The
big
mess

The Big Melt

Question

When friction is applied, what material causes ice to melt the fastest?

Hypotheses

Bare hands will cause ice to melt the fastest.
Rubber will cause ice to melt the fastest.
Microfiber cloth will cause ice to melt the fastest.
Cotton will cause ice to melt the fastest.
Paper towels will cause ice to melt the fastest.
Plastic will cause ice to melt the fastest.
Sponge material will cause ice to melt the fastest.

Background Research

Our class studied the states of matter and learned that heat causes solids to melt into a liquid. Students also learned that friction creates heat. This science question came from the students' curiosity about how different materials and friction might affect the melting process.

Data Table

Material	Time to melt
bare skin	3:20
Paper towels	1:09:49
rubber gloves	16:05
cloth	1:06:32
Plastic bag	1:11:51
Sponge	28:56
microfiber cloth	4:01

Materials

Ice cubes
Rubber gloves
Microfiber cloth
Cotton
Paper towel
Plastic
sponge

Procedure

To test this question, we had students use different materials - bare hands, rubber, microfiber, cotton, paper towel, plastic, and sponge - to apply friction to an ice cube. We created a table noting all materials used. We then set a timer and noted the time each ice cube completely melted next to the material.

Variables

The variables were the different materials used. An unintended variable is the amount of friction applied to the ice cubes from the different students.

The constants were the size of the ice cube and the start time of the experiment.

Conclusion

Based on our data, the ice cube that melted the fastest was when friction was applied with bare hands. A few students expressed surprise at this. They explained that they themselves feel warmer under a blanket and they expected the cotton material to be like a blanket for the ice cube, heating it up faster.

Further Research

This experiment caused a spark in conversation around food packaging, with one student noting that it took the longest for friction with plastic to cause melting. This student then asked, "Is that why popsicles always come wrapped in plastic?"

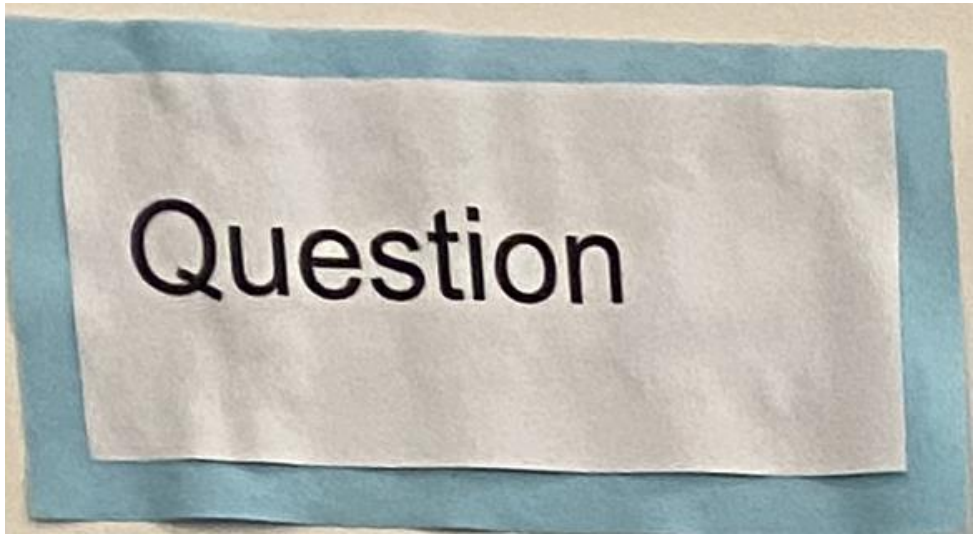
Resources

Larsen, Kirsten. Using the Scientific Method. www.getepic.com January 2026.

Mattern, Joanne. Focus on Friction. www.getepic.com January 2026.

Previous lessons on states of matter.

Previous lessons on scientific method.



