

WATER CYCLE AND WEATHER

Science Reading

Water Cycle and Weather

The water cycle (Diagram 1) is a continuous process that moves water through Earth's atmosphere, surface, and underground. This cycle is essential for life, distributing water to plants, animals, and humans while also shaping weather and climate. Understanding the water cycle helps us see how water is constantly recycled and its role in maintaining Earth's ecosystems.

Water Cycle

Precipitation

Condensation and Cloud Formation

Transpiration

run off

Local Weather Patterns

Weather can vary greatly from one place to another, even within the same region. This variation is influenced by factors such as location, bodies of water, mountains, and wind patterns. Understanding how these factors work together helps explain local weather conditions and allows meteorologists to make accurate forecasts.

A location's position on Earth plays a major role in determining its weather (Diagram 1). Areas closer to the equator receive more direct sunlight, warming them year-round. For example, countries like Brazil and Indonesia, which sit near the equator, have hot, tropical climates with lots of rainfall. In contrast, locations near the poles receive less direct sunlight, leading to colder climates. Places like Antarctica or northern parts of Canada stay cold most of the year and may experience long winters with snow and ice. Elevation, or how high a place is above sea level, also affects temperature—higher elevations tend to be cooler than lower areas, even at the same latitude (Diagram 2). For example, Flagstaff, Arizona, is located at a high elevation—about 7,000 feet above sea level—and experiences cool temperatures and snowfall in winter. Just a few hours south, Phoenix, Arizona, sits much lower at around 1,100 feet and has a hot desert climate. Even though they're in the same state and at similar latitudes, these differences in elevation and location cause higher elevations have thinner air that holds less heat.

Weather

Weather is the condition of the atmosphere at a specific place and time. It includes factors such as temperature, air pressure, wind, and moisture. These elements constantly change, creating the weather we experience each day. But what causes these changes, and how do they work together?

Weather begins with temperature, which measures how hot or cold the air is. The sun heats Earth's surface, transferring this warmth to the air above it. Warmer air holds more moisture, while colder air holds less. High-pressure systems usually bring clear skies, while low-pressure systems usually bring clouds and precipitation (Diagram 1).

