

EARTH SCIENCE CURRICULUM



NGS Magnified is a 6–8 grade curriculum based on the 5E Model. It focuses on hands-on investigations, phenomena-based learning, and interactive activities allowing students to use science inquiry skills.

Highlights Include:

- Aligned to Middle School NGSS
- Digital & Print Interactive Notebooks
- Teacher-led Demos
- Guided Inquiry Labs
- Instructional Videos & PowerPoints
- Science Stations
- Task Cards
- Study Guides
- Word Walls in English and Spanish
- Much more!



5E MODEL

Engage

- Demos
- Phenomena videos

Explain

- Notes
- PowerPoints
- Instructional Videos

Explore

- Guided Inquiry Labs
- Science Interactive Notebooks

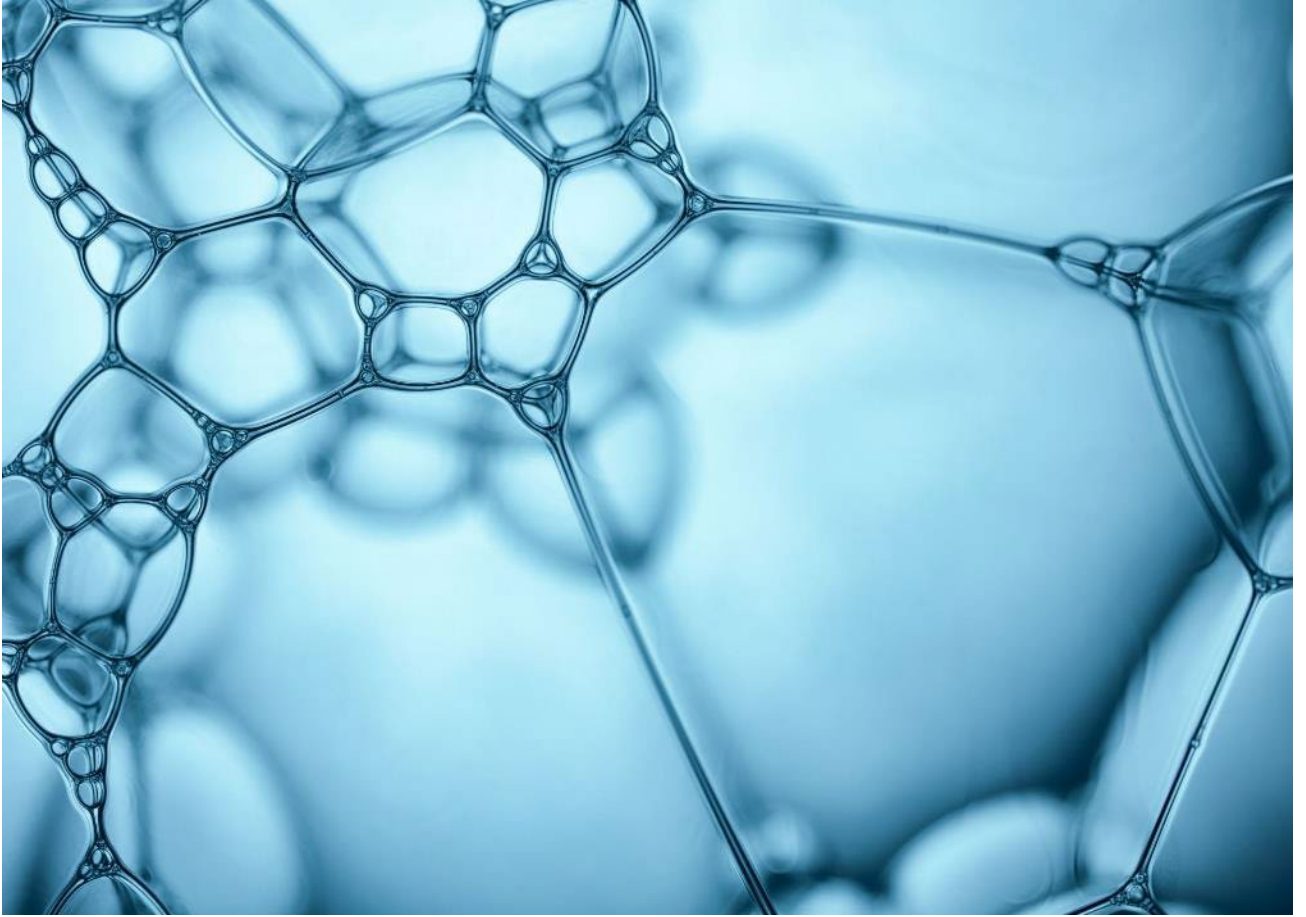
Elaboration

- Science Stations
- Study Guides
- Task Cards

Evaluation

- Mini-Quiz
- Chapter Tests





ENGAGE

Teacher-led demos foster wonder and classroom discussion and serve as the hook for the lesson. Videos and images of natural phenomena also foster questioning and communication.

DEMOS

The teacher-led demonstration allows teachers to invite scientific discussions and can help uncover misconceptions and, most importantly, lead to heightened curiosity and interest in the studied topic.

SCIENCE DEMO



Air Masses

WEATHER & CLIMATE

Activity: Students will observe what occurs when a warm air mass meets a cold air mass.



Convection Currents

EARTH'S WATERS

Activity: Students will observe currents forming in the water and what causes them.

Materials:

- clear glass heat-proof dish or bowl
- hot plate
- water

Procedure:

1. Fill clear dish with water and allow students to view from the side.
2. When water is still, add a drop of food coloring. Have students observe.
3. Dump out colored water.
4. Fill the clear dish with water again, and begin to heat on hot plate.
5. Add a couple of drops of food coloring to the water and observe what happens.
6. You may want students to draw their observations.

