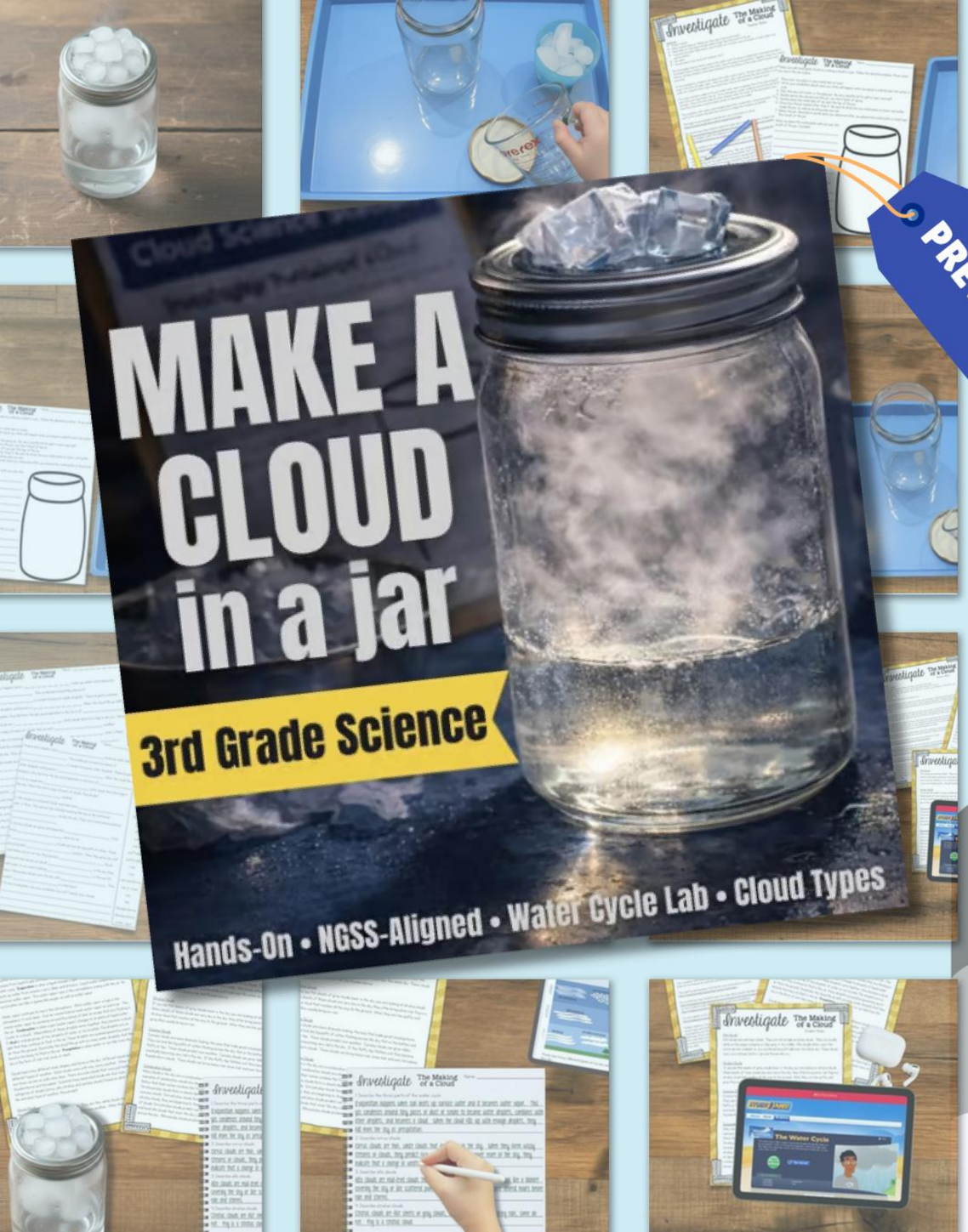


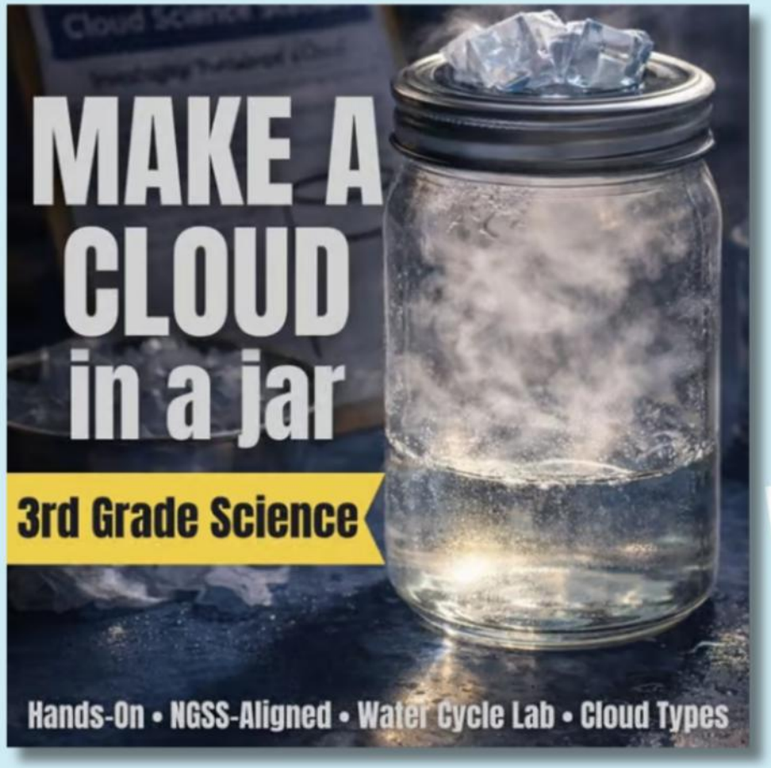
Observe · Experiment · Explain · Connect

