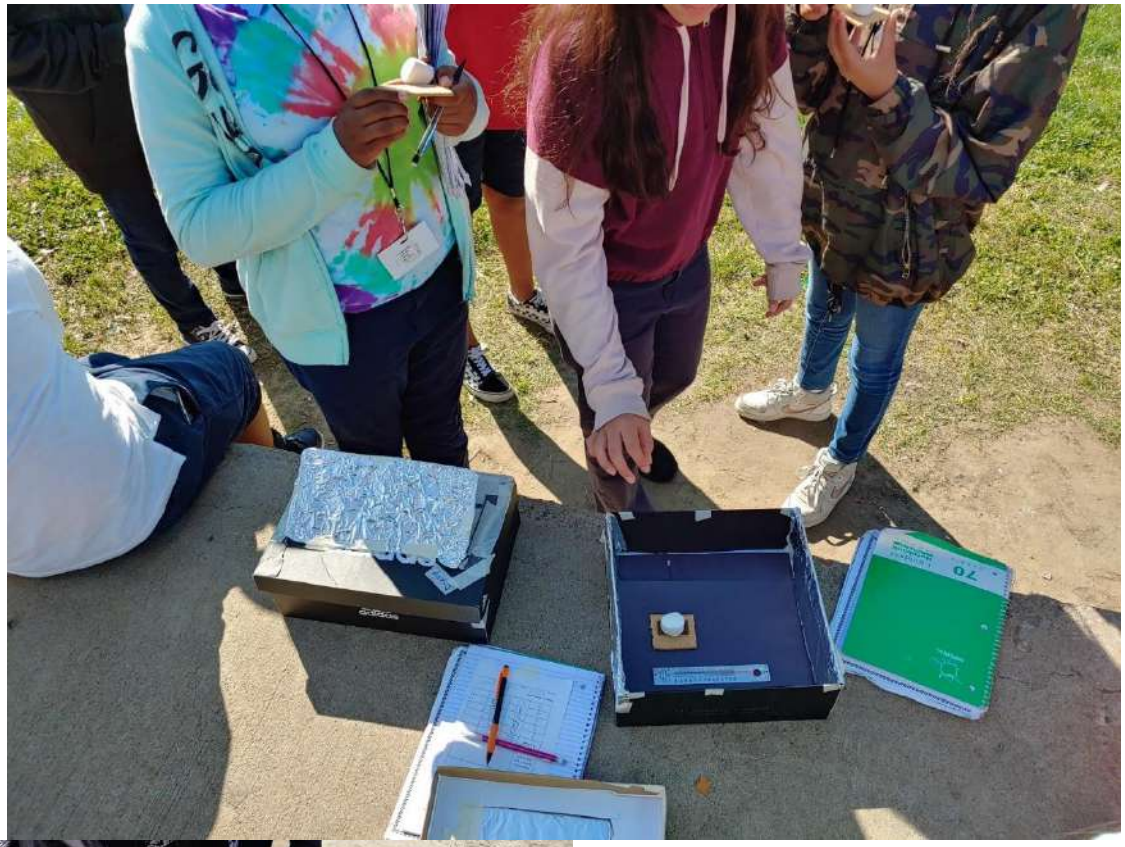
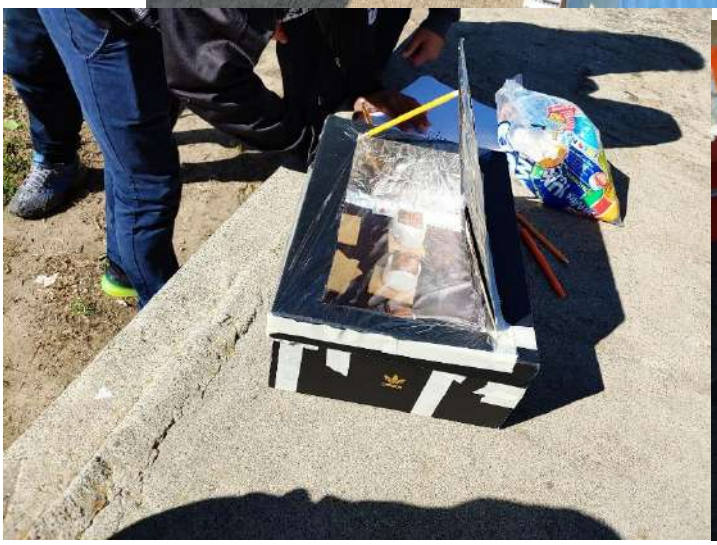
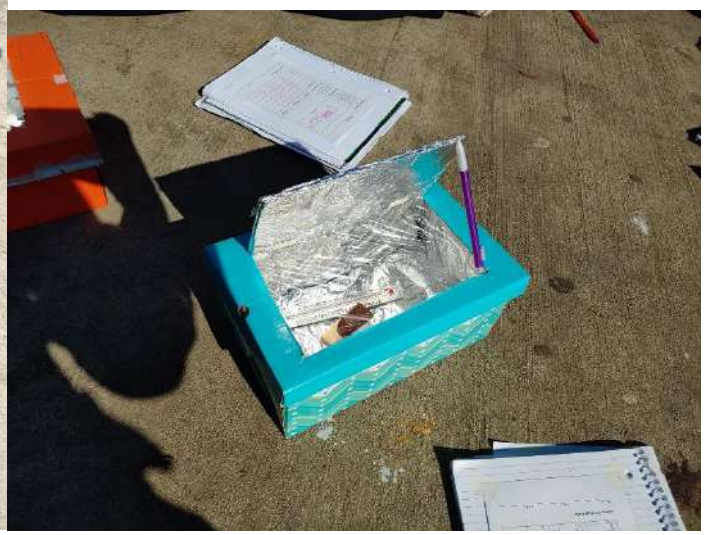
# 6th grade Science Packet #9