Reading Passages

Notes

Worksheets

Task Cards

Readings with Questions

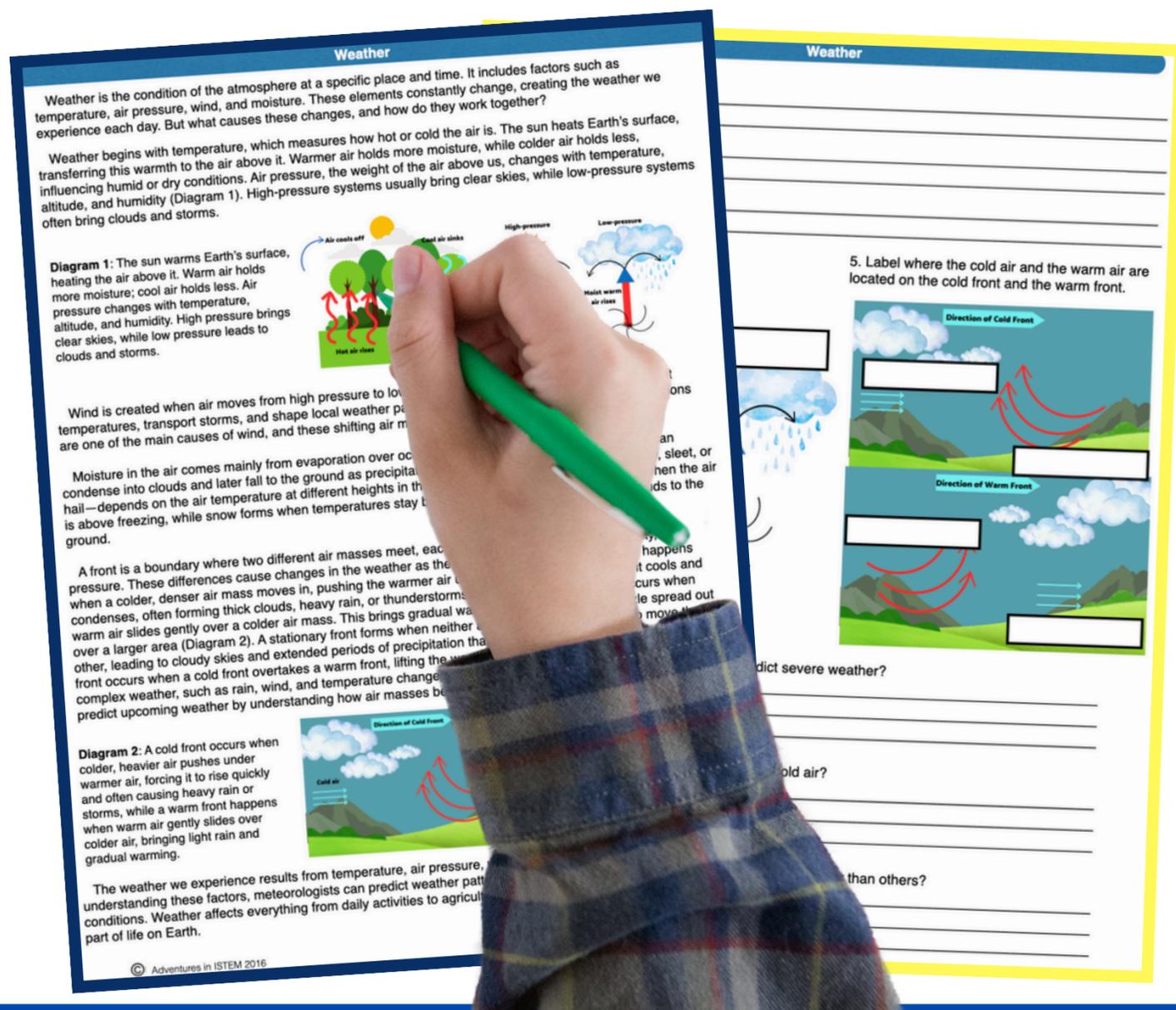
Scroll Through

To take a peek inside!

Help students learn about the water cycle, how we predict weather, and local weather patterns and then test their comprehension with these easy to read science reading passages.

