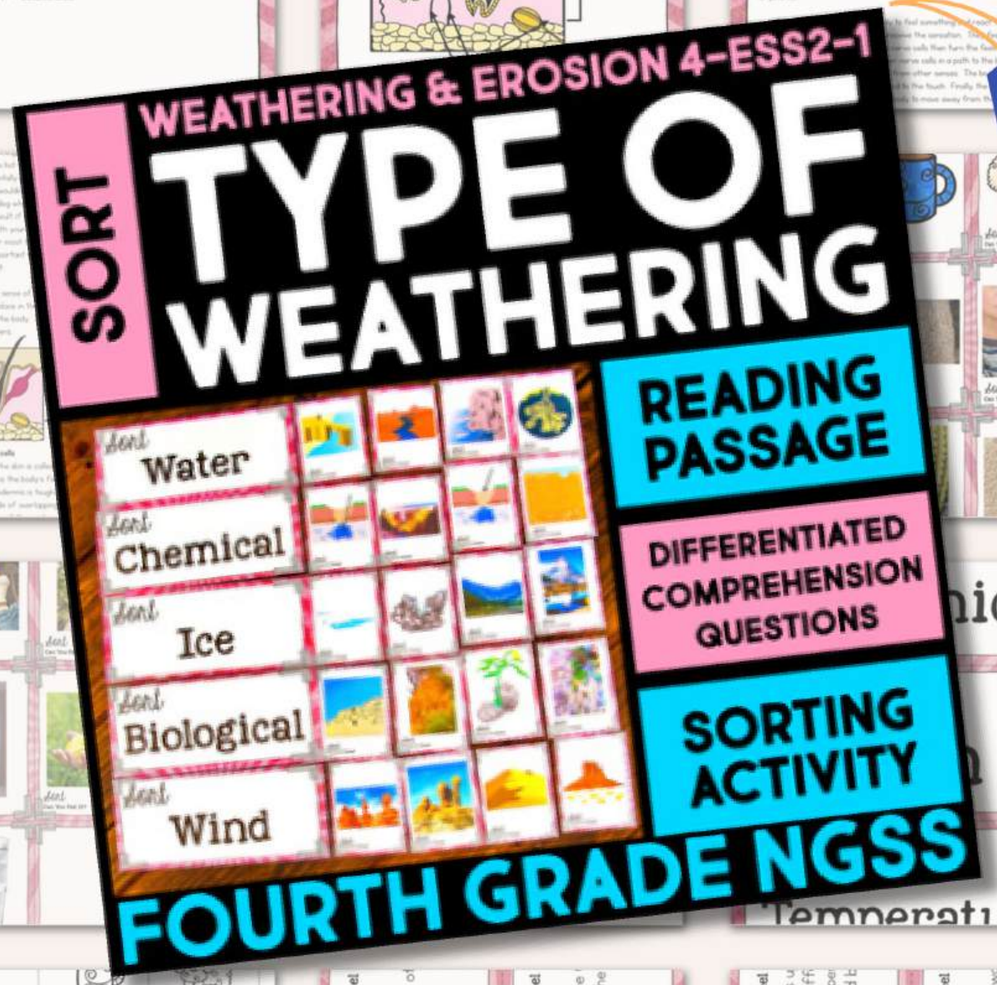


Can You Sort It?

