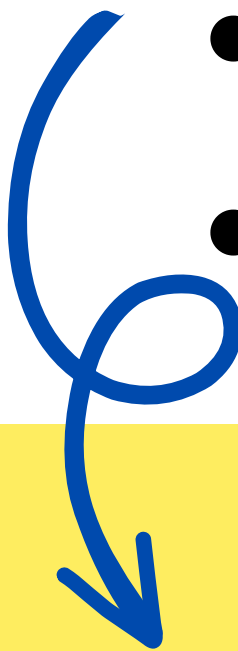


Complete Winter Weather and Snow Bundle

- **Lessons**
- **STEM Labs**
- **Activities**
- **Readings**



SCROLL
to take a look inside!

Winter Weather and Snow Bundle

Lesson, Readings, & Activities

Grade 6-9

Full Winter
Weather Unit



HOW THIS BUNDLE WILL HELP YOU



- Saves planning time with fully structured, ready-to-use resources.
- Winter-Themed lessons activities.
- Supports differentiation through multiple activity types.
- Provides hands-on learning for students.

NO PREP
Just Download



**Lesson, Activities, Project, &
Readings**

Ways to Use this Resource

★ Winter-themed unit

★ Snow Day activities

★ Teach STEM Concepts

★ Homework and extra credit assignments

NO PREP
Just Download



Lesson, Activities, Project, & Readings

7 Readings

NO-PREP - PRINT/UPLOAD

- Questions and Answer Key
- No Prep, Ready-to-Use: Print or assign digitally with Google Docs, Microsoft Word, and PDF formats for flexible classroom use
- Includes Varied Question Types: Knowledge, thinking, connecting, application, and open-ended questions.



PDF and Google Versions

2 Lessons, 1 Project, 2 STEM Investigations, & 2 At-Home/Class Activities



DIGITAL and Editable

Two LESSONS to better understand the causes of winter weather.

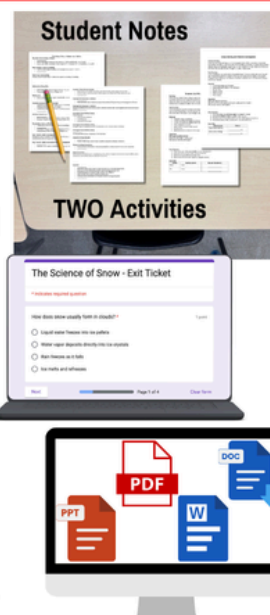
The Science of Snow Lesson

- Lesson
- Word Search and Scramble
- NO PREP - Just download and Go!

6th, 7th, 8th Grade

NO PREP

- ✓ Simply Download and Teach/Upload to your class site.
- ✓ Assessment Included 4 Question, Auto-Graded Exit Ticket + TWO Activities
- ✓ Interactive & Video-Enhanced Lesson
- ✓ Google, Office, & PDF



THE SCIENCE OF SNOW TEACHER & STUDENT VERSION

Student Notes

TWO Activities

Snow vs. Ice

- Snow forms when water vapor turns directly into ice crystals (deposition) in freezing clouds

Student version of the lesson includes blanks to fill in.

Videos Embedded & Student Notes

The Water Cycle & States of Matter

- Water exists as solid (ice/snow), liquid (water), and gas (water vapor)
- Snow forms when cold air causes water vapor to deposit directly as ice crystals
- Snow is part of the hydrologic cycle (evaporation → condensation → precipitation → runoff)

TWO Activities + Exit Ticket

Office, Google, and PDF Versions

Earth's Seasons

- Effects of Earth's Rotation
- Earth's Tilt
- Effect of Earth's Revolution
- The Tilt and Direct Sunlight
- The Seasons



Google Slides and PowerPoint Versions Included
Google Classroom Ready

The Tilt and Direct Sunlight

The more direct sunlight an area gets, the warmer it is

- In what season is North America tilted towards the Sun?
- In what season is North America tilted away from the Sun?
- In what season(s) does the tilt not really affect temperature?

