



Weather Alert! –Did We Do That?

**Submitted by: Donna Widner, 7th Grade
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Target Grade: 7th Grade Science

Time Required: two 90 minute class periods

Standards:

Science

- SPI 0707.7.7 Analyze and evaluate the impact of man’s use of Earth’s land, water, and atmospheric resources.
- SPI 0707 INQ Interpret and translate data in a graph, table or diagram.
- 7.ESS3: Engage in a scientific argument through graphing and translating data regarding human activity and climate.

Writing

- 7.W.1 Write arguments to support claims with clear reasons and relevant evidence.
- 6-8. WHST.9 Draw evidence from informational to support analysis, reflection and research.

Speaking and Listening

- 7. SL 1a Come to discussions prepared, having read or researched material under study, explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.
- 7. SL 3 Delineate a speaker’s argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.

Lesson Objectives:

The learner will:

- analyze information and data from information texts regarding the link from climate change to severe weather events
- apply knowledge and skills of argumentative essay writing to write about a science topic.

Central Focus:

Students have previously studied the human impact on the environment in terms of ozone depletion, acid rain, global warming, the greenhouse effect, and climate change. They have studied the role man has played in these environmental concerns through the use of fossil fuels, deforestation, use of chlorofluorocarbons, and different types of



pollution. Students have been writing argumentative essays in language arts class. Students have been interpreting data from graphs, tables and diagrams in math and science.

Materials:

- Computer with internet access for each student
- [Power Point ---Weather Alert](#)
- [Argumentative Essay Rubric](#)
- [Middle School Public Debate Format](#)----modify to fit the needs of your class

Instruction

Introduction (15 minutes)

Pose the following question to students---"If you could control the weather, what kind of weather would you choose and why?" TURN AND TALK TO YOUR PARTNER

Show the first eight slides of the Weather Alert Power Point without discussion. Pause at slide 8 and allow students to discuss the question posed: "What if some of the activities humans have manipulated have already had an effect on the weather?" "Can you think of some examples?"

Reading activity (45 minutes)

Teacher can assign readings to partners or allow students to explore independently. Classrooms with inclusions students may want to reduce the number of pieces of informational text. Students will read the information text from the following links:

- ReadWorks.org Climate- Global Warming, answer questions
 - What are Climate and Climate Change?
- New York Times
 - https://www.nytimes.com/2017/08/07/climate/climate-change-dramatic-warming-trump.html?_r=1
- National Geographic
 - <https://video.nationalgeographic.com/video/101-videos/hurricanes-101>
- National Climate Assessment
 - <http://nca2014.globalchange.gov/highlights/report-findings/extreme-weather>
- Union of Concerned Scientists
 - http://www.ucsusa.org/global_warming/science_and_impacts/impacts/global-warming-rain-snow-tornadoes.html#.WfZqfIFSzrc



Weather Data Activity (15-20 minutes)

- Using the link below, discuss and analyze the graphs and illustrations of weather data represented. As a whole class, use white board to click on links to weather related graphs and tables and discuss. Make sure students understand how to correctly interpret data.
- National Climate Assessment
 - <http://nca2014.globalchange.gov/highlights/report-findings/extreme-weather>

Argumentation (45 to 60 minutes)

Students will practice writing skills learned in language arts class to write about a science topic. Students will choose one of two “sides” of the argument:

Side 1: Climate change due to human activity does have an impact on recent severe weather events.

Side 2: Climate change due to human activity does not have an impact on recent severe weather events.

Students will write an argumentative essay with the understanding that they will have to support their “side” with evidence from the informational texts. Provide students with the essay rubric and inform them that their focus should be on Development and Focus & Organization. Challenge students to conclude their essay with a statement that includes that importance of this argument for current 7th grade students.

Debate (30 minutes)

Explain the rules of debate and allow students to choose sides and debate the topic, “Does climate change due to human activity have an impact on recent severe weather events?” with the understanding that students will have to support claims with evidence from the informational text. Score essays using the rubric with attention on Development and Focus & Organization.

Closure (10 minutes)

Revisit the lesson’s objectives and have students evaluate how well they feel they mastered the objectives.



Assessment

1. Pre-assessment of introduction questioning to determine the level of scaffolding needed throughout the lesson as well as the level of motivation of the students
2. Formative assessment of weather data analysis to see if representative groups of students can interpret weather related data.
3. Summative assessment written argumentation essay to determine the mastery of lesson objectives
4. Performance based assessment of debate