

February 2021

Science is Always in Season

By Erin Pant



Second-graders hold up materials they have chosen for their STEM project.

Saint Peter's second-graders have been discussing freezing temperatures, ice, and the intricate symmetry of snowflakes. However, it's not the winter forecast they are focused on, instead, it's part of their Project Lead the Way STEM curriculum.

The class has been learning about solids, liquids, and gases, as well as the differences between reversible and irreversible changes. To further explore this topic, students were presented a hands-on STEM Challenge – could they build an insulator from recyclables that would keep an ice pop frozen for sixty minutes?

The students began by spending two weeks gaining knowledge, gathering materials, and sketching out their designs. Second grade teacher Mrs. Kelly Nichols introduces this project each year, however this time additional considerations were made to adhere to COVID-19 protocols.

“Our insulator project did significantly change this year. Usually it is completed in teams, however we adapted the project into individual experiments to eliminate sharing materials,” said Nichols. “While we lost the collaboration aspect, the students proved to be resilient and it didn't quell their excitement for the activity at all.”



Second-grader Tanya displays her completed incubator

To prepare for the experiment, both in-person students, and students participating in distance learning, filled a bag with water and froze it, observing how the liquid changed to solid. Next, they constructed their insulators with the recyclable materials they chose, such as plastic, bubble wrap, aluminum foil, and packing materials. Finally, they placed their ice pop inside and began monitoring, measuring out the liquid melt every 15 minutes for one hour.

Students discovered quickly what items worked or didn't work. Second-grader, Tanya Brundage, found that the aluminum worked the best. “It was fun building with recyclables and learning how to measure in milliliters,” said Brundage.

“One of the main lessons I hope students took away is that there are different ways to accomplish a goal, and to never focus negatively on why something didn't work, but instead reflect on what you learned and what can be changed the next time,” said Nichols.

Next time, Brundage said, “I would make the insulator bigger and longer, because the bag that was holding the ice pop was bigger than my box.”

A second seasonal STEM challenge involved creating symmetrical snowflakes on black paper with 20 cotton swabs. The class read “Snowflake Bentley” which tells the story of Wilson Bentley, a pioneer in the field of photomicrography who photographed, documented, and studied snowflakes.

“The project incorporated history, science and math,” explained Nichols. “We reflected on what individuals can accomplish with just an idea and how God has given us the gift of our wonderful minds, and we are called to continually develop and grow these gifts.”



Students learned about Wilson Bentley and created their own symmetrical snowflakes