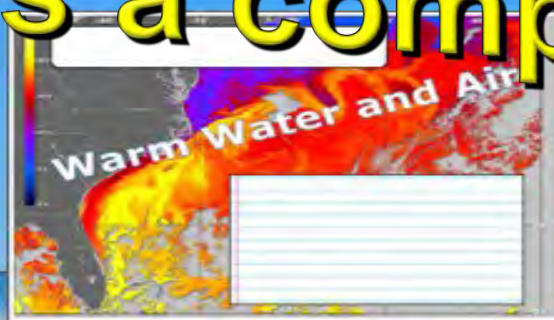


Earth the Water Planet

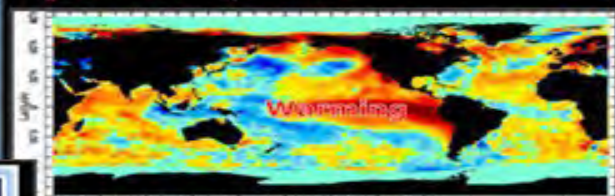
Weather Unit

Preview is a compressed file

The Hydrologic Cycle (Water Cycle) is the continuous movement of water on, above, and below the surface of the earth.



El Niño is a warming of the sea surface water in the eastern and central Pacific Ocean, occurring every 4 to 12 years and causing unusual global weather patterns.



The earth is a...
Water Planet
That sustains life
Cycles matter and energy
And understanding it holds
The key to the present,
past, and future



Which is a solid, liquid, and gas.

A Solid
Molecules form a crystal lattice.

B Liquid
Semi-ordered molecular structure of liquid water.

C Gas
Random molecular structure of gaseous water.

6

Solid Liquid Gas

• Oceans
• Heat and cool the earth.

Cold Cold Cold
Warm Warm Warm

6 Lessons

These are the three main types of clouds?

A Cumulus
B Cirrus
C Stratus

and warm air currents
Gulf Stream
Atlantic Ocean

3

Interactive Slideshows

- Which one is rain, and which one is drizzle?



- Evaporation: Substance changes from liquid state to gas state (requires energy)

Driven by the Sun



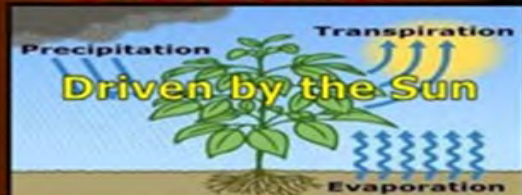
- La Niña is a weather pattern that occurs in the Pacific Ocean. In this pattern, strong winds blow warm water at the ocean's surface from South America to Indonesia.

- As the warm water moves west, cold water from the deep rises to the surface near the coast of South America.

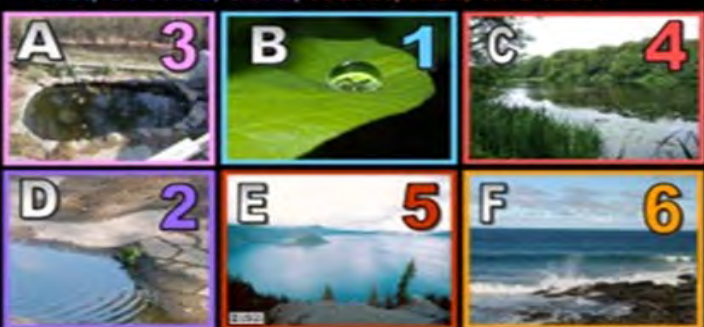


- Transpiration – Water released by plants into air.

- Non-living to the living, and back again.



- Which of the following pictures will freeze first, second, third, fourth, fifth, and last?



- Oceans

- Heat and cool the earth
- The oceans influence climate by absorbing solar radiation and slowly releasing heat needed to drive the atmospheric circulation.

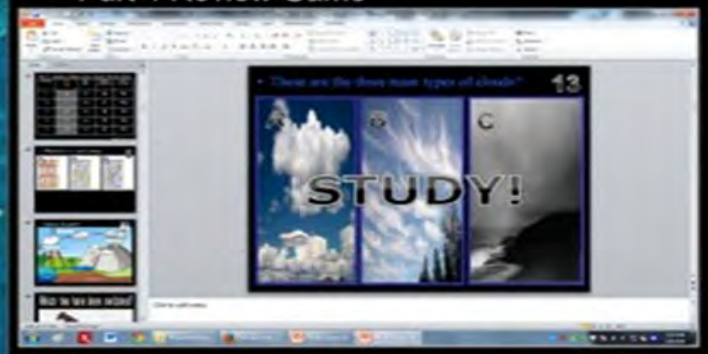
Energy

Slow release

This is also nice for aquatic organisms because the water never gets hot or cold too quickly.



- Part 4 Review Game



Follow Along Bundle

Part 4 Earth the Water Planet

Objectives:

- Identify the major components of the water cycle.
- Explain the processes of evaporation, condensation, precipitation, and runoff.
- Describe the role of water in the environment.

Activities:

- Complete the water cycle diagram.
- Write a paragraph about the importance of water.



Water Cycle Diagram:

1. Evaporation: Water molecules escape from the liquid surface into the air as water vapor.

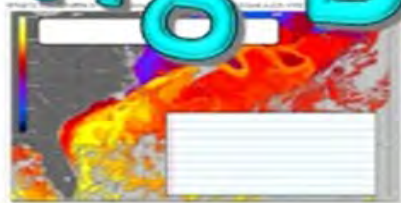
2. Condensation: Water vapor cools and changes into tiny droplets, forming clouds.

3. Precipitation: Water falls from the clouds as rain or snow.

4. Collection: Water collects in bodies of water like oceans, lakes, and rivers.

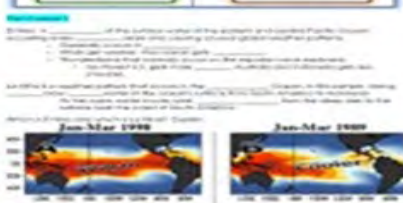
5. Runoff: Water flows over the land or under the ground back to the oceans.

6. Infiltration: Water soaks into the ground, becoming groundwater.



Temperature Variations:

Temperature varies across the globe due to differences in latitude, altitude, and proximity to water bodies.



Water Cycle Diagram:

1. Evaporation: Water molecules escape from the liquid surface into the air as water vapor.

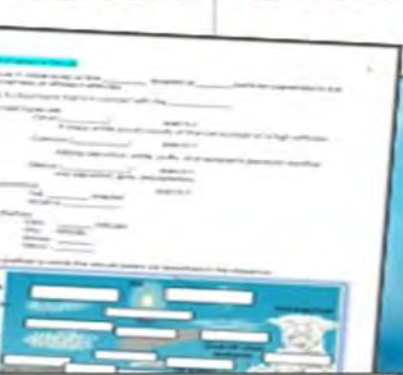
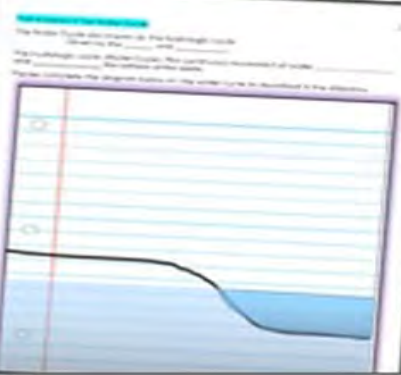
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4. Collection: Water collects in bodies of water like oceans, lakes, and rivers.

5. Runoff: Water flows over the land or under the ground back to the oceans.

6. Infiltration: Water soaks into the ground, becoming groundwater.



Water Cycle	Evaporation	Condensation	Precipitation	Runoff	Infiltration
1. Water evaporates from the surface of the ocean, lakes, and rivers.	2. Water vapor rises into the air and cools, forming clouds.	3. Water falls from the clouds as rain or snow.	4. Water flows over the land or under the ground back to the oceans.	5. Water soaks into the ground, becoming groundwater.	



Water Cycle Diagram:

1. Evaporation: Water molecules escape from the liquid surface into the air as water vapor.

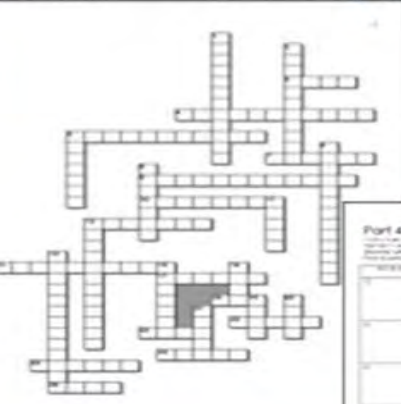
2. Condensation: Water vapor cools and changes into tiny droplets, forming clouds.

3. Precipitation: Water falls from the clouds as rain or snow.

4. Collection: Water collects in bodies of water like oceans, lakes, and rivers.

5. Runoff: Water flows over the land or under the ground back to the oceans.

6. Infiltration: Water soaks into the ground, becoming groundwater.



Part 4 REVIEW GAME

1. Water evaporates from the surface of the ocean, lakes, and rivers.

2. Water vapor rises into the air and cools, forming clouds.

3. Water falls from the clouds as rain or snow.

4. Water flows over the land or under the ground back to the oceans.

5. Water soaks into the ground, becoming groundwater.

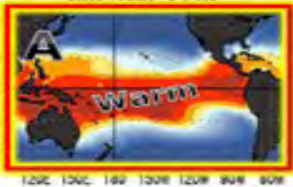
Activities, Assessments, Keys, and more all built-in

- Which is El Niño, and which is La Niña?