WATER CYCLE AND WEATHER

Science Reading



Topics Included



Water Cycle



Weather including air masses and fronts



Local Weather Patterns

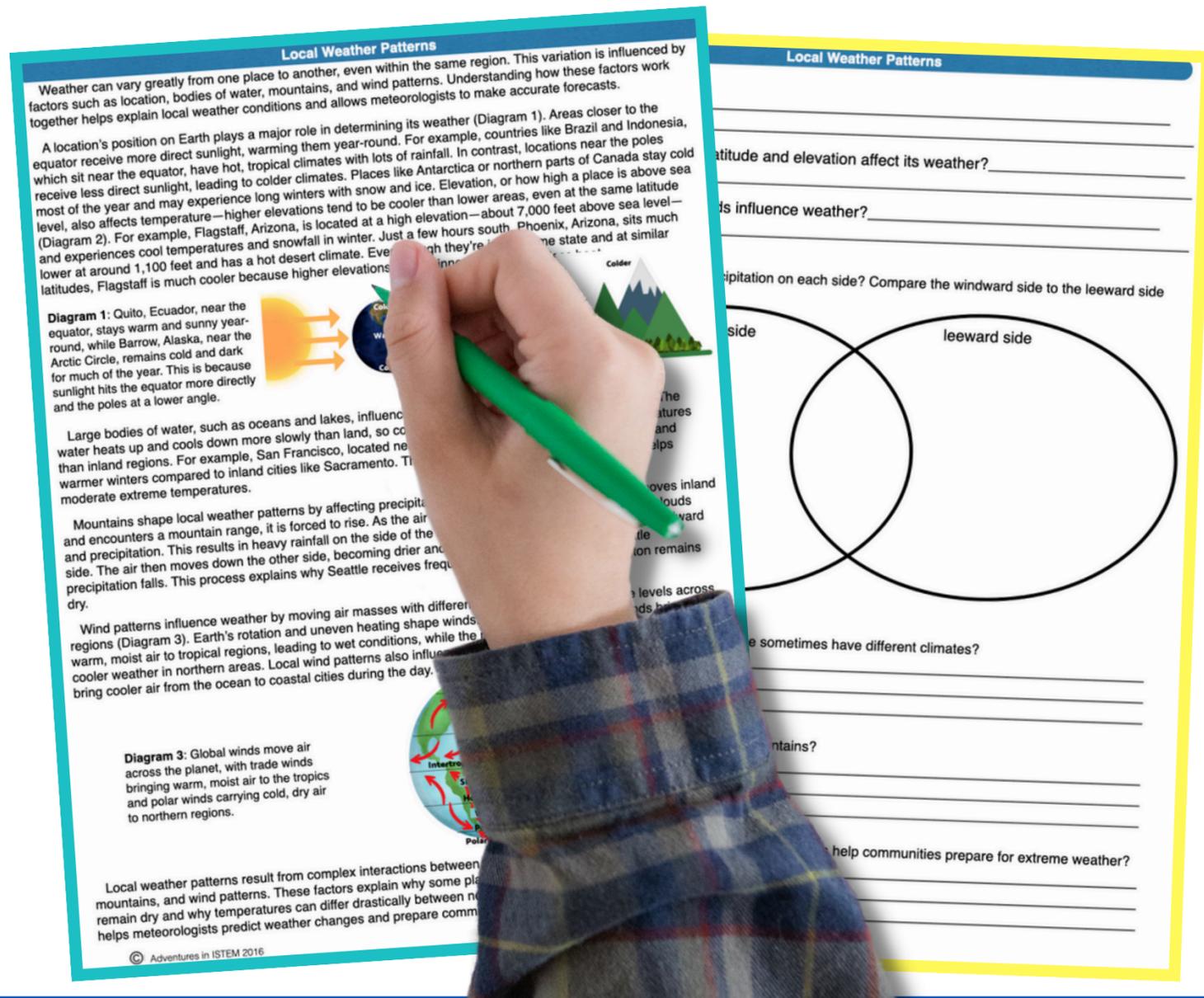
Each topic *includes*

- ✓ **One page science reading passage to teach the topic.**
- ✓ **Notes with questions to guide their reading**
- ✓ **Comprehension worksheets to review the information using multiple levels of questioning**
- ✓ **Task cards to extend their learning and for extra review**
- ✓ **Answer keys to easily check the student knowledge**
- ✓ **Digital version for more flexibility on how to use the lesson**
- ✓ **Lesson Design to help you differentiate the lesson in your classroom**

The image displays a collection of educational resources for a water cycle lesson. At the top left, a worksheet titled "Water Cycle" contains a "Define / Describe:" section with four numbered questions: "1. What is the water cycle?", "2. What is the difference between evaporation and transpiration?", "3. What happens during condensation?", and "4. What forms of precipitation exist?". Below these is an "Identify:" section with question "5. Label the different parts of the water cycle" and a diagram of the water cycle. The diagram shows evaporation from the ocean, transpiration from trees, condensation forming clouds, precipitation as rain or snow, and runoff into a river. To the right is a "Notes" page with a header for "Class:" and "Date:", and a large section of horizontal lines for writing. In the center is a larger, more detailed diagram of the water cycle with labels for "Precipitation", "Condensation and Cloud Formation", "Transpiration", and "Evaporation". Below this diagram is a caption: "Diagram 1: The water cycle begins with evaporation and transpiration...". At the bottom right, a tablet displays a digital version of the worksheet, showing the questions and a diagram with "Add text" boxes for student input. The bottom of the image shows a laptop base.

WATER CYCLE AND WEATHER

Science Reading



What Are *students* Doing?

- ✓ **Marking the text**
- ✓ **Filling in the guided note-taking template**
- ✓ **Reviewing and applying their knowledge**
- ✓ **Reinforcing their understanding**

WATER CYCLE AND WEATHER

Science Reading

Weather

Define / Describe:

1. What is weather?
2. What is air pressure?
3. How does wind form?

Identify:

4. Label which one shows high pressure and which one shows low pressure.

Elaborate / Extend:

6. How can changes in air pressure help predict weather?
7. Why does warm air hold more moisture than cold air?
8. Why do some weather systems move faster than others?

Weather

Weather is the condition of the atmosphere at a specific place and time. It includes factors such as temperature, air pressure, wind, and moisture. These elements constantly change, creating the weather we experience each day. But what causes these changes, and how do they work together?