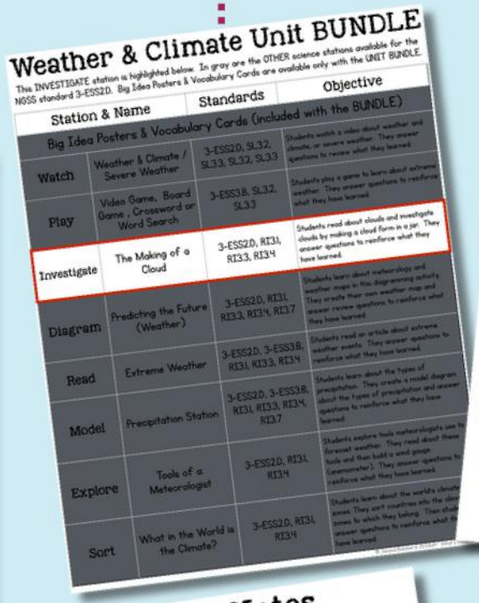
3RD GRADE

INVESTIGATE RAIN CLOUD IN A JAR BOTTLE

KEEP SCROLLING TO SEE WHAT'S INSIDE!

ACTIVITY OVERVIEW

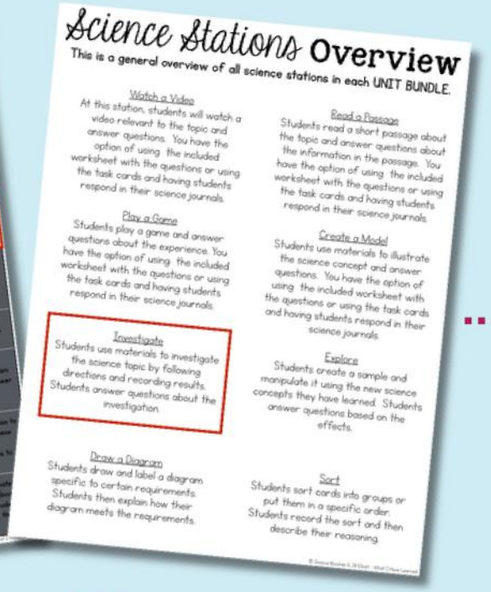




Weather & Climate Unit BUNDLE

This INVESTIGATE station is highlighted below. In gray are the OTHER science stations available for the NGSS standard 3-ESS2D. Big Idea Posters & Vocabulary Cards are available only with the UNIT BUNDLE.

Station & Name		Standards	Objective
Big Idea Posters & Vocabulary Cards (included with the BUNDLE)			
Watch	Weather & Climate / Severe Weather	3-ESS2D, SL.3.2, SL.3.3, SL.3.2, SL.3.3	Students watch a video about weather and climate, or severe weather. They answer questions to review what they learned.
Play	Video Game, Board Game , Crossword or Word Search	3-ESS3B, SL.3.2, SL.3.3	Students play a game to learn about extreme weather. They answer questions to reinforce what they have learned.
Investigate	The Making of a Cloud	3-ESS2D, RI3.1, RI3.3, RI3.4	Students read about clouds and investigate clouds by making a cloud form in a jar. They answer questions to reinforce what they have learned.
Diagram	Predicting the Future (Weather)	3-ESS2D, RI3.1, RI3.3, RI3.4, RI3.7	Students learn about meteorology and weather maps in this diagramming activity. They create their own weather map and answer review questions to reinforce what they have learned.
Read	Extreme Weather	3-ESS2D, 3-ESS3B, RI3.1, RI3.3, RI3.4	Students read an article about extreme weather events. They answer questions to reinforce what they have learned.
Model	Precipitation Station	3-ESS2D, 3-ESS3B, RI3.1, RI3.3, RI3.4, RI3.7	Students learn about the types of precipitation. They create a model diagram about the types of precipitation and answer questions to reinforce what they have learned.
Explore	Tools of a Meteorologist	3-ESS2D, RI3.1, RI3.4	Students explore tools meteorologists use to forecast weather. They read about these tools and then build a wind gauge (anemometer). They answer questions to reinforce what they have learned.
Sort	What in the World is the Climate?	3-ESS2D, RI3.1, RI3.4	Students learn about the world's climate zones. They sort countries into the climate zones to which they belong. Then students answer questions to reinforce what they have learned.



Science Stations Overview

This is a general overview of all science stations in each UNIT BUNDLE.

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

Play a Game
Students play a game and answer questions about the experience. You have the option of using the included worksheet with the questions or using the task cards and having 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.

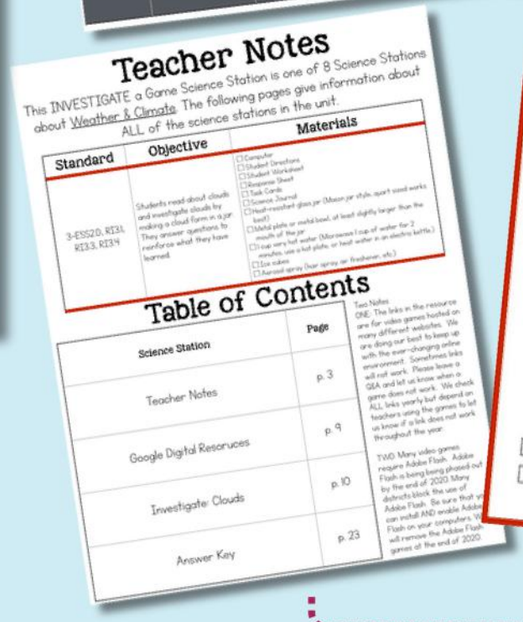
Draw a Diagram
Students draw and label a diagram specific to certain requirements. Students then explain how their diagram meets the requirements.

