

Name _____ Date _____ Class _____

Pizza Box Solar Oven: Student Worksheet

New Question If I make the following modifications to my pizza-box solar oven, can I get my oven to be hotter than I did before? Also, will my oven be hot enough to cook food?

Modifications Write down at least 3 ways that you will modify your solar oven to prevent heat loss by *conduction or convection*, or how you will increase the *solar radiation* that enters the solar oven.

1. _____

2. _____

3. _____

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Hypothesis _____

Procedure

1. Repeat the same procedure as before, except that this time, food will be cooked instead of having a cup of water. The temperature of the food will not be measured because we will be using a science thermometer.

Experiment and Data Collection

Temperature Outside: _____ (Remember to always use degrees Celsius.)

Initial Water Temperature: _____

Final Water Temperature: _____

Time (minutes)	Temperature (°C)
0 minutes	
5 minutes	
10 minutes	
15 minutes	
20 minutes	
25 minutes	

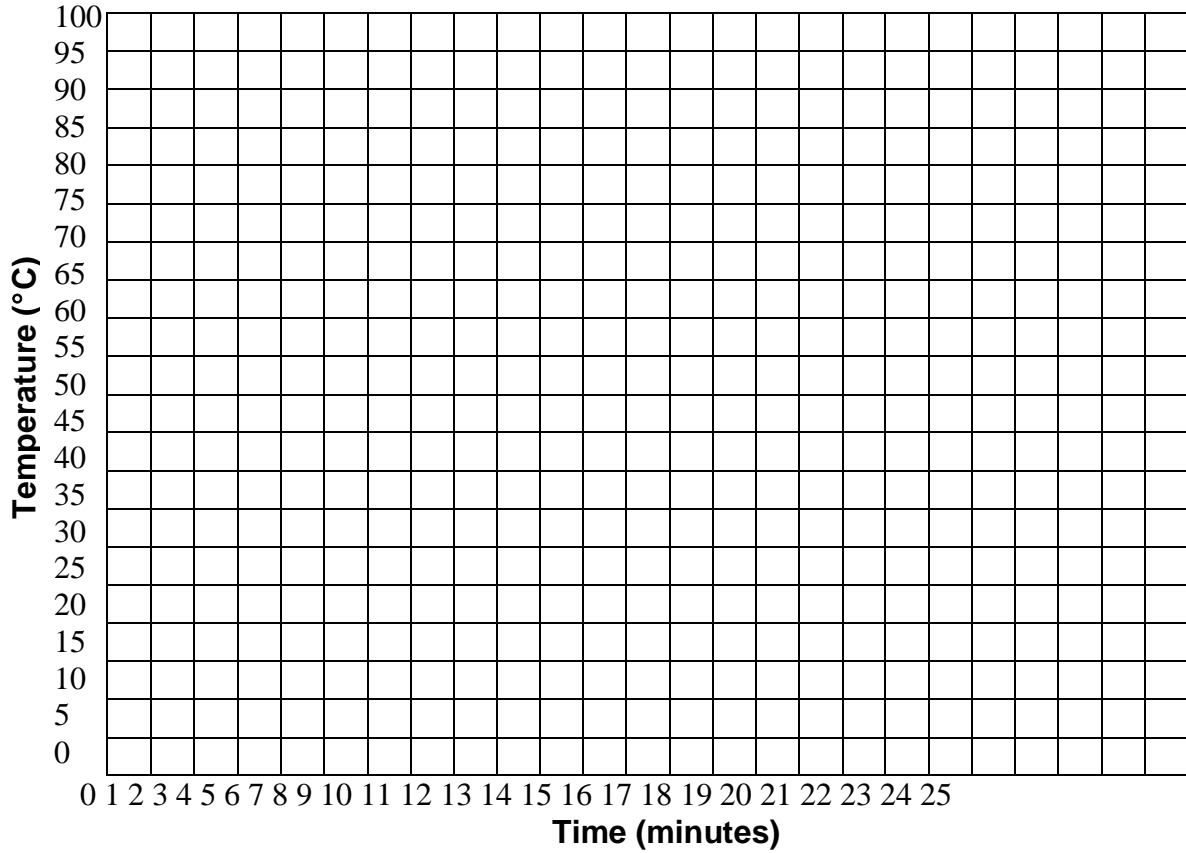
Final Oven Temperature: _____

Analysis

2. What is the final oven temperature in degrees Fahrenheit? _____

Use this equation: °F = (9/5 × °C) + 32

3. Make a line graph that shows how the temperature changed over time.



Conclusion

4. Specify whether or not your solar oven was hot enough to cook your food and use your data to support your conclusion.

5. State whether or not your modifications helped to make your oven hotter.

6. Do you think you were able to get more solar radiation into your oven? Explain.

Do you think you allowed for less heat loss by conduction or convection? Explain.

7. Do you think that the weather may have affected your results? How do you think the weather changed them?

8. If you were to do another experimental test to see if you could improve your oven again, what might you try to test?
