



Solar collector

Student name _____

Period _____ Date _____



After you have read the challenge, briefly write in your own words in the space below what you will do in this experiment.



Review the materials available to make your solar collector by opening the drawers. Design a solar collector, and record how you will build your collector by drawing in the space below under Design #1. Now vary your design and draw the modified design in the space below Design #2.

Design #1	Design #2



Hook up the temperature probe for your Design #1 and click the start arrow to begin collecting data. Let the probe calibrate for 20 seconds. At the end of the 20 second **Control** period, record the temperature in the data table below under Design #1.



Turn on the light. Collect temperature readings for five minutes. Record the highest temperature measured during this **Light Collection** period in the data table below under Design #1.



To test **Heat Retention**, turn off the light and record your measurements for five minutes. Record the temperature at the end of the Heat Retention period in the data table below under Design #1.

Activity	Temp ·C Design #1	Temp ·C Design #2
Temperature at the end of the 20 second Control period		
Highest temperature during the Light Collection period		
Temperature at the end of the Heat Retention period		



If you have time, repeat the experiment using a different design and compare your designs. If you don't have time, compare your design with other team's designs. Then answer the following questions in the space provided.

- Compared to other designs, how well did your collector convert light energy to heat energy?
- Compared to other designs, how well did your collector store the heat energy?