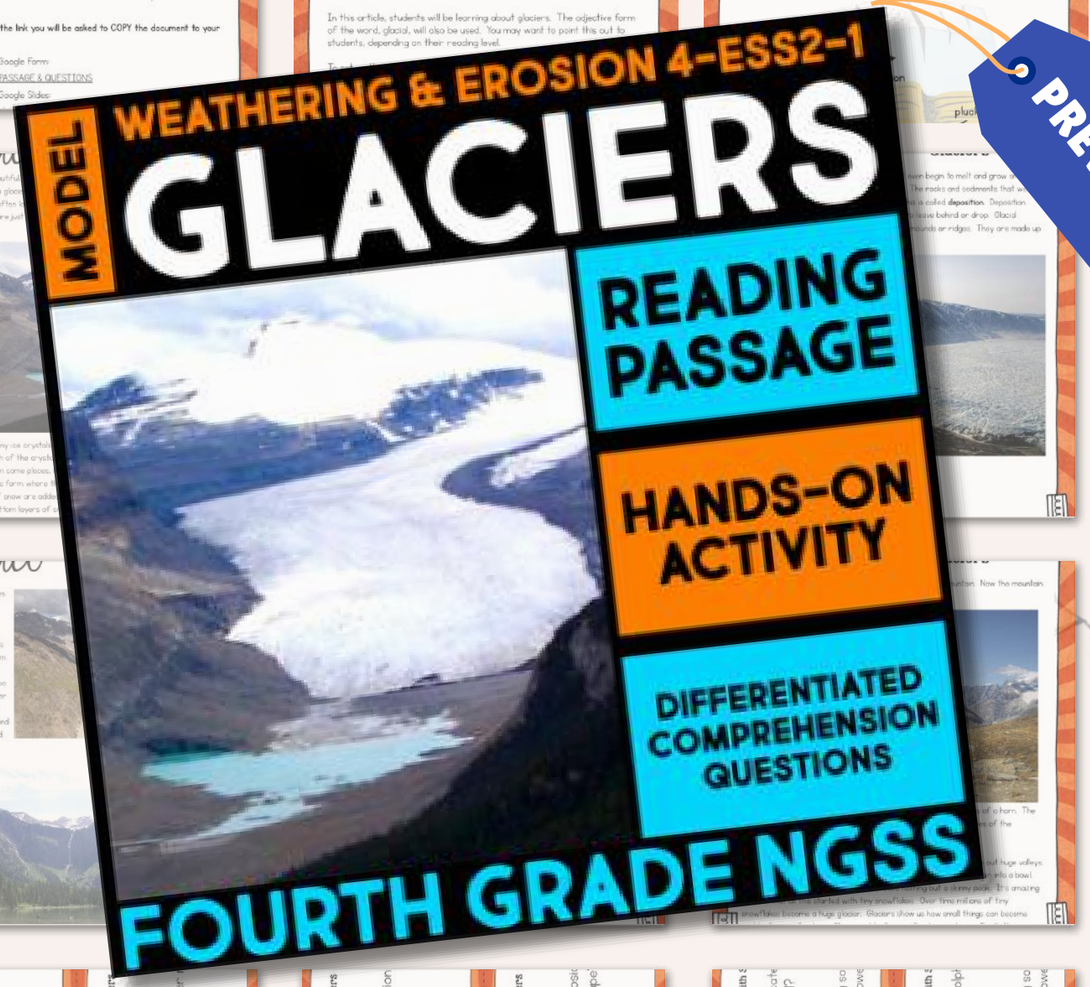


4TH GRADE

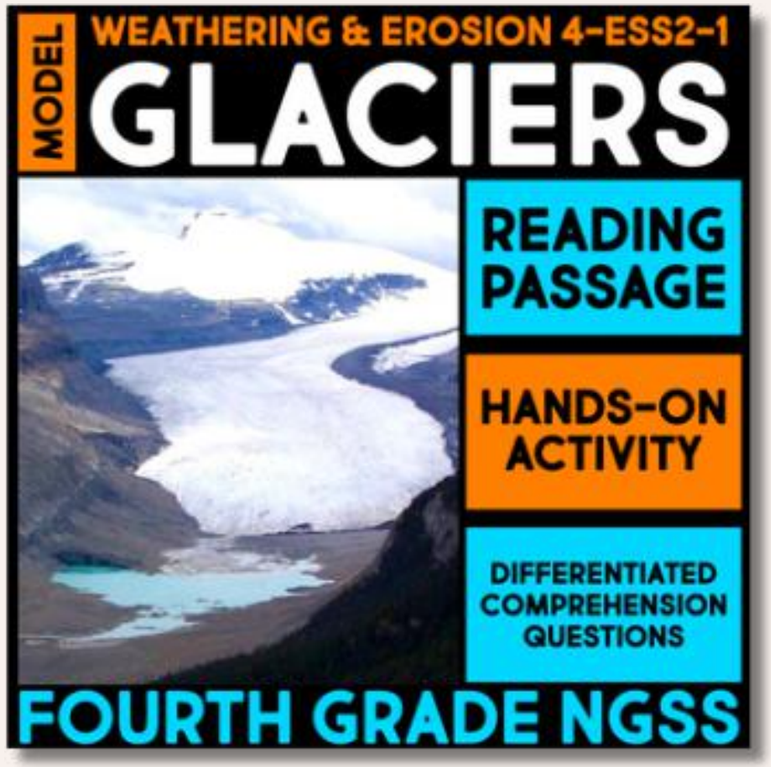
Glaciers in Action!

MODEL GLACIER EROSION

Hands-on 4th Grade Earth Science Station 4-ESS2-1

KEEP SCROLLING TO SEE WHAT'S INSIDE!

ACTIVITY OVERVIEW



- Your students will read a passage.
- Then your students will create a model.
- Then, lastly, they will answer differentiated questions.

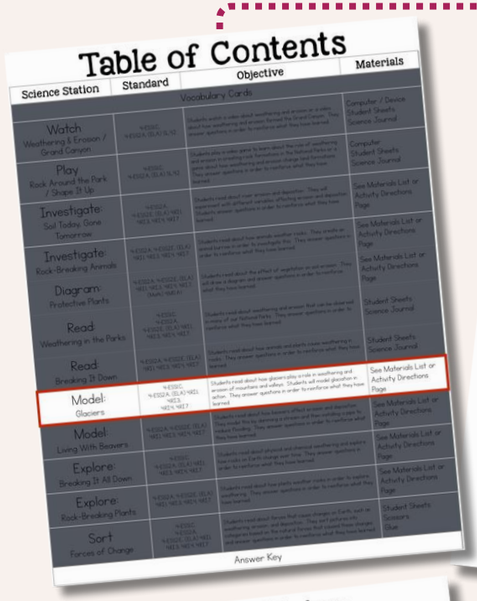
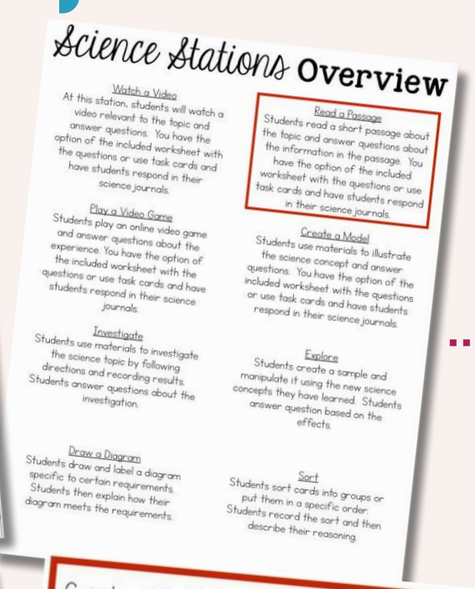


Table of Contents

Science Station	Standard	Objective	Materials
Vocabulary Cards			
Watch: Weathering & Erosion / Grand Canyon			Computer / Device, Student Sheets, Science Journal
Play: Rock Around the Park / Shape It Up			Computer, Student Sheets, Science Journal
Investigate: Soil Today, Gone Tomorrow			See Materials List or Activity Directions Page
Investigate: Rock-Breaking Animals			See Materials List or Activity Directions Page
Diagram: Protective Plants			See Materials List or Activity Directions Page
Read: Weathering in the Parks			Student Sheets, Science Journal
Read: Breaking It Down			Student Sheets, Science Journal
Model: Glaciers			See Materials List or Activity Directions Page
Model: Living With Beavers			See Materials List or Activity Directions Page
Explore: Breaking It All Down			See Materials List or Activity Directions Page
Explore: Rock-Breaking Plants			See Materials List or Activity Directions Page
Sort: Forces of Change			Student Sheets, Scissors, Glue

Answer Key



Science Stations Overview

Watch a Video
At this station, students will watch a video relevant to the topic and answer questions. You have the option of the included worksheet with the questions or use task cards and have students respond in their science journals.