Teacher and Student Versions of the presentation

Winter Weather Adaptations

Ecology Research Project - Structural and Behavioral

WINTER WEATHER ADAPTATIONS - ECOLOGY RESEARCH PROJECT



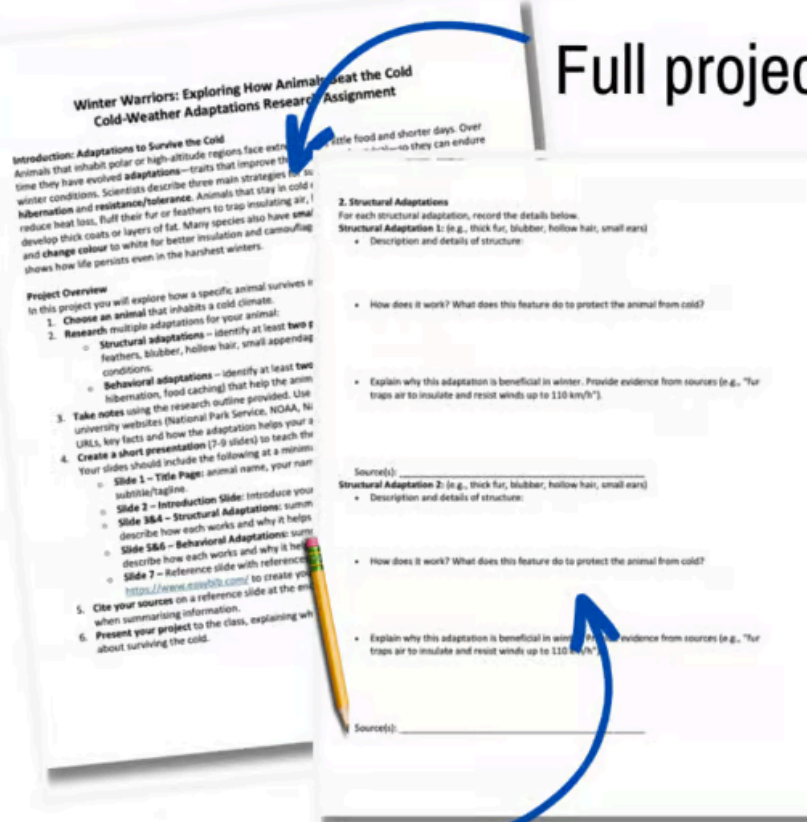
6th, 7th, 8th Grade

Teach With Fergy

NO PREP

PRINT AND DIGITAL

Full project breakdown



Winter Warriors: Exploring How Animals Beat the Cold
Cold-Weather Adaptations Research Assignment

Introduction: Adaptations to Survive the Cold
Animals that inhabit polar or high-altitude regions face extreme cold. To survive, they have evolved adaptations—traits that improve their ability to survive in winter conditions. Scientists describe three main strategies for surviving the cold: **structural adaptations** (physical traits), **behavioral adaptations** (actions), and **physiological adaptations** (internal body processes). Animals that stay in cold climates often have thick fur or feathers to trap insulating air, hibernation and resistance to freezing, and the ability to produce antifreeze proteins. Many species also have small ears and limbs to reduce heat loss. Fat is another key adaptation to help animals survive the cold. Some animals, like the Arctic hare, even change color to blend in with the snow for camouflage. This project shows how life persists even in the harshest winters.

Project Overview
In this project you will explore how a specific animal survives in a cold climate. You will research the animal's adaptations and create a presentation to share your findings.