4TH GRADE

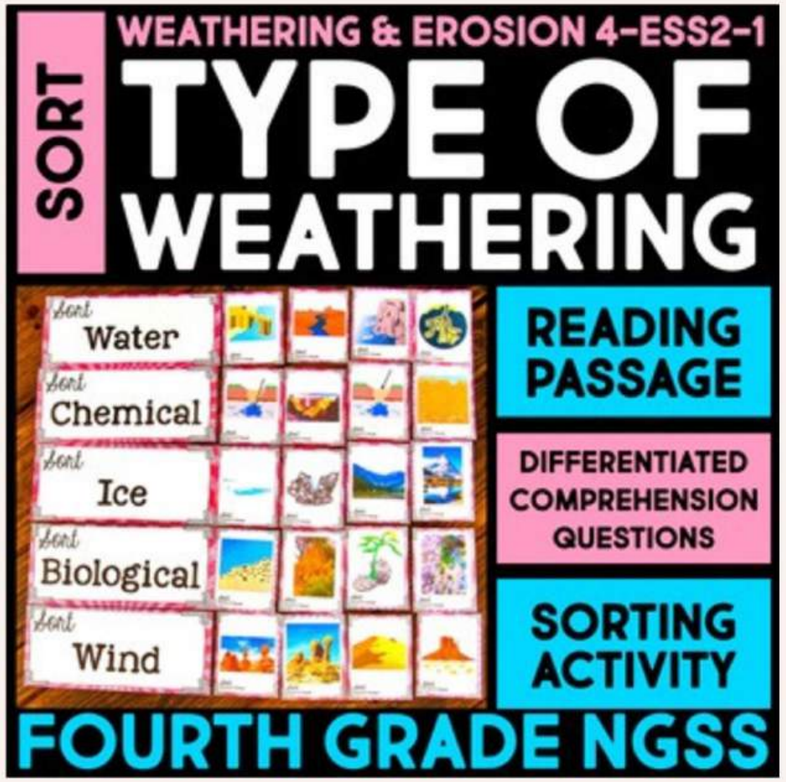
SORT

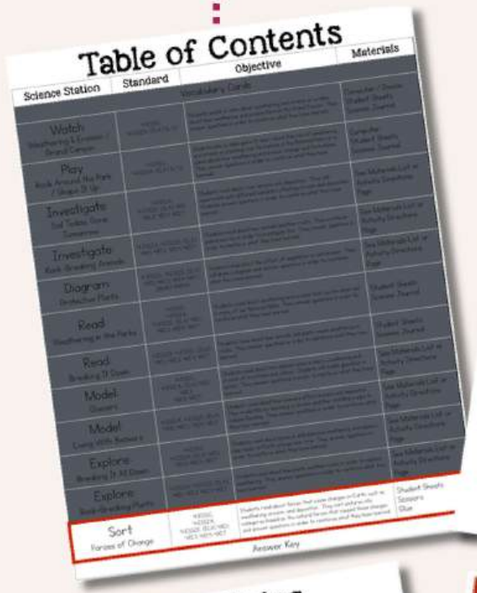
TYPES OF WEATHERING

4th Grade NGSS Life Science

KEEP SCROLLING TO SEE WHAT'S INSIDE!

ACTIVITY OVERVIEW




Table of Contents

Science Station	Standard	Objective	Materials
Watch			
Play			
Investigate			
Investigate			
Diagram			
Read			
Read			
Model			
Model			
Explore			
Explore			
Sort			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.

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.

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

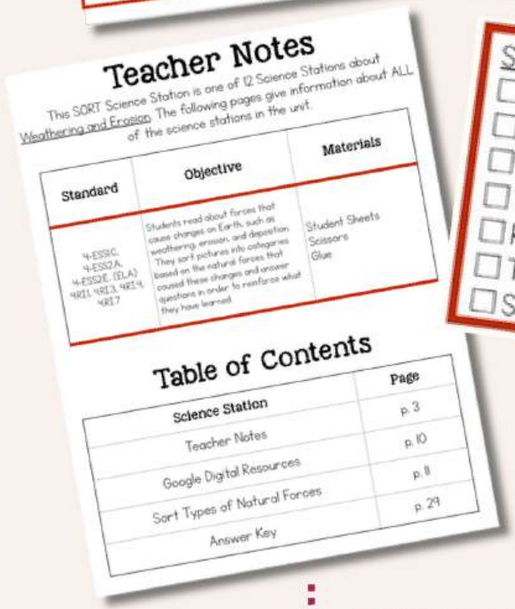
Draw a Diagram
Students draw and label a diagram specific to certain requirements. Students then explain how their diagram meets the requirements.