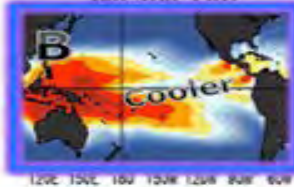
5

OCEAN TEMPERATURES (°C)

EL NIÑO
Jan-Mar 1998



LA NIÑA
Jan-Mar 1989



- Within a range of 10%...
- What % of the earth is covered with water?

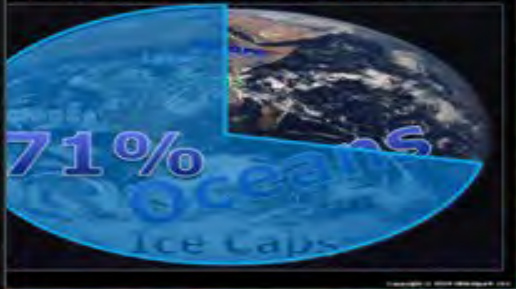
2



- Cumulus:
 - Middle elevation, white, puffy, and represents pleasant weather.



What % of the earth is covered with water?



- What do we already know? Explain yourselves with this template.



19

cirrocumulus

- Water released into air from plants is called.

11



Transpiration

Weather and Climate Unit Part 4, Earth the Water Planet: Water % on Earth, High Specific Heat of Water, States of Water, Importance of the Oceans on Earth's Weather, The Gulf Stream, Ocean Currents, El Nino, La Nina, Water Cycle, Terms of the Water Cycle, Condensation, Precipitation, Evaporation

Part 4: Weather and Climate

Additional and Printables

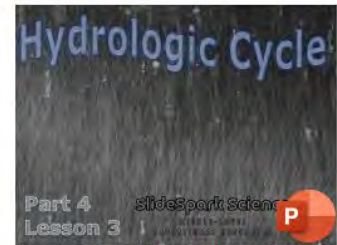
Just the Water Cycle



Part 4 Lesson 1 Water Planet



Part 4 Lesson 2 El Nino Water Molecule



Part 4 Lesson 3 Water Cycle two days



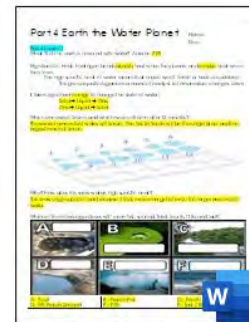
Part 4 Lesson 4 Clouds



Part 4 Lesson 5 Review Game



Part 4 Lesson 6 Review Game Answers



Part 4 Work Bundle Answers



Part 4 Work Bundle pdf Writable

SlideSpark Science

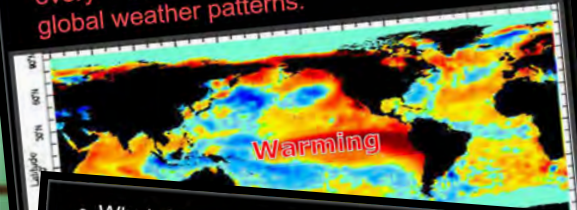


MIDDLE-LEVEL EDUCATIONAL RESOURCES

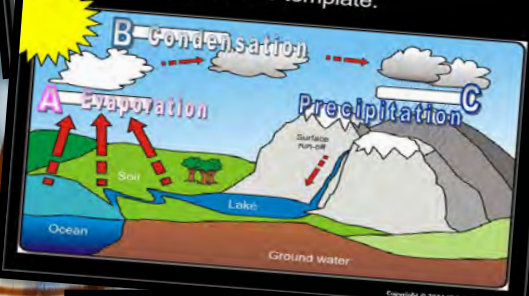
Interactive slideshows provide the roadmap for an amazing learning experience for students in grades 5-9. A Detailed set of work bundles chronologically follow the digital learning, providing a clear and intuitive roadmap to understanding. As the teacher or student advances through a slideshow, exciting hands-on activities, fantastic visuals, fill-in notes, review opportunities, video links, assessments, and much more are strategically placed throughout. Interactive learning unfolds step by step and supported by the work bundle to reach all types of learners. Everything you need to run to an amazing learning experience is provided in this one-of-a-kind science curriculum.

Each unit in the curriculum is designed to help teachers deliver the best possible learning experience for their students. Our interactive science slideshows are filled with questions and answers, important fill-in notes, hands-on activities, projects, games, built-in quizzes, and end of the unit assessment pieces. Students follow along with a work bundle that documents the entire learning experience for a fantastic review and assessment piece.

- El Niño: A warming of the surface water of the eastern and central Pacific Ocean, occurring every 4 to 12 years and causing unusual global weather patterns.



- What do we already know? Explain yourselves with this template.



- Cumulonimbus
 - Very tall, anvil shaped
 - Massive thunderstorms.



- The hydrologic cycle (Water Cycle): The continuous movement of water on, above, and below the surface of the earth.



• Oceans

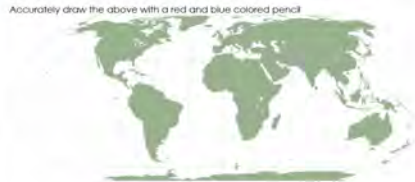
- Heat and cool the earth.
- The oceans influence climate by absorbing solar radiation and slowly releasing heat needed to drive the atmospheric circulation. (High Specific Heat).

Energy

Which of the following pictures will freeze first, second, third, fourth, fifth, and last?



The Oceans _____ and _____ the earth.
The oceans influence climate by absorbing solar radiation and slowly _____ heat needed to drive the atmospheric circulation. (High Specific Heat).
Warm seas and wind are moved to the _____.
Hurricanes and _____ the planet.
Control the _____ speed and direction.
Are a part of the _____ and _____ cycle.
Phytoplankton in ocean produces _____ for the planet.
Releases aerosols (small particles) that influence _____ cover, fall as rain, and absorbing carbon.
_____ also called the Global Ocean Conveyor, moves water between the deep and surface ocean worldwide.



Red Slide Notes: Help students record important information in a fun and easy-to-understand way. Designed red-colored slides contain a few pieces of crucial information that students must record into their work bundle to complete the notes. Students will use these important notes throughout the work bundle.

The set-up of the slideshows are designed to make learning fun and interactive for students. With a mix of questions and answers, teachers can use these slides to get their students thinking and actively participating in their education. Plus, the answers are always revealed on the next slide, providing students with immediate feedback and helping teachers assess their understanding.



Next Slide

slideshow supports
Work Bundle



Lesson Planning

Daily lessons space exciting hands-on activities, red slide notes, video and academic links, projects, simulations, readings, built-in quizzes, and review opportunities throughout the slideshows. A typical day may have many different learning styles being targeted. Daily lesson planning becomes advancing through the slideshow roadmap the night before. Each lesson is roughly 50 minutes, but sometimes things can speed up or slow down. The best strategy is just to go at your classes own pace. The work bundle chronologically follows the interactive slideshow and you can always spend extra time assessing the quality of the writing within. If you don't quite finish a lesson, you can always pick it up the next day where you left off. The only real trick in timing is not starting a larger activity if you don't have the available time to complete. The slideshows have been designed to be a low stress, go at your classes own pace experience. Most activities are designed to be cost effective, using general materials that can be gathered from your local stores.



Additional and Printables



Part 4 Work Bundle Answers



Just the Water Cycle



Part 4 Work Bundle pdf Writable



Part 4 Lesson 1 Water Planet



Part 4 Work Bundle Print



Part 4 Lesson 2 El Nino Water Molecule



Part 4 Lesson 3 Water Cycle two days



Part 4 Lesson 4 Clouds



Part 4 Lesson 5 Review Game



Part 4 Lesson 6 Review Game Answers

Lessons chronologically follow a single work bundle

Follow Along Work Bundle

Each science unit includes a single printable work bundle that stays with students from start to finish. Just print and distribute on day one—no daily handouts needed. The bundle follows the unit chronologically and includes everything: fill-in notes, diagrams, quizzes, lab activities, with follow up questions and much more. It's used daily, supports the end-of-unit quiz game, and is handed in for an additional assessment. Answer keys, some writable .pdf versions, and digital versions are also included for flexible classroom use.