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 using the included worksheet with the questions or using the task cards and having 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 using the included worksheet with the questions or using the task cards and having students respond in their science journals.

Explore
Students create a sample and manipulate it using the new science concepts they have learned. Students answer questions 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 INVESTIGATE a Game Science Station is one of 8 Science Stations about Weather & Climate. The following pages give information about ALL of the science stations in the unit.

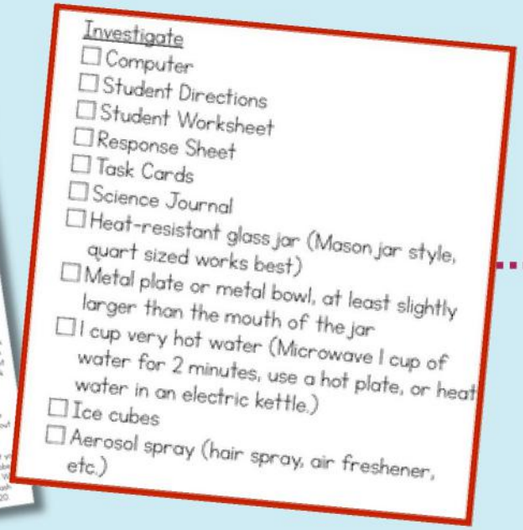
Standard	Objective	Materials
3-ESS2D, RI3.1, RI3.3, RI3.4	Students read about clouds and investigate clouds by making a cloud form in a jar. They answer questions to reinforce what they have learned.	☐Computer ☐Student Directions ☐Student Worksheet ☐Response Sheet ☐Task Cards ☐Science Journal ☐Heat-resistant glass jar (Mason jar style, quart sized works best) ☐Metal plate or metal bowl, at least slightly larger than the mouth of the jar ☐1 cup very hot water (Microwave 1 cup of water for 2 minutes, use a hot plate, or heat water in an electric kettle.) ☐Ice cubes ☐Aerosol spray (hair spray, air freshener, etc.)

Table of Contents

Science Station	Page
Teacher Notes	p. 3
Google Digital Resources	p. 9
Investigate: Clouds	p. 10
Answer Key	p. 23

Two Notes
ONE: The links in the resource are for video games hosted on many different websites. We are doing our best to keep up with the ever-changing online environment. Sometimes links will not work. Please leave a Q&A and let us know when a game does not work. We check ALL links yearly but depend on teachers using the games to let us know if a link does not work throughout the year.

TWO: Many video games require Adobe Flash. Adobe Flash is being being phased out by the end of 2020. Many districts block the use of Adobe Flash. Be sure that you can install AND enable Adobe Flash on your computers. We will remove the Adobe Flash games at the end of 2020.



Investigate
- ☐ Computer
- ☐ Student Directions
- ☐ Student Worksheet
- ☐ Response Sheet
- ☐ Task Cards
- ☐ Science Journal
- ☐ Heat-resistant glass jar (Mason jar style, quart sized works best)
- ☐ Metal plate or metal bowl, at least slightly larger than the mouth of the jar
- ☐ 1 cup very hot water (Microwave 1 cup of water for 2 minutes, use a hot plate, or heat water in an electric kettle.)
- ☐ Ice cubes
- ☐ Aerosol spray (hair spray, air freshener, etc.)

