IB Criterion and Strands |
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| **June** | | Activities:<br><br>Formative:<br><br><br>Summative: | | Standards:<br><br>IB Criterion and Strands |
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