Read a Passage
Students read a short passage about the topic and answer questions about the information in the passage. You have the option of the included worksheet with the questions or use task cards and have students respond in their science journals.

Play a Video Game
Students play an online video game and answer questions about the experience. You have the option of the included worksheet with the questions or use task cards and have students respond in their science journals.

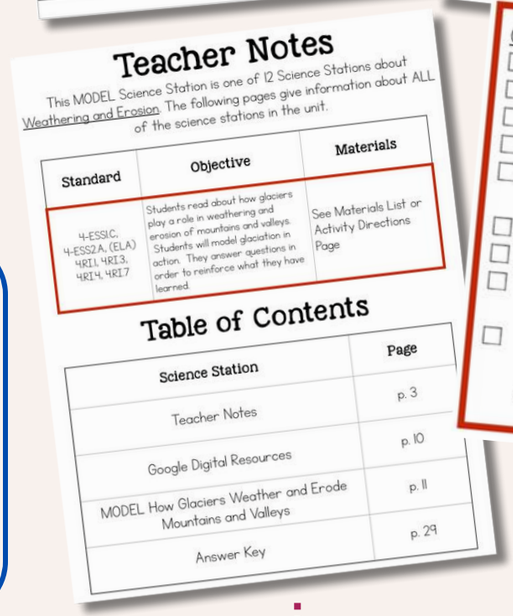
Create a Model
Students use materials to illustrate the science concept and answer questions. You have the option of the included worksheet with the questions or use task cards and have students respond in their science journals.

Investigate
Students use materials to investigate the science topic by following directions and recording results. Students answer questions about the investigation.

Explore
Students create a sample and manipulate it using the new science concepts they have learned. Students answer question based on the effects.

Draw a Diagram
Students draw and label a diagram specific to certain requirements. Students then explain how their diagram meets the requirements.

Sort
Students sort cards into groups or put them in a specific order. Students record the sort and then describe their reasoning.



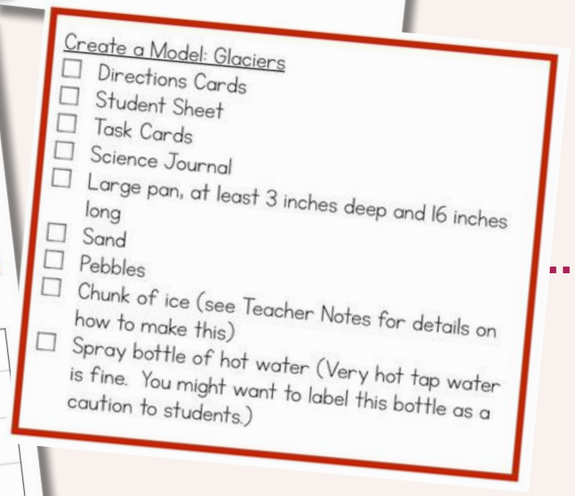
Teacher Notes

This MODEL Science Station is one of 12 Science Stations about Weathering and Erosion. The following pages give information about ALL of the science stations in the unit.

Standard	Objective	Materials
4-ESS1C, 4-ESS2.A, (ELA) 4.RI.1, 4.RI.3, 4.RI.4, 4.RI.7	Students read about how glaciers play a role in weathering and erosion of mountains and valleys. Students will model glaciation in action. They answer questions in order to reinforce what they have learned.	See Materials List or Activity Directions Page

Table of Contents

Science Station	Page
Teacher Notes	p. 3
Google Digital Resources	p. 10
MODEL How Glaciers Weather and Erode Mountains and Valleys	p. 11
Answer Key	p. 29



Create a Model: Glaciers

- ☐ Directions Cards
- ☐ Student Sheet
- ☐ Task Cards
- ☐ Science Journal
- ☐ Large pan, at least 3 inches deep and 16 inches long
- ☐ Sand
- ☐ Pebbles
- ☐ Chunk of ice (see Teacher Notes for details on how to make this)
- ☐ Spray bottle of hot water (Very hot tap water is fine. You might want to label this bottle as a caution to students.)

