

Solar Oven Lab Report

Use directions found on the class webpage to construct your oven. During the lab you should take an initial temperature reading of outside temperature. Afterwards you should record temperature every 5 minutes. While taking temperature readings also include the percentage of cloud cover. Cloud cover can be important since the sun being temperately blocked can cause a dramatic drop in temperature. Make a table to record your data. Since you will be baking for 60 minutes you will need 13 slots. Also, keep in mind the lab and lab report is a test grade.

You will be graded on the following criteria:

Construction: 10 points

All directions were followed, cuts were made accurately, all areas of box were properly sealed and insulated.

Participation: 10 points

All members of the group participated in both construction and baking.

Safety: 20 points

All members followed all safety procedures when completing the lab.

Did not play with sharp objects, used all safety protocols when cutting, used caution when touching hot items, etc.

Lab Write-up: 50 points

Write-up includes title, group members' names (keep in mind all group members are responsible for turning in their own lab report), answers to questions, conclusion (one paragraph on your outcome and what you learned from the lab).

Questions:

- 1) Explain how the solar oven is an example of passive solar design?
- 2) What elements of your design would be similar to the elements in a passive solar heated house? Explain.
- 3) What factors could play a role in how well your oven works?
- 4) What are some key things you needed to keep in mind when building your solar oven to improve its efficiency?
- 5) On a scale of 1-10, 1 being not existent, rate your lab partners on the two following criteria:

Name _____
Name _____

Participation _____
Participation _____

Safety _____
Safety _____

- 6) Explain the contribution of each of your partners.