1. **Choose an animal** that inhabits a cold climate.
2. **Research multiple adaptations** for your animal.
 - **Structural adaptations**—identify at least two physical traits, such as thick fur, blubber, hollow hair, small ears, etc.
 - **Behavioral adaptations**—identify at least two actions, such as hibernation, food caching, etc.
3. **Take notes** using the research outline provided. Use the template to record your findings.
4. **Create a short presentation** (7-9 slides) to teach the class about your animal and how the adaptation helps it survive.
5. **Cite your sources** on a reference slide at the end of your presentation.
6. **Present your project** to the class, explaining why your animal is so well-adapted to the cold.

2. Structural Adaptations
For each structural adaptation, record the details below.

Structural Adaptation 1: (e.g., thick fur, blubber, hollow hair, small ears)
• Description and details of structure:
• How does it work? What does this feature do to protect the animal from cold?
• Explain why this adaptation is beneficial in winter. Provide evidence from sources (e.g., "fur traps air to insulate and retain heat up to 100 km/h").

Structural Adaptation 2: (e.g., thick fur, blubber, hollow hair, small ears)
• Description and details of structure:
• How does it work? What does this feature do to protect the animal from cold?
• Explain why this adaptation is beneficial in winter. Provide evidence from sources (e.g., "fur traps air to insulate and retain heat up to 100 km/h").

Emperor Penguin: Surviving Antarctica

Animal & Habitat:
• Emperor penguins are the largest of the 18 penguin species and can weigh up to about 40 kg.
• They live only in Antarctica, forming breeding colonies near the coastline that can range from a few hundred to more than 20,000 pairs.
• Their breeding sites experience winter temperatures ranging from -40°F to -52°F (-40°C to -46°C), with wind-chill factors dropping to -40°F (-40°C) and winds that can reach 124 mph (200 km/h).

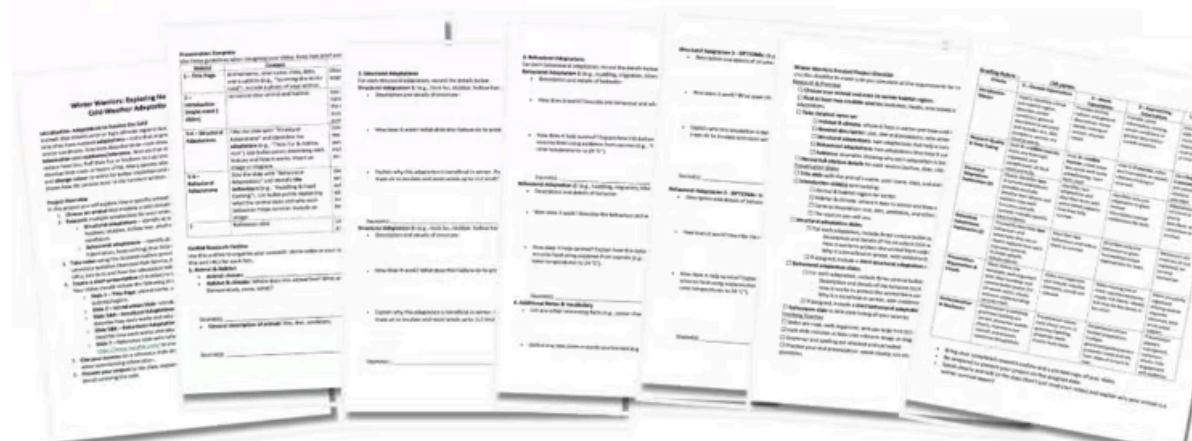
General Description:
• Adult emperor penguins stand 3' 4" to 4' 4" (103-132 cm) tall and weigh 55-99 pounds (25-45 kg).
• Their bodies are black on the back and white on the belly, with orange and yellow patches near the ears and chest.
• They are top predators in the Southern Ocean, feeding primarily on Antarctic fish, squid, and krill.
• Natural predators include killer whales and leopard seals.