Table of Contents

Science Station Overview

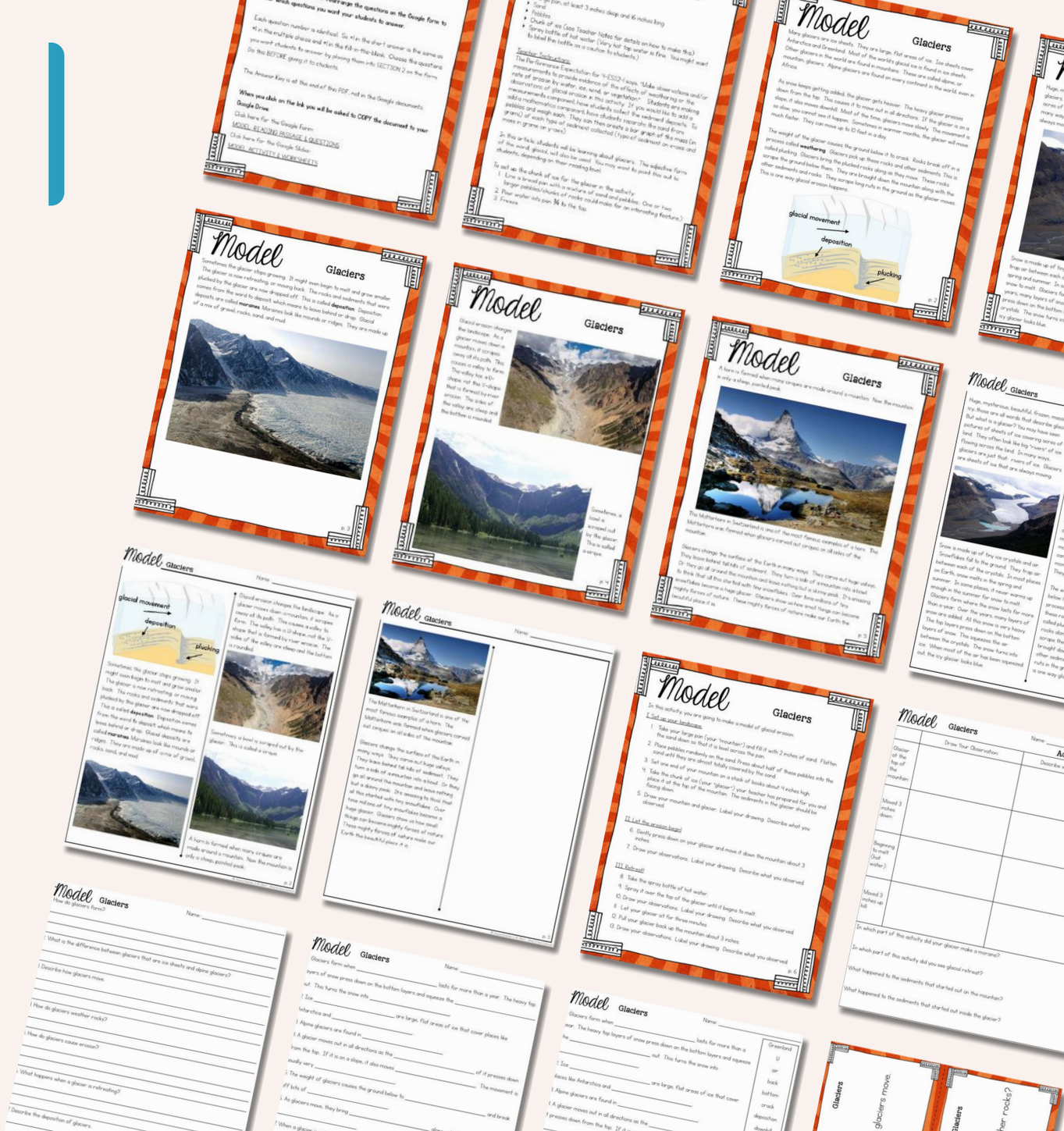
Materials Checklist

Table of Contents / Teacher's Notes

WHAT'S INCLUDED

MODEL SCIENCE STATION