Weather begins with temperature, which measures how hot or cold the air is. The sun heats Earth's surface, transferring this warmth to the air above it. Warmer air holds more moisture, while colder air holds less, influencing humid or dry conditions. Air pressure, the weight of the air above us, changes with temperature, altitude, and humidity (Diagram 1). High-pressure systems usually bring clear skies, while low-pressure systems often bring clouds and storms.

When air moves from high pressure to low pressure areas. These movements help shift storm patterns, and shape local weather patterns. Temperature differences between regions are the main causes of wind, and these shifting air masses can greatly impact weather.

A front is a boundary where two different air masses meet, each with its own temperature, humidity, and pressure. These differences cause changes in the weather as the air masses interact. A cold front happens when a colder, denser air mass moves in, pushing the warmer air upward. As the warm air rises, it cools and condenses, often forming thick clouds, heavy rain, or thunderstorms. In contrast, a warm front occurs when warm air slides gently over a colder air mass. This brings gradual warming, with light rain or drizzle spread out over a larger area (Diagram 2). A stationary front forms when neither air mass is strong enough to move the other, leading to cloudy skies and extended periods of precipitation that can last for several days. An occluded front occurs when a cold front overtakes a warm front, lifting the warm air off the ground and often causing complex weather, such as rain, wind, and temperature changes. These different fronts help meteorologists predict upcoming weather by understanding how air masses behave when they meet.

Diagram 2: A cold front occurs when colder, heavier air pushes under warmer air, forcing it to rise quickly and often causing heavy rain or storms, while a warm front happens when warm air gently slides over colder air, bringing light rain and gradual warming.

The weather we experience results from temperature, air pressure, wind, and moisture interactions. By understanding these factors, meteorologists can predict weather patterns, helping people prepare for different conditions. Weather affects everything from daily activities to agriculture and transportation, making it an essential part of life on Earth.

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Different ways to use the science readings

- ✓ Substitute plan on days you will be out
- ✓ Introduction of the material at the beginning of the unit
- ✓ During the explain phase of the 5E model
- ✓ As part of a science station
- ✓ For reteach to reinforcing their understanding
- ✓ During the review at the end of the unit

Why? SCIENCE READING PASSAGES?

- ✓ Increase science literacy in the classroom
- ✓ Simple passages to help students comprehend the information
- ✓ Note-taking template to help students interact with the reading
- ✓ Worksheets to review and apply their knowledge
- ✓ Reinforcement task cards to continue their understanding



“My students and I absolutely loved this resource!!! The way this was planned out with the reading, diagrams, and questions was perfect. I mainly used this with my students but they used it one day with a substitute and they wrote to tell me how great it was! (I think they thought I created it so I have to tell them otherwise!)” -

Nicole

WATER CYCLE AND WEATHER

Science Reading

Water Cycle **Answer Key**

Define / Describe:

1. What is the water cycle? The continuous movement of water through Earth's atmosphere, surface, and underground.
2. What is the difference between evaporation and transpiration? Evaporation is when water turns into vapor from surfaces like oceans or lakes, while transpiration is when water vapor is released from plants through their leaves.
3. What happens during condensation? Water vapor cools and forms tiny water droplets, creating clouds, just like droplets forming on a cold glass.

The water cycle (Diagram 1) is a continuous process that moves water through Earth's atmosphere, surface, and underground. This cycle is essential for life, distributing water to plants, animals, and humans while also shaping weather and climate. Understanding the water cycle helps us see how water is constantly recycled and its role in maintaining Earth's ecosystems.