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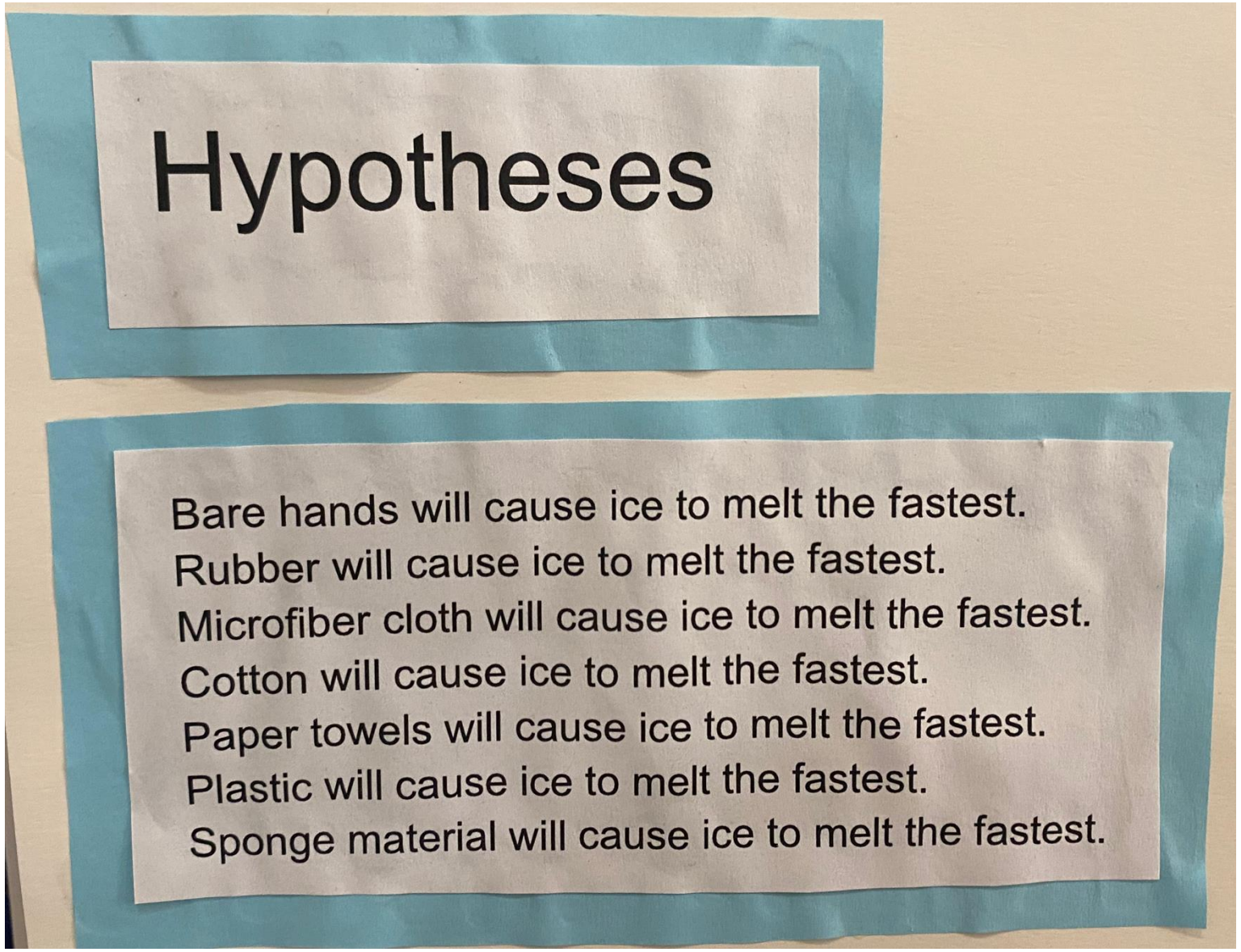
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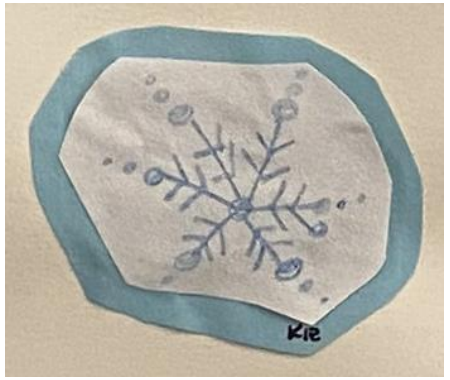