Unit Bundle

Science Station Overview

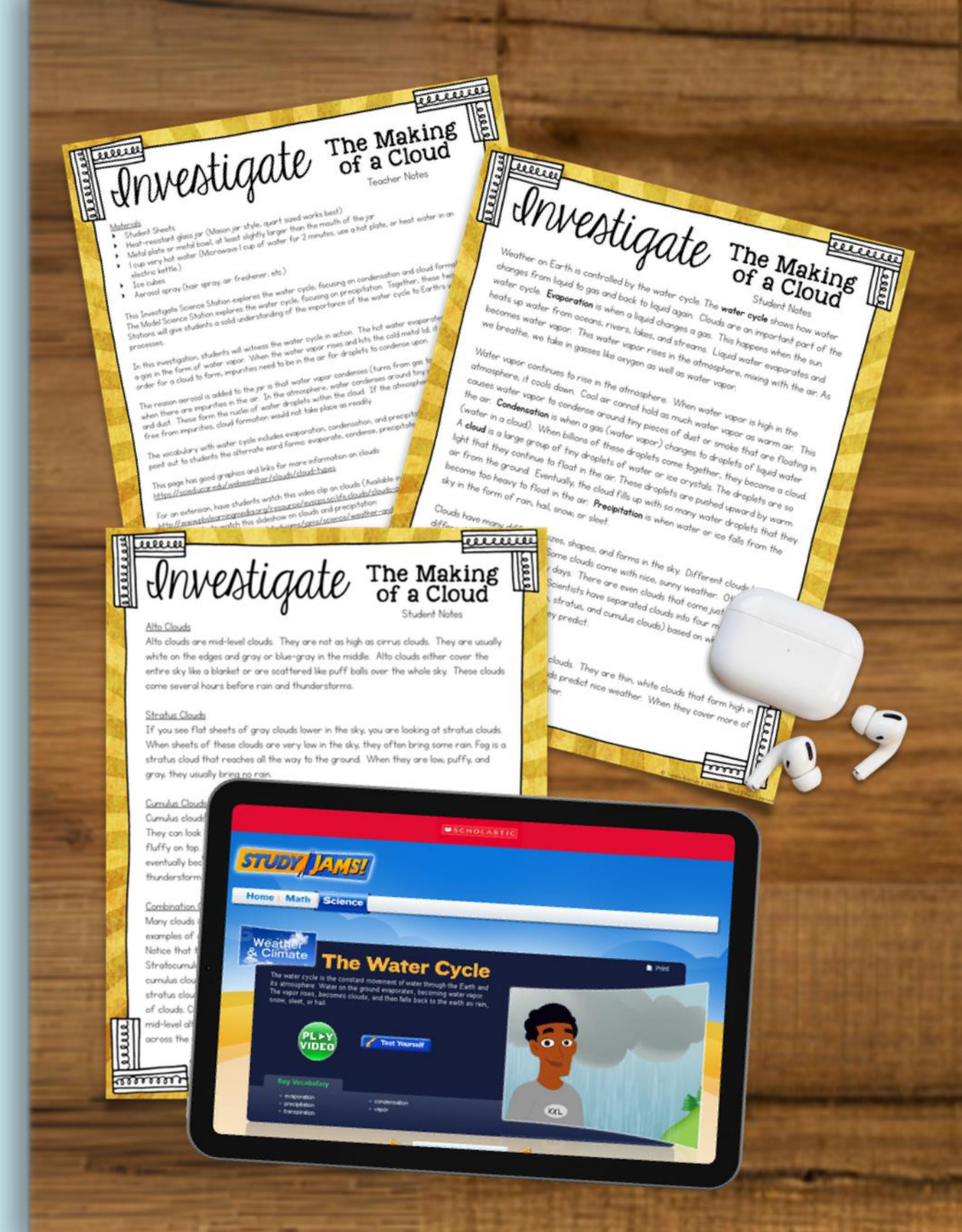
Materials Checklist

Teacher Notes & Table of Contents

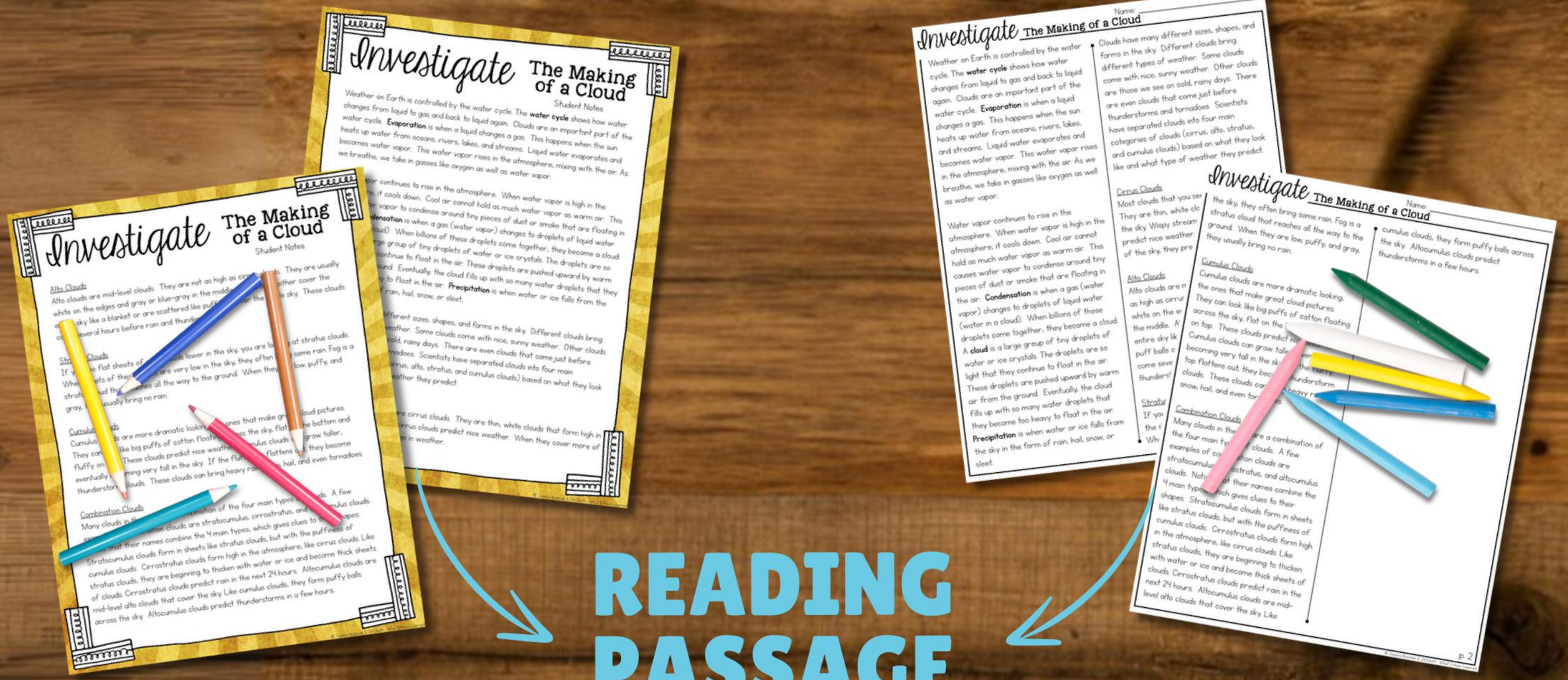
WHAT'S INCLUDED

INVESTIGATE SCIENCE STATION

- **Teacher Notes** and **Materials List**
- **Reading passage**
- **Step-by-step lab directions** to create a cloud in a jar
- **Differentiated worksheets**
- **Science journal prompts** and response sheets
- **8 printable task cards** for classroom station rotation
- **Answer Key**
- **Google Form™**
- **Google Slides™**