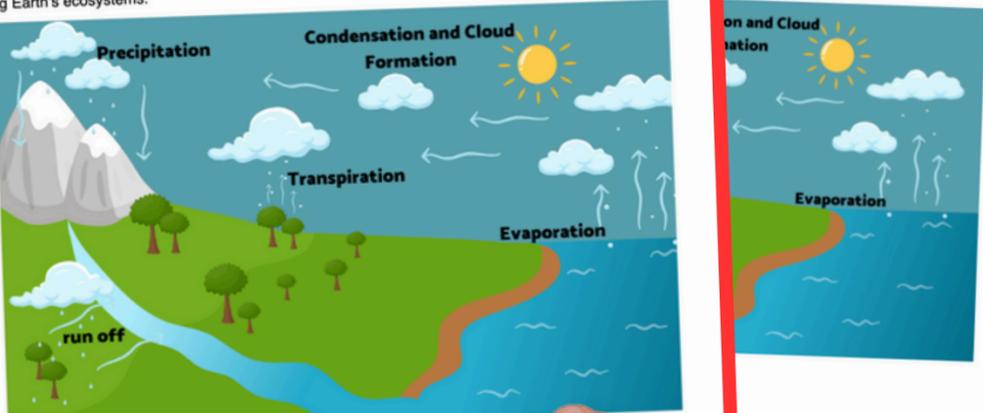


Diagram 1: The water cycle begins with evaporation and transpiration, where water turns into vapor in the atmosphere. Then, it goes through condensation, precipitation, runoff, and infiltration, moving across the land, and into the ground before the cycle starts again.

The water cycle begins with evaporation, the process where the sun heats the water, turning it into water vapor that rises into the air. For example, on a hot summer day, the sun warms the water. Another key process is transpiration, where plants absorb water from the ground and release water vapor from their leaves. A common example is when morning dew disappears from the grass and plants release moisture.

As water vapor rises, it cools and undergoes condensation, the process where water vapor turns into tiny liquid droplets. These droplets gather to form clouds, which are collections of water droplets suspended in the atmosphere. You can observe condensation when water droplets form on a hot day. Cloud formation is crucial because it leads to precipitation, which returns water to the Earth's surface.

When water droplets in clouds become too heavy, they fall as precipitation, which includes rain, snow, sleet, and hail. For example, snowfall in the mountains in winter provides water that will eventually melt and flow into rivers, lakes, and oceans. A great example of runoff is when heavy rain creates streams that flow down hillsides to the Earth's surface. Some water seeps into the ground, replenishing groundwater stored in soil and rock layers. Wells tap into groundwater supplies to provide drinking water in many communities.

The water cycle regulates Earth's climate, which is a region's long-term pattern of temperature and precipitation. It ensures that water is available for all living organisms, distributes heat, supports agriculture, and maintains ecosystems. For example, the Amazon Rainforest depends on high levels of evaporation and precipitation to support its dense plant life. By studying the water cycle, scientists can better understand weather patterns and water conservation needs.

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Check out what teachers just like you have said about the science reading products:



“I love using reading passages in my science classes because I am able to reinforce all the learning strategies they have learned in the past and give the students more understanding of the information provided.” – Suzzane



“I was really glad to find a bundle that included so many of our objectives since we do not have a curriculum” – Amanda



“This article kept my 8th graders engaged while reviewing this topic” Brower Power Science

HOW TO USE THE RESOURCE IN

3 simple steps

1

Print the PDF version, make copies, and hand out to students

2

Use the digital version by clicking the titles in the RED BOX to make your own copy (found at the end of the PDF)

3

Share the resource with your students using your favorite LMS (Google Classroom, Powerschool (schoolology), Canva...)

Interactive Digital Flip Book

Teachers Guide

What You Will Need To Get Started:

1. Download link for the Google Resource by clicking on the titles in the red box

Cell Energy Digital Flip Book Student

Cell Energy Digital Flip Book Teacher

2. Access to the Internet and a Google Account (Free)
3. Google accounts or Microsoft OneDrive accounts for your students to save their work
4. Open the file on your Google Drive. The link will prompt you to make a copy