The collage displays 12 sample pages from the 'Follow Along Work Bundle' for Earth Science. The pages include:

- Part 4 Earth the Water Planet:** A page with a world map and a list of 100 water-related terms for a matching activity.
- Water Cycle:** A diagram of the water cycle with labels for evaporation, condensation, precipitation, and runoff.
- Weathering and Erosion:** A page with a diagram of a rock cycle and a list of 100 weathering and erosion terms for a matching activity.
- Geology:** A page with a diagram of a cross-section of the Earth's crust and a list of 100 geology terms for a matching activity.
- Plate Tectonics:** A page with a diagram of a cross-section of the Earth's crust and a list of 100 plate tectonics terms for a matching activity.
- Climate and Weather:** A page with a diagram of a cross-section of the Earth's atmosphere and a list of 100 climate and weather terms for a matching activity.
- Biomes:** A page with a diagram of a cross-section of the Earth's biomes and a list of 100 biome terms for a matching activity.
- End of Unit Quiz:** A page with a crossword puzzle and a list of 100 end of unit quiz questions.
- Review Game:** A page with a crossword puzzle and a list of 100 review game questions.
- Answer Key:** A page with the answer key for the end of unit quiz and review game.
- Additional Resources:** A page with additional resources, including a list of 100 additional resources and a list of 100 additional resources.

Work Bundle

Part 3: **Classroom**

What % of the earth is covered with water? Answer: _____

High Specific Heat: Hydrogen bonds _____ heat when _____
_____ heat when they form.

The high specific heat of water means that a lake will _____
_____. This gives aquatic organisms a chance to adapt.

It takes significant _____ to change the state of water.

_____ → _____
_____ → _____

Which ones were today, and which were tomorrow after 15 minutes?

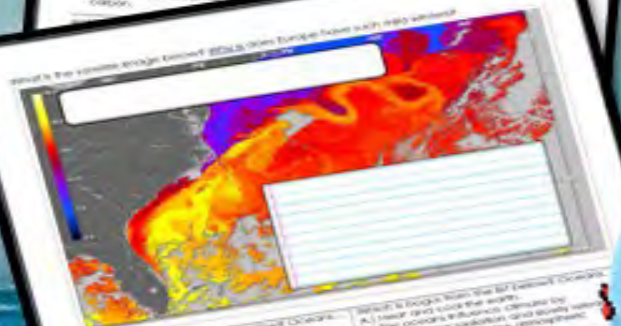
Which ones were frozen, and which were unfrozen after 15 minutes?

A 4x4 grid of blue circles, each containing a number. The numbers are arranged as follows:

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16



the oceans _____ and _____ the earth.
The oceans influence climate by absorbing solar radiation and slowly
releasing it to give the atmosphere circulation. High specific heat
means seas and wind are moved to the _____
and _____ the planet.
As a part of the _____ and _____
atmosphere it shows _____ and _____
develops oceans (small
carbon).



Which is true about the Bar-headed Geese?

A) They feed and cook the worm.
B) They observe the larvae closely by not counting each individual, and they spend most of their time to drive the caterpillars away from the larvae.
C) They feed and cook the worm.
D) They observe the larvae closely by not counting each individual, and they spend most of their time to drive the caterpillars away from the larvae.

What is so special about this phylogenetic tree? (answer: eukaryotes)



4. Name each state of matter on a molecular level. (Solid, Liquid, Gas)



Source: U.S. Department of Education, Office of Education Policy and Improvement, *Education Policy and Improvement*, Washington, D.C., 1994.



Just as Power and Power
Dance, all the time.



Measuring:

Which is zoopraxism? And which is phylogeny?



of the surface water of the eastern and central Pacific Ocean
wens and causing unusual global weather patterns.

... get weaker, thus, ocean gets _____
... develops that normally occur on the equator move eastward.
... U.S. gets more _____ Australia and Indonesia get less _____

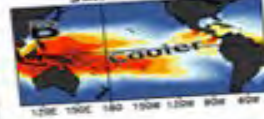
pattern that occurs in the _____ Ocean in this pattern
water at the ocean's surface from South America to Indonesia
from the deep sea

Jan-Mar 1988

© 1998



Jan-Mar 1989



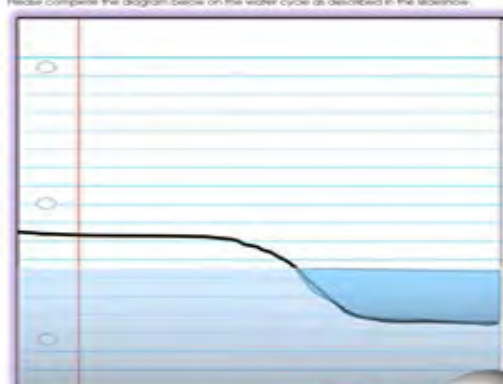
Part 1 Lesson 3: The Water Cycle

The water cycle also known as the hydrologic cycle.

Given by ISS _____ and _____.

The hydrologic cycle (water cycle): the continuous movement of water _____ and _____ the surface of the earth.

Please complete the diagram below on the water cycle as described in the slideshow.



Evaporation - Substance changes from a _____ state.

Condensation - Water vapor gets heavy back to _____ and _____ cloud formation.

Precipitation - Water that is so heavy it _____ and _____.

Sublimation - Solid state turns directly to a _____ state without _____.

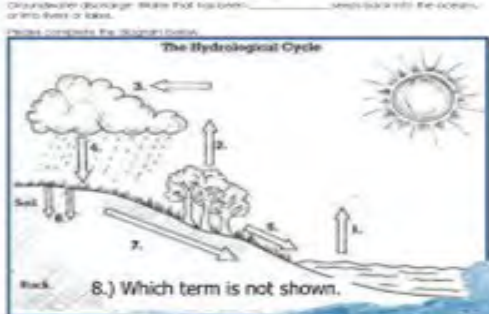
Deposition - Water solidified by _____ into ice.

Surface runoff - The water flow which occurs when soil is full and excess water flows over the _____.

Percolation - The slow movement of water through the _____.

Groundwater discharge - Water that has been _____ seeps back into the ocean or into rivers or lakes.

Please complete the diagram below.



8.) Which term is not shown.



Part 1 Lesson 4: Clouds

Cloud: A visible body of fine _____ droplets or _____ particles suspended in the atmosphere at different altitudes.

Fog: A cloud bank that is in contact with the _____.

The main types are:

Cirrus () sketch ->

A wispy white cloud (usually of the ice crystals) at a high altitude.

Cumulus () sketch ->

Medium elevation, white, puffy, and represents pleasant weather.

Stratus () sketch ->

Low elevation, gray, precipitation.

Cumulonimbus () sketch ->

Soil _____ shaped

Cloud Prefixes:

Cirrus _____ Altitude _____

Alto - Middle

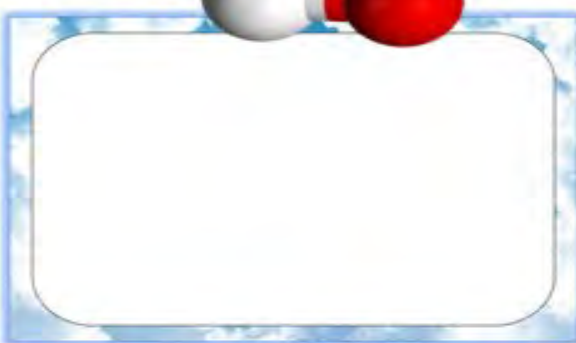
Nimbo - _____

Strato - _____

Use the prefixes to name the clouds below as described in the slideshow.



Please complete the cloud observation outside as described in the slideshow.



Activity! Quiz Wz 1-20: Cirrus / Cumulus / Stratus / Cumulonimbus
+ Prefixes (Cirro- High Altitude), (Alto- Middle), (Nimbo- Low), (Strato- Layered)

1) Strato _____	2) _____	3) _____	4) _____
5) _____	6) _____	7) _____	8) _____
9) _____	10) _____	11) _____	12) _____

13 pages

Please label the types of clouds in the boxes below.



10 basic cloud types

alto-cumulus
cirro-stratus
cumulo-nimbus
strato-cumulus
alto-stratus
cirro-cumulus
nimbo-stratus
cirrus
cumulus

clouds are classified according to [altitude]

1) alto = middle altitude

2) cirro = altitude

and (appearance)

3) strato = stratus = layer cloud

4) cumulo = cumulus = puffy cloud

5) nimbo = nimbus (precipitation)

Learn the 10 basic cloud names. Write them down.



Part 4 REVIEW GAME

1:30 = 5 pts
1:20-1:25 = Bonus = 3 pts
1:15-1:20 = 1 pt
1:10-1:15 = 1 pt

Name: _____
Date: _____

Score: _____ / 100

BIG BLUE	SMALL LIKE YOU	LET'S DROP	CLOUDS ADD UP	PUFF BALL
1) _____	2) _____	3) _____	4) _____	5) _____
6) _____	7) _____	8) _____	9) _____	10) _____
11) _____	12) _____	13) _____	14) _____	15) _____
16) _____	17) _____	18) _____	19) _____	20) _____

Hydrogen bonds

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Note: Number 12 should be for not all -Oops, my bad.