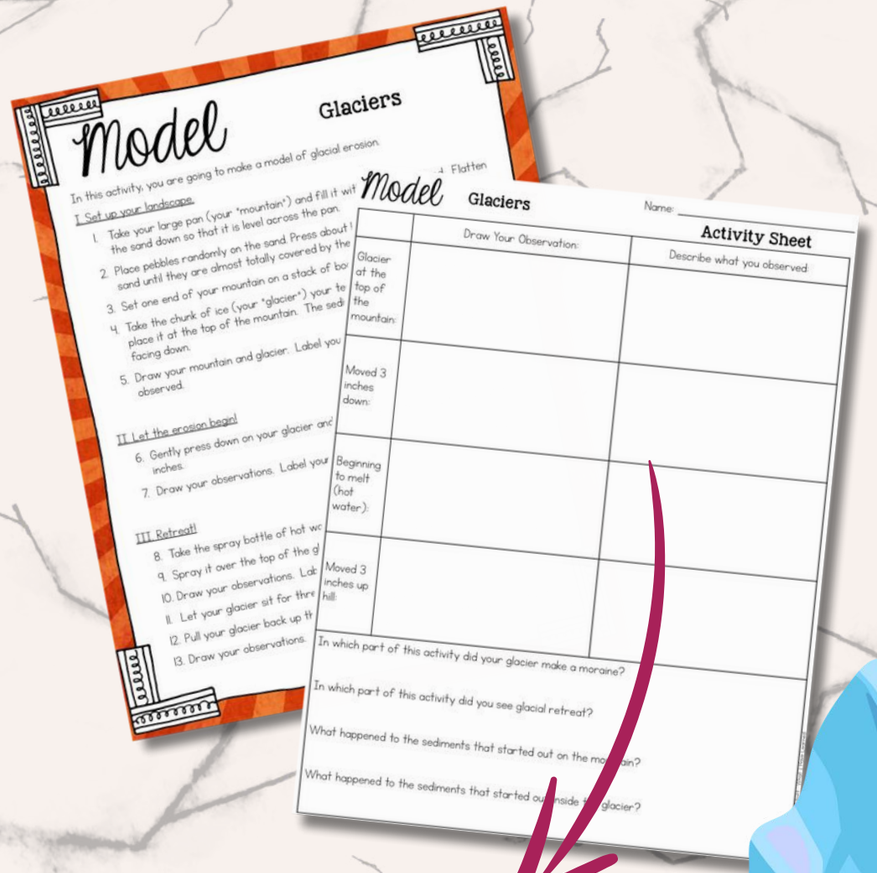
- Teacher Notes
- Student Text in two formats
- Student Instructions
- Activity Sheets
- Differentiated Questions
- Answer Key
- Google Form™
- Google Slides™