5. This new copy is now yours to edit and share with your students

6. Printer access if you choose to print the finished product as an actual flip book

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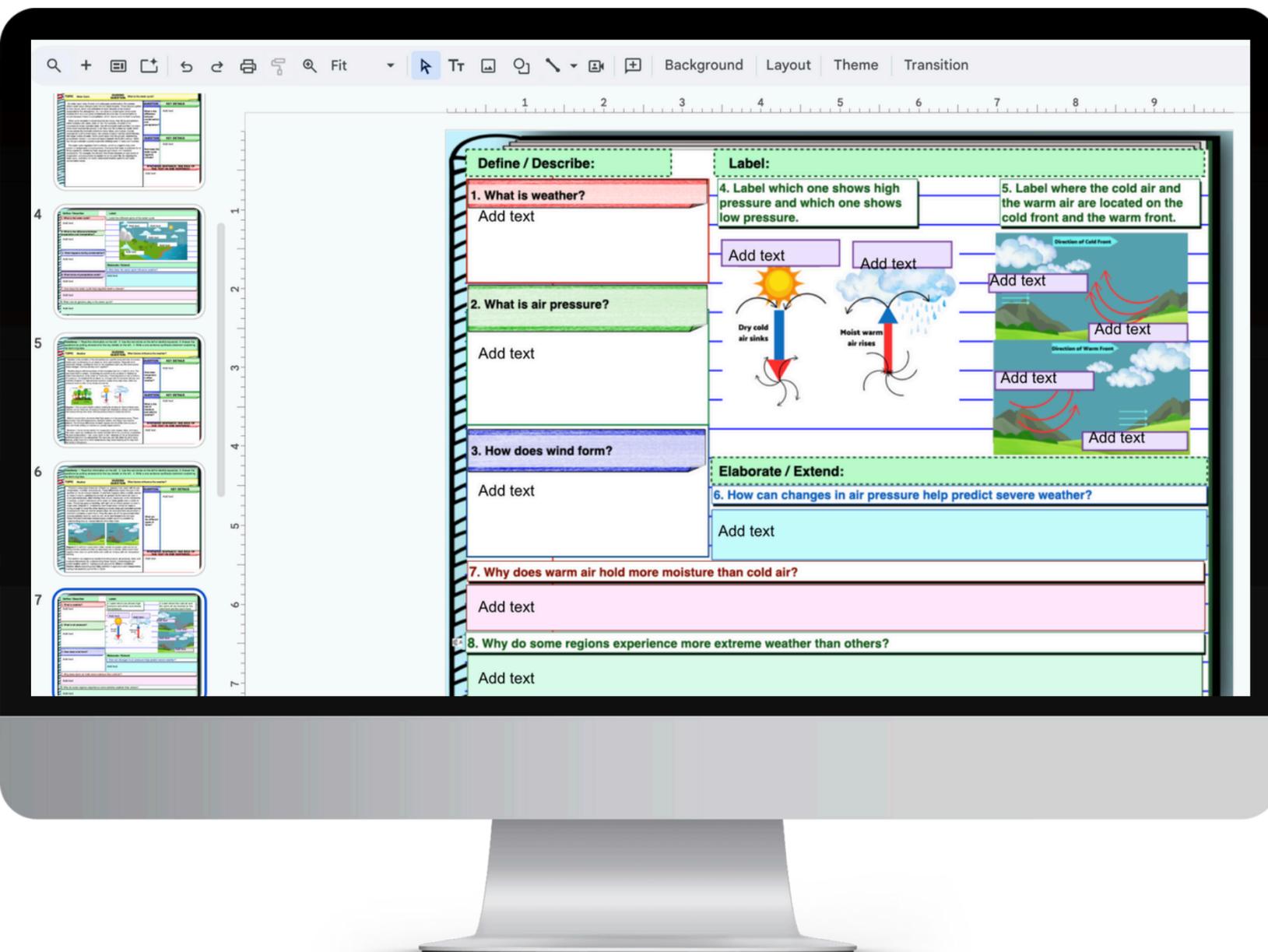
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4. Use with your class

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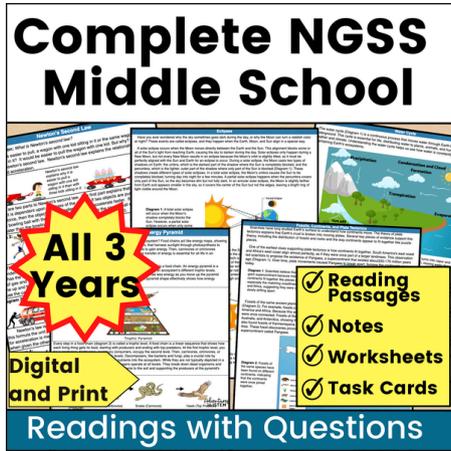
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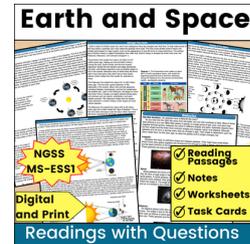
- ✓ Reading Passages
- ✓ Notes
- ✓ Worksheets
- ✓ Task Cards