What's Happening:

Ocean currents result from two processes - the action of wind and the action of density. Wind causes surface currents, and density causes deep currents. Density is caused by differences in temperature and salinity. Warmer water is less dense than cooler water, so when it is heated, it rises, causing the cooler water to move lower. When that happens, the process begins again. Convection results in the continual circulation of water.

Discussion:

Q: Compare the movement of food coloring between the two demonstrations.

A: The food coloring just dropped in and was slowly moving. When the water was heated, a current which moved the water faster mixing the food coloring.

Q: How did heat cause a current to form?

A: Warmer water is less dense than cooler water, so when it is heated, it rises, causing the cooler water to move lower. When that happens, the process begins again. Convection results in the continual circulation of water.



Smog

EARTH'S ATMOSPHERE

Activity: Students will see an example of how smog is formed.

Materials:

- 2 - small, clear glass bottles
- 2 - aluminum pie tins
- hot water
- ice
- matches

Procedure:

1. Pour hot water in one pie tin and ice water in the other pie tin.
2. Place a glass bottle in each pie tin - make sure students can see the bottles.
3. Light a match and drop it in the bottle standing in hot water. Have students make observations.
4. Light a match and drop it in the bottle standing in ice water. Have students make observations.

What's Happening?

The smoke stayed in the bottle full of cold air since it is denser than warm air. The dense air does not rise out of the bottle like the one with hot air. This relates to cities where smog is formed - in the morning when air is cooler, cars and trucks are traveling to work. The vehicles give off hydrocarbons after the fossil fuels are burned. The hydrocarbons along with other air pollutants react with each other in the presence of sunlight for from photochemical smog. Photochemical smog irritates respiratory systems, harms plants and damages some man-made material.

Discussion:

Q: How does the smoke relate to air pollution?

A: Polluted air, like smog will stay close to the ground when it's cooler temps, causing health concerns and destruction of some man-made materials.

Q: How is most air pollution produced?

A: By the burning of fossil fuels from vehicles, factories and plants.

NGSS PHENOMENA

Aligned to Middle School NGSS Standards. Each video or image also has teacher notes which offer discussion questions and answers. (see next slide)

MS-ESS2 Earth's Systems					
Phenomena	MS-ESS2-1	MS-ESS2-2	MS-ESS2-3	MS-ESS2-4	MS-ESS2-5
Grand Canyon		X			
Landslide		X			
Silfra Fissure			X		
Towing a glacier				X	X
Coriolis Effect					
Why does the wind blow					X
Bottom of the clouds					X
Cappadocia	X				



Option 1: Can you explain why the stars appear to move in the night sky?

The stars appear to move in the night sky because of Earth's rotation.

Option 2: Why do the stars appear to move in a circular motion?

Because of the Earth's rotation on its axis they appear to move in a circular motion.



EXPLAIN

PowerPoints, instructional videos, and guided notes (input side of interactive notebooks) provide definitions, explanations, and information through mini-lecture, text, internet, and other resources and encourages students to explain concepts and definitions in their own words

TABLE OF CONTENTS

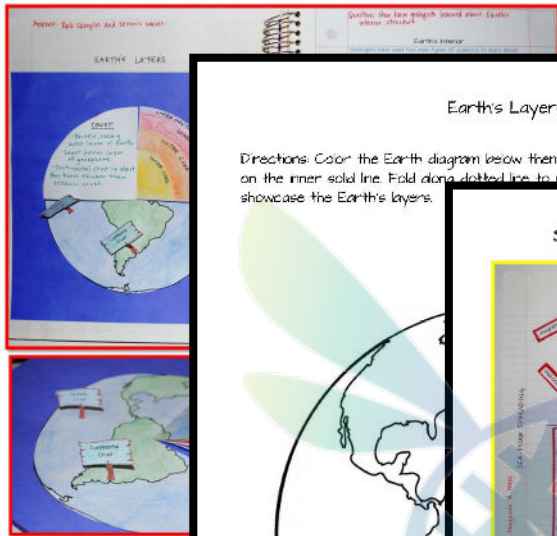
Table of contents included for both NGSS and TEKS and aligned with updated standards

TEKS	EARTHSCIENCE
TABLE OF CONTENTS	
NGS Magnified Interactive Notebook Chapters:	TEKS Standards Addressed
Chapter 1: Nature of Science	
• Section 1: The Method of Science	6.1, 7.1, 8.1 H
• Section 2: Standards of Measurement	6.1, 7.1, 8.1 E
• Section 3: Graphing	6.1, 7.1, 8.1 F
Chapter 2: Intro to Earth Science	
• Section 1: The Study of Earth Science	6.10A
• Section 2: Lab Safety	6.1, 7.1, 8.1 C – 6.1, 7.1, 8.1 D
• Section 3: Methods of Science	6.1, 7.1, 8.1 E, 6.1, 7.1, 8.1 H
Chapter 3: Mapping Earth's Surface	
• Section 1: Mapping Earth's Surface	
• Section 2: Models of Earth	
• Section 3: Maps & Computers	
Chapter 4: Rocks & Minerals	
• Section 1: Properties of Minerals	
• Section 2: Mineral Formation & Resources	
• Section 3: Classifying Rocks	
• Section 4: Rock Groups	
Chapter 5: Plate Tectonics	
• Section 1: Earth's Interior	
• Section 2: Convection & The Mantle	
• Section 3: Continental Drift & Seafloor Spreading	
• Section 4: Theory of Plate Tectonics	

