Name: _____ Date: _____ Period: _____

Temperature and Evaporation

Question: How is the evaporation rate affected by temperature?

Materials:
- Pan with a screen lid
- 100 ml graduated cylinder
- Water bottle
- Fine-point permanent marker
- Colored pencils

My Hypothesis: _____
_____
_____

Procedures:
1) Make a hypothesis about what you believe you will observe about the relationship between evaporation rate and average temperature.

2) Use a fine-point permanent marker to make a line 5 centimeters from the bottom of the pan; this will be used to indicate the fill depth of the water in the pan.

3) Place the lid on the pan, and place the pan in a sunny area in the schoolyard.

4) Slowly add water to the pan until the water level reaches the 5 cm mark on the pan. View the pan from the same position each time water is added.

5) After 48 hours, use the 100 ml graduated cylinder to add water to the pan until it reaches the original mark. Use a plastic water bottle to refill the graduated cylinder when more than 100 ml are needed. Record the date and the volume of water added on the My Observations of Temperature and Evaporation Data Sheet.

6) Find the high temperatures for the days of the experiment, either on the internet or in the local paper. Average the high temperatures and record the average on the My Observations of Temperature and Evaporation Data Sheet.

7) If it rains during the experiment, stop the experiment and restart the next day.

8) On the My Observations of Temperature and Evaporation Data Sheet, calculate the pan's surface area in square centimeters (length x width).

9) Divide the total evaporation by the surface area of the pan. This will give you the evaporation

per unit area of the pan and allow comparisons with others that have different-sized pans.

10) Gather results from other groups, and record these data on the Class Average Data Table. Calculate the class average, and record this average on the Class Temperature and Evaporation Data Sheet.

11) Graph the class averages each month to help develop conclusions.

Results: See your graph.

Conclusion Questions:

- How does temperature affect the evaporation rate?
- How does this experiment relate to desert conditions?
- Are there other possible explanations for the different evaporation rates on different days?

My Observations of Temperature & Evaporation Data Sheet

Date experiment started:_____ Date experiment ended: _____
Location of experiment:_____
Time:_____ My group number: _____

Volume of water added (in ml): _____

High temperature on day experiment started (in ° C): _____
High temperature on second day of experiment (in ° C): _____
Average High Temperature (in ° C): _____

Surface Area of Pan (length in cm x width in cm) _____(1 inch =2.54 cm)

Evaporation per unit of surface area (water added divided by surface area)_____ml/cm^2

Class Average Data Table

Group	Volume of water added (ml)	Evaporation /surface area(ml/cm^2)	Average temperature (°C)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
Class Average			

Class Temperature & Evaporation Data Sheet		
Time: _____ Location of experiment: _____		
Dates	Evaporation / surface area (ml/cm^2)	Average High Temperature (°C)

Temperature and Evaporation

