Heat and Color

Problem: Do different colors heat up to the same temperature, or do some colors trap more heat than others?

Hypothesis (What is your guess?):

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_____

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Materials

Activity 1: Experiment	Activity 2: What is albedo?	Activity 3: Under the ice
Colored poster paper	Map of earth	Blank paper
Thermometer		Crayons
Timer		

Instructions for Activity 1:

1. Choose 4 extra paint colors and enter them in the table below:

	Paint color	Temperature (°F)	
		Measurement #1	Measurement #2
Color 1	BLACK		
Color 2	WHITE		
Color 3			
Color 4			
Color 5			
Color 6			

2. Place the tip of the thermometer on the paper, count slowly to 30, and then record the temperature in the table above.
3. Repeat for each color until the table is full.

Instructions for Activity 2:

Albedo means “reflectiveness”. Something with high albedo bounces back a lot of heat from the sun. We will give you a map that shows places on Earth that are light-colored as white and dark-colored as blue. Think about the following questions with your group:

1. Why are the north and south poles lighter than the tropics?

2. Why are the oceans darker than the continents?

3. If snow and ice were black, how would this map be different?

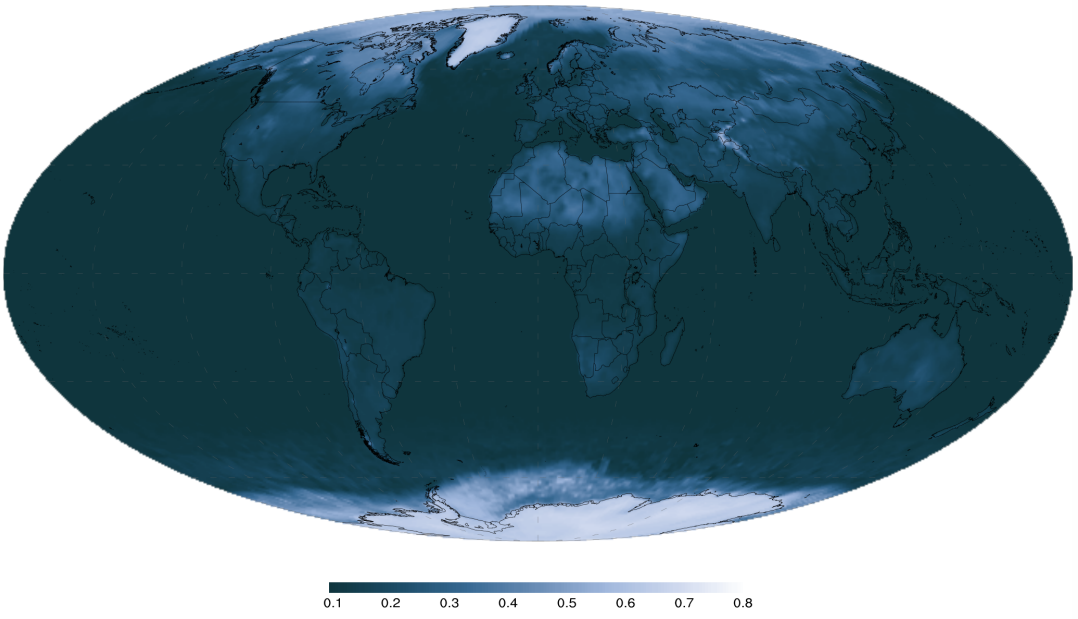
4. Is snow and ice melting at the poles a good thing or a bad thing for Earth? Why?

5. What is the albedo of a mirror – closer to 0 or 1?

6. Which colors are better to wear on a hot, sunny day?

7. Which colors will keep you warm on a clear and sunny, but cold day?

Clear Sky Albedo



Instructions for Activity 3:

Imagine that the blank paper that you have is a picture of land that is covered in ice. Imagine that the ice melts – draw what you think is underneath. Use your imagination!