Across

- Oceans Heat and _____ the earth.
- Substance changes from a liquid state to gas state (requires energy).
- Solid state turns directly to a gas state skipping liquid phase.
- It takes significant _____ to change the state of water.
- _____ circulation, also called the Global Ocean Conveyor, moves water between the deep and surface ocean worldwide.
- Oceans release _____ (small particles) that influence cloud cover, fall as rain, and absorbing carbon.
- Cloud that at Middle elevation, white, puffy, and represents pleasant weather.
- The _____ cycle (Water Cycle): The continuous movement of water on, above, and below the surface of the earth.
- Solid $\rightarrow$ _____ $\rightarrow$ Gas.
- A cloud bank that is in contact with the ground.
- A visible body of very fine water droplets or ice particles suspended in the atmosphere at different altitudes.
- High Specific _____: Hydrogen bonds absorb heat when they break, and release heat when they form.
- Water on _____ commonly exists as a solid liquid and gas.
- A wispy white cloud (usually of fine ice crystals) at a high altitude.
- La _____ is a weather pattern that occurs in the Pacific Ocean. In this pattern, strong winds blow warm water at the ocean's surface from South America to Indonesia.

Down

- Water vapor (gas) turns back to a liquid. (Energy needs to be removed) Cloud formation.
- The slow movement of water through the soil. Cleans and purifies.
- _____ run-off: The water flow which occurs when soil is full to capacity and excess water travels over the land.
- Water released by plants into air.
- Low elevation cloud, gray, precipitation.
- Gas $\rightarrow$ Liquid $\rightarrow$ _____
- all cloud, anvil shaped. Massive thunderstorms.
- Water that is so heavy it falls as liquid / solid.
- The oceans influence _____ by absorbing solar radiation and slowly releasing heat needed to drive the atmospheric circulation.
- El _____: A warming of the surface water of the eastern and central Pacific Ocean, occurring every 4 to 12 years and causing unusual global weather patterns.
- Earth is this color from space because of all of its water.
- Earth is the _____ Planet.

Teacher can remove this word bank:
BLUE, CIRRUS, CLOUD, CONDENSATION, EVAPORATION, FINE, HEAT, HUMIDITY, STRATUS.

Review Games / Assessments

The unit wraps up with an interactive Review Quiz Game, complete with slideshow answer version for easy self-assessment. A blank answer sheet is included in the work bundle, allowing students to work individually or in small groups with quiet collaboration. You can choose whether to permit the use of work bundles during the game—either way, it's an excellent review activity and assessment that encourages students to revisit and reference their notes.



Part 4 REVIEW GAME

1-20 = 2 pts
21-25 = Bonus = 1 pt
Secretly write out in correct space = 1 pt
Final Question = 3 pt w/age

Name: _____ Date: Today

Score: ____ / 100

RIG RULE	MANI LIKE YOU	LET'S DROP	CLOUDED JUDGMENT	PERF BALL
1) _____	4) _____	11) _____	14) _____	*21) _____
2) _____	7) _____	12) _____	17) _____	*22) _____
3) _____	8) _____	13) _____	18) _____	*23) _____
4) _____	9) _____	14) _____	19) _____	*24) _____
5) _____	10) _____	15) _____	20) _____	

Final Question w/age: _____ vs. Answer: _____

Part 4 REVIEW GAME

1-20 = 2 pts
21-25 = Bonus = 1 pt
Secretly write out in correct space = 1 pt
Final Question = 3 pt w/age

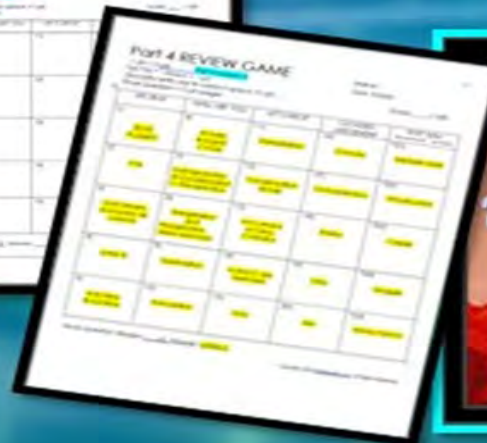
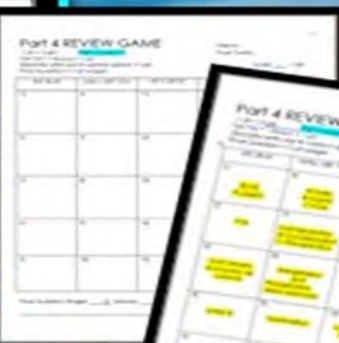
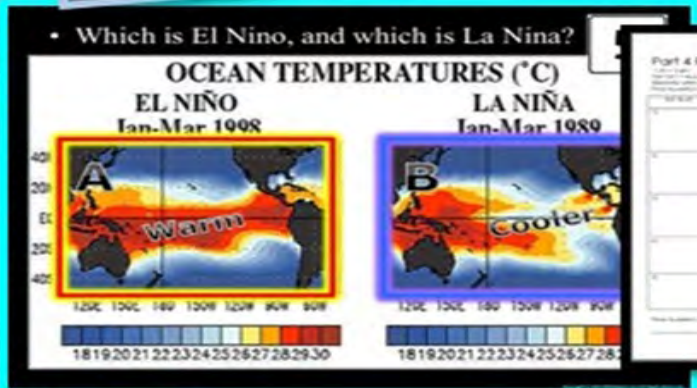
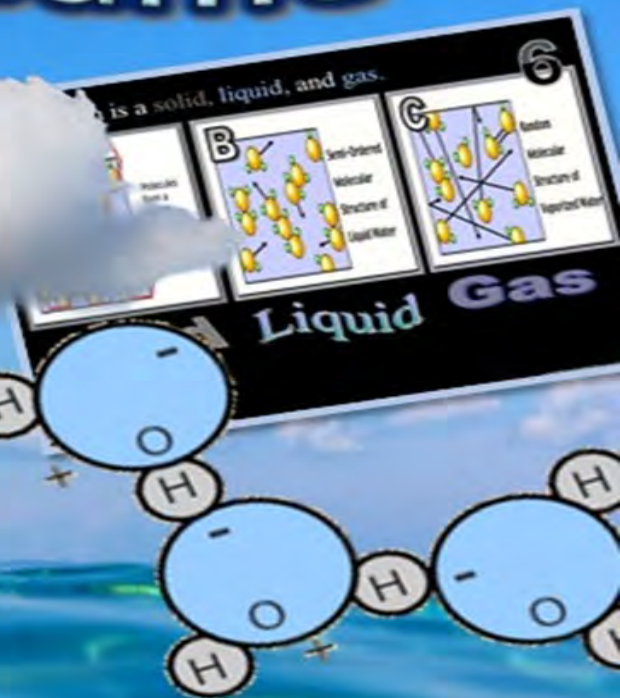
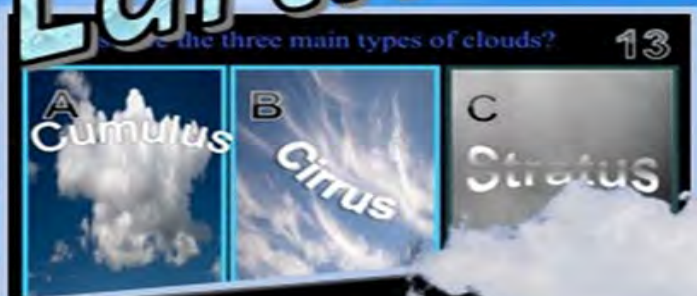
Name: _____ Date: Today

Score: ____ / 100

RIG RULE	MANI LIKE YOU	LET'S DROP	CLOUDED JUDGMENT	PERF BALL
1) BLUE FLAMES	4) ANGRY BRIGADE	11) CONGRATULATIONS	14) CLIMAX	*21) SECRETARY
2) YES	7) ANNOYANCE	12) CONGRATULATIONS	17) CONGRATULATIONS	*22) SECRETARY
3) CONGRATULATIONS	8) CONGRATULATIONS	13) CONGRATULATIONS	18) CONGRATULATIONS	*23) SECRETARY
4) CONGRATULATIONS	9) CONGRATULATIONS	14) CONGRATULATIONS	19) CONGRATULATIONS	*24) SECRETARY
5) CONGRATULATIONS	10) CONGRATULATIONS	15) CONGRATULATIONS	20) CONGRATULATIONS	

Final Question w/age: _____ vs. Answer: _____

Earth the Water Planet Quiz Game

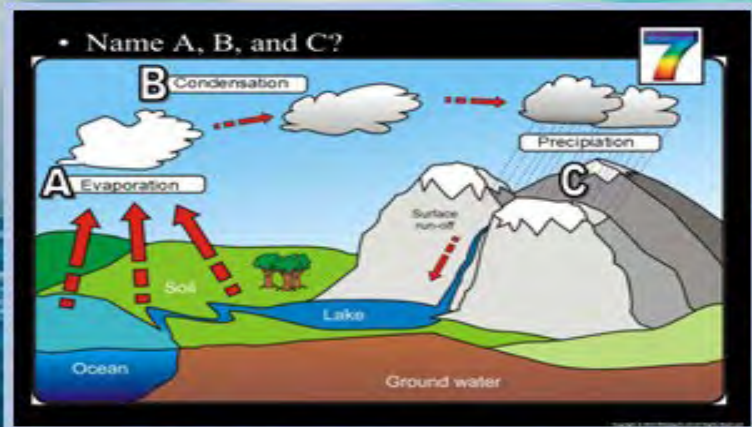
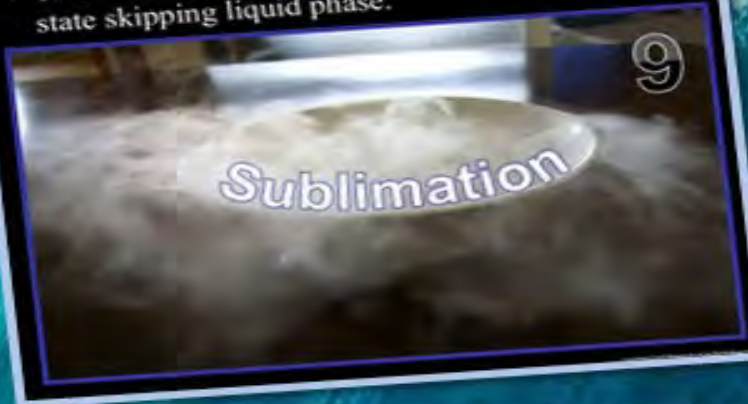