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.

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.

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

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 SORT 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-ESS2A, 4-ESS2E, (ELA) RI.4.1, RI.4.3, RI.4.4, RI.4.7	Students read about forces that cause changes on Earth, such as weathering, erosion, and deposition. They sort pictures into categories based on the natural forces that caused these changes and answer questions in order to reinforce what they have learned.	Student Sheets, Scissors, Glue

Table of Contents

Science Station	Page
Teacher Notes	p. 3
Google Digital Resources	p. 10
Sort Types of Natural Forces	p. 11
Answer Key	p. 29

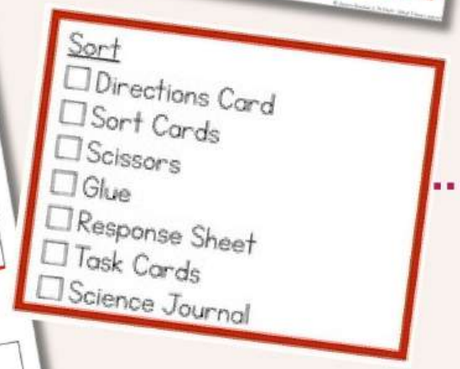

Sort
- ☐ Directions Card
- ☐ Sort Cards
- ☐ Scissors
- ☐ Glue
- ☐ Response Sheet
- ☐ Task Cards
- ☐ Science Journal

Table of Contents

Background Information

Materials Checklist

Teacher Notes/ Table of Contents

WHAT'S INCLUDED

SORTING SCIENCE STAION

- Student Text in two formats
- Sorting Activity with color cards
- Sorting Activity in a b&w worksheet
- Differentiated Questions
- Answer Key
- Google Form
- Google Slides with Sort Activity





Color Sorting Cards

Cut & Paste Sorting









Sort **Forces of Change** Name _____

Look at each picture. Decide which type of erosion caused the landscape to look this way and sort it into its category.

Water

Chemical

Ice

Biological

Wind







READING PASSAGE

Sort

Forces of Change

Student Instructions

The Earth is always changing. Many years ago, the Earth's surface looked much different from today. Mountains grow taller and then shrink back down. Valleys and canyons are made. Holes form in the middle of cliffs. Solid rock turns into caves. What causes such big changes? Water, wind, ice and all types of living things help shape the way our Earth looks. They continue to change the Earth even more. They do this by weathering and erosion. Weathering happens when rocks are broken apart. The pieces of rock that are broken off are called sediments. Sediments are carried away by wind, water, or ice. This is called erosion. After a while, sediments are laid down again. This is called deposition.

Rocks are changed in many ways.

Water

Rivers carry sediments. These sediments scrape the bottom and sides of the riverbed. This weathers rocks even more. Rivers form V-shaped valleys and canyons. The river carries sediments and drops these off where it ends. A delta is a large area of land at the end of the river. It is made of river sediments. These sediments were deposited at the end of the river.

Ocean waves beat against cliffs. Sediments in the waves scrape against cliff walls breaking off small pieces of cliff rock. . Cliff walls have many different shapes because of weathering.

Ice

Glaciers are huge sheets of ice that last for more than a year. They are very heavy and pick up sediments as they grow. They carve out U-shaped valleys. Some glaciers carve cirques in mountains. Cirques are shaped like a bowl. Many cirques can be carved into one mountain. This turns the mountain into a horn.

Water seeps into rocks. It freezes overnight. As water freezes, it gets bigger. Ice takes up more space than water. It pushes open the crack even more. In the day, ice thaws. The crack has more space, so more water seeps in. At night, it freezes again. The crack in the rock gets bigger. Over time, the crack breaks off a piece of rock. This is called ice wedging.

