Unit Plan: Weather and Water (FOSS)

Grade: 5/6   **Subject:** Science   **Year:** Odd

Thematic Concept: Change	**Universal EQ:** Why does change have positive and negative consequences?
Supporting Concept:	**Content-Based EQ:** How might change

Generalizations: Humans cause changes to the environment; the weather causes humans to make adjustments and changes; weather changes based on many factors; human behaviors are effect or change based on the weather

Standard(s): (NGSS) MS-ESS1-1; MS-ESS2-4/6/6; MS-ESS3-2/3/4/5; MS-PS1-4; MS-PS3-4

Weather and Climate; Human Impact

Unit Outcomes: The emphasis of this unit is on the use of models and evidence to construct explanations for weather phenomena and climate based on earth and physical science properties.

Unit Description: This course focuses on Earth's atmosphere, weather, and water. Students will also gain knowledge about the importance of water on Earth.

Conceptual Knowledge Students will **understand:**	*Procedural Knowledge (21st Century Skills)* Students will be **able to do:**	*Factual Knowledge* Students will **know:**
- Why patterns of weather occur. - The causes & effects of weather on humans and the Earth. - Why changes in scale, proportion or quantity affect a weather systems structure and performance. - Why system models are an effective tool in predicting change. - The effects of energy and matter on weather.	- Define problems related to humans and weather. - Form & ask good questions related to studies of weather. - Develop & use models to investigate studies of weather. - Plan & carry out investigations about weather. - Take notes on investigation. - Collect & analyze data. - Use mathematics and conceptual thinking when interpreting weather data	- Vocabulary related to weather & water - Safety rules for science - The process for investigation - How to collect, record & chart data

	● Construct explanations and design solutions to weather related issues. ● Engage in discussions using evidence. ● Obtain, evaluate and communicate information.	
Conceptual Formative Assessments: ● Foss Benchmark Assessments	**Procedural Formative Assessments:** ● Foss Benchmark Assessments	**Factual Formative Assessments:** ● Foss Embedded Assessments
Conceptual Summative Assessments: ● Students will create an investigation to provide answers to "How has the environment changed based on human interactions?"	**Procedural Summative Assessments:** ● Students will document the investigation recording, analyzing, and interpreting data.	**Factual Summative Assessments:** ● Test on unit vocabulary ● Test on safety rules ● Test on scientific method
Affective Self-Regulatory Strategies: ● Building confidence through collaboration	**Behavioral Self-Regulatory Strategies:** ● Science safety procedures ● Scientific methods	**Cognitive Self-Regulatory Strategies:** ● Reflection on daily practice
Resources/Materials: ● Foss kit		

- Websites:
    - http://www.weather.com/science/space/news/top-space-feats-2014
    - http://scied.ucar.edu/activity/weather-and-climate-data-exploration
    - http://www.nasa.gov/audience/foreducators/postsecondary/features/F_Planet_Seasons.html