

A History of the Sky – Observing Climate

Overview: What would it look like if you could stare at the same point in the sky for an entire year? Would you begin to notice patterns? Which direction do the clouds usually move? Is it more often cloudy or sunny?

“A History of the Sky” was a Kickstarter Project created by Ken Murphy. A camera was set up on the roof of the Exploratorium Museum in San Francisco, Ca (looking North), and took an image every 10 seconds for one year. He compiled 360 movies into one screen, where an entire year can be viewed in about 4 minutes.

<http://vimeo.com/8749476> or http://youtu.be/PNln_me-Xjl

Objective: Students will watch a video and make observations on the climatology of the sky for one year in San Francisco, Ca.

Student Outcomes: Students will watch a video showing a compilation of daily weather scenes over a one year period and place them in context of the climate by noticing changes in visibility and sky color due to clouds, wind direction and time of season.

Science Standards:

National Science Education Standards

- Earth and Space Science: D - Changes in the Earth and Sky.

Next Generation Science Standards

- ESS2.C: The Roles of Water in Earth’s Surface Processes.
- ESS2.D: Weather and Climate: What regulates weather and climate?
- ETS2.A: Interdependence of Science, Engineering, and Technology.

Procedure: The class will watch the video two or three times. First, watch the video using the link above before showing the students the questions. Ask them to take notes of some of the specific things they are observing. Next, hand out the questions and watch the video again with the questions in mind. After answering the questions, you may want to replay the video a third time to see if there is anything more to observe.

After watching the video, read the questions below. You may wish to view the video again before answering:

- 1.) Which direction do the clouds usually move?
- 2.) Can you find any days where the clouds move in a different direction? Explain what you see.
- 3.) Generally, does it appear to be sunnier or cloudier throughout the year? Does this change between AM and PM?
- 4.) Why can you see the images appear at the top and bottom earlier or later than the ones in the middle? Can you guess the general time of year for the images at the top and bottom vs. the middle?
- 5.) Compare a clear day from an image in the middle vs. a clear day at the top or bottom. Can you see the differences in the color of the sky between different seasons? Why?
- 6.) Write down something interesting that you notice from the video.