NGSS	EARTH SCIENCE
TABLE OF CONTENTS – Earth Science	
NGS Magnified Interactive Notebook Chapters:	NGSS Standards Addressed
Chapter 6: Forces that Shape Earth	
• Section 1: Forces that Shape Earth	ESS2-2, ESS3-3
• Section 2: Earthquakes	ESS2-2, ESS3-3
• Section 3: Volcanoes	ESS2-2, ESS3-3
• Section 4: Volcanic landforms	ESS2-2
Chapter 7: Earth's Changing Surface	
• Section 1: Weathering	ESS2-1
• Section 2: Soil Formation	ESS2-1
• Section 3: Erosion & Deposition: Wind & Water	ESS2-2
• Section 4: Erosion & Deposition: Glaciers	ESS2-2
Chapter 8: Earth's History	
• Section 1: Fossils	ESS1-4, ESS2-3
• Section 2: Determining Ages of Rocks	ESS1-4, ESS2-3
• Section 3: Geological Time Scale	ESS1-4
• Section 4: Earth's Eras	ESS1-4
Chapter 9: Earth's Waters	
• Section 1: Earth – The Water Planet	ESS2-4
• Section 2: Fresh Water	ESS2-2
• Section 3: Characteristics & Compositions of Oceans	ESS2-6
• Section 4: Ocean Waves & Tides	ESS2-4
• Section 5: Ocean Currents & Climates	ESS2-6

Print the student pages you need, and then the activities are completed in their notebook.

Section 1: Earth's Interior



Description

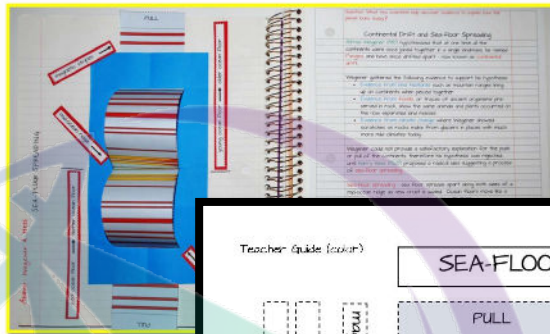
Students will create a flipbook and describe each of Earth's layers. The flipbook will allow students to label continents and oceans, and a mini-quiz is included.

Earth's Layers

Directions: Color the Earth diagram below then cut out, including making a cut on the inner solid line. Fold along dotted line to reveal the "window" to showcase the Earth's layers.



Section 3: Continental Drift and Sea-floor Spreading

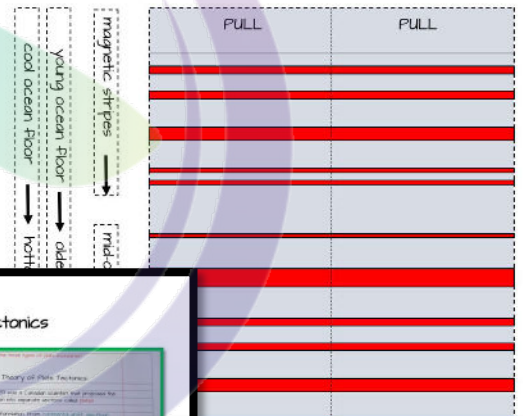


Description

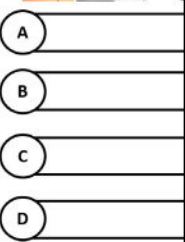
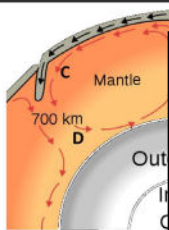
Students will build a model of sea-floor spreading along with labels for features associated with it. The model can be folded to show the sea-floor spreading process.

Teacher (guide color)

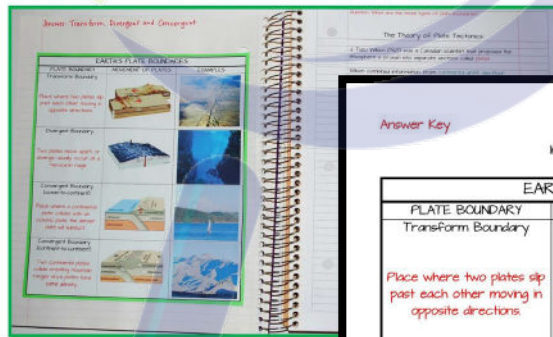
SEA-FLOOR SPREADING



GRAPHIC ORGANIZER: CONVECTION CURRENTS



Section 4: The Theory of Plate Tectonics



Description

Students will understand the different plate boundaries and complete this informational chart. Students will describe each boundary in their own words, cut out diagrams of different boundaries, examples, and paste them in the appropriate boxes. For this concept, I've included the diagram in color and gray-scale for your convenience. A mini-quiz has also been provided along with a mini-quiz.