READING PASSAGE & ACTIVITIES

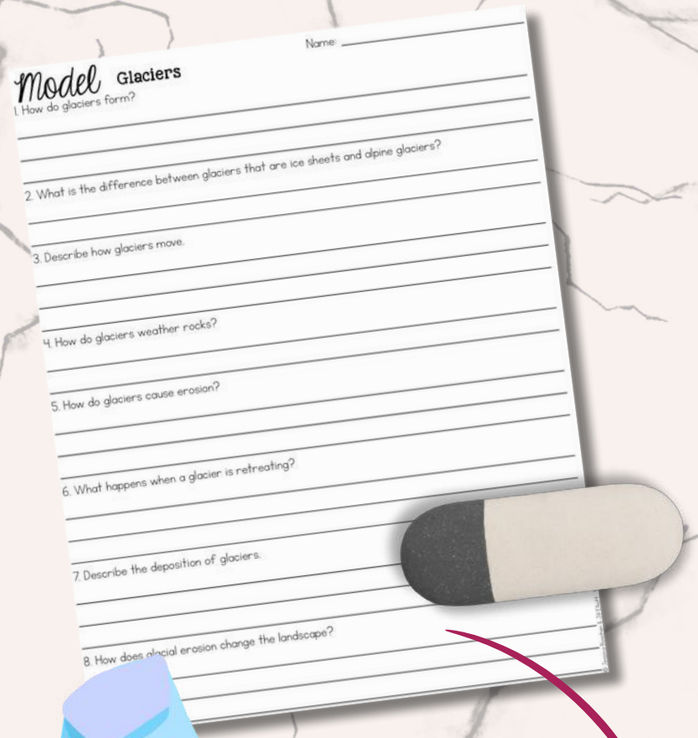


ENAGING READING:
2 TYPES OF READING PASSAGE

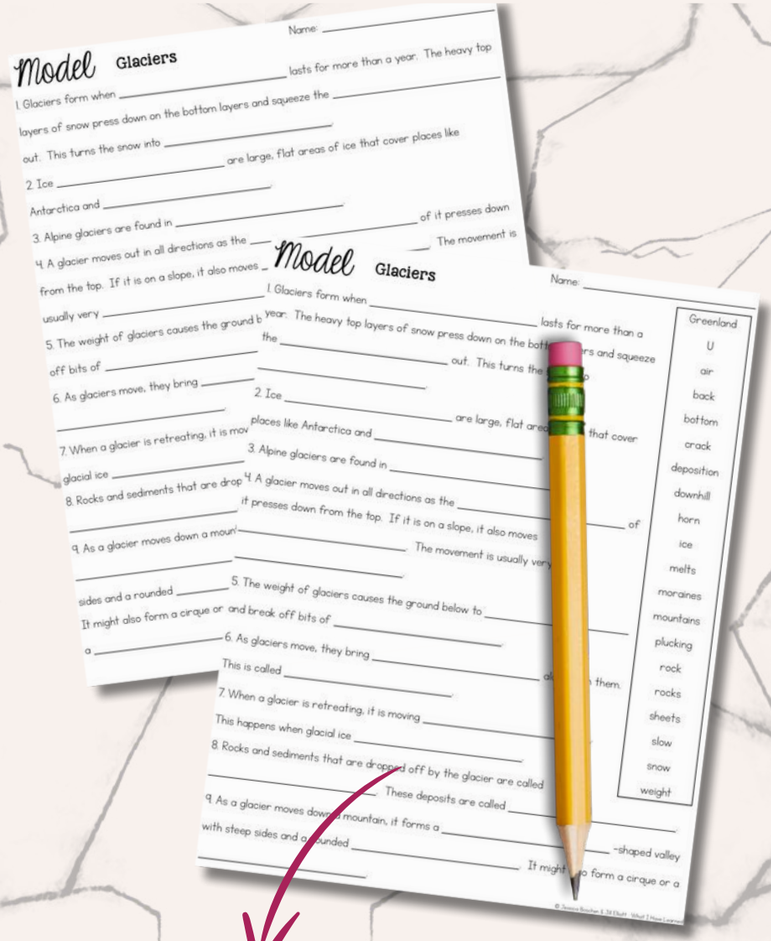


HANDS-ON ACTIVITIES

DIFFERENTIATED QUESTIONS



SHORT ANSWER



FILL-IN-THE BLANK



TASK CARDS:
SHORT ANSWER & MULTIPLE CHOICE

Model — Glaciers

Many glaciers are ice sheets. They are large, flat areas of ice. Ice sheets cover Antarctica and Greenland. Most of the world's glacial ice is found in ice sheets. Other glaciers in the world are found in mountains. These are called alpine, or mountain, glaciers. Alpine glaciers are found on every continent in the world, even in Africa.

As snow keeps getting added, the glacier gets heavier. The heavy glacier presses down from the top. This causes it to move out in all directions. If the glacier is on a slope, it also moves downhill. Most of the time, glaciers move slowly. The movement is so slow, you cannot see it happen. Sometimes in warmer months, the glacier moves much faster. They can move up to 10 feet in a day.

The weight of the glacier causes the ground below it to crack. Rocks
process called **weathering**. Glaciers pick up these rocks and other
called plucking. Glaciers bring the plucked rocks along as they m
scrape the ground below them. They are brought down the m
other sediments and rocks. They scrape long ruts in the gro
This is one way glacial erosion happens.



Model — Glaciers

Huge, mysterious, beautiful, frozen, massive, icy...those are all words that describe glaciers. But what is a glacier? You may have seen pictures of sheets of ice covering acres of land. They often look like big "rivers" of ice flowing across the land. In many ways, glaciers are just that: rivers of ice. Glaciers are sheets of ice that are always moving.