Student research guided template

Exemplar presentation

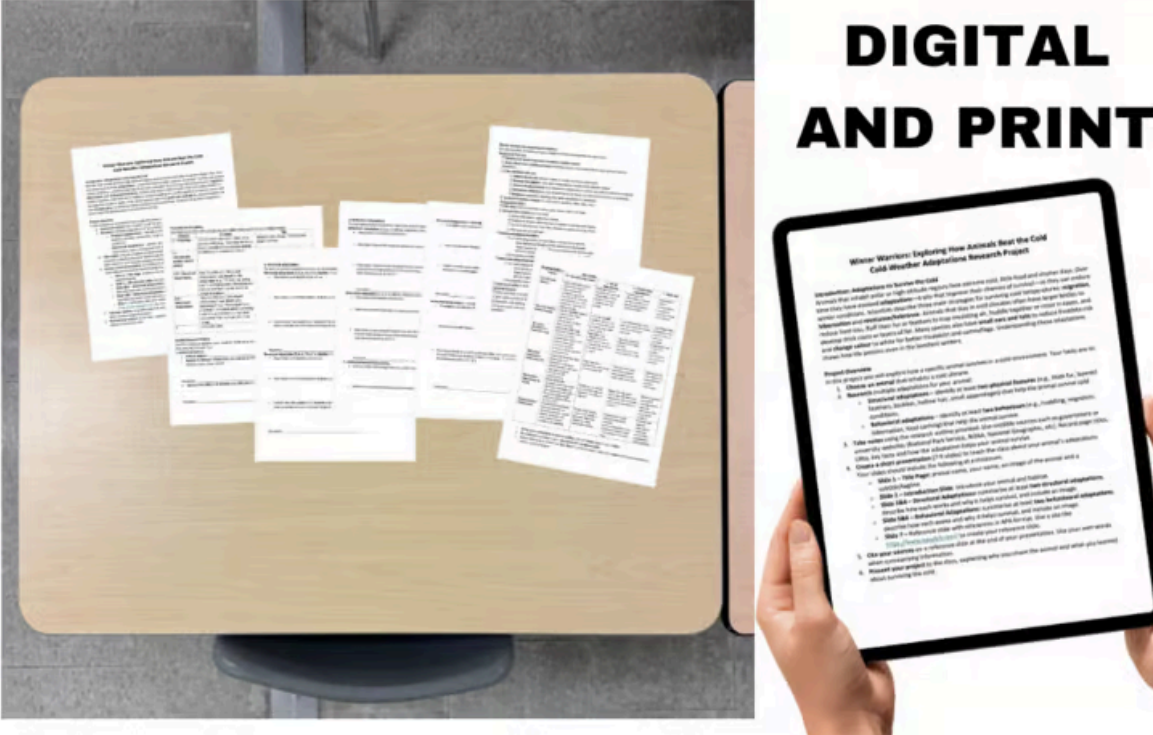
WHAT YOU GET

- ✓ Full Project Overview
- ✓ Scaffolded student pages to help guide their research and provide differentiation
- ✓ Exemplar presentation so students can see what it expected
- ✓ Complete rubric for easy marking



