Science Planning

**Unit 3: Earth’s Weather Patterns and Climate (8-9 weeks)**

**Week 9 Big Idea: Earth’s atmosphere and unequal heating keeps temperatures stable enough to sustain life**

Week 9 – 3/2 – 3/6

3/3 - YWBAT develop a model and construct an explanation

Success is: correct explanations for relationships/trends found should include the trends that cause climates, such as elevation, continental vs. and wind patterns. Also, students should recognize the linear patterns that align latitude and climates.

Phenomenon: the United Kingdom has a milder climate than other areas at the same latitude

* Show color map temperature map
  + What other anomalies do you see?
    - The UK is warmer than other places at that latitude
* Answer questions one and two on the lab as a class
* Display map of global prevailing winds
  + Students study map in order to describe the atmospheric circulation patterns near the UK
    - Winds are coming from the southwest and are headed northeast; thy are the westerlies
  + Students look at map of atmospheric convection cells in order to determine impact
    - Students should notice/recall that there is a band of low pressure at 60 degrees N
* Display map of oceanic surface currents and maps of the gulf stream
  + Students should notice that the north Atlantic current is an extension of the gulf stream that originates in the Gulf of Mexico, brining warm water toward Europe, providing it with a mild climate
* Students read about the characteristics of an oceanic climate to discover that mid-latitude coastal regions all over the globe have mild weather like that of the UK
* Students independently answer the question: what causes the oceanic climate in the United Kingdom?
* Level 4/bonus: display topographical map and map of annual average rainfall and students answer question 7.

3/4 - YWBAT develop a model and construct an explanation

Success is: use models/explanations to show how the natural greenhouse effect allows life to exist on earth

Success is: use models/explanations to show how unequal heating of the Earth’s systems causes patterns of atmospheric and oceanic circulation which contribute to regional climates

* Jeopardy review for assessment

3/6 - YWBAT develop a model and construct an explanation

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* Assessment