



If it's White is it Snow? (1 & 2)

Focus Areas

Language Arts, Science, and Technology

Time Needed for Activity

90 minutes

Software and Equipment

ProScope Microscope
Digital camera
Laptop computer
iPhoto or Kodak EasyShare
iMovie

System Requirements

Macintosh

iMovie and iPhoto are part of the iLife '06 package. The requirements that follow are for entire iLife '06 installation.
Macintosh G4
733 MHz or faster
OS 10.3.9 or higher
256 MB RAM; 512 MB recommended
10 GB hard disk space
DVD drive for installation

Overall Objective

Children will investigate and examine the qualities of snow. They will use a digital microscope, such as the ProScope microscope, to closely examine snow. They will also use a digital camera to collect photos of the immediate area and of their classmates as they collect data using the digital microscope. Children will have the opportunity to work together to create a movie using digital images from the microscope(s) and the digital camera(s).

Activity Description

Choose a day when it is snowing or a day when snowfall has been recent. Divide children in a number of small groups, group size dependent on the availability of microscopes and digital cameras. Children should have previous experience using the microscopes and digital cameras.

Connect the microscope to the laptop, launch the microscope software, and go outside. Offer all children the opportunity to use the microscope to examine the snow and take magnified images. Provide access to the microscope(s) and the digital camera(s) for all the children. After they have an opportunity to use both devices, return inside and download the camera images to iPhoto or Kodak EasyShare. Import microscope images into the photo software application. If a class movie is planned and multiple computers, microscopes, and cameras were used, download all photos to one computer and transfer all microscope images that same computer. Launch iMovie and create a movie using the microscope and camera images. Include the children in the process, encouraging them to add images to the iMovie timeline, add subtitles and other text, transitions, and sound.

The completed movie can be exported in QuickTime format, burned to CDs and shared with families, or exported in a format suitable for adding to the class's or school's website.

Proscope Microscope

Dual platform device that runs on a Macintosh with OS 9 or later and a Windows machine with Windows 98 or later.

Kodak EasyShare software is a free download from www.kodak.com and is available for Macintosh and Windows operating systems. Software features vary depending on the options offered for a particular operating system.

Supporting Software

Kid Pix Deluxe 4

MediaBlender

WebBlender

Notes

Learning Standards

Children will:

Discuss and communicate the physical properties of snow when viewed with the digital microscope.

Language Arts: Communication Skills; Communication Strategies; Evaluating Data

Science: Science as Inquiry; Physical Science, Life Science, and Earth and Space Science

Social Studies: Individual Development and Identity

Technology: Communication and Collaboration; Critical thinking, Problem-Solving, and Decision-Making; Digital Citizenship; Technology Operations and Concepts

Achieve positive results using a digital camera and/or a digital microscope.

Language Arts: Evaluation Strategies; Communication Skills; Communication Strategies

Social Studies: Individual Development and Identity

Technology: Communication and Collaboration; Critical thinking, Problem-Solving, and Decision-Making; Digital Citizenship; Technology Operations and Concepts

Visual Arts: Understanding and Applying Media, Techniques, and Processes; Choosing and Evaluating a Range of Subject Matter, Symbols, and Ideas; Reflecting Upon and Assessing the Characteristics and Merits of Their Work and the Work of Others

Understand that products vary among children.

Language Arts: Communication Skills; Communication Strategies

Social Studies: Time, Continuity, and Change; Individual Development and Identity

Technology: Digital Citizenship; Technology Operations and Concepts

Work individually or in small groups to complete a project.

Language Arts: Communication Skills

Social Studies: Civic Ideals and Practices

Technology: Creativity and Innovation; Communication and Collaboration; Critical thinking, Problem-Solving, and Decision-Making; Digital Citizenship; Technology Operations and Concepts

Notes

Additional Activities:

- Examine substances that seem similar to snow such as salt, sugar, Styrofoam beads, baking soda, and silica gel. Compare and discuss the properties of each material.
- Search for answers to questions related to the differences and similarities in snow, salt, sugar, Styrofoam beads, baking soda, and silica gel. Offer children a variety of options for sharing their findings. Options might include opportunities such as a slide show presentation, a “same and different” book, and a podcast.
- Investigate the differences in snow that is dry and fluffy and snow that is heavy and wet. Record characteristics of each type of snow. Use the digital camera and the microscope to collect images for comparison. Publish findings in one of the methods suggested in the previous activity.

Resources

Books

Carlisle, M. (1992). *Let's investigate: Sparkling, silent snow*. Hauppauge, NY: Barron's.

Libbrecht, K. (2006). *Ken Libbrecht's field guide to snowflakes*. St. Paul, MN: Voyageur Press.

Lin, G. (2005). *Robert's snowflakes*. New York: Viking Juvenile.

Maki, C. & Sekido, I. (1993). *Snowflakes, sugar, and salt: Crystals up close*. Minneapolis: Lerner Publications.

Waldman, N. (2003). *The snowflake: A water cycle story*. Brookfield, CT: Millbrook Press.

Web sites for children

<http://kids.yahoo.com/directory/Science-and-Nature/The-Earth/Weather>

<http://www.weatherwizkids.com>

<http://www.kidsdomain.com/kids/links/Weather.html>

Web sites for families

<http://www.funology.com/>

<http://www.snowcrystals.com>

http://www.illiniweather.com/pages/kids_weather_links.htm

Web sites for teachers

<http://www.funology.com>

<http://ofcn.org/cyber.serv/academy/ace/sci/elem.html>

Notes

http://www.education-world.com/a_lesson/lesson295.shtml

<http://www.robertssnow.com>