Sort

Forces of Change

Student Instructions

Wind

Wind carries sediments. These sediments scrape rocks as wind blows. Sediments in wind can change rocks into all sorts of shapes. Wind can also cause sand to pile up into a sand dune. As the wind blows, the sand dune moves. It is always changing shape.

Biological

Biological weathering is caused by plants and animals. Plant have roots that grow into the ground. Small roots can grow into cracks in rocks. Roots grow bigger in the rocks. The rocks are split apart by these roots. Some animals dig burrows right into rocks. The rocks are left with big holes in them. Many animals dig burrows into the ground. They move around rocks that are deep underground. These rocks are pushed up to the surface of the Earth. Now these uncovered rocks are exposed to water, oxygen, and other forces of weathering and erosion.

Chemical

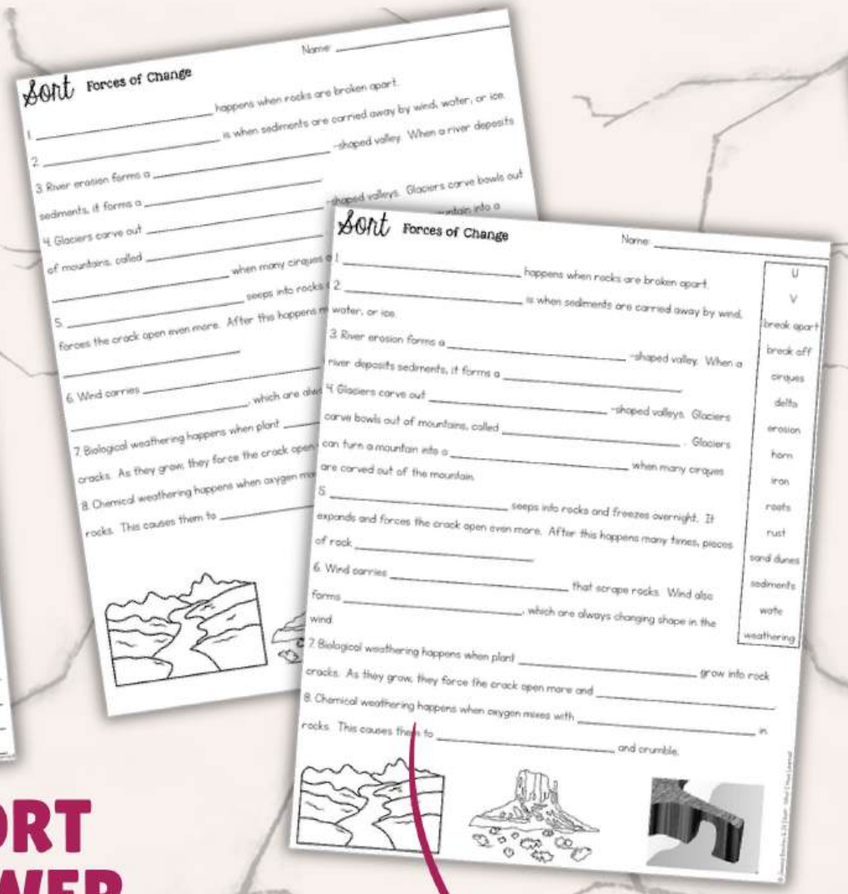
Chemical weathering is when the minerals of a rock are changed. Some rocks have iron in them. Oxygen in the air and soil turn iron into rust. Iron that is changed to rust becomes weak. These rocks crumble. There is carbon dioxide in the air and soil. When water combines with carbon dioxide, it turns into an acid. Acid dissolves some rocks, like limestone and chalk. Acid can dissolve limestone that is below the surface. A hole is left where the limestone was. This forms either a cave or a sinkhole.

Look at the pictures. Decide if the weathering is caused by water erosion, chemical erosion, ice erosion, biological erosion, or wind erosion.