Snow is made up of tiny ice crystals and air. Snowflakes fall to the ground. They trap air between each of the crystals. In most places on Earth, snow melts in the spring and summer. In some places, it never warms up enough in the summer for snow to melt. Glaciers form where the snow lasts for more than a year. Over the years, many layers of snow are added. All this snow is very heavy. The top layers press down on the bottom layers of snow. This squeezes the air between the crystals. The snow turns into ice. When most of the air has been squeezed out, the icy glacier looks blue.

Model — Glaciers

Name: _____

1. Glaciers form when _snow_ lasts for more than a year. The heavy top layers of snow press down on the bottom layers and squeeze the _air_ out. This turns the snow into _ice_.
2. Ice _sheets_ are large, flat areas of ice that cover places like Antarctica and _Greenland_.
3. Alpine glaciers are found in _mountains_.
4. A glacier moves out in all directions as the _weight_ of it presses down from the top. If it is on a slope, it also moves _downhill_. The movement is usually very _slow_.
5. The weight of glaciers causes the ground below to _crack_ and break off of _rock_.
6. As glaciers move, they bring _rocks_ along with them. This is called _plucking_.
7. When a glacier is retreating, it is moving _back_ because it _melts_.
8. Rocks and sediments that are dropped off by the glacier are called _deposition_.
9. As a glacier moves down a mountain, it carves a _U_ shape with steep sides and a flat _bottom_. It might also carve a cirque or a _horn_.

Model — Glaciers

How do glaciers form?

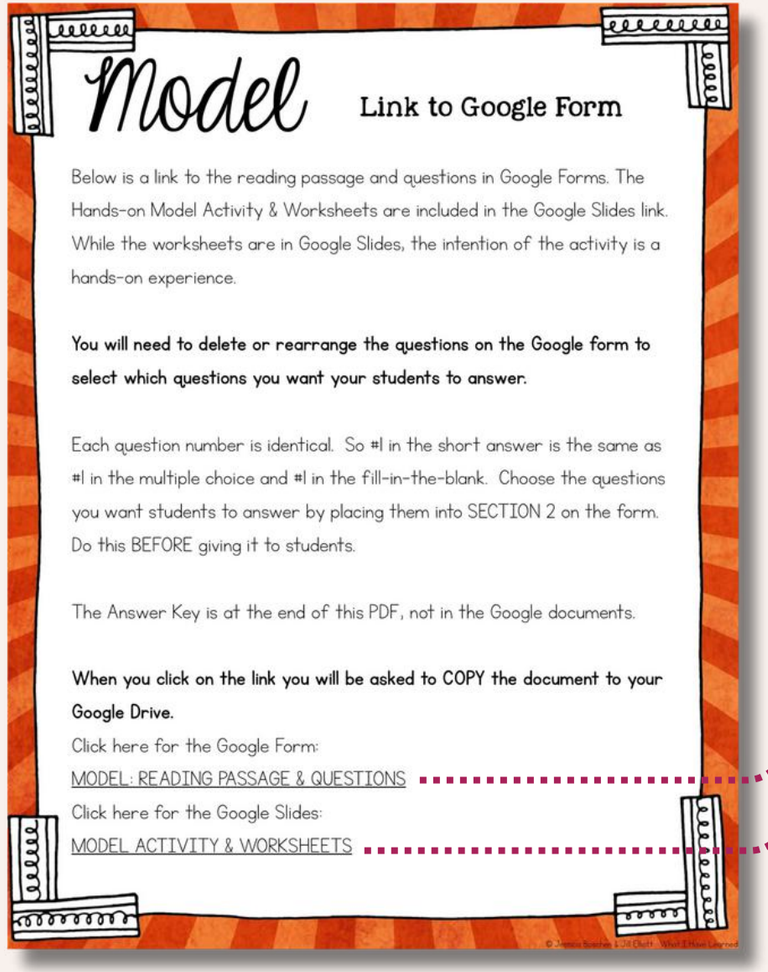
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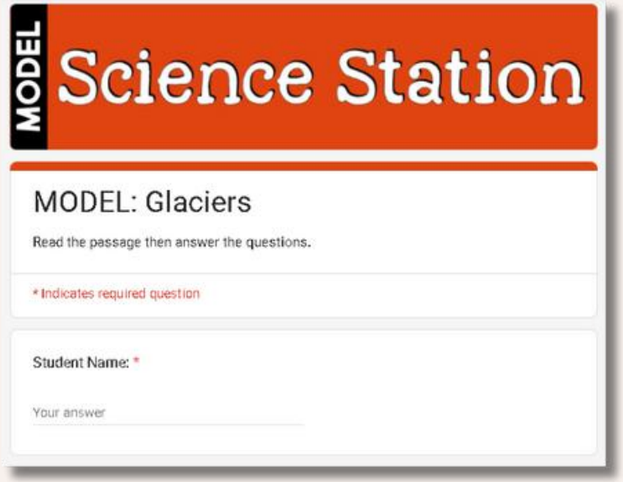
#5 Model — Glaciers