Answer Key

Interactions of Earth's Plates

EARTH'S PLATE BOUNDARIES		
PLATE BOUNDARY	MOVEMENT OF PLATES	EXAMPLES
Transform Boundary	Place where two plates slip past each other moving in opposite directions	
Divergent Boundary	Two plates move apart, or diverge, usually occur at a mid-ocean ridge	
Convergent Boundary (ocean-to-continent)	Place where a continental plate collides with an oceanic plate, the denser plate will subduct	
Convergent Boundary (continent-to-continent)	Two continental plates collide creating mountain ranges since plates have same density	

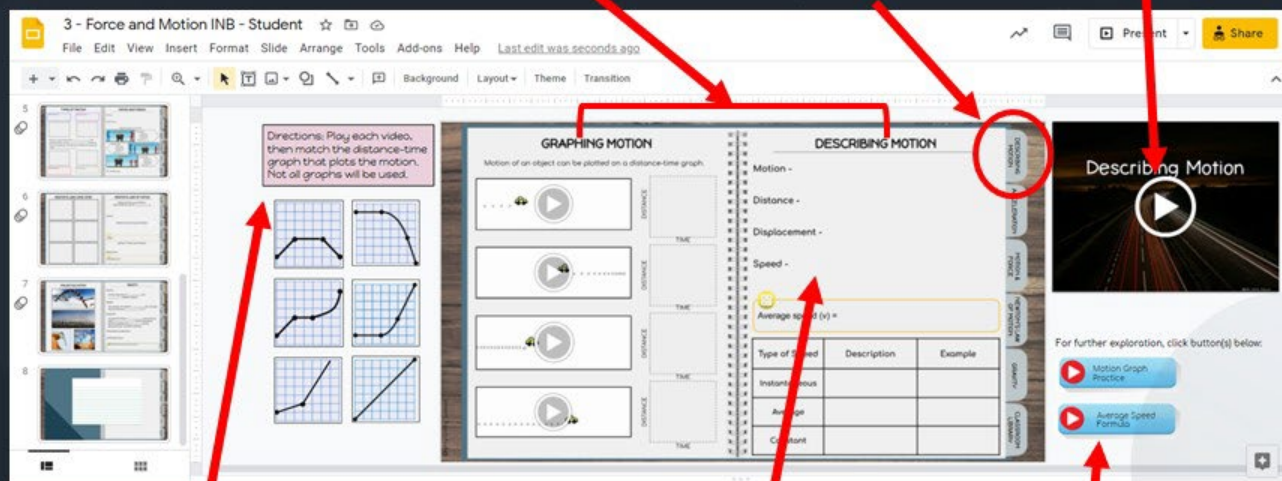
Student Digital Notebook

The student notebook is on Google Drive and ready for you to share with your students. Here's a quick overview of the features:

Set up like a traditional interactive notebook with input and output sides.

Hyperlinked tabs so student can easily move through chapter for review

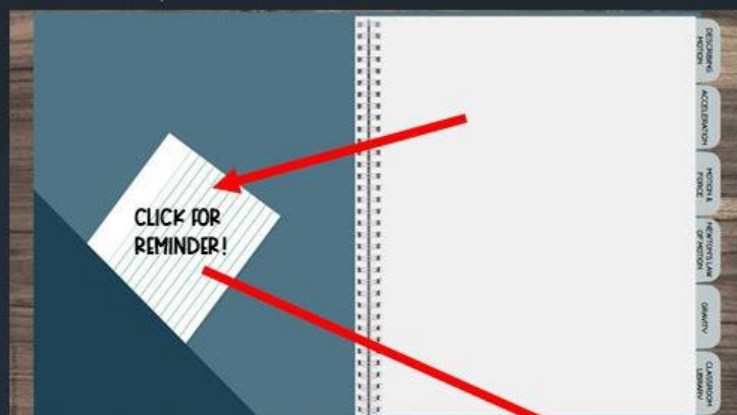
Students watch video < 6 min to complete notes.



Encouraging independent learners. Directions for output side are here along with what they need to complete the activity.

Notes are chunked into manageable sections with large spaces for textboxes

Some pages have links so students can go deeper into the topic if they need.



1. Add text or picture
2. Right click and choose "link"

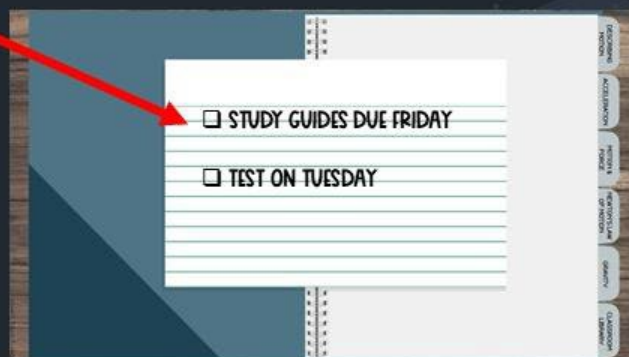


3. Choose "slides in this presentation"



4. Choose last slide, and now when student click, they will get your message.

Go to the last slide of presentation and add due dates, important reminders, or even a fun cartoon or picture! If you don't want to use this feature, then just delete/hide this slide.





EXPLORE

Students investigate problems, events, or situations. As a result of their mental and physical involvement in these activities, students question events, observe patterns, identify and test variables, and communicate results.

A Guided Inquiry Lab is a traditional lab that allows students to perform an investigation to solve a problem. Students will hypothesize, collect, and analyze data and communicate their results.