6 Lessons

Earth the Water Planet:
 Water % on Earth, High
 Specific Heat of Water,
 States of Water,
 Importance of the Oceans
 on Earth's Weather, The
 Gulf Stream, Ocean
 Currents, El Nino, La Nina,
 Water Cycle, Terms of the
 Water Cycle,
 Condensation,
 Precipitation, Evaporation,
 Sublimation, Clouds, Types
 of Clouds



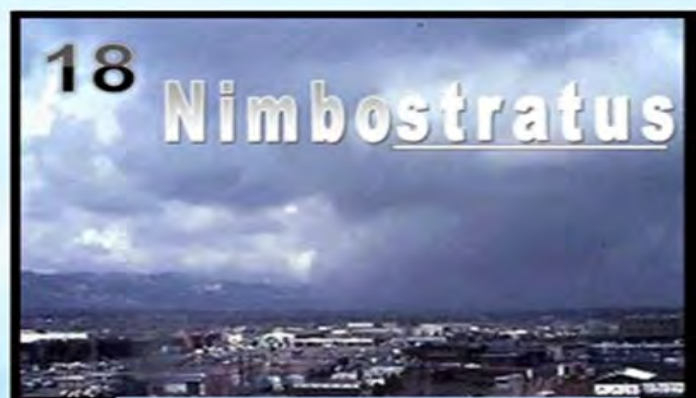
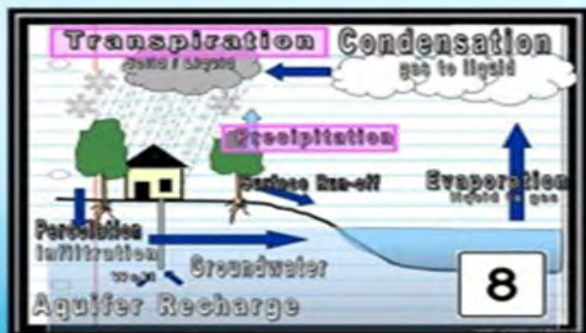
- This is when the solid state turns directly to a gas state skipping liquid phase.



- Clouds form when water molecules attach to one of these?



With Answer Version



- Which two are switched?
- A.) Cirro ← → High Altitude
 - B.) Alto ← → Middle
 - C.) Nimbo ← → Low Lying
 - D.) Strato ← → Layered
- 14



- Which is bogus from the list below? Oceans...
- A.) Heat and cool the earth.
 - B.) The oceans influence climate by absorbing solar radiation and slowly releasing heat needed to drive the atmospheric circulation. (High Specific Heat)
 - C.) Cold seas and wind are crucial to the ice poles.
 - D.) Humidity and dry the planet.
 - E.) Control the wind speed and direction.
 - F.) Part of the water and carbon cycle.
 - G.) Phytoplankton in ocean produces half the oxygen.
 - H.) Releases aerosols (small particles) that influence cloud cover, fall as rain, and absorb heat.
- And the bogus one is...

19

cirrocumulus



- This is the slow movement of water through the soil. Cleans and purifies.



17

Cumulonimbus

20

Altostratus

... below? Oceans...

... climate by absorbing ... quickly releasing heat.

... moved to the icy poles

... planet.

E.) Cause of the wind speed and direction.

F.) A part of the water and carbon cycle

G.) Phytoplankton in ocean produces half the oxygen

H.) Releases aerosols (small particles) that influence cloud cover, fall as rain, and absorbing carbon.

And the answer is...

4

- Earth is known as the planet as it has a this color glow from space.

1

- Water released into air from plants is called.

11

Transpiration

Built-in Quiz

This unit contains built-in quizzes. Student's answer in their work bundle. With the question revealed before the answer, the teacher can easily call on individual students or table groups to respond. These provide an effective and efficient way for teachers to assess student learning.

- Activity! Quiz Wiz 1-20
- Cirrus / Cumulus / Stratus / Cumulonimbus
- + Prefixes

– Cirro - High Altitude
– Alto - Middle
– Nimbo - Low
– Strato - Layered



13

cirro

13

cirrocumulus

Activity! Quiz Wiz 1-20 Cirrus / Cumulus / Stratus / Cumulonimbus + Prefixes (Cirro- High Altitude), (Alto- Middle), (Nimbo- Low), (Strato - Layered)			
1) Strato	2)	3)	4)
5)	6) stratus	7)	8) Nimbo
9) stratus	10) Alto	11) Alto	12) stratus
13) cirro	14)	15)	16)
17)	18) stratus	19)	20)
Bonus #21		Bonus #22	

Questions in Work Bundle

Activities / Labs

Our science activities are designed to help students explore and understand complex scientific concepts in an engaging and interactive way. Each science unit includes several hands-on activities that encourage students to collect data and think critically about the world around them. Our easy-to-follow slideshow provides detailed visuals, simple materials, and clear directions, making it easy for both students and teachers to navigate the activities.

- **Activity! High Specific heat.**
 - Add one drop to the 1st depression in the dish.
 - Two drops to the 2nd depression (well)
 - Three drops to the 3rd...etc
 - Place in freezer for 15 minutes

Predict which ones will be frozen in 15 minutes

- Questions: High Specific Heat.
 - Predict which will be frozen and which won't?
 - The smaller amounts of water will freeze. The first to freeze will be the single drop, and the largest may not freeze.

- Which of the following pictures will freeze first, second, third, fourth, fifth, and last?

PART 4 EARTH THE WATER PLANET

Name: _____ Date: _____

What % of the earth is covered with water? Answer: _____

High Specific Heat Hydrogen Bonds _____ held them there they break, and _____ heat when they form.

The high specific heat of water means that it takes more time to freeze or heat up suddenly.
The green algae organism is capable to adjust to temperature changes slowly.

It takes significant _____ to change the state of water:
_____ = _____
_____ = _____

Which ones were frozen, and which were unfrozen after 13 months?

Write down the following pictures and describe how organisms survive there. Who can last!

A	B	C
D	E	F

In the Oceans

and _____ the night
The oceans influence climate by moderating water evaporation and slowly _____ heat movement to slow the atmosphere's circulation, high specific heats _____ warm seas, and which are moved to the _____
Aurality and _____ the planet.

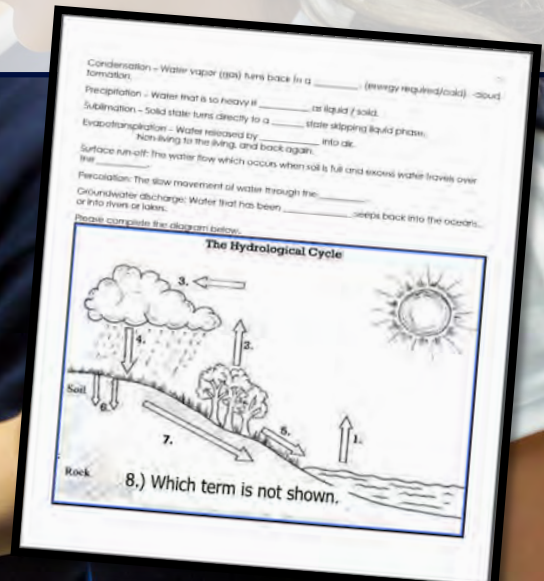
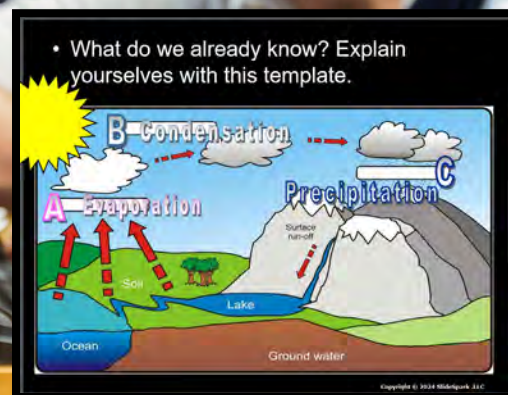
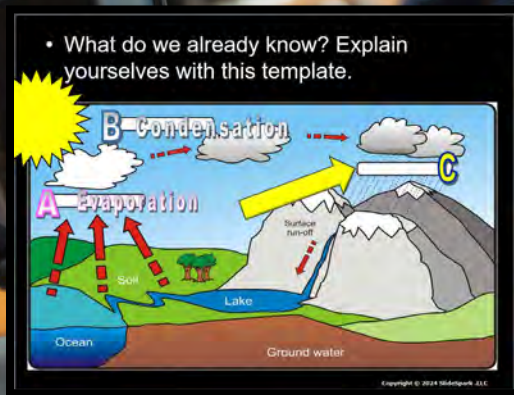
Controlled the _____ speed and direction.
As a part of the _____ cycle
photosynthesis in ocean producers _____ for the planet
Removes harmful coral particles; that substance _____ clams, fish and dissolved carbon).

