

Activity: Pre Planning Questions

8th Grade Earth Science: Climate Change

A. What standards need to be addressed?

- a. 1.1 Abilities to do Scientific Inquiry
 - 8.1.1.g Evaluate predictions, draw logical inferences based on observed patterns/relationships, and account for non-relevant information
- b. 1.2 Nature of Science:
 - 8.1.2.a Recognize science as an ongoing process and the scientific community accepts and uses explanations until they encounter new experimental evidence not matching existing explanations
 - 8.1.2.b Describe how scientific discoveries influence and change society
- c. 4.3 Energy in Earth's Systems:
 - 8.4.3 Students will investigate and describe energy in Earth's systems:
 - 8.4.3.b Identify factors that influence daily and seasonal changes on Earth (tilt of the Earth, humidity, air pressure, air masses);
 - 8.4.3.c Describe atmospheric movements that influence weather and climate (air masses, jet stream)

B. What technology resources are available?

- Our 8th grade class is not currently 1:1, but we do have a computer cart that is accessible on a daily basis. They would have access to the internet, as well various software found on the school's laptops. Students would also have access to iPads, though not for each student. iPads would provide video capabilities and camera access. The iPads would also link to their Google Drive accounts allowing for more seamless collaboration. Both of these resources would only be available during school hours, not to be checked out overnight. Several students do not have access to the internet or iPads outside of school.

C. How long will preparation of instructional resources take?

- I would anticipate needing at least two weeks in order to prepare the needed resources. Several webquests would need to be organized and prepped to find

background information concerning natural climate change and evidence for or against the acceleration of the process. I would also anticipate the need to plan for mini-lessons to give instruction on how to use multimedia resources. I would like videos to be created, but know that my students aren't aware of how to put several components into video format. I would need to prepare a video myself to model to my students.

D. What other resources are available for the planned project?

- We have a phenomenal zoo within our state and I would like to connect with scientist at the zoo to discuss what they have found in animal studies in terms of climate change. I would also like to video-message climatologists to allow my students the opportunity to interview a researcher who has seen and not just looked up evidence. We are a rural community, so we would have access to local farmers to discuss what they've noticed in weather patterns in relation to agriculture. I may be able to arrange a field trip to one of the universities to allow for interviews to take place with other researchers in the field.

E. What is a realistic planning time frame for PBL?

- With the preparation of resources in mind, I anticipate needing around 5 weeks to prepare the entire PBL project for climate change. It would take some researching and coordinating to set up video-conferences with scientists. I would also need time to contact the zoo and university to see what would be available for resources. Then, I would need to arrange the actual field trip day with administration and request transportation. I also need to anticipate time to prepare the anchor, facilitate a brainstorming session for students to develop their driving question, and have resources found and prepared for their research and presentation.