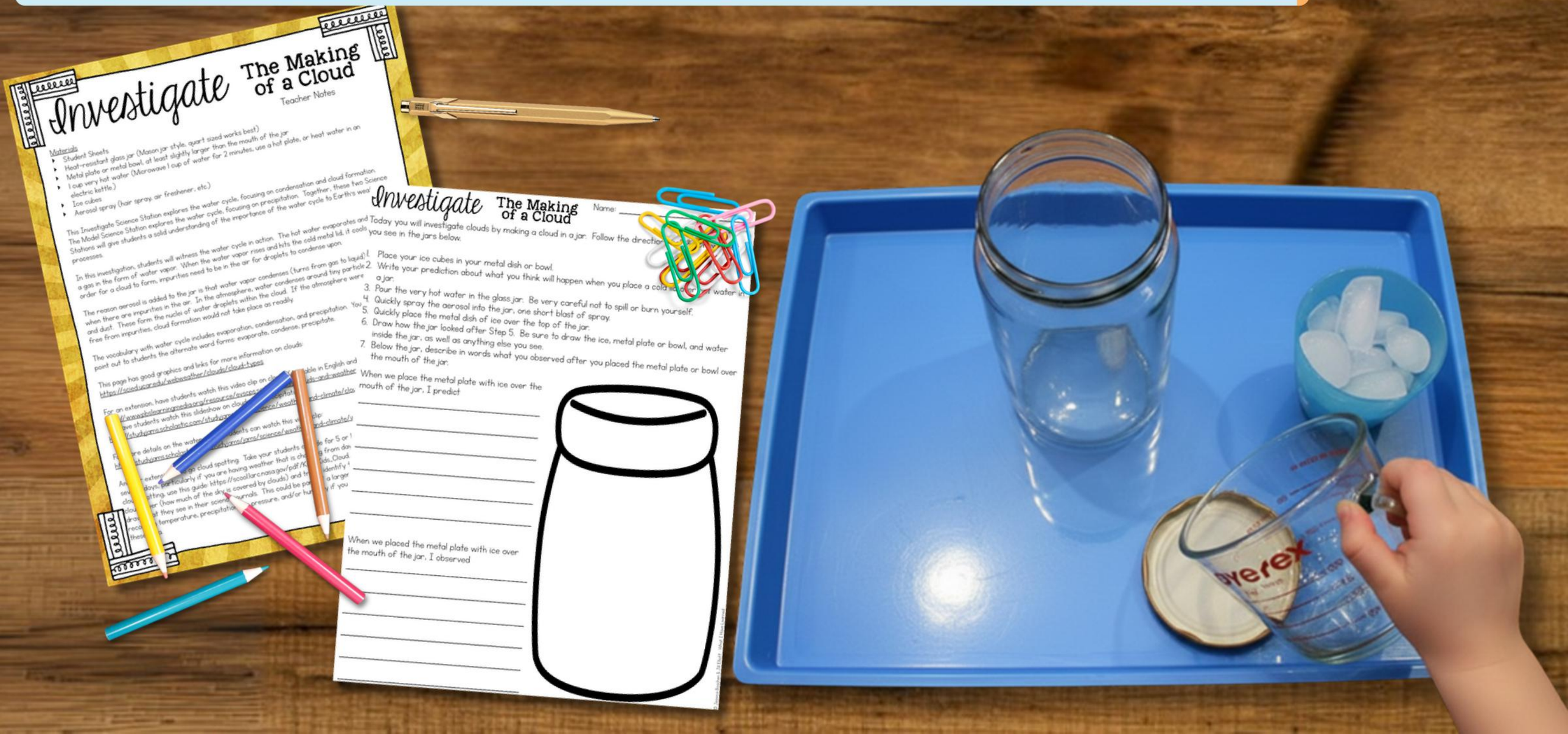


INVESTIGATE: READING PASSAGE



READING PASSAGE

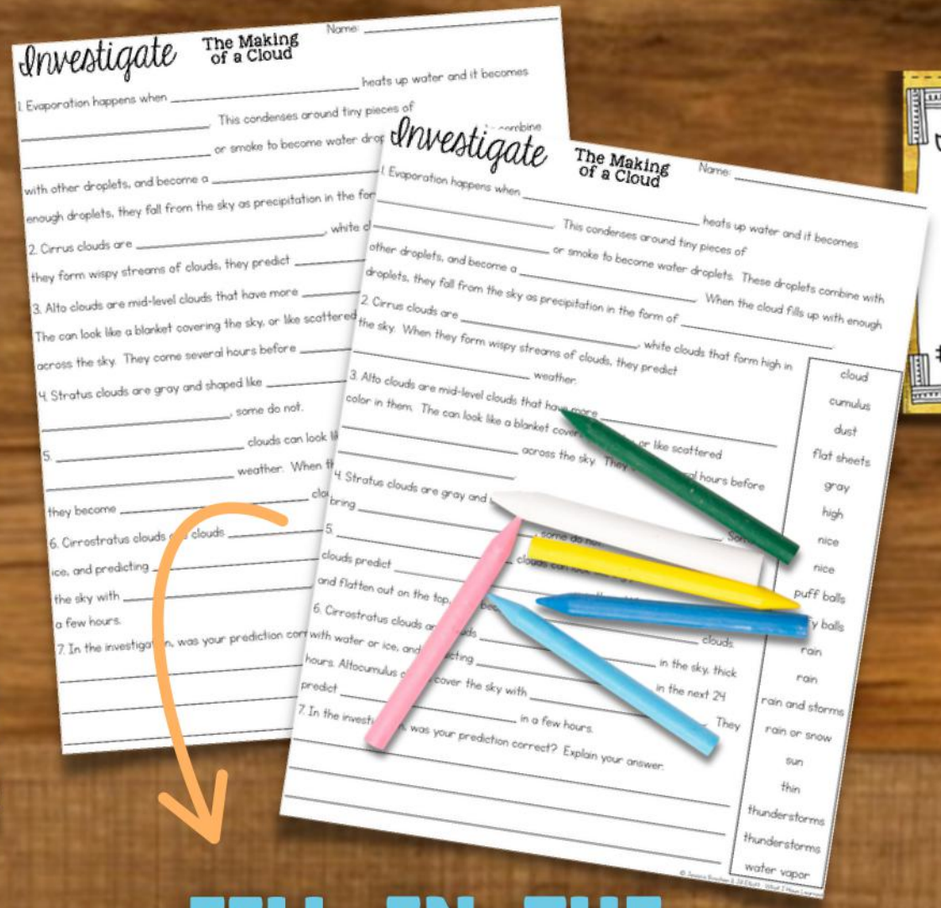
ENGAGING ACTIVITY & WORKSHEETS



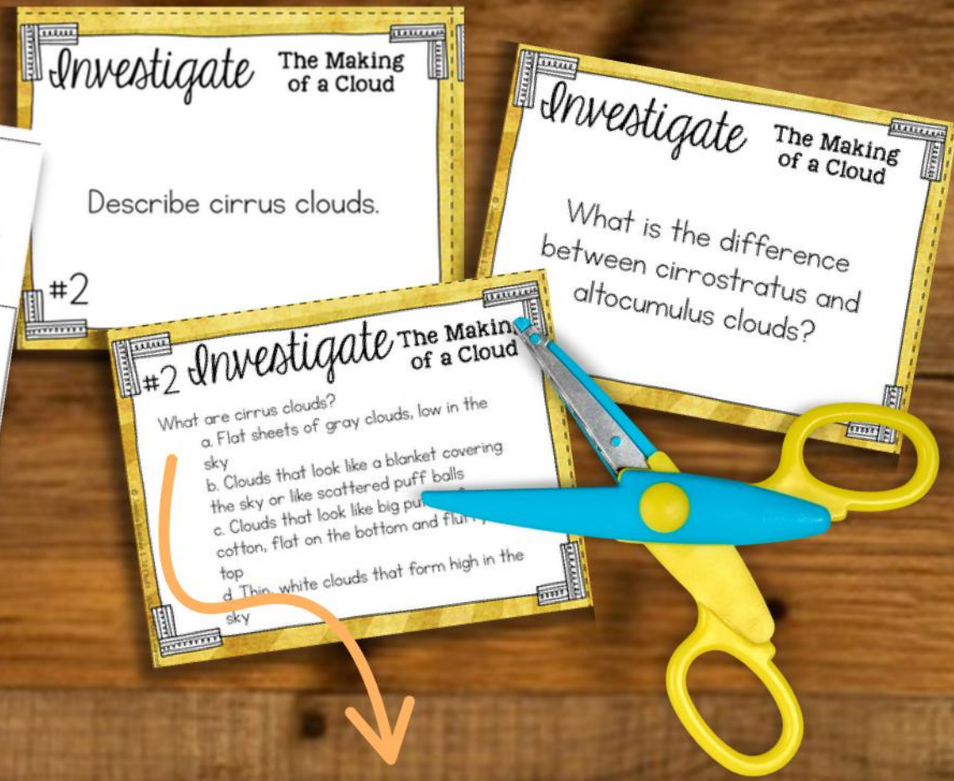
DIFFERENTIATED QUESTIONS



SHORT ANSWER



FILL-IN-THE BLANK



TASK CARDS: SHORT ANSWER & MULTIPLE CHOICE

Investigate The Making of a Cloud

Student Notes

Weather on Earth is controlled by the water cycle. The **water cycle** shows how water changes from liquid to gas and back to liquid again. Clouds are an important part of the water cycle. **Evaporation** is when a liquid changes a gas. This happens when the sun heats up water from oceans, rivers, lakes, and streams. Liquid water evaporates and becomes water vapor. This water vapor rises in the atmosphere, mixing with the air. As we breathe, we take in gasses like oxygen as well as water vapor.

Water vapor continues to rise in the atmosphere. When water vapor is high in the atmosphere, it cools down. Cool air cannot hold as much water vapor as warm air. This causes water vapor to condense around tiny pieces of dust or smoke that are floating in the air. **Condensation** is when a gas (water vapor) changes to droplets of liquid water (water in a cloud). When billions of these droplets come together, they become a cloud. A **cloud** is a large group of tiny droplets of water or ice crystals. The droplets are so light that they continue to float in the air. These droplets are pushed upward by warm air from the ground. Eventually, the cloud fills up with so many water droplets that they become too heavy to float in the air. **Precipitation** is when water or ice falls from the sky in the form of rain, hail, snow, or sleet.