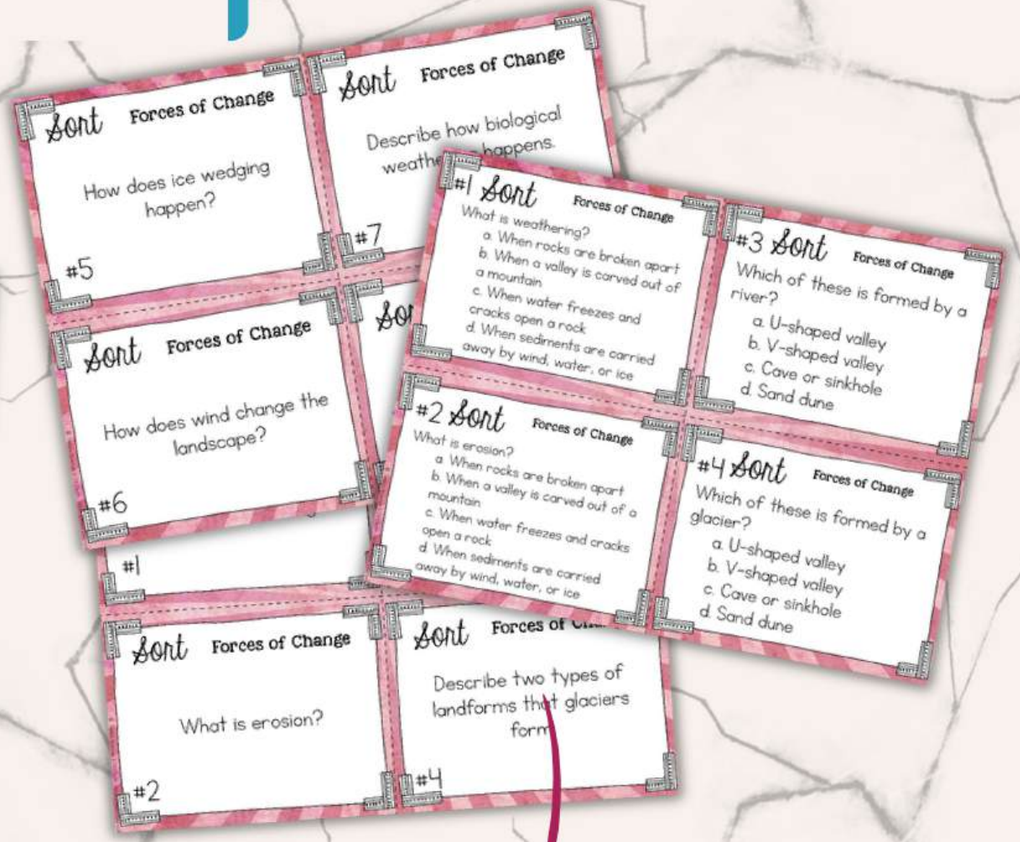
Differentiated Questions



SHORT ANSWER



FILL-IN-THE BLANK



TASK CARDS:
SHORT ANSWER &
MULTIPLE CHOICE

Sort Forces of Change

Name: _____

1. Weathering _____ happens when rocks are broken apart.
2. Erosion _____ is when sediments are carried away by wind, water, or ice.
3. River erosion forms a _____ V _____-shaped valley. When a river deposits sediments, it forms a _____ delta _____.
4. Glaciers carve out _____ U _____-shaped valleys. Glaciers carve bowls out of mountains, called _____ cirques _____.
5. _____ bern _____ when many cirques are carved out of the mountain. Glaciers can turn a mountain into a _____ water _____ seeps into rocks and freezes overnight. It expands and forces the crack open even more. After this happens many times, pieces of rock _____ break off _____.
6. Wind carries _____ sediments _____ that scrape rocks. Wind also forms _____ sand dunes _____, which are always changing shape in the wind.
7. Biological weathering happens when plant _____ roots _____ grow into rock cracks. As they grow, they force the crack open more and _____ break apart _____.
8. Chemical weathering happens when oxygen mixes with _____ iron _____ in rocks. This causes them to _____ rust _____ and crumble.