_____ also called the Global Ocean Conveyor, moves water between the deep and surface ocean worldwide.

Accurately draw the above with a red and blue colored pencil

Built-in Questions

Many slides will have relevant terms covered with a box. When advancing through the slideshow an outline around the box will glow with a bright color. The next slide will make the box disappear. These slides allow the teacher to call upon students or table groups / check for understanding before advancing. The team at SlideSpark has found that using this technique helps to keep the students focused. Constantly recalling and reviewing information learned is necessary when moving through a large unit. The slideshows don't just give everything away for free. Students should be able to demonstrate knowledge before moving on. Some slides have full questions instead of just covered terms. In these slides, the teacher should encourage small group work. The teacher can then call upon one or two groups to share before advancing the slide. The next slide will always reveal the correct answer.



Built-in Video Links

Our science education program is designed with the modern, multimedia learner in mind, and our video links are a perfect complement to our educational materials. These short clips are embedded into the slideshow at just the right places for a fantastic review. Whether you're studying biology, chemistry or physics, our video links are an excellent way to reinforce your learning.

- Video Link! (Gulf Stream)

- <http://www.youtube.com/watch?v=OLqL-TVcuGM>



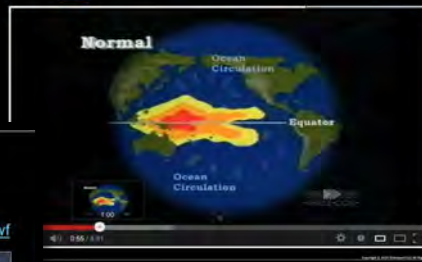
- Activity! Cloud Matching Memory Game.

- Teacher vs. Students?
 - Each match gives your team a point.
 - <http://calipsooutreach.hamptonu.edu/clouds.swf>



- Video Link! El Niño

- <https://www.youtube.com/watch?v=7FVZrw7bk1w>



- Video Link! The Thermohaline Circulation.

- <http://www.youtube.com/watch?v=3niR-Kv4SM>



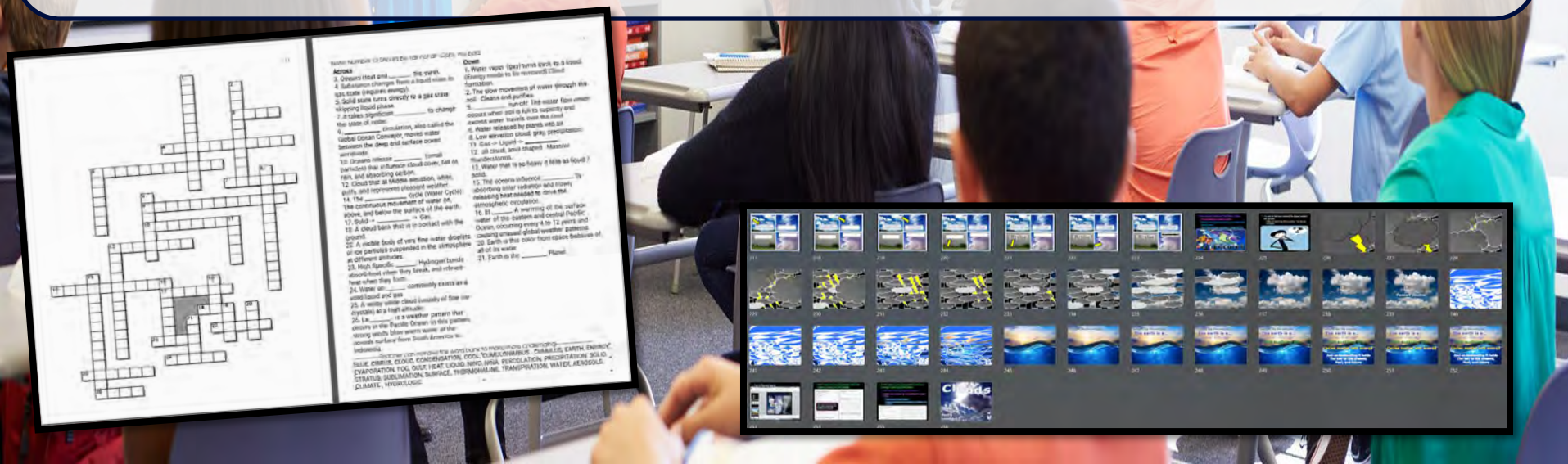
- Water Cycle Song

- <https://www.youtube.com/watch?v=KM-59jiA4Bs>



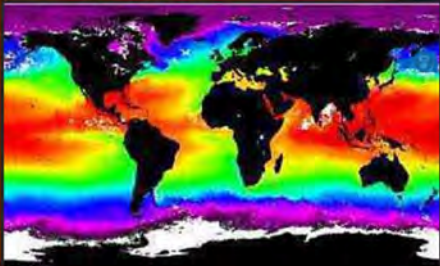
Games and Review

Games are a fantastic way for students to learn scientific concepts while having fun. We incorporate a variety of games into our curriculum, including interactive quizzes and puzzles that challenge students to think critically about the material. Our Hidden Box Games are a particularly popular feature, which conclude each unit by revealing a picture related to the topic. Students try to guess what the picture might be, making learning an engaging experience.



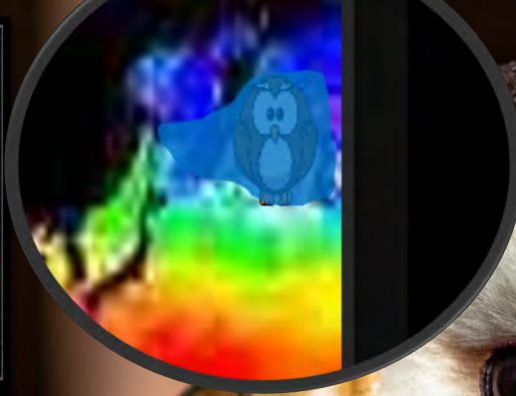
- Oceans

- Heat and cool the earth.



- Oceans

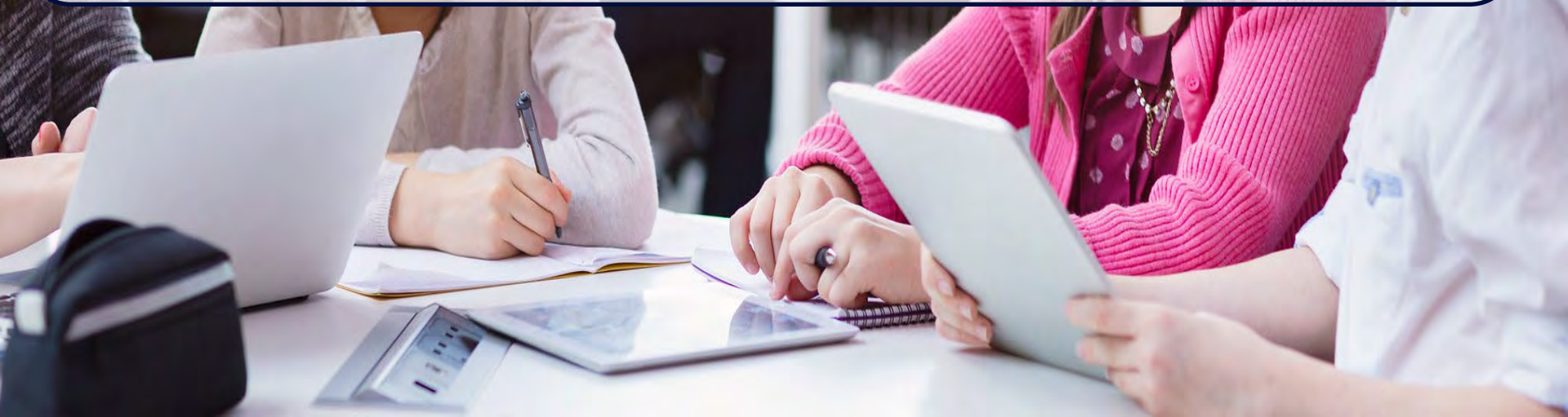
- Heat and cool the earth.



The Owl - Each Part of the slideshow has a small clipart Owl hiding somewhere in a slide. The owl is incredibly small and blended into just the right slide. If a student spots the "Owl" they can raise their hand high into the air. When you call upon the student they can say "Owl" and be the student who spotted the Owl. Each PowerPoint Review game also has an owl hiding in it worth one point. Remind the students that they secretly write the word "owl" rather than yell it out during the review games. The Owl search is not included in every lesson. A slide at the beginning of the lesson will alert the students that today is an "Owl" day. Everything arrives editable so delete if you wish. You will find that some students will become the expert owl hunters in the group.

