

Pictou County Forest School - Grade 5 Post-Visit Lesson Plans
Earth and Space Science: Weather

Activity: Insulated Boxes

Overall Curriculum Outcome: Learners will investigate how weather impacts daily life.

Specific Curriculum connections:

Weather conditions affect living and non-living things

- How does weather impact daily life?
- How do animals respond to weather in different seasons?

Weather-related technologies for preparing and responding to weather (umbrellas, showshoes, lightning rod, seawall)

- How do we use particular clothing or tools such as umbrellas, showshoes, lightning rod, and seawall to respond to weather conditions?
- How do we design structures to protect us from weather?

Materials:

- Shoe boxes
- Household items: cotton balls, aluminum foil, hay, socks etc
- tape

Context:

Insulation is what keeps the heat or thermal comfort in our homes. “A well-insulated house is a bit like dressing for the weather. A wool sweater will keep you warm if the wind is not blowing and it is not raining. On a windy, rainy day, wearing a nylon shell over your wool sweater helps keep you reasonably dry and warm. A house is similar. On the outside, underneath the brick or siding, there is an air barrier that does the same thing as the nylon—it keeps the wind from blowing through. Then there is the insulation (like your sweater) and a vapour barrier, which helps keep moisture away from the house structure where it can do damage”
<<https://buildersontario.com/insulating-house>>.

Activity:

Think of your cereal box as your house – and you and your family (who live inside) want to keep toasty warm during the cold winter months. You need to insulate your box to keep the interior at a comfortable temperature. Think back to our discussions about *insulation and energy transfer*. How does this relate to building an insulated house? We will use everyday materials to insulate our boxes against the frigid outside temperatures.

After we construct our boxes, we will seal a room temperature thermometer inside each box and then place them outside for a length of time (an hour or so?). After waiting for a set length of time we will then open up the boxes to see which boxes kept their thermometers closest to room temperature. Teachers can record the results.