FULLY EDITABLE AND READY-TO-GO ECOLOGY PROJECT

DIGITAL AND PRINT

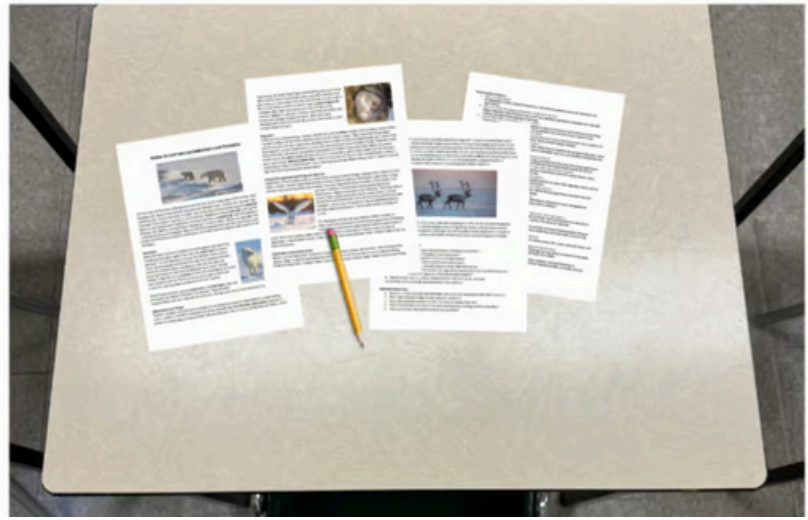


GREAT FOR TEACHING RESEARCH & PRESENTATION SKILLS

7 READINGS in Word, PDF, and Google formats. FULLY editable.

NO-PREP - PRINT/UPLOAD

- Questions and Answer Key
- **No Prep, Ready-to-Use:** Print or assign digitally with Google Docs, Microsoft Word, and PDF formats for flexible classroom use
- **Includes Varied Question Types:** Knowledge, thinking, connecting, application, and open-ended questions.



WINTER ANIMAL SURVIVAL ADAPTATIONS & STRATEGIES 6TH, 7TH, 8TH GRADE READING

Sub Plan

Science Applicability

Improve students' literacy skills



WHY DO ROADS GET SALTED? LOWERING THE FREEZING POINT 6TH, 7TH, 8TH GRADE READING

Sub Plan

Science Applicability

Improve students' literacy skills



THE SCIENCE OF SNOW, SNOWFLAKES, AND FROST 6TH, 7TH, 8TH GRADE READING

Sub Plan

Science Applicability

Improve students' literacy skills



DOES COLD WEATHER MAKE YOU SICK? 6TH, 7TH, 8TH GRADE READING

Sub Plan

Science Applicability

Improve students' literacy skills



EXTREME WINTER WEATHER 6TH, 7TH, 8TH GRADE READING

Sub Plan

Science Applicability

Improve students' literacy skills

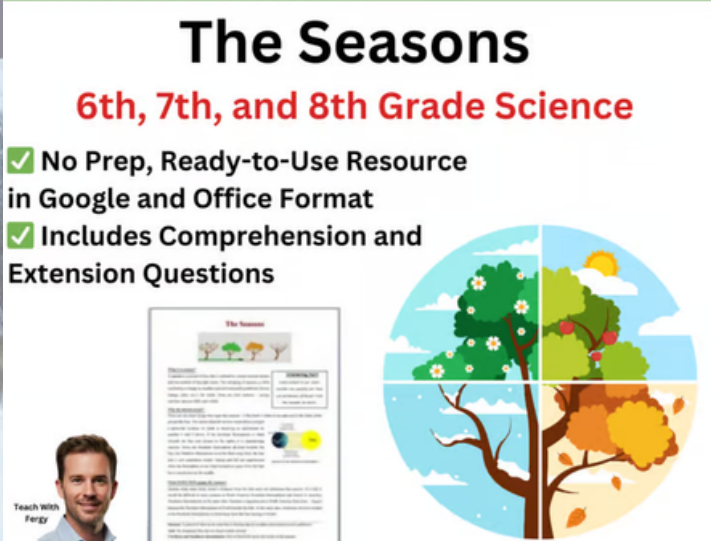


Reading Comprehension Passage & Questions

The Seasons

6th, 7th, and 8th Grade Science

- ✓ No Prep, Ready-to-Use Resource in Google and Office Format
- ✓ Includes Comprehension and Extension Questions



