The Tale of Three Colors

Work Sheet 1

(You can either use Work Sheet 1 or Work Sheet 2 for this activity.)

Focus Question: What difference does color make in absorbing heat?

Predict which color will be the hottest after 10 minutes under a hot lamp.

Hottest color on the 3 flat colored surfaces _____

Hottest color in the 3 colored envelopes _____

Hottest color in the 3-chambered box _____

Colors on 3 Flat Colored Surfaces

Flat Surface	Starting Temperature	Temperature after 5 min.	Temperature after 10 min.
Silver			
Black			
White			

Colors in the 3 Colored Envelopes

Envelope	Starting Temperature	Temperature after 5 min.	Temperature after 10 min.
Silver			
Black			
White			

Colors in the 3-Chambered Box

Chamber	Starting Temperature	Temperature after 5 min.	Temperature after 10 min.
Silver			
Black			
White			

Write the actual results of the experiment.

Hottest color on the 3 flat colored surfaces _____

Hottest color in the 3 colored envelopes _____

Hottest color in the 3-chambered box _____

Discuss what happened and answer the following questions:

1. What type of heat transfer is occurring when the lamp shines on the colors?
2. Does the color of paper make a difference in the heat absorption?
3. Why was there a difference in whether the color was on a flat surface, inside an envelope, or in a box?
4. Give an example of how each result (3 examples) could be applied to real life experiences.