Google Classroom Compatible

Our digital learning programs are designed for students to learn science in a flexible and engaging environment. Our Google Classroom-compatible units provide a seamless learning experience whether your students are in the classroom or learning from home. Our step-by-step slideshows and student work bundles ensure that students can complete their work independently. The PowerPoint Slideshows and step-by-step work bundles can easily be loaded to your Google Drive and posted in your Google Classroom. These are great for daily lessons, students who need additional time, and for a student who was absent and looking to catch up in their work bundle.





[Part 4 Work Bundle pdf Writ...](#)

PDF



[Part 4 Lesson 4 Clouds](#)

Google Slides



[Part 4 Lesson 5 Review Game](#)

Google Slides



[Part 4 Work Bundle Print](#)

Google Docs



[Part 4 Lesson 6 Review Gam...](#)

Google Slides



[Part 4 Lesson 3 Water Cycle...](#)

Google Slides



[Part 4 Lesson 2 El Nino Wat...](#)

Google Slides



[Part 4 Lesson 1 Water Planet](#)

Google Slides



[Part 4 Work Bundle Answers](#)

Google Docs

Weather and Climate Unit

Weather and Climate Unit

40 Lessons (6th-8th Grade Medium Difficulty). Part 1 is 7 Lessons and 17 Page Work Bundle, Part 2 is 5 Lessons and 14 Page Work Bundle, Part 3 is 8 Lessons and 18 Page Work Bundle, Part 4 is 5 Lessons and 13 Page Work Bundle, Part 5 is 4 Lessons and 12 Page Work Bundle , Part 6 is 6 Lessons and 17 Page Work Bundle, Part 7 is 4 Lessons and 9 Page Work Bundle

[Part 1: Weather and Climate Unit](#): Weather Symbols, What is weather?, Difference between Weather and Climate, Climate, Importance of the Atmosphere, Components of the Atmosphere, Layers of the Atmosphere, Air Quality and Pollution, Carbon Monoxide, Acid Rain, Particulate Matter, Ground Level Ozone, Ozone Layer, Ways to Avoid Skin Cancer, Box Game Review, Crossword Puzzle, End Unit Assessment with Answer Version so students can Self-Assess

[Part 2: Weather and Climate Unit](#): Weather and Climate Unit Part 2: Air Pressure, Air Pressure and Elevation, Barometers, Isobars, Cyclonic and Anticyclonic Systems, Air Pressure and Wind, Fronts, Type of Fronts, Pressure Systems on Global Winds, Box Game Review, Crossword Puzzle, End Unit Assessment with Answer Version so students can Self-Assess

[Part 3: Weather and Climate Unit](#): Wind, Global Wind, Coriolis Force, Jet Stream, Sea Breeze / Land Breeze, Mountain Winds, Mountain Rain Shadow, Wind Chill, Flight, Dangerous Weather Systems, Light, Albedo, Temperature, Thermometers, Seasons, Solstice, Equinox, Axial tilt, Box Game Review, Crossword Puzzle, End Unit Assessment with Answer Version so students can Self-Assess

[Part 4: Weather and Climate](#): Water % on Earth, High Specific Heat of Water, States of Water, Importance of the Oceans on Earth's Weather, The Gulf Stream, Ocean Currents, El Nino, La Nina, Water Cycle, Terms of the Water Cycle, Condensation, Precipitation, Evaporation, Box Game Review, Crossword Puzzle, End Unit Assessment with Answer Version so students can Self-Assess

[Part 5: Weather and Climate Unit](#): Weather Forecasting, Weather Symbols, Reading and Weather Model, Weather Tools, Thermometer, Weathervane, Anemometer, Beaufort Scale, Barometer, Hygrometer, Sling Psychrometer, Rain Gauge, Dew, Dew Point, Heat Index, Satellites, Radar, Isobars, Isotherms, Box Game Review, Crossword Puzzle, End Unit Assessment with Answer Version so students can Self-Assess

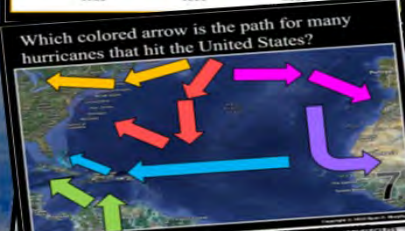
[Part 6: Weather and Climate Unit](#) : Climate Change: Climate Change, AGW Anthropogenic Global Warming, Difference between Weather and Climate, Understanding the Carbon Atom, Natural Emitters of Carbon, Greenhouse Effect, Interpreting Graphs associated with Climate Change, Impacts of Climate Change, Solutions to Climate Change, Movie Ice on Fire Sheet, Box Game Review, Crossword Puzzle, End Unit Assessment with Answer Version so students can Self-Assess

[Part 7: Biomes](#): Biomes: Biomes, Biome Characteristics, Comparing two different Biomes, Biomes on Earth, Case Study on a Biome, Biome Skit Activity Crossword Puzzle, End Unit Quiz that Names the Biome based on a Picture

7 Parts, 40 Lessons

7 Parts, 40 Lessons

Hands-on Activities, Assessments, Games



Hundreds of Amazing and Interactive Slides



Follow Along Work Bundles



Weather and Climate Unit Part 1: Weather Symbols, What is weather?, Difference between Weather and Climate, Climate, Importance of the Atmosphere, Components of the Atmosphere, Layers of the Atmosphere, Air Quality and Pollution, Carbon Monoxide, Acid Rain, Particulate Matter, Ground Level Ozone Ozone Layer, UV, Ways to Avoid Skin Cancer

Part 1: Weather and Climate Unit



Additional and Printables



Part 1 Lesson 1 Weather vs Climate



Part 1 Lesson 2 Atmosphere



Part 1 Lesson 3 Layers of the Atmosphere



Part 1 Lesson 4 Air Quality



Part 1 Lesson 5 Particulates Ozone



Part 1 Lesson 6 Skin Cancer



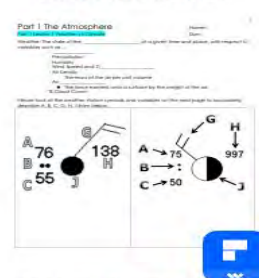
Part 1 Lesson 7 Review Game



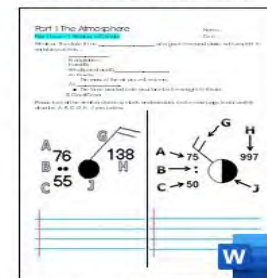
Part 1 Lesson 8 Review Game Answers



Part 1 Work Bundle Answers



Part 1 Work Bundle pdf Writable



Part 1 Work Bundle Print

Weather and Climate Unit Part 2: Air Pressure, Air Pressure and Elevation, Barometers, Isobars, Cyclonic and Anticyclonic Systems, Air Pressure and Wind, Fronts, Type of Fronts, Pressure Systems on Global Wind

Part 2: Weather and Climate Unit



Additional and Printables



Part 2 Lesson 1 Air



Part 2 Lesson 2 Air Pressure Projects



Part 2 Lesson 3 Isobars



Part 2 Lesson 4 Weather Fronts



Part 2 Lesson 5 Review Game



Part 2 Lesson 6 Review Game Answers



Part 2 Work Bundle Answers



Part 2 Work Bundle pdf Writable



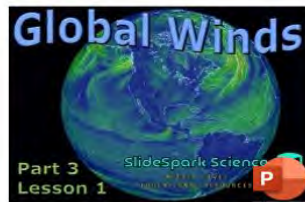
Part 2 Work Bundle Print

Part 3 Wind: Wind, Global Wind, Coriolis Force, Jet Stream, Sea Breeze / Land Breeze, Mountain Winds, Mountain Rain Shadow, Wind Chill, Flight, Dangerous Weather Systems, Light, Albedo, Temperature, Thermometers, Seasons, Solstice, Equinox, Axial tilt,

Part 3: Weather and Climate Unit



Additional and Printables



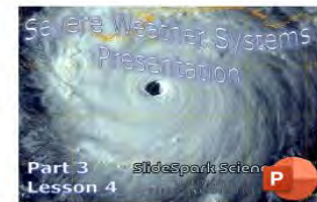
Part 3 Lesson 1 Global Winds



Part 3 Lesson 2 Coriolis Force



Part 3 Lesson 3 Wind Chill and More



Part 3 Lesson 4 Airplane Severe Weather Project



Part 3 Lesson 5 Severe Weather Systems



Part 3 Lesson 6 Light and Temp



Part 3 Lesson 7 Axial Tilt Seasons



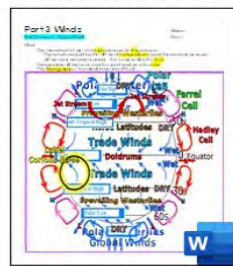
Part 3 Lesson 8 Solstice Equinox



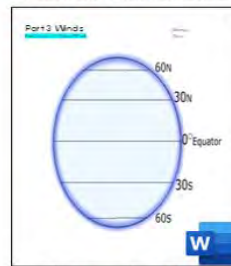
Part 3 Lesson 9 Review Game



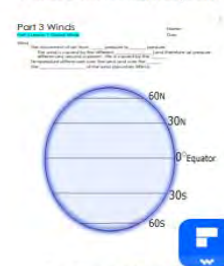
Part 3 Lesson 10 Review Game Answers



Part 3 Work Bundle Answers



Part 3 Work Bundle Print



Part 3 Work pdf Writable

Weather and Climate Unit Part 4, Earth the Water Planet: Water % on Earth, High Specific Heat of Water, States of Water, Importance of the Oceans on Earth's Weather, The Gulf Stream, Ocean Currents, El Nino, La Nina, Water Cycle, Terms of the Water Cycle, Condensation, Precipitation, Evaporation