WINTER SOLSTICE READING 6TH, 7TH, 8TH GRADE

Improve students' literacy skills

Science Applicability

Sub Plan

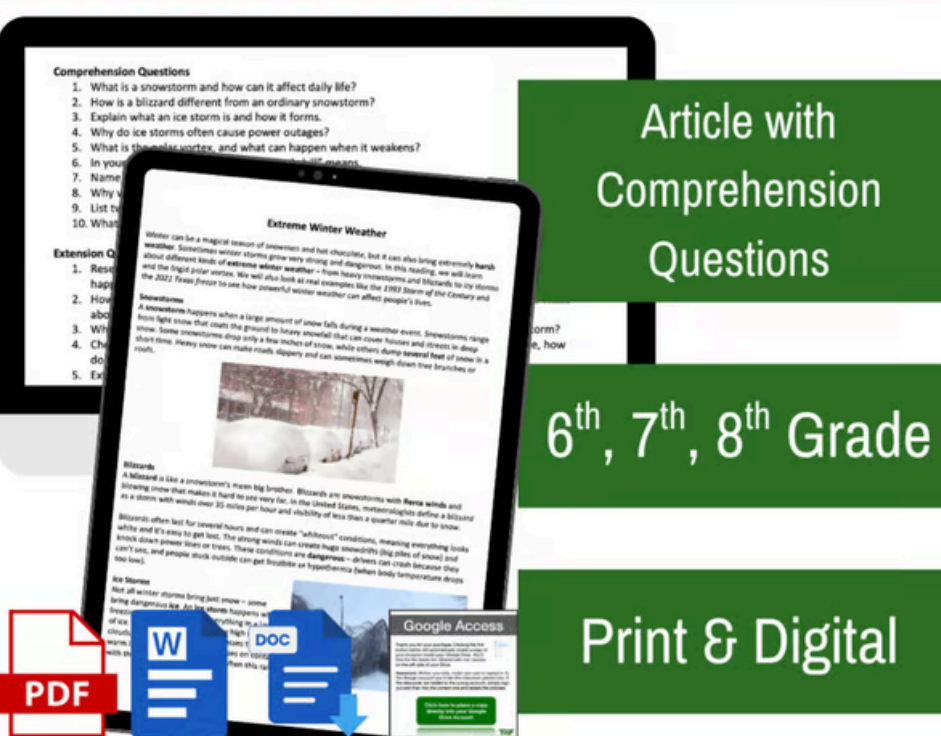


READING COMPREHENSION ARTICLE & QUESTIONS

Article with Comprehension Questions

6th, 7th, 8th Grade

Print & Digital



TWO STEM INVESTIGATION LABS for students to learn through hands-on activities

WHY DO ROADS GET SALTED? STEM INVESTIGATION - FREEZING POINT DEPRESSION

Thermal Insulation STEM Investigation - Keep Ice from Melting!

Purpose
Use an engineering design challenge to teach heat transfer, insulation, experimental design, data collection, and graphing. Students will design and build a container that slows melting by reducing heat transfer to an ice cube.

Learning Objectives

- Plan and carry out a controlled investigation with repeated trials
- Design and build a container to reduce heat transfer
- Measure mass change in an ice cube over time
- Collect and analyze quantitative data
- Create and interpret a graph to compare designs
- Use evidence to explain which design best reduced melting

Safety

- Handle scissors and cutting tools carefully
- Dry spills immediately to prevent slipping
- Do not eat ice or materials
- Handle glass beakers with care

Materials Required

- 1 Ice cube (same size for all groups) per trial
- 1 beaker (ice cube sits inside beaker)
- Digital scale (grams)
- Timer or stopwatch
- Thermometer (optional)

Design Materials (Student Choice - Teacher Approved)

- Aluminum foil
- Cotton balls
- Felt or fabric
- Foam sheets
- Bubble wrap
- Paper towels
- ...





NO PREP

THERMAL INSULATION STEM INVESTIGATION - KEEP ICE FROM MELTING!

Thermal Insulation STEM Investigation - Keep Ice from Melting!

Purpose
Use an engineering design challenge to teach heat transfer, insulation, experimental design, data collection, and graphing. Students will design and build a container that slows melting by reducing heat transfer to an ice cube.