Sort Forces of Change

Name: _____

1. What is weathering?
Weathering happens when rocks are broken apart.
2. What is erosion?
Erosion is when sediments are carried away by wind, water, or ice.
3. Describe two types of landforms that rivers form.
Rivers erosion forms a V-shaped valley. River erosion forms a delta, a large area of land at the end of the river.
Describe two types of landforms that glaciers form.
Glaciers carve out U-shaped valleys. Glaciers carve bowls out of mountains, called cirques.
4. When does ice wedging happen? ice wedging happens when many cirques are carved out of the mountain.
5. How does water cause weathering? water seeps into rocks and freezes overnight, it expands and forces the crack open even more. After this happens many times, pieces of rock break off.
6. How does wind change the landscape?
Wind carries sediments that scrapes rock. It can also form sand dunes, which are always changing shape in the wind.
7. How does biological weathering happen?
biological weathering happens when plant roots grow into rock cracks. As they grow, they force the crack open more and break apart.
8. How does chemical weathering change rocks?
chemical weathering happens when oxygen mixes with iron in rocks. This causes them to rust and crumble.

YOU WILL LOVE THIS BECAUSE



Hands-On and Visual Learning

Students engage with real-world images to classify types of weathering.



Aligned with NGSS

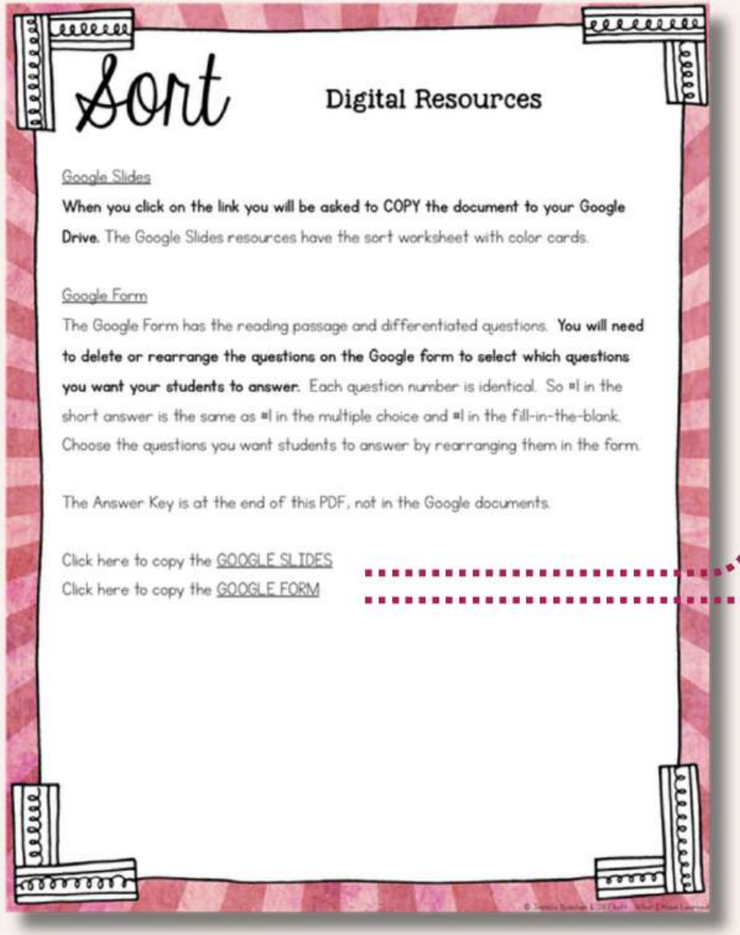
These lesson plans aren't just random; they're laser-focused on Next Generation Science Standards. No more curriculum guesswork!

