



Teacher's Corner Lesson Plans

*Helping Teachers and Students Make the Most of
their Outdoor Classroom*

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Snow Fossils*

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Grade level: Grade 3, 4, 5.

Provincial curriculum links: Alberta.

Subject: Winter Ecology.

Keywords: Snow.

Description

This is an engaging activity that provides an opportunity to collect and classify snow crystals.

Curriculum Framework

Topic: Winter Ecology

Specific Lesson Goals:

- Expand observation skills, classification skills, use of scientific equipment in an outdoor activity.

Preparation

Preparation time: Preparation time varies, as time is required to gather glass microscope slides and clear spray lacquer and store them in a cold place in anticipation of a snowy day.

Length of lesson:

- 20-30 minutes to collect snow fossils.

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- 24 hours to dry in the cold.
- 20-30 minutes to view and classify using a microscope.

Resources required:

- snow-catchers made with black paper and a flat stick
- glass microscope slides
- clear spray lacquer
- microscopes
- falling snow

Procedure

1. Prepare for the activity by placing some glass microscope slides and a can of clear spray lacquer into a refrigerator.
2. When it is snowing take the class out to the naturalization area.
3. Give each student a “snow catcher” . This could be something as simple as a black piece of paper taped to a flat stick. Ask them to catch falling snowflakes on the black surface and take a close look at them.
4. While the students are catching snowflakes carefully spray 1 glass slide per student with a layer of clear lacquer. Ensure everything is cold.
5. Distribute one lacquered glass slide to each student and ask them to collect snowflakes that are falling, before they hit the ground, in the wet lacquer.
6. Collect as many snowflakes per slide as possible without overlapping the snowflakes.
7. Leave the slides outside to dry. They will melt if brought indoors.
8. Once they are dry view them under the microscope.

Discussion and Questions

- Discussion can occur in both a whole class or small group format. Focus on the main concepts and principles and formulate questions that will generate discussions.

Student Evaluation

With the students, develop a rating scale for student participation. Use the rating scale as a self-evaluation tool.

Enrichment and Extension Activities

- Distribute a list of snowflake classification groups and see if the students can classify the snowflakes they collected.

Educator Notes

This activity requires being prepared for when it does snow. Ensure all equipment is cold when used or snow will melt. Allow slides to dry outdoors so snow does not melt.