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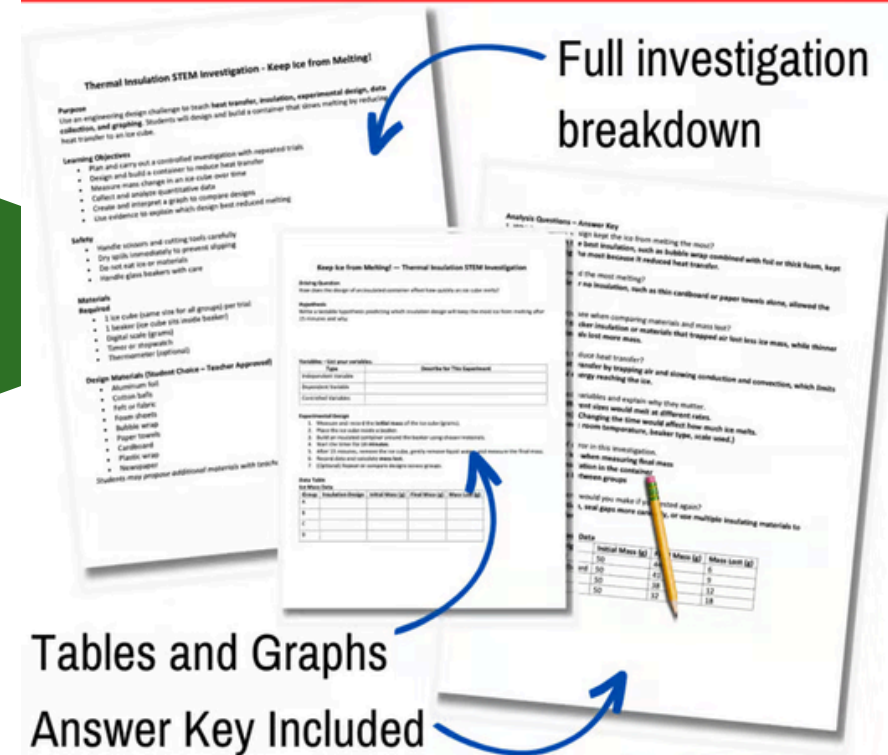
- Aluminum foil
- Cotton balls
- Felt or fabric
- Foam sheets
- Bubble wrap
- Paper towels
- ...





NO PREP

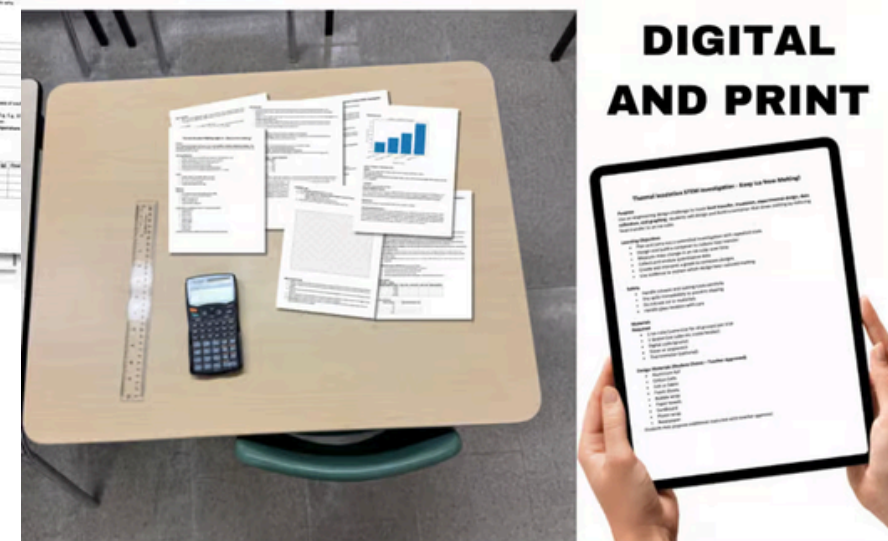
NO PREP



WHAT YOU GET

- ✓ Teacher Guide: setup, safety, pacing, and background science.
- ✓ Student Packet: clear, step-by-step setup and timing instructions with blank data tables.
- ✓ Graphing pages templates and marking rubric.
- ✓ Complete answer key with e

FULLY EDITABLE AND READY-TO-GO INVESTIGATION



GREAT FOR TEACHING THE SCIENTIFIC METHOD

TWO Investigations (in-class or at home).