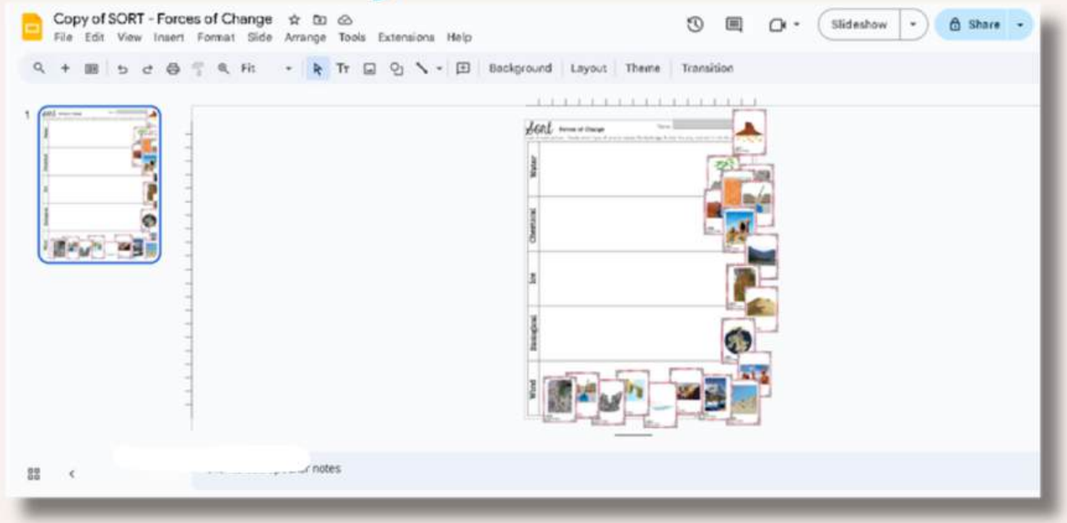


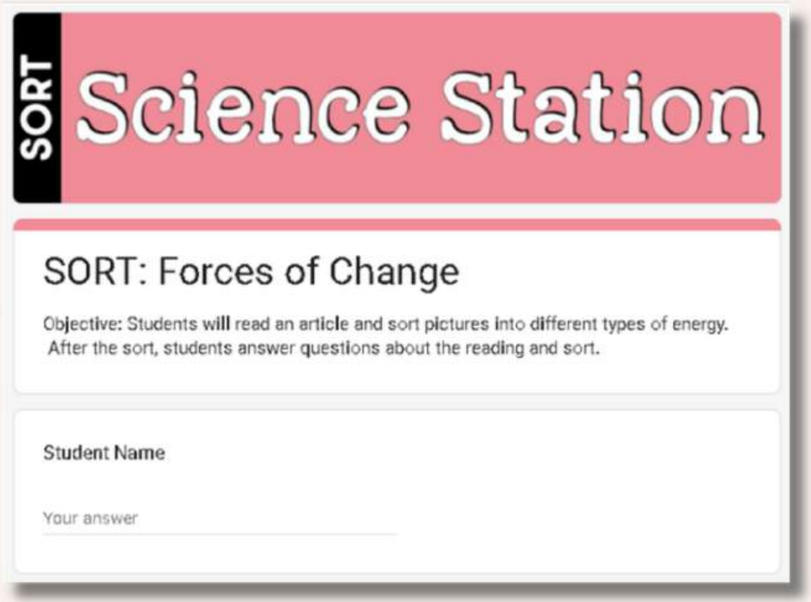
Supports Differentiated Instruction

Multiple response formats (task cards, worksheets, and digital options) cater to different learning styles.

DIGITAL VERSIONS







DIGITAL VERSIONS

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

Answer keys provided

TEACHERS LOVE IT!

Thank you for making this resource on the different types of forces. My students struggle, so whenever I can find a wonderful resource such as this one, it helps! It helps them to see things visually regardless of what we are discussing in Science.

Shelley M.



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