© Nitty Gritty Science

EARTH SCIENCE SUPPLY LIST

Nature of Science

Lab Supplies	Consumables
Ice cube String Water Eye dropper Masking tape Metric ruler 4-250mL graduated cylinder 4-Test tubes 25mL graduated cylinder 10mL graduated cylinder Colored pencils Metric stick	Salt Baking soda Vinegar Paper Index cards Cabbage juice Food coloring Colored syrup Miscellaneous objects

Intro to Lab Skills

Lab Supplies	Consumables
Test tubes Eye dropper 250 mL beakers 23 mL graduated cylinders 10 mL graduated cylinders Metric ruler Meter stick	Ice cubes Salt Cabbage juice Vinegar Baking soda Tape Colored pencils String Food coloring Karo syrup Index cards Markers

EARTH SCIENCE SUPPLY LIST

Rocks & Minerals

Lab Supplies	Consumables
Rock characteristics chart 7 samples of rocks Permanent marker Dissecting microscope 100 mL graduated cylinder Mineral samples Hand lens Hot water Hot plate Balance Calculator	Starburst candy Wax paper 3 toothpaste samples Hard-boiled egg Plastic spoons Small seashells Cement Plaster Soil Sand Iron Knife Leaves Toothbrush Plastic cups Small gravel

Astronomy and Space Science

Lab Supplies	Consumables
Meter stick Rubber bands Thermometers Safety goggles Paper towels Weights/rocks Ruler Tape Marker Scissors Stopwatch Ice	Sidewalk chalk Bubble wrap Poster paper Cotton balls Aluminum cake pan Plastic baggies Soda cans Straws String Quarter Newspaper Styrofoam peanuts Raw egg Popsicle sticks Cardboard Dixie cups Toothpicks Ball and string model with handle

EARTH SCIENCE SUPPLY LIST

Plate Tectonics

Lab Supplies	Consumables
Hot pad Hot plate Marker Scissors Stopwatch 10 mL beaker 1000 mL beaker Rubber bands Colored pencils Paper discs from paper punch	Playdough Paper plate Plastic wrap Food coloring Cookie cutters Tools to shape playdough Pins Candle Stamps Spatula Rolling pin

Forces that Shape Earth

Lab Supplies	Consumables
Large beakers Trap Colored pencils Glue	Modeling clay/playdough Facial tissue Craft plaster cloth Plastic water/soda bottles Red food coloring Large boulder or bowling ball Decorative figures/twigs/rocks String/yarn Dish soap Vinegar Baking soda Paint Newspaper Cardboard Zip top baggie Toothpicks Construction paper Popsicle sticks Small toys/figurines Plastic knife

EARTH SCIENCE SUPPLY LIST

Earth's Changing Surface

Lab Supplies	Consumables
Ruler/metric Measuring cup Eye dropper Stereomicroscope (hand lens) Forceps Stopwatch Petri dishes	Local soil Plastic spoon Bagged topsoil 3 different samples of sand Liquid detergent Plastic jar with lid

Earth's History

Lab Supplies	Consumables
Actual fossils or photos Non-fossils (rocks, shells, bones) Magnifying glass Colored pencils Eye dropper Plastic bowl Ruler Paper Beaker Water	Index cards Small milk cartons Sediment variety Bird seed mix Wooden skewer Footprint stamps Straws Playdough Spoons Sugar cubes Ink pad

Mapping Earth's Surface

Lab Supplies	Consumables
Plastic meter ruler Different maps (conic, Mercator, etc.) Permanent marker Dry-erase markers Water Beaker Tape Globe Ruler Paper Picture Colored pencils	Foil pan with clear lid Food coloring Modeling clay

EARTH SCIENCE SUPPLY LIST

Earth's Atmosphere

Lab Supplies	Consumables
Ice	Cardboard
Matches	Cardstock
Rubber bands	Packing tape
Clamp light	String
Ring stand	Sand
Stopwatch	Plastic cups
Thermometers	Push pins
Colored pencils	Straws
Glue	Clay
Tape	Water bottles
2 small, clear bottles	Coffee filters
Hot water	Vacuum cleaner
Stereomicroscope	Balloon
Permanent marker	Plastic baggie
1-inch hole punch	Small paper cups
Triple beam balance	Car
Wide mouth jar	2 aluminum pie tins
2 large cups	Dowels rods
Stapler	Disposable chopsticks

Weather and Climate

Lab Supplies	Consumables
400 mL beaker	Toilet paper tubes
Stirring rod	Food coloring
Hot plate	Plastic bottles with caps (2L & smaller)
Thermometer	Plastic toy figurine
Graduated cylinder	Construction paper
Scissors	Popsicles sticks
Ice	Paper cup
Water	Foil
Tape	Straws
Ruler	Clay
String	Toothpicks
Variable speed fan	Cardboard
Matches	
Globe	
Glue	
Flashlight	

EARTH SCIENCE SUPPLY LIST

Natural Resources

Lab Supplies	Consumables
25 mL test tubes Test tube holder Test tube rack Graduated cylinder Microscope slides Thermometer Colored pencils 250 mL beaker Eye dropper pH paper Ring stand Hot plate Coverslips Stopwatch Clamp light Microscope Ruler Tape Marker Fan Stoppers Pipette Water String	Liquid dish soap 4 water sources (tap, local, stream, bottled spring, mineral) 4 water pond samples Black & white container with lid Disposable pie tin Pieces of scrap material Sponge pieces Clay Oil Toothpicks Cotton balls Cardboard Newspaper Pipe cleaner Gravel