# The May Packet







| Name | | Period | |
|---|---|---|---|

| Day of the Week | Lesson Details |
|---|---|
| Monday<br><br>5/18 | • Thermal Energy Concept Review<br>Vocab<br>• Kinetic energy, Temperature, particle, mass, Thermal energy, Heat transfer, Conduction, convection, Radiation<br>I can Statement<br>• I can use my knowledge of energy transfer to create a Solar Oven.<br>Standard<br>• MS-PS3-4: plan an investigation to determine the relationship among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample |
| Tuesday<br><br>5/19 | • Solar Oven Video Notes (Click Here for the video playlist)<br>Vocab<br>• Kinetic energy, Temperature, particle, mass, Thermal energy, Heat transfer, Conduction, convection, Radiation<br>I can Statement<br>• I can use my knowledge of energy transfer to create a Solar Oven.<br>Standard<br>• MS-PS3-4: plan an investigation to determine the relationship among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample |
| Wednesday<br><br>5/20 | • Design a Solar Oven (Click here to watch my video designing a solar oven)<br>Vocab<br>• Kinetic energy, Temperature, particle, mass, Thermal energy, Heat transfer, Conduction, convection, Radiation<br>I can Statement<br>• I can use my knowledge of energy transfer to create a Solar Oven.<br>Standard<br>• MS-PS3-4: plan an investigation to determine the relationship among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample |
| Thursday<br><br>5/21 | • Build a Solar Oven<br>• If you have the materials, please build the solar oven. If you don't have the materials, just turn in a design for it.<br>Vocab<br>• Kinetic energy, Temperature, particle, mass, Thermal energy, Heat transfer, Conduction, convection, Radiation<br>I can Statement<br>• I can use my knowledge of energy transfer to create a Solar Oven.<br>Standard<br>• MS-PS3-4: plan an investigation to determine the relationship among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample |
| Friday<br><br>5/22 | • Test the Solar Oven<br>• If you have the materials, please build the solar oven. If you don't have the materials, just turn in a design for it.<br>Vocab<br>• Kinetic energy, Temperature, particle, mass, Thermal energy, Heat transfer, Conduction, convection, Radiation<br>I can Statement<br>• I can use my knowledge of energy transfer to create a Solar Oven.<br>Standard<br>• MS-PS3-4: plan an investigation to determine the relationship among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample |

# ***Thermal Energy Concept Review***

Define the following vocab words: (Use Vocab PowerPoint or last week's packet for help)

| Vocab Word | Definition |
|---|---|
| **Conduction** | |
| **Convection** | |
| **Radiation** | |
| **Thermal Energy** | |
| **Heat Transfer** | |

| Questions | Answers |
|---|---|
| **1. What has more thermal energy; a water bottle out in the hot sun, or a water bottle in the kitchen?** | |
| **2. How does heat transfer?** | The correct answer is ____<br>a. From hotter objects to colder objects<br>b. From hotter objects to even hotter objects<br>c. It doesn't matter heat just go wherever it wants<br>d. From colder objects to hotter objects |
| 3. 3. What **is the difference between conduction and convection?** | |
| **4. The heat that comes from the sun; what type of heat transfer is it?** | The correct answer is _____<br>a. Conduction<br>b. Convection<br>c. Radiation |
| 5. **What type of heat transfer happened in the butter boat lab?** | The correct answer is _____<br>a. Conduction<br>b. Convection<br>c. Radiation |
| 6. **What type of energy transfer happened in the conduction spoons lab?** | The correct answer is _____<br>a. Conduction<br>b. Convection<br>c. Radiation |
| 7. **How does radiation differ from conduction?** | |

# Solar Oven Video Notes

[Click here for the playlist of the solar oven videos]

Watch the videos and take four notes on some ideas that you want to incorporate into your solar oven design.

| Video Title | Notes |
|---|---|
| [The Sci Guys: Science at Home - SE3 - EP 14: Pizza Box Solar Oven S'mores]<br>  | 1.<br>2.<br>3.<br>4. |
| [HOW TO MAKE A SOLAR OVEN *EASY*]<br>  | 1.<br>2.<br>3.<br>4. |
| [Making S'mores in a SOLAR COOKER \| Full-Time Kid \| PBS Parents]<br>  | 1.<br>2.<br>3.<br>4. |
| [[DIY] HOW TO MAKE SIMPLE SOLAR COOKER very easily at home....]<br>  | 1.<br>2.<br>3.<br>4. |
| [Pizza in a shoebox]<br>  | 1.<br>2.<br>3.<br>4. |

[Miss Cruz' Example if you want to watch.]

# Design a Solar Oven

On this page design your solar oven. Be sure you make a list of material and either draw or explain your design. Click here to watch my video going over my design for the solar oven. (Video going over the directions and ideas.)

| List of materials<br>(I made extra; you don't need a set number of materials. Just make sure you have the ones you want to use listed. Decide if you want to try to make s'mores or weenies or both) | Solar Oven Design<br>(Either draw or write about your solar oven design. If you do draw it, make sure you label where your materials are on your design.) |
|---|---|
| • S'mores or weenies or both?<br>• <br>• <br>• <br>• <br>• <br>• <br>• <br>• <br>• <br>• <br>• <br>• | |

## Steps to make your solar oven

(You need to have a minimum of 5 steps. You can always have more than 5 if you want. The first step can be to gather materials. The next step could be to cut a hole at the top of the box)

1. 
2. 
3. 
4. 
5. 
6. 
7. 
8. 
9. 
10. 

# Building the Solar Oven

- If you can build the solar oven, insert a picture or pictures here of your solar oven after you have built it, or send me a picture of it.
- If you can't build the solar oven, it's okay just make sure you do turn in the concept review, and the design. Also let me know that you could not build the solar oven when you turn them in.

| Picture or pictures of your solar oven |
| --- |
| |

# Testing the Solar Oven

- If you can build the solar oven, insert a picture or pictures here of your solar oven with your s'mores or weenies. Show me the end results. Or email me your results.
- If you can't build the solar oven, it's okay just make sure you do turn in the concept review, and the design. Also let me know that you could not build the solar oven when you turn them in.

| Picture or pictures of your solar oven with the s'mores or weenies |
| --- |
| |