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|  **Lesson Plan**  |
| **Teacher: Nicole McConnell** | **Grade Level: 9** |

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| **Subject: Science** | **Unit/Learning Segment Title: Climate Change Impacts** |
| **Lesson Title: Observations of Climate Change** | **Length of Lesson: 46 minutes** |
| **Lesson Number: \_\_3\_\_of\_\_\_5\_\_** | **Date:**  |
| **Central Focus:** What important understanding and core concepts do you want your students to know as a result of your lesson? What question drives your instruction for this lesson? |
| Students will be able to identify the main causes of climate change and examine the impact of climate change on the environment. How is climate change affecting people in the Arctic and all over the world? Why should we care about climate change? |
| **Real World Connection:** How is this lesson and the learning goals relevant to students’ lives?  |
| Climate change is affecting our planet in many ways. Ice is thawing on glaciers and in the arctic, which is affecting local native populations that still depend on the land and sea for their way of life. The ice that is thawing is opening up shipping lanes in the arctic and causing sea level rise that will affect the rest of the world (especially our coastal cities). It is important for students to understand how our planet is interconnected to sustain life and how melting ice in the arctic affects the entire globe, including where they may live. By understanding climate change and the affects of it, we can determine how our own lives may change as the environment changes and how we deal with those changes. |
| **Content Standards:** Reference Common Core State Standards (ELA or Math) or the Oregon Department of Education Standards. (Include number and text)  | **Objectives:** What do you want students to be able to do as a result of this lesson?  |
| HS-LS2-7 Ecosystems: Interactions, Energy, and Dynamics - Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity. | 1. Students will be able to identify ways life is changing for native people in the arctic by filling out a video worksheet during the video.
2. Students will be able to identify ways that melting land and sea ice will affect the arctic as well as the rest of the world when asked to do so through guided questions.
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| **Academic Language:** Complete language function, vocabulary and at least one additional language demand | **Instructional Resources & Materials:**  |
| **Lesson Specific****Vocabulary:**subject specific words |  | Video worksheetGuided questions print-outPBS & WGBH Educational Foundation. (2015). *Inuit observations of climate change.* Retrieved from http://www.pbslearningmedia.org/resource/ipy07.sci.ess.watcyc.inuitobserv/inuit-observations-of-climate-change/. PBS & WGBH Educational Foundation. (2008). *Ice shelf and ice sheet simulation.* Retrieved from http://www.pbslearningmedia.org/asset/ipy07\_int\_icesimulate/. Tyson, Peter. (1998). *If polar ice vanished.* Retrieved from http://www.pbs.org/wgbh/nova/earth/mapping-sea-level-rise.html | Technology Integration: |
| Climate Change, Arctic, Land Ice, Sea Ice, Permafrost, Inuit |  | A laptop computer and projector will be used to present the video, ice demonstration, and NOVA animation. |
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| **Assessment:** What evidence are you collecting to ensure student learning? How are you assessing for the disciple specific language chosen? |
| Students will be participating in a discussion in this lesson using guided questions to assess what they are learning. At the end of the class period, students will be given exit slips to assess their understanding of the learning segment thus far. |
| **Differentiation/Extension:** how will you differentiate instruction to accommodate individual students’ anticipated learningdifficulties, advanced skills, language learners, and culture? |
| The student on the 504 plan for anxiety shouldn’t need much differentiation for this lesson according to their 504 plan. There is a paraprofessional available in the room if needed for extra support. There is one student on an IEP for a learning disability that will be given preferential seating and a print-out of the guided questions to look at if needed. There is one student on an IEP for a learning disability that will be given a print-out of the guided questions if needed for extra support. There is one student on an IEP for autism that will be given a print-out of the guided questions if needed for extra support. There is one student on an IEP for a learning disorder that will be given preferential seating. There is a paraprofessional present in the room as well to give support to each of these students. |

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| **Lesson part** | **Activity Description** |
| Launch | * The class will begin with a viewing of a short video about the observations of climate change in an arctic village.
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| Lesson | * The teacher will lead a discussion using guided questions about what people in the arctic are observing and how their way of life is changing because of climate change.
* Teacher will show a demo demonstrating how sea levels are affected from melting land ice versus melting sea ice.
* Students will be asked how melting land and sea ice could affect the rest of the world.
* Teacher will show students NOVA animation of what our coastal cities could look like with sea level rise. What would happen to our island nations?
* Teacher will ask students how sea level rise could affect our own way of life.
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| Closure (student reflection, did they learn it?) | * Students will be given exit slips to complete that will assess their understanding of the learning segment thus far.
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**Guided Video Discussion Questions:**

1. What do the Inuit depend on to supplement their food, clothing, and way of life?
2. How has daily life changed for Rosemarie and her family since she was a little girl?
3. What changes in the environment have the Inuit people seen?
4. How would the changes in the environment impact the Inuit way of life?
5. What makes you think that these changes are more long-term and not just yearly weather fluctuations?
6. Can you think of any ways the melting ice in the arctic could affect other parts of the world?

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|  **Exit Slip Name:** **Period:****change-clipart-EARTH_CC_GW.jpg****Name one way that life has changed for people in the arctic and explain one way in which melting land or sea ice could affect other parts of the world.**

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