Clouds have many different sizes, shapes, and forms in the sky. Different clouds bring different types of weather. Some clouds come with nice, sunny weather. Other clouds are those we see on cold, rainy days. There are even clouds that come just before thunderstorms and tornadoes. Scientists have separated clouds into four main categories of clouds (cirrus, alto, stratus, and cumulus clouds) based on what they look like and what type of weather they predict.

Cirrus Clouds

They are thin, white clouds that ... nice weather. When they ...

Investigate The Making of a Cloud

Student Notes

Alto Clouds

Alto clouds are mid-level clouds. They are not as high as cirrus clouds. They are usually white on the edges and gray or blue-gray in the middle. Alto clouds either cover the entire sky like a blanket or are scattered like puff balls over the whole sky. These clouds come several hours before rain and thunderstorms.

Stratus Clouds

If you see flat sheets of gray clouds lower in the sky, you are looking at stratus clouds. When sheets of these clouds are very low in the sky, they often bring some rain. Fog is a stratus cloud that reaches all the way to the ground. When they are low, puffy, and gray, they usually bring no rain.

Cumulus Clouds

Cumulus clouds are more dramatic looking, the ones that make great cloud pictures. They can look like big puffs of cotton floating across the sky, flat on the bottom and fluffy on top. These clouds predict nice weather. Cumulus clouds can grow taller, eventually becoming very tall in the sky. If the fluffy top flattens out, they become thunderstorm clouds. These clouds can bring heavy rain, snow, hail, and even tornadoes.

Combination Clouds

Many clouds in the sky are a combination ...

examples of combination clouds are ...

Notice that their names combine the 4 ma...

Stratocumulus clouds form in sheets like ...

cumulus clouds. Cirrostratus clouds form ...

stratus clouds, they are beginning to thick...

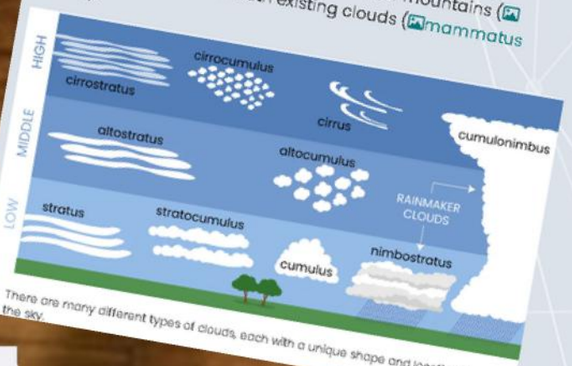
of clouds. Cirrostratus clouds predict rain in ...

mid-level alto clouds that cover the sky Li...

across the sky. Altocumulus clouds predict ...

How Are Clouds Classified?

Most clouds can be divided into groups (high/middle/low) based on the height of the cloud's base above the Earth's surface. Other clouds are grouped not by their height, but by their unique characteristics, such as those that form over mountains (lenticular clouds) or beneath existing clouds (mammatus clouds).



There are many different types of clouds, each with a unique shape and location in the sky.

Investigate The Making of a Cloud

Name: _____

1. Describe the three parts of the water cycle.

Evaporation happens when sun heats up surface water and it becomes water vapor. This gas condenses around tiny pieces of dust or smoke to become water droplets, combines with other droplets, and becomes a cloud. When the cloud fills up with enough droplets, they fall from the sky as precipitation.

2. Describe cirrus clouds

Cirrus clouds are thin, white clouds that ... in the sky. When they form wispy streams of clouds, they predict nice ... cover more of the sky, they indicate that a change in weath...

3. Describe alto clouds.

Alto clouds are mid-level clouds th... ook like a blanket covering the sky or like scattered puff... ome several hours before rain and storms.

4. Describe stratus clouds.

Stratus clouds are flat sheets of gray clouds, ... bring rain, some do not. Fog is a stratus cloud.

5. Describe cumulus clouds.

Cumulus clouds can look like big puffs of cotton, flat on ... luffy on top. These clouds predict nice weather. When they grow very ... t on the top, they become thunderstorm clouds, bringing major storms.

6. What is the difference between cirrostratus and altocumulus ...

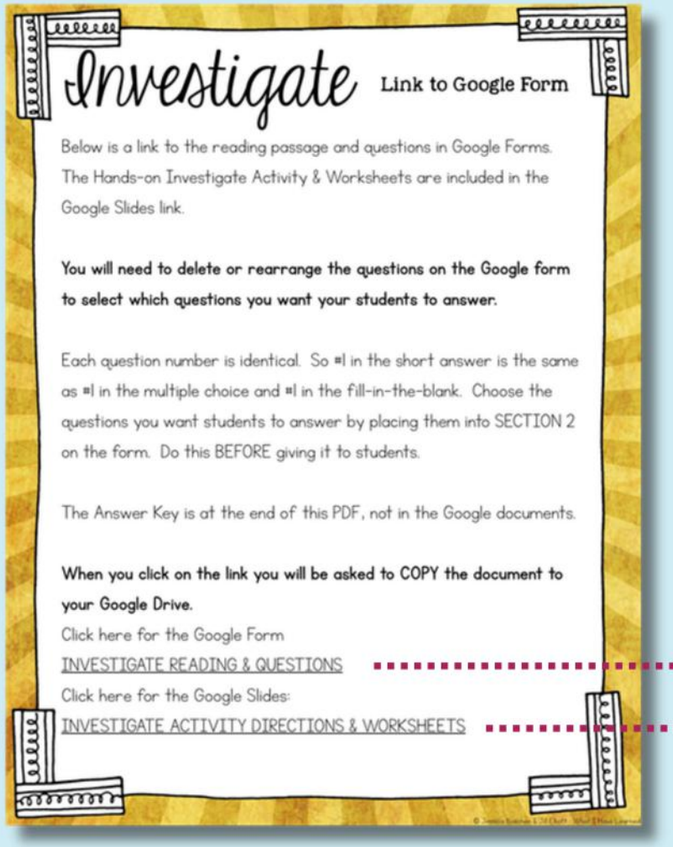
Cirrostratus clouds are high clouds, thickening with water or ice, ar... e next 24 hours. Altocumulus clouds cover the sky with puffy balls. They ... (few hours)