Digital and Print

Readings with Questions

Earth Science Standards

Earth and Space



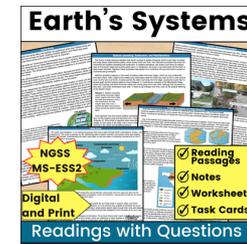
NGSS MS-ESS1

- ✓ Reading Passages
- ✓ Notes
- ✓ Worksheets
- ✓ Task Cards

Digital and Print

Readings with Questions

Earth's Systems



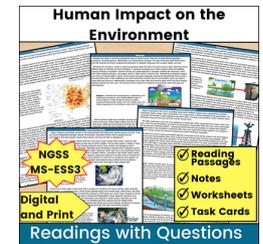
NGSS MS-ESS2

- ✓ Reading Passages
- ✓ Notes
- ✓ Worksheets
- ✓ Task Cards

Digital and Print

Readings with Questions

Human Impact on the Environment



NGSS MS-ESS3

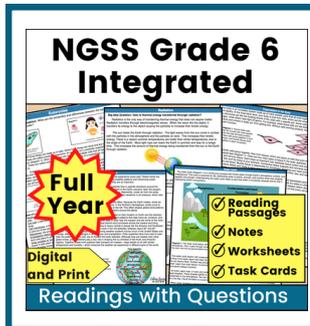
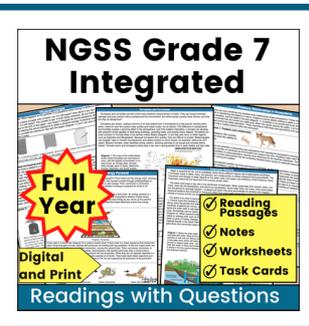
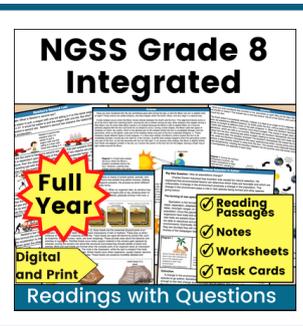
- ✓ Reading Passages
- ✓ Notes
- ✓ Worksheets
- ✓ Task Cards

Digital and Print

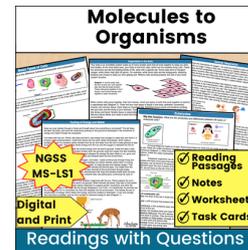
Readings with Questions

Life Science Standards

Integrated Model by Grade Level

<h3>NGSS Grade 6 Integrated</h3>  <p>Full Year</p> <ul style="list-style-type: none">✓ Reading Passages✓ Notes✓ Worksheets✓ Task Cards <p>Digital and Print</p> <p>Readings with Questions</p>	<h3>NGSS Grade 7 Integrated</h3>  <p>Full Year</p> <ul style="list-style-type: none">✓ Reading Passages✓ Notes✓ Worksheets✓ Task Cards <p>Digital and Print</p> <p>Readings with Questions</p>	<h3>NGSS Grade 8 Integrated</h3>  <p>Full Year</p> <ul style="list-style-type: none">✓ Reading Passages✓ Notes✓ Worksheets✓ Task Cards <p>Digital and Print</p> <p>Readings with Questions</p>
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Molecules to Organisms