Part 4: Weather and Climate

Additional and Printables

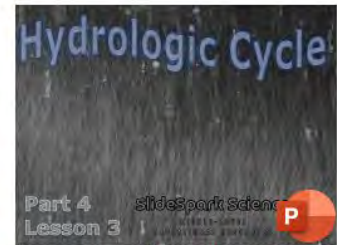
Just the Water Cycle



Part 4 Lesson 1 Water Planet



Part 4 Lesson 2 El Niño Water Molecule



Part 4 Lesson 3 Water Cycle two days



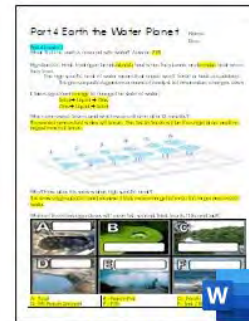
Part 4 Lesson 4 Clouds



Part 4 Lesson 5 Review Game



Part 4 Lesson 6 Review Game Answers



Part 4 Work Bundle Answers



Part 4 Work Bundle pdf Writable

Weather Forecasting, Weather Symbols, Reading and Weather Model, Weather Tools, Thermometer, Weathervane, Anemometer, Beaufort Scale, Barometer, Hygrometer, Sling Psychrometer, Rain Guage, Dew, Dew Point, Heat Index, Satellites, Radar, Isobars, Isotherms,

Part 5: Weather and Climate Unit



Additional and Printables



Part 5 Lesson 1 Weather Variables Wind Vane



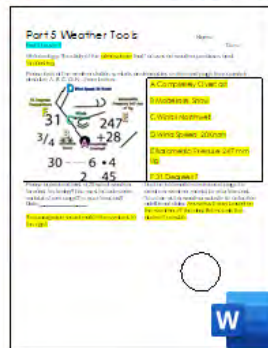
Part 5 Lesson 2 Anemometer Barometer



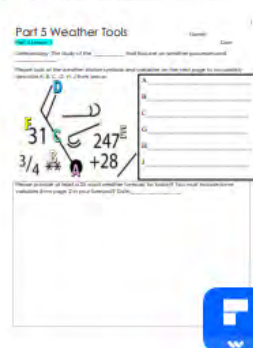
Part 5 Lesson 3 Measuring Water



Part 5 Lesson 4 Isotherm and Wrap Up Quiz



Part 5 Work Bundle Answers



Part 5 Work Bundle pdf Writable



Part 5 Work Bundle Print

Weather and Climate Unit Part 6: Climate Change: Climate Change, AGW Anthropogenic Global Warming, Difference between Weather and Climate, Understanding the Carbon Atom, Natural Emitters of Carbon, Greenhouse Effect, Interpreting Graphs associated with Climate Change, Impacts of Climate Change, Solutions to Climate Change, Move Ice on Fire Sheet

Part 6: Weather and Climate Unit



Additional and Printables



Part 6 Lesson 1 AGW



Part 6 Lesson 2 Greenhouse



Part 6 Lesson 3 Impacts



Part 6 Lesson 4 Future



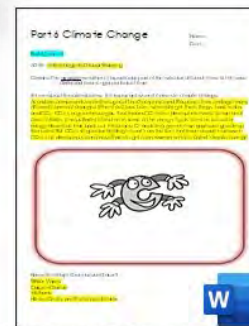
Part 6 Lesson 5 Wrap Up



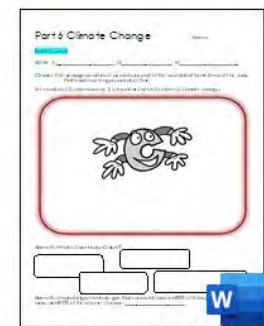
Part 6 Lesson 6 Review Game



Part 6 Lesson 7 Review Game Answers



Part 6 Work Bundle Answers



Part 6 Work Bundle Print

Weather and Climate Unit Part 7: Biomes: Biomes, Biome Characteristics, Comparing two different Biomes, Biomes on Earth, Case Study on a Biome, Biome Skit Activity

Part 7: Biomes



Additional and Printables



Part 7 Lesson 1 Biomes



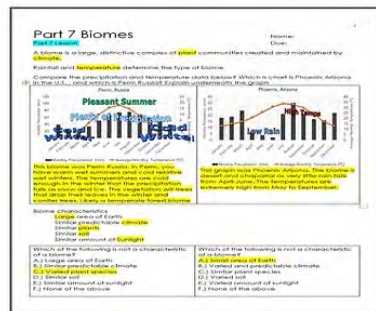
Part 7 Lesson 2 Biome Research



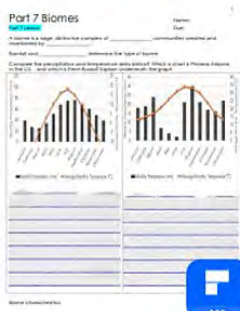
Part 7 Lesson 3 Skit



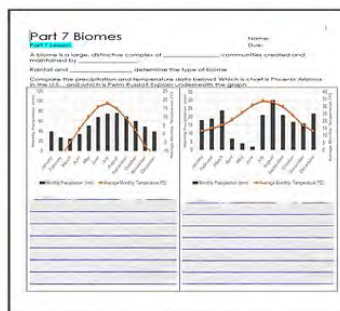
Part 7 Lesson 4 Quiz Wrap Up



Part 7 Work Bundle Answers



Part 7 Work Bundle pdf Writable



Part 7 Work Bundle Print

Curriculum Guide

Number of Lessons in each unit (50 min, daily lessons) and difficult rating scale / intended grade level.

 =Easier,

 = More difficult,

 =Most difficult

Earth Science Units	Daily Lessons	Intended Grade	
Geology Topics Unit	60 Lessons	6-8 medium difficulty	
Weather and Climate Unit	40 Lessons	6-8 medium difficulty	
Astronomy Unit	60 Lessons	6-8 medium difficulty	
Weathering, Soil Sciences	28 Lessons	5-7 easier	
Rivers and Water Quality	25 Lessons	5-7 easier	
Water Molecule Unit	20 Lessons	5-7 easier	
Biogeochemical Cycles Unit	16 Lessons	5-7 easier	

Life Science Units

Life Science Units	Daily Lessons	Intended Grade	
Ecology Feeding Levels Unit	13 Lessons	5-6 easier	
Ecology Interactions Unit	30 Lessons	5-6 easier	
Ecology Abiotic Factors Unit	13 Lessons	5-6 easier	
Botany Unit	50 Lessons	5-7 easier	
Evolution and Natural Selection	40 Lessons	5-7 easier	
Taxonomy and Classification	50 Lessons	6-8 medium difficulty	
Infectious Diseases Unit	30 Lessons	7-9 more difficult	
DNA and Genetics Unit	42 Lessons	8-10 most difficult	
Human Body Systems Unit	85 Lessons	6-8 medium difficulty	
Cell Biology Unit	30 Lessons	8-10 most difficult	

Physical Science

	Daily Lessons	Intended Grade	
Laws of Motion and Machines Unit	33 Lessons	8-10 most difficult	
Matter Energy and the Environment	58 Lessons	7-10 medium difficulty	
Atoms and Periodic Table Unit	44 Lessons	8-10 most difficult	
Science Skills Unit	30 Lessons	5-7 medium difficulty	

Physical Science Curriculum

Dear Valued Educator,

Our fully editable .pptx and .doc resources are perfect for educators looking to bring enthusiasm and creativity to their lessons. We encourage you to make changes to fit your needs and style. As science educators, we're committed to providing students with the tools they need to succeed in the classroom and beyond. Each unit in the curriculum includes a range of resources that have been developed through extensive research and use in a busy classroom. Our teaching approach is designed to make science education engaging and exciting for learners of all ages. We offer a one-of-a-kind science curriculum that will challenge, inspire, and educate students to become tomorrow's scientists and leaders. Join us today and learn more about how our program can help you achieve your classroom goals.

With appreciation,

Support@SlideSpark.net



Thank you for your time and interest in our Science curriculum. We strive to provide students with engaging and informative lessons that will spark their curiosity and encourage scientific exploration. Should you have any questions or concerns, please do not hesitate to contact us. Thank you again for considering our curriculum, and we wish you all the best in your educational journey.

Sincerely,

Support@slidespark.net



SlideSpark Science

MIDDLE-LEVEL
EDUCATIONAL RESOURCES



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