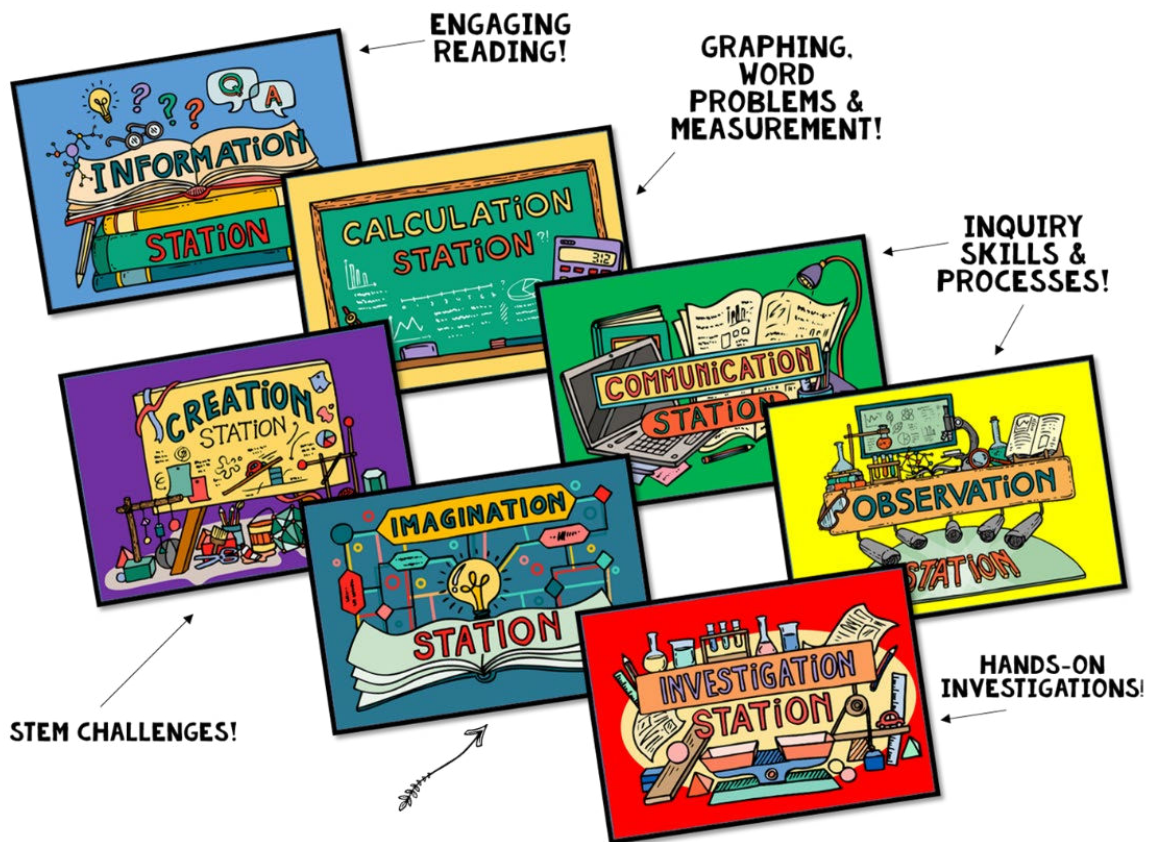
ELABORATE

It is important to involve students in further experiences that apply, extend, or elaborate the concepts, processes, or skills they are learning. Elaborate activities provide time for students to apply their understanding of concepts and skills. They might apply their understanding to similar phenomena or problems.

SCIENCE STATIONS

SCIENCE STATIONS are designated classroom locations with activities that challenge students to extend their knowledge and elaborate on their science skills by working independently of the teacher in small groups or pairs. The stations included are:

- INFORMATION STATION
- OBSERVATION STATION
- CALCULATION STATION
- INVESTIGATION STATION
- COMMUNICATION STATION
- CREATION STATION
- IMAGINATION STATION



INFORMATION STATION



The Phenomena of Big Crack

One of the most remarkable places to visit on this Earth is not on land, but under water in Iceland's Silfra fissure where a person can dive between and actually touch North America and Europe at the same time!

Located in Thingvellir National Park in Iceland, Silfra is a natural rift, or the divergent tectonic boundary between the Eurasian and North American plates. Because Earth's crust is a giant jigsaw of tectonic plates continuously moving at a rate of a few centimeters per year, the rift is formed by the constant force pulling on those plates.

Since Silfra is located in a national park, divers can only enter the water using diving.

On a tour through the fissure, you will see a tour guide leading a group of divers down through the rift. The divers have the opportunity to be taken touching the fissure which is all which has other system. The caves are very few people because of the fall, divers swim about 200 meters long and has a depth of 100 meters. It is able to see from one end to the other. Divers move on to Silfra Lake as the final destination of the tour.

When taken this plunge, you will see the continental plate that is moving apart. The world. Over time, it will change the phenomena.



A

Is Silfra located on a divergent or convergent boundary? Give evidence.



B

List the four main parts of Silfra.



C

What is the phenomena of Big Crack?



D

Would you take a diving tour of Silfra? Why or why not.

OBSERVATION STATION



A



1. Use the diagram to help put the layers of the Earth in order: crust, lower mantle, inner core, upper mantle.
2. Which layer consists of the lithosphere?



B

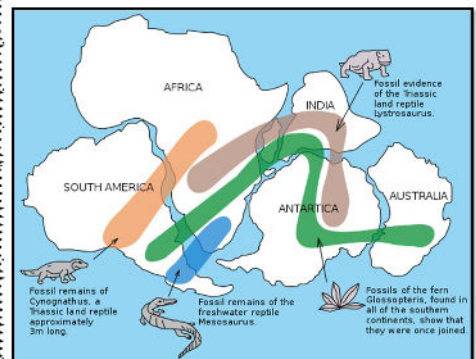


The picture shows a hydrothermal vent on the ocean floor.

1. How is the water that is coming from the vent different from the surrounding water?
2. What are features on land that you could compare this to? Explain.



C



1. What evidence in the illustration above helps explain the theory of continental drift?
2. Since the breakup of Pangaea, it took the continents about 225 million years to drift to their present locations. What information would you need to know in order to predict where the continents will be in 25 million years?

Group members
at this station the
Using what the
skills to complete
provided picture

INVESTIGATION STATION



Motion in the Mantle

Problem: How do convection currents in Earth's mantle affect tectonic plates?