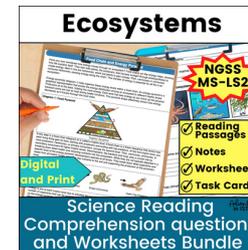
NGSS MS-LS1

- ✓ Reading Passages
- ✓ Notes
- ✓ Worksheets
- ✓ Task Cards

Digital and Print

Readings with Questions

Ecosystems



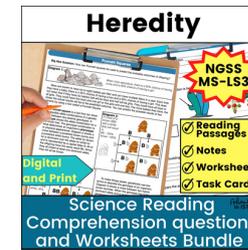
NGSS MS-LS2

- ✓ Reading Passages
- ✓ Notes
- ✓ Worksheets
- ✓ Task Cards

Digital and Print

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Heredity



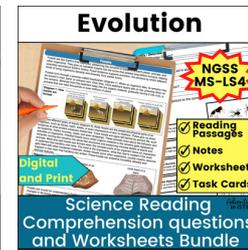
NGSS MS-LS3

- ✓ Reading Passages
- ✓ Notes
- ✓ Worksheets
- ✓ Task Cards

Digital and Print

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Evolution



NGSS MS-LS4

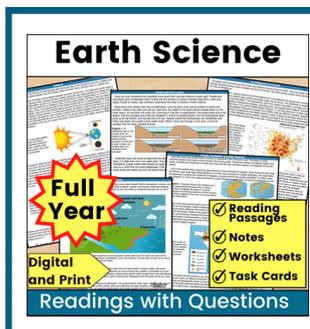
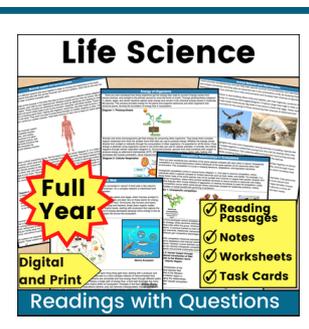
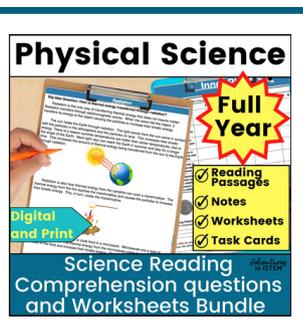
- ✓ Reading Passages
- ✓ Notes
- ✓ Worksheets
- ✓ Task Cards

Digital and Print

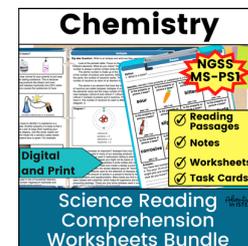
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Physical Science Standards

Alternative Model by Topic

<h3>Earth Science</h3>  <p>Full Year</p> <ul style="list-style-type: none">✓ Reading Passages✓ Notes✓ Worksheets✓ Task Cards <p>Digital and Print</p> <p>Readings with Questions</p>	<h3>Life Science</h3>  <p>Full Year</p> <ul style="list-style-type: none">✓ Reading Passages✓ Notes✓ Worksheets✓ Task Cards <p>Digital and Print</p> <p>Readings with Questions</p>	<h3>Physical Science</h3>  <p>Full Year</p> <ul style="list-style-type: none">✓ Reading Passages✓ Notes✓ Worksheets✓ Task Cards <p>Digital and Print</p> <p>Science Reading Comprehension questions and Worksheets Bundle</p>
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Chemistry



NGSS MS-PS1

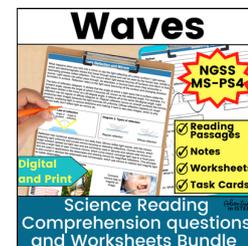
- ✓ Reading Passages
- ✓ Notes
- ✓ Worksheets
- ✓ Task Cards

Digital and Print

Science Reading Comprehension Worksheets Bundle

Chemistry also includes thermal energy

Waves



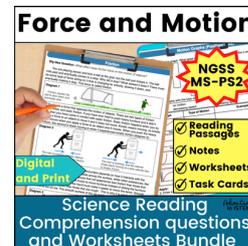
NGSS MS-PS4

- ✓ Reading Passages
- ✓ Notes
- ✓ Worksheets
- ✓ Task Cards

Digital and Print

Science Reading Comprehension questions and Worksheets Bundle

Force and Motion



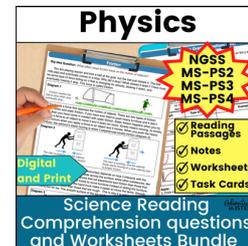
NGSS MS-PS2

- ✓ Reading Passages
- ✓ Notes
- ✓ Worksheets
- ✓ Task Cards

Digital and Print

Science Reading Comprehension questions and Worksheets Bundle

Physics



NGSS MS-PS2, MS-PS3, MS-PS4

- ✓ Reading Passages
- ✓ Notes
- ✓ Worksheets
- ✓ Task Cards

Digital and Print

Science Reading Comprehension questions and Worksheets Bundle

Physics includes mechanical energy



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