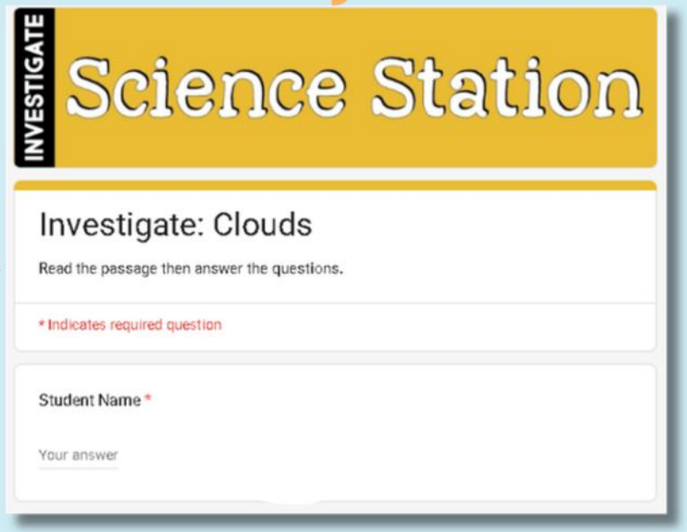


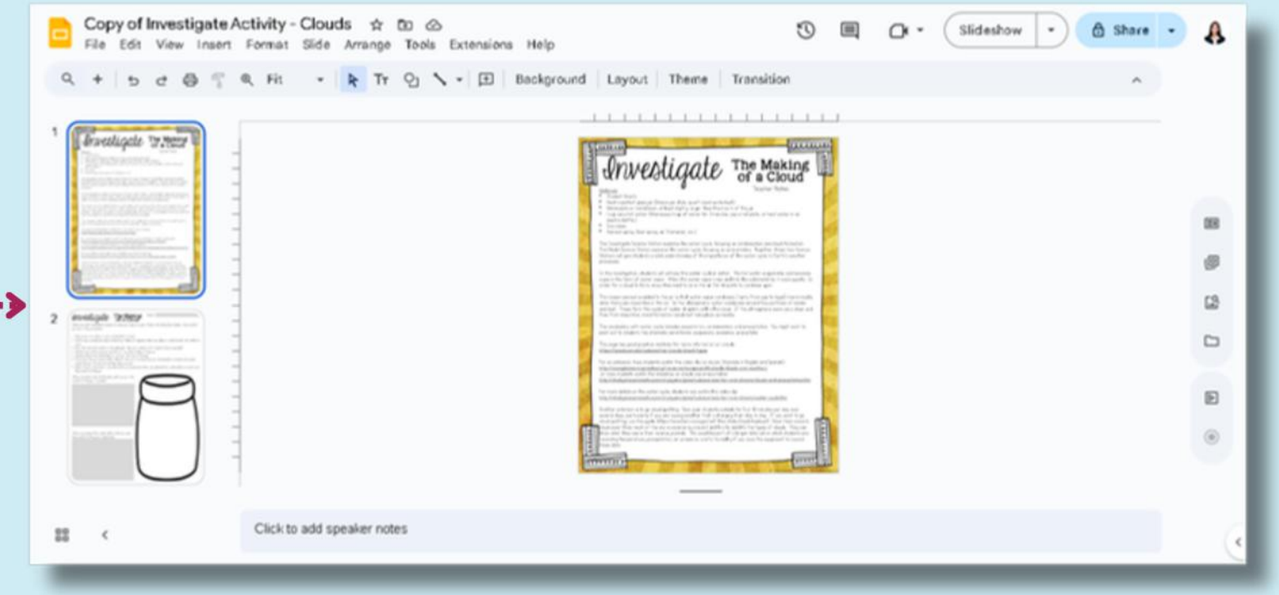




DIGITAL VERSIONS







DIGITAL VERSIONS

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

Answer keys provided

YOU WILL LOVE THIS BECAUSE



Makes Big Science Ideas Hands-On

Creating a cloud in a jar helps students see evaporation and condensation instead of just reading about it.



Strong NGSS Alignment for 3rd Grade

Designed to support 3-ESS2.D by connecting water cycle processes to real-world weather patterns.



Easy Prep with Simple Materials

Clear instructions and common supplies make this experiment quick and stress-free to set up.

TEACHERS LOVE IT!

This was a great purchase. There is more content than I needed but was able to pick and choose what activities I wanted the students to participate in. There are detailed worksheets that I used as quizzes making my job so much easier and it comes with answer sheets.

Marianne D.



I LOVE these science stations. I have the second-grade bundle, but bought a couple of extras since my state's standards are a bit different. These are great!

Simply Learning Primary



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