Greenhouse Effect Experiment

Think:
Imagine that you are a scientist charged with understanding whether the carbon dioxide in the atmosphere can cause global temperatures to rise. You have devised a model of the earth to test your hypothesis. On the second page of this paper, do the following:
1. Write your hypothesis.
2. Describe your experimental setup.
3. Define your dependent and independent variables. Remember the helpful phrase DRY MIX:
   - Dependent variable
   - Response
   - Y-axis
   - Manipulate
   - Independent variable
   - X-axis

4. Do the experiment!!!

Making a Mini-Earth:
1. Place two fish tanks side by side about 1-2 feet apart.
2. Use the wax crayon to label one tank “A” and one tank “B”
3. Measure out an equal amount of soil or rocks and spread evenly in each tank. A thin layer is enough.
4. Attach the lights with the clamps to the short side of the tanks. Angle the lights so they shine down on the soil. Plug in the lights.
5. Tape the thermometers to the inside of each tank approximately 2-3 cm (about 1 inch) above the bottom.
6. Place one glass dish in the center of each tank.

The Experiment:
1. Start with tanks cooled to room temperature.
2. PUT ON YOUR SAFETY GOGGLES!
3. Measure 300 ml vinegar and pour it in the dish in the tank that will be the control tank.
4. Measure 60 ml baking soda and place in the dish in the other tank that does not yet have the vinegar.
5. Measure 300 ml more vinegar (after measuring it is easier to put the vinegar in a plastic cup for easy pouring)
6. Record the temperature of the tanks (write it under “0 min”), continue measuring the temperature of each tank every minute for 6 minutes
7. Turn on the lights and immediately SLOWLY add the vinegar to the baking soda in the dish inside the tank. ADD THE LIQUID SLOWLY AND IN A SLOW CONTINUOUS STREAM SO THAT IT DOESN’T FIZZ OUT OF CONTROL! Try not to disturb the air in the tank.
8. When all the liquid has been added, continue recording the temperature of each tank every minute until the 6 minutes is complete.
What is your hypothesis?  

What is your independent variable (IV):

Describe the conditions of Tank A:

Describe the conditions of Tank B:

What is your dependent variable (DV):

Plot your data in the following table. Plot Tank A and Tank B in different colors.

Graph Title:___________________________________________________________

<table>
<thead>
<tr>
<th>Time</th>
<th>Tank A Temp</th>
<th>Tank B Temp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 min</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 min</td>
<td></td>
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<td>2 min</td>
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<td>3 min</td>
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<td>4 min</td>
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<tr>
<td>5 min</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 min</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Does your data support your hypothesis? Summarize your findings.