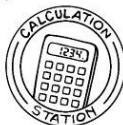
Materials:

- 1000 mL beaker (substitute large glass jar)
- 100 mL beaker (substitute small glass jar)
- plastic wrap
- rubber band
- tap water
- paper discs from paper punch
- food coloring
- stop watch
- colored pencils
- hot pad

Procedure:

1. Fill the 1000 mL beaker 2/3 of the way with cold tap water. Fill the 100 mL beaker completely with hot water. Add a drop of food coloring to the hot water. Place the 100 mL beaker with plastic wrap and secure with a rubber band. Place the 100 mL beaker into the larger one. Place paper discs around the center of the surface of the 1000 mL beaker. Use a pencil to poke two holes in the saran wrap. Add the hot water to the 1000 mL beaker. Stir the water. Add the cold water and the paper pieces. Record your observations on your answer sheet at 5, 60 and 120 seconds.

CALCULATION STATION



Is Hawaii Moving Away?

The Hawaiian Islands formed over millions of years as a result of the Pacific plate moving over a hot spot, or an area where magma erupts through the crust and reaches the surface.

1. Calculate the rate of movement for each island in the chart below using the following formula:

$$\text{Rate (r)} = \frac{\text{Distance (d)}}{\text{Time (t)}}$$

2. Fill in your answers on the table on your answer sheet.

3. Since scientists measure plate movement in centimeters, you will then need to multiply your answer by .1 to convert from kilometers per million years to centimeters per year.



Island	Distance - Kilometers (km)	Age - Million years (Ma)	Rate (r)	Convert to cm/year (multiply x .1)
Molokai	290	1.8	?	?
Oahu	300	3.3	?	?
Kauai	519	5.6	?	?
Average				?

4. Use the average rate of movement to calculate how the distance the Pacific plate has traveled since you were born.

$$\text{Distance} = \text{Average Rate (r)} \times \text{Time (Your age)}$$

Group members use their math skills to solve the challenge. Skills may include graphing, models, measurement, and calculating.

B

Testi-
and h
on a
also
sectio

This station is not intended to be given answers, but instead be used as an awareness of the science topic in the

What observations led Albert Wegener to develop the hypothesis of continental drift.

Materials

ts

New York to London?
San Diego to Moscow?

STUDY GUIDES

NGS Magnified Study Guides are directly aligned to the notes and assessments offered by NGS Magnified and include a variety of review strategies that meet the needs of your learners for independent study and indirect instruction.

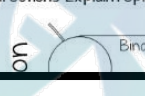
STUDY GUIDE

Microbial

Name: _____ Date: _____

SECTION 1

Directions: Draw a picture of each type of bacterium in the circles, and then describe the characteristics of prokaryotes in the boxes below.



SECTION 2

Directions: Explain reproduction as it occurs in bacteria.

SECTION 3

Directions: Fill in each blank with the correct word from the word bank.

pseudopods protist algae protozoans ciliates
zooflagellates euglenoids seaweed spores diatom

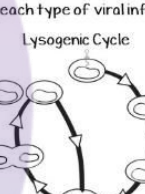
dinoflagellates

- Eukaryotes that can't be classified as animals, plants or fungus.
- Animal-like protist
- Plant-like protist
- Move by means of flagella
- Group of amoebas that move by forming these.
- Use hair-like projections to move. Feed
- Single celled protists that lack a cell wall and have one or two flagella
- Unicellular and photosynthetic with a cell wall made of cellulose
- Unicellular with a glass-like cell containing silica
- Large, multicellular marine algae
- Tiny cells able to grow into a multicellular organism

SECTION 4

Directions: Explain what happens during each type of viral infection.

Lytic Cycle Lysogenic Cycle



SECTION 5

Directions: List three characteristics of fungi and then answer the questions below.



- How do fungi absorb food?
- Explain how fungi reproduce.
- Describe one way fungi and plants are different?
- Define mycelium.

Directions: Draw a picture of your own mushroom and label it using the terms below.

cap
gills
mycelium
hyphae
stalk

SECTION 6

Directions: Scan the QR code to watch the video about mushrooms. Then research a mushroom mentioned in the video. Draw a picture of it, explain how it gets and processes its food, and whether it is edible.



Mushrooms are awesome!



Did you know that you eat bacteria? Yogurt and cheese are just a couple of the snacks made with bacteria.

TASK CARDS

Task cards are a great tool for concept review. They can be used in a variety of ways—in pairs, small groups, team games, or individually. The reason they are so effective is that there is only ONE task per card, allowing students to focus on that single task until they have successfully completed it. An answer sheet and answer key for teachers are included. Digital Task Cards also included.

1

DECIDE

The grinding away of rock by other rock particles carried by wind and water is ____.

a. drought c. oxidation
b. abrasion d. acidification

2

LIST

List three types of mechanical

3

COMPLETE

One _____
diff _____

5

DECIDE

In soil formation, fungi, bacteria and worms are soil ____.

a. aerators c. decomposers
b. mixers d. oxidizers

6

IDENTIFY

The most important agent of chemical weathering is ____.


9

DECIDE

_____ is a type of soil that is best for growing plants.

a. Loam c. Humus
b. Clay d. Sand

10



IDENTIFY

Identify the cause of weathering in the picture above.

8

LIST

List three types of chemical weathering.

COMPLETE

Decayed organic matter called _____


13

DECIDE

Soil that is made up of about equal parts of clay, sand and silt is ____.

a. humus c. gravel
b. sand d. loam

14



IDENTIFY

Identify the cause of weathering in the picture above.

