

General Science Notebook Rubric

	3 Exceeds Expectations	2 Meets Expectations	1 Needs Improvement	0 Not Demonstrated
Written Communication & Reasoning from Science Notebook Prompts*	Responses include key parts of the question. Student thinking and reasoning is explained. Connections are made beyond what is asked.	Responses include key parts of the question for clarity. Reasoning is correct.	Responses are inaccurate or incomplete.	Not enough writing was done to communicate understanding of the prompts.
Data Analysis	Data tables complete and legible with units included. Explanation of data integrates information from booklet.	Data tables complete and legible with units included.	Data or explanation is incomplete.	Not enough data to draw conclusions.
Scientific Illustrations	Drawings are complete and labeled. Scientific observations demonstrated by level of detail and color.	Drawings are complete and labeled.	Drawings incomplete with lack of attention to detail.	Drawings difficult to decipher.
Teamwork	Collaborates with partner sharing materials and tasks. Communicates thinking throughout exploration.	Collaborates with partner sharing materials and tasks.	Controls equipment or investigation without attempts to include partner.	Withdraws from partner and or investigative process.

*See page 2 for details on kit Science Notebook prompts and tasks.

Vital Ice Science Notebook Prompts

- Page 4: Think of a small thing that you do everyday that might cause a big problem for your community later on. Write a few sentences.
- Page 6: What did you notice when you added a single drop of water to the polymer ice? Draw two pictures: one before you added the water, and the second picture of what you saw happen.
- Page 6: This is not real ice, but in what way is it like real ice?
- Page 8: Draw and label a diagram of your permafrost model. Be sure to indicate which side of the model has the sand/ice mixture. What do you predict will happen when the permafrost thaws?
- Page 12: How many years are represented in your ice core?
- Page 14: If there are melt events at nearly 4,000 meters above sea level during certain years, what is also happening to the depth of the permafrost at lower elevations during these years?
- Page 18: Copy the following table into your science notebook to record the readings you get on the volt meter for each of the scanner's positions.
- Page 19: If your core has big peaks in sulfate that came from volcanic eruptions, what other pieces of information do you need to figure out which volcano the sulfate came from?
- Page 22: What did you notice about the number of melt layers per year over the length of the entire core? How do the number of melt layers compare before and after 1950? Do the melt layer data make sense when compared to the global average temperature?
- Page 23: Draw and label an "after" diagram showing what happened to your model when the permafrost thawed. In the real world, how does the changing of ice to water cause the results you observed in your model?
- Page 24: What happens to the road in your permafrost model when you "refreeze" the polymer ice?
- Page 24: How do the melt events you counted between 1950 and 2012 in the glacial ice core relate to people? What small things can you do to help protect your community from this warming trend?