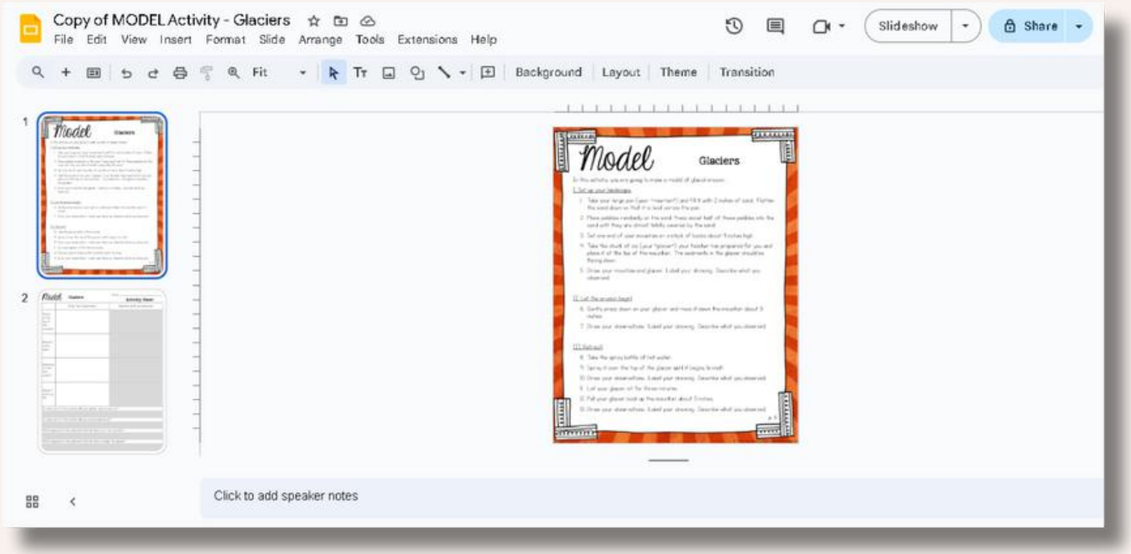
How do glaciers cause erosion?

a. They bring plucked rocks along with them as they move.
b. Their melting snow acts like a glue for sediments.
c. They make more snow fall fro
sky.
d. They close up holes that ar
rocks.

DIGITAL VERSIONS





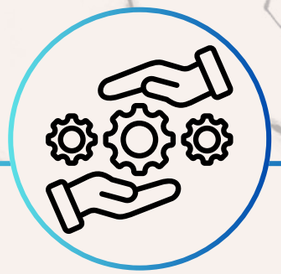


DIGITAL VERSIONS

- ✔ Google Sheet with Activity & Directions
- ✔ Google Form with Reading & Questions

Answer keys provided

YOU WILL LOVE THIS BECAUSE



Hands-On Learning

Students actively model glacier movement and its effects, making abstract concepts tangible and engaging.



Aligned with NGSS

These lesson plans aren't just random; they're laser-focused on Next Generation Science Standards. No more curriculum guesswork!



Print & Digital Flexibility

Includes worksheets, Google Slides, and Google Forms for seamless integration into in-person, hybrid, or virtual classrooms.

TEACHERS LOVE IT!

This was great for my students in my mild/mod SDC class. Very entertaining and engaging for them.

Jessica S.

Using this resource to teach science and hands on activities. Our current science curriculum and materials do not provide anything engaging as this, thanks!

Miss Villalvazo Fourth Grade





My passion is making learning accessible to all students.
I love scaffolding learning, breaking down the concepts and building them up so that students can see the connections.
I love figuring out the small components that build up to the big ideas and helping students see it all.



teach MATH | teach SCIENCE | teach READING | teach WRITING

What I have LEARNED