15

COMPLETE

The measure of how well soil supports plant growth is called _____.

16

DESCRIBE

Describe how contour plowing is a method of soil conservation.



EVALUATE

Use a variety of assessments to gather evidence of student's understanding and provide opportunities for them to assess their own progress.

The curriculum provides mini-quizzes for each INB chapter, BLOOKET links are available for online game-style review, and chapter tests are included with each text having multiple-choice, interpreting diagrams, short answers, and essays. Answer keys provided.

Name _____ Date _____

CHAPTER TEST CELL PROCESSES & ENERGY

Multiple Choice

Choose the answer that best completes each statement.

1. What are the products of photosynthesis?
 - a. carbon dioxide and water
 - b. oxygen and water
 - c. carbon dioxide and sugars
 - d. oxygen and sugars
2. What happens during photosynthesis?
 - a. The cell uses oxygen to make food
 - b. The cell uses the energy in sunlight to make food
 - c. The cell uses glucose to make oxygen
 - d. The cell uses the energy in sunlight to make carbon dioxide
3. How does photosynthesis benefit heterotrophs?
 - a. It adds carbon dioxide to the air

16. By the end of prophase, each of the following has occurred except _____.
 - a. tighter coiling of the chromosomes
 - b. breaking down of the nuclear envelope
 - c. disappearing of the nucleolus
 - d. lining up of chromosomes in the cell
17. The longest phase of the cell cycle is _____.
 - a. prophase
 - b. interphase
 - c. metaphase
 - d. mitosis
18. Which of the following equations best represents photosynthesis?
 - a. $C + O_2 + H_2O \rightarrow CO_2 + H_2O$
 - b. $6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2$

Interpreting Diagrams

Use the diagrams to answer each question.



34. Identify the stages of the cell cycle represented by the diagrams.
35. Which drawings represent parts of mitosis?
36. List drawings 1-5 in their correct order, beginning with interphase.
37. Identify the structures labeled A. What do they do?
38. Explain what is happening in drawing 2.

Essay

Choose **TWO** essays and answer using the space provided.

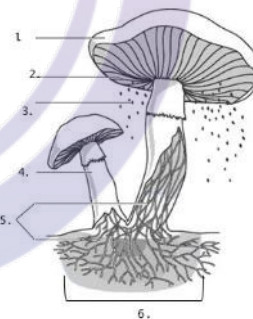
39. Explain the following statement: Photosynthesis is the process by which plants make their own food from energy from the sun.
40. Animals do not make their own food from energy from the sun for energy.
41. Define DNA replication and explain its function.

Name _____ Date _____

Quiz: Fungus

Correctly identify the structures of the fungus.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____



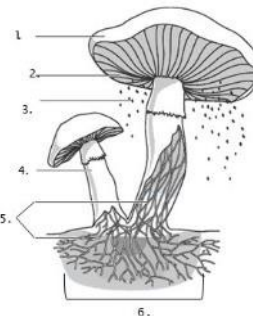
Page | 22

Name _____ Date _____

Quiz: Fungus

Correctly identify the structures of the fungus.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____



Suggested Pacing Guide

The following is a **suggested pacing guide** for my COMPLETE COURSES (Earth, Life or Physical Science) which are based on 50-minute class periods. There are three variations below. **Each variation is based on the number of sections in your SCIENCE INTERACTIVE NOTEBOOK chapter.**

Based on a **4-Section Chapter**

Day	Lesson/Activity	Engage	Explain	Explore	Elaborate	Evaluate
1	<ul style="list-style-type: none"> Teacher Demo Section 1 Notes – INB input INB Activity – INB output (homework if not completed in class) 	x				
			x			
				x		
2	<ul style="list-style-type: none"> Mini-quiz Section 2 Notes – use PowerPoint INB Activity 					x
			x			
				x		
3	<ul style="list-style-type: none"> Mini-quiz Guided Inquiry Lab – Student Led 					x
				x		
4	<ul style="list-style-type: none"> Section 3 Notes – use PowerPoint INB Activity 		x			
				x		
5	<ul style="list-style-type: none"> Mini-quiz Section 4 Notes – use PowerPoint INB Activity 					x
			x			
				x		
6	<ul style="list-style-type: none"> Mini quiz Science Stations 					x
					x	
7	Science Stations				x	
8	Final draft and testing for Creation Station (STEM)				x	x
9	Task Card Review (game-style, full class, partner)				x	
10	Chapter Test					x
	Have students complete notes for next chapter*	x				

*** Note-taking option:** Once students are done with chapter test, they get the next set of notes and work quietly on completing them while other students finish up. All notes are to be completed when they return to class. Have students glue each page of notes into the next few pages of their INB (right side only). This way, when you go over the PowerPoint each day, they have already reviewed topic and are ready for class.



Thank you for sharing NGS Magnified with your students!

Terms of Use

Copyright © NGS Magnified, LLC (formerly Nitty Gritty Science, LLC.) All rights reserved by author Dr. Erica Colón. This product is to be used by the original downloader only. Copying for more than one teacher, classroom, department, school, or school system is prohibited. This product may not be distributed or displayed digitally for public view. Failure to comply is a copyright infringement and a violation of the Digital Millennium Copyright Act (DMCA). Clipart and elements found in this PDF are copyrighted and cannot be extracted and used outside of this file without permission or license.

Intended for classroom and personal use ONLY.

Contact Information:

Email: admin@nittygrittyscience.com

Website: www.NGSmagnified.com

TPT: <https://www.teacherspayteachers.com/Store/Nitty-Gritty-Science>

