HOLY FAMILY CATHOLIC PRIMARY SCHOOL
Ostley Bank
Barrow in Furness Cumbria LA13 9LR
Telephone: (01229) 828018
Website: www.holyfamily.cumbria.sch.uk
E Mail: manager@holyfamily.cumbria.sch.uk

Wednesday 4th February, 2026

Winter Olympic Games: Bringing Science to life
6th- 22nd February 2026

Dear Parents,

To celebrate the upcoming Winter Olympic Games, we would love for the children at Holy Family School to take their Science learning out of the classroom and into real life scenarios.

Research has proven that taking learning outside of the classroom, and relating existing subject knowledge to relevant, real- world contexts, helps to show the relevance of classroom teaching and learning.

Below are some ideas for Science investigations which you may wish to carry out at home. They all have links to Science topics that the children have (or will) study throughout their time at Holy Family.

The activities should be fun, immersive, interactive and safe. We really want to nurture a love for Science at Holy Family, by developing critical and curious thinkers who understand how Science surrounds them in their everyday lives.

It would be lovely to see some of the children's investigations, either by bringing them into school (if possible), or by sending photos/ videos to ebenn@holyfamily.cumbria.sch.uk. Please send anything into school, or via email, before the 22nd February.

Yours sincerely,

Mrs E Benn.
(Science subject leader).

Science investigation ideas for Nursery- Year 2:

- Ice & States of Matter (Melting & Freezing)
    - Ice Rescue (Melting Investigation): Freeze small toys in ice. Children use salt, warm water, or tools to see which method frees the "athletes" fastest.
    - Melting Ice Cube Race: Place ice cubes on different surfaces (metal tray, plastic, wood) and predict which will melt first.
    - Ice Lanterns: Create frozen, coloured ice lanterns using water, food coloring, and balloons to explore freezing and solid structures.
- Physics & Movement (Forces)
    - Bobsleigh/Luge Sliding Match: Create mini sleds from different materials (foil, cardboard, plastic) to test which slides fastest down a snowy or icy ramp.
    - Snowball Catapult: Use spoons or lollipop sticks to create a simple catapult to test how far a snowball (or cotton ball) can fly.
    - Curling "Rocks" Investigation: Use different objects on an icy surface to see which texture moves the furthest, mimicking curling stones.
- Polar Science & Insulation
    - Blubber Glove Experiment: Place hands in bags covered with fat and then into icy water to understand how polar animals, like those in the Olympics' northern host cities, keep warm.
    - Winter Clothing Insulation: Wrap jars of warm water in different fabrics (wool, cotton, foil) and use thermometers to see which material keeps the "athlete" warmest.
- Scientific Observation
    - Snowstorm in a Jar: Use oil, water, white paint, and Alka-Seltzer tablets to create a miniature snowstorm, exploring density and chemical reactions.
    - Frost on a Can: Place ice and salt inside a metal can to create condensation and frost on the outside.
    - Frozen Bubbles: Blow bubbles in freezing temperatures to watch them turn into delicate ice crystals.

Science investigation ideas for Y3-Y6:

- Friction & Surface Science (Forces):
    - Bobsleigh Speed Run: Build miniature sleds using different materials (wood, plastic, metal) to test which slides fastest down an inclined plane, investigating friction.
    - Ice Rink Simulation: Experiment with how different surfaces (sandpaper, felt, foil) affect the movement of a "curling stone" (a heavy washer or small puck).
- Insulation & Materials Science:
    - Designing a Snowsuit: Use different materials to wrap water bottles filled with warm water. Measure which materials keep the water warmest longest, relating to specialised clothing for skiers.
- States of Matter & Density:
    - Melting Ice Challenge: Investigate how to melt ice quickly using substances like salt, sugar, or sand, simulating snow management.
    - Ice Density Experiment: Explore why ice floats on water and its impact on ice skating.
- Aerodynamics & Forces:
    - Ski Jump Ramp: Design a ski jump ramp using recyclable materials and test how different shapes affect the distance a paper skier travels.
    - Balloon Rockets: Use balloons to simulate the force and speed of speed skaters, exploring forces and motion.
- Human Biology & Movement:
    - Heart Rate and Exercise: Measure heart rates before and after simulating winter sports like speed skating or skiing to understand how muscles use oxygen.