

Core Skills Analysis

Science

- The student observed the reaction of dry ice when placed in cold water, learning about physical changes and state transitions from solid to gas in a visually engaging manner.
- Through direct observation, the student developed an understanding of sublimation, noting how dry ice bypasses the liquid state as it transforms into carbon dioxide gas.
- The exploration of temperature differences reinforced the concept of thermal energy transfer, as the dry ice rapidly cools the water and creates visible effects such as bubbling and fog.
- The hands-on experience sparked curiosity about gas properties, leading the student to ask questions about why the fog forms and how gases can occupy space.

Tips

To further enrich your child's understanding of the concepts explored in the dry ice and cold water activity, consider guiding them through follow-up experiments such as observing the effects of hot water on dry ice to enhance their understanding of temperature dynamics. Engaging in discussions about where dry ice is used in real-life scenarios, such as in shipping food products or creating special effects, can also stimulate their interest. Additionally, reading books or watching videos related to gases and thermodynamics can deepen their understanding.

Book Recommendations

- [The Magic School Bus: Inside a Hurricane](#) by Joanna Cole: Ms. Frizzle and her class take a wild ride inside a hurricane, exploring weather phenomena that relate closely to temperature and states of matter.
- [What Makes a Shadow?](#) by Carmen Aguirre: A fun exploration of light and shadow that connects to the invisible properties of gases and their effect in experiments like those involving dry ice.
- [Curious Kids: Science Experiments for Kids](#) by Hannah Sandoval: A hands-on book that provides simple science experiments that children can conduct, including those involving temperatures.

Learning Standards

- NGSS 3-5-ETS1-2: Generate and compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design problem.
- NGSS 3-PS2-4: Define a simple design problem that can be solved by applying scientific ideas about magnets.
- Next Generation Science Standards (NGSS) for K-2: Working with Others - Collaborating and communicating with others to understand science.