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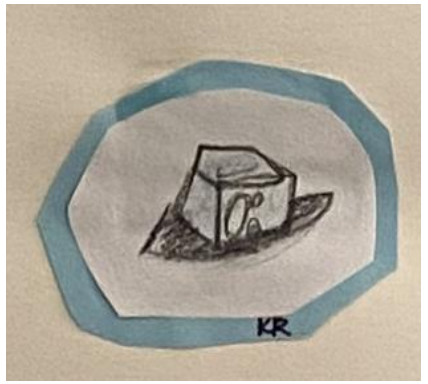
Paper towel
Plastic
sponge



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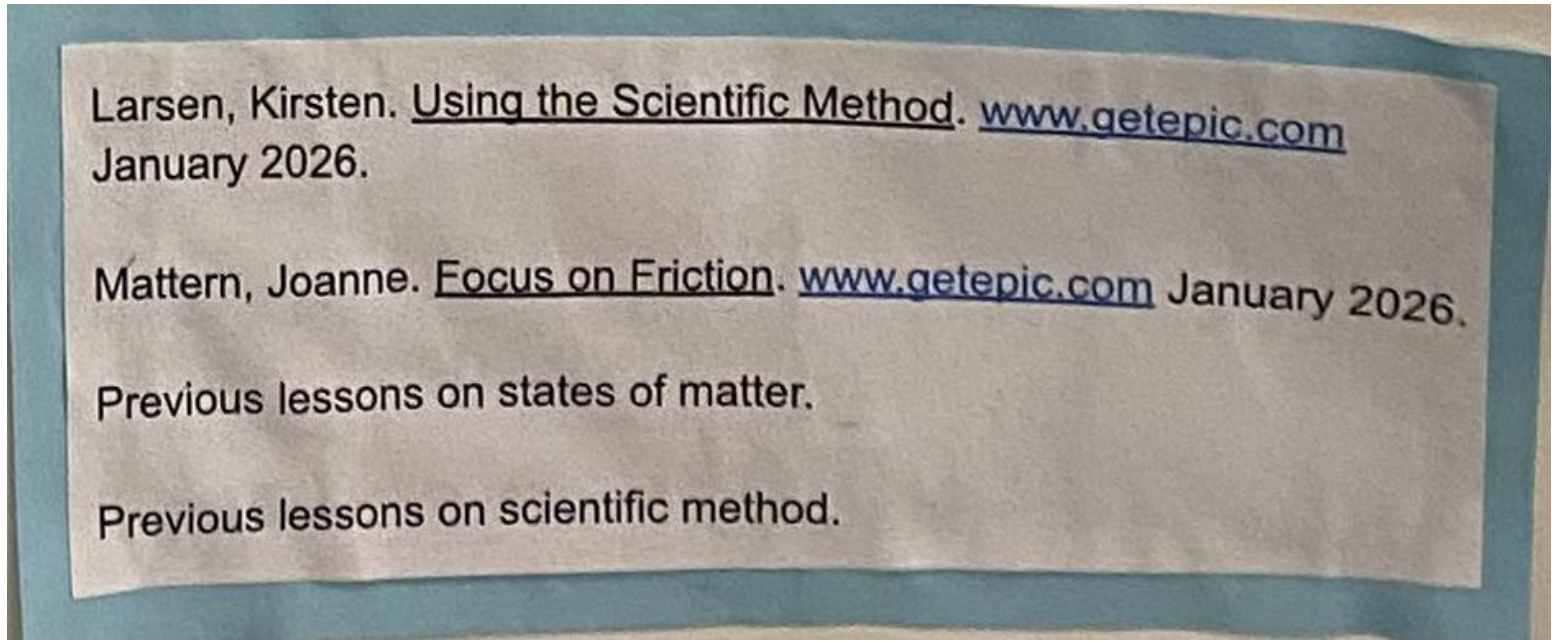
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