

Name: _____

Date: _____

Light Investigation



The lamp will be hot! Do not touch any portions of the lamp while conducting the investigation. Take care to not bump or loosen the apparatus holding the lamp in place.

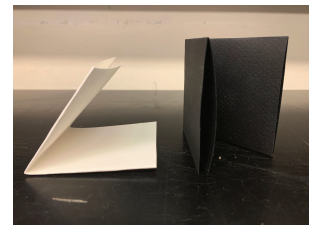
Directions: Read through the provided instructions for a proposed investigation design. Use the class anchor chart and this investigation handout to outline the important variables to consider, change, and control for our investigation.

Materials:

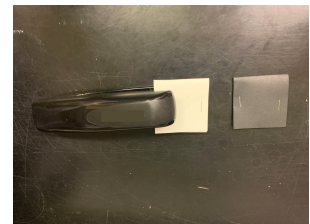
- thermometers
- scissors and ruler
- stapler
- white construction paper
- black construction paper
- timer
- heat lamps
- thick string or cord to hang up heat lamps
- safety glasses with side shields or safety goggles

Before beginning: Assign each student in your group and at your station one of the following roles: timer (at least 1) recorders (at least 2) material managers (at least 2) heat lamp manager construction paper manager(s)

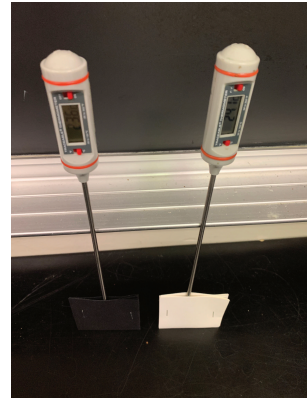
1. Cut one square from the white construction paper (5 inches by 5 inches).
2. Repeat step 1 with the black construction paper.
3. Fold each piece of construction paper in half 2 times to form 2 small squares.



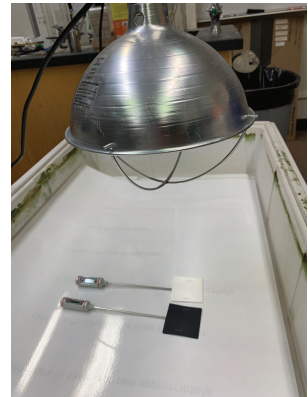
4. Staple the 2 sides of the construction paper squares that are next to the crease to form a pocket.



5. Place the bulb or metal end of each thermometer into the 2 pockets.



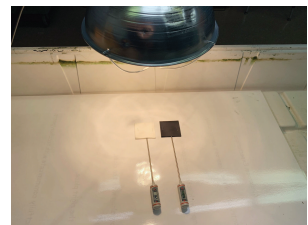
6. Place the pockets with the thermometers directly under the lamp so that both receive equal amounts of light. The lamp should be pointing straight down.



7. Take an initial temperature measurement for each pocket.



8. Turn on the heat lamp and record data for each pocket every 1 minute, for 10 minutes.



How do we make sure we prioritize our personal safety throughout this investigation?

Sketch the proposed investigation design system and show where energy flows through the system.

Independent variable:

Dependent variable:

Controlled variables (at least 2):

How do we make sure these variables are controlled in the investigation?

Data Table

Adapted from Gold, A. U. (2018, April 6). *Indoor Albedo Lab Report*. CIRES Education & Outreach. Retrieved July 27, 2022, from <https://cires.colorado.edu/outreach/resources/lesson/why-are-cities-and-other-regions-world-getting-hotter>