GEOLOGY

Mega Bundle

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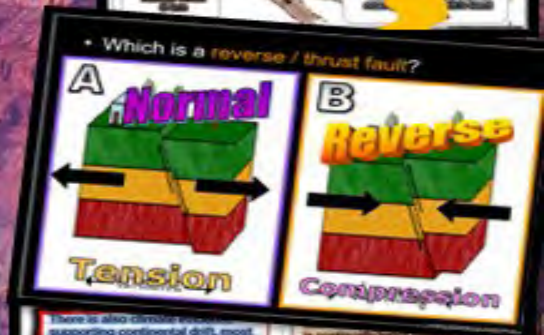
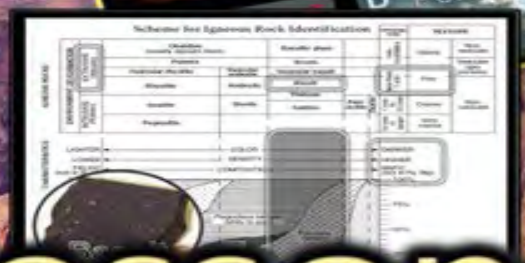
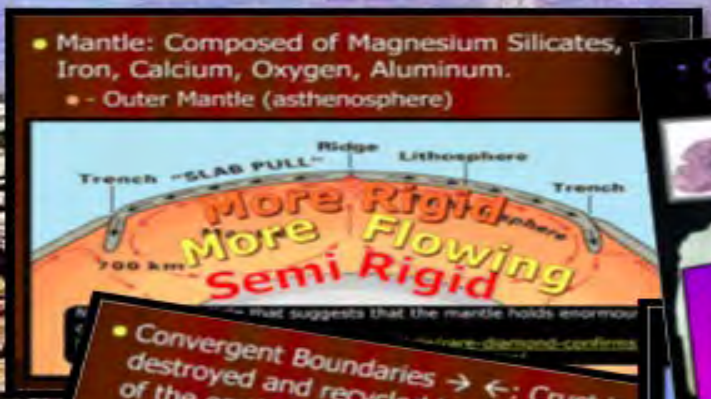
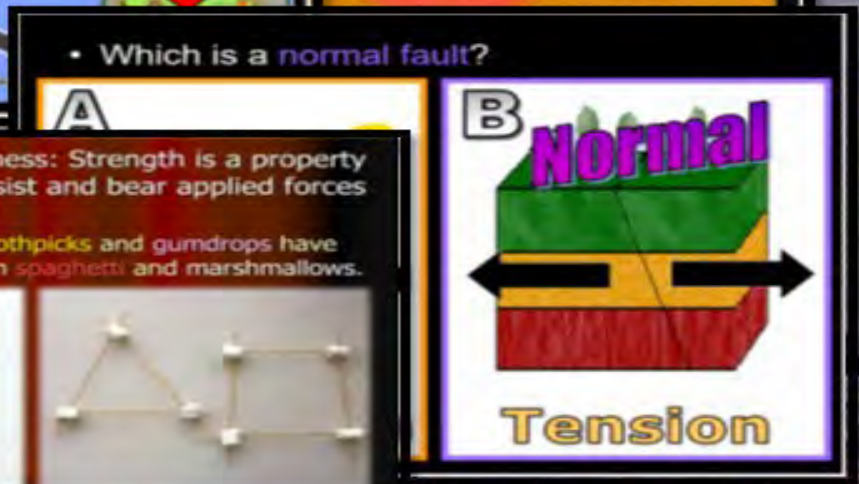