Snow vs Ice Activity - Which Melts Faster

Snow Density and Volume Investigation

Snow Density and Volume Investigation

Activity Overview

Snow may look fluffy and large, but it is mostly made of air. When snow melts, it turns into liquid water that takes up much less space. This investigation explores the relationship between **volume**, **mass**, and **density** by comparing snow before and after it melts. Students will discover why snow has a low density even though it is made of frozen water.

Task Overview

In this investigation, you will collect a measured volume of snow and allow it to melt. You will then measure the volume of the melted water and compare it to the original snow volume. Using your observations, you will describe which had a smaller volume and what this tells you about snow's density.

Materials

- 1 clear measuring cup (for snow)
- Snow (collected outside or from a freezer)
- Bowl or tray
- Spoon or scoop
- Timer or clock
- Pencil or pen

Hypothesis

Write your hypothesis below:

What do you think will happen to the volume of snow after it melts?
Why do you think this will happen?

Data Collection

1. Fill a measuring cup with **loose snow** (do not pack it down).
2. Record the **volume of snow** using the measuring cup.
3. Place the snow in a bowl and allow it to fully melt at room temperature.
4. Record the volume of the melted water using measuring cup.

Data Table

Measurement	Volume
Snow (before melting)	_____ mL
Water (after melting)	_____ mL

Snow vs. Ice: What Melts Faster?

Overview

Snow and ice are both made of frozen water, but they are not the same. Snow is made of tiny ice crystals with lots of air trapped between them, while solid ice is tightly packed. These differences affect how quickly snow and ice melt. In this activity, you will investigate how **surface area** and **states of matter** influence melting time.

Task Overview

In this investigation, you will compare how long it takes **equal volumes** of snow and solid ice to melt at room temperature. You will measure melting time, observe differences, and explain why snow often melts faster—even though it may feel colder.

Materials

- 2 identical cups or containers
- 1 of the cups filled with **snow** (loosely packed)
- 1 of the cups filled with **solid ice** (ice cubes packed tightly)
- Timer, stopwatch, or clock
- Paper towels or tray (to catch water)
- Pencil or pen
- *(Optional)* phone or tablet for time-lapse video

Hypothesis

Write your hypothesis below:

Which will melt faster—snow or ice?
Why do you think this will happen?

Data Collection

1. Place both cups in the **same location** at room temperature.
2. Start your timer as soon as both cups are set down.
3. Observe the cups without touching them.
4. Record the time when each cup has completely melted.

Data Table

Sample	Starting Volume	Time to Fully Melt (s)
Snow	1 cup	_____
Ice	1 cup	_____



Ways to Use this Resource

1. As a multi week-long Winter science unit.
2. As standalone activities that can be dropped into existing life science, earth science, chemistry, or ecology units.
3. For hands-on lab days that reinforce abstract concepts like density, surface area, data collection, and phase changes.
4. As sub plans or emergency lessons with clear directions and low-prep materials.
5. In digital, print, or hybrid classrooms with flexible formats.
6. For cross-curricular lessons connecting science with literacy and real-world issues.
7. As enrichment or extension activities for early finishers or advanced learners.

As a special bonus, I want to send you a few resources that you can use in your classroom tomorrow. Completely free and geared towards what you teach!



Just  **and then choose what you teach!**

thanks
**for your interest
in this resource!**



 devon@teachwithfergy.com