Time: 10 Minutes

Materials:

- Weather Sheet
- Pencil
- Clipboard

Instructions:

1. First, put the date you are keeping track of the weather. The month, day, and year.

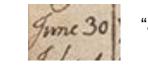
2. Take the temperature in the morning and then later that night. Make sure you do it the same times everyday while you are keeping your weather journal.

3. Next look at your wind vane and see which direction the arrow is pointing.

4. Note the weather: is it rainy, a lot of snow, windy, sunny?

5. Is there anything else you've noticed? Birds chirping that you haven't noticed before or certain flowers that are new? Write that down in "Other Observations."

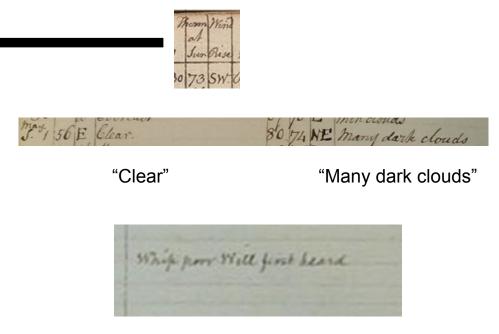
- Outdoor Thermometer
- Weather Vane







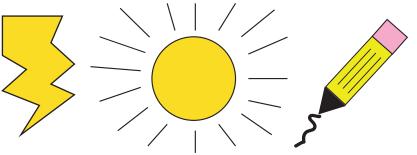
Madison noted the temperature at sunrise and 4 o'clock every day.



"Whip poor Will first heard."

Extra Information:

 The images above are from one of James Madison's weather journals. Besides being our fourth President, James Madison also kept a weather journal! It wasn't just Madison writing in this journal, however. Enslaved people kept track when he was away. Think about all the scientific experiments our founding fathers took part in and the enslaved people who never received credit for their part in that work. Many farmers kept track of the weather hoping to see patterns that could help them with their crops. **Instructions:** Use this weather journal to mark down your observations each day. List the wind direction, temperature (once in the morning and once at night), the weather (clear, cloudy, rain, snow), and other observations for that day. Write or draw your observations below.



Monday:	Tuesday:	Wednesday:	Thursday:	Friday:	Saturday:	Sunday:
Temp AM:	Temp AM:					
Temp PM:	Temp PM:					
Wind Direction	<u>Wind Direction</u>	Wind Direction				
<u>Weather</u>	<u>Weather</u>	<u>Weather</u>	<u>Weather</u>	<u>Weather</u>	<u>Weather</u>	<u>Weather</u>
Other Observations	Other Observations					

What's the Temperature?

•In Colonial America, thermometers were considered rare. The only way people could get thermometers was to buy them from Europe, and then ship them to the colonies. For a regular farmer, this would have been extremely expensive.

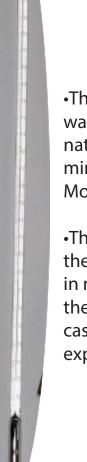
•Usually people without thermometers would record the temperature by observation (what they saw and felt). They would record temperature using these possible words: "warm," "very hot," "dry," "much snow," etc.

•Founding fathers like George Washington, Thomas Jefferson, and James Madison lived on plantations and worried about how the weather affected their crops. They would note the temperature daily in order to find possible patterns. However, who noted the temperature when they were not around? Enslaved people were also made to keep track of the weather when they were away.

•Enslaved people took part in the data collection of weather but their contributions to science is hidden behind the famous founding fathers. Think about the effort that went into collecting scientific data and who gets credit and who goes uncredited.

•Today you can use an outdoor thermometer, check your weather app, or use relative temperature observations to keep track of the temperature. To keep good measurements make sure you measure the same way throughout your weather journal.

•If you use a thermometer make sure it is in the shade and wait a few minutes to get an accurate temperature.



•This thermometer was owned by natural scientist and mine owner Charles Moore Wheatley.

•Thermometers like these could be used in mines to check their temperature in case of possible explosions.

American Philosophical Society. Gift of Mrs. Alfred Bendiner, 1969.

Some information from: Thompson, K (2014). *Jefferson's Shadow: The Story of His Science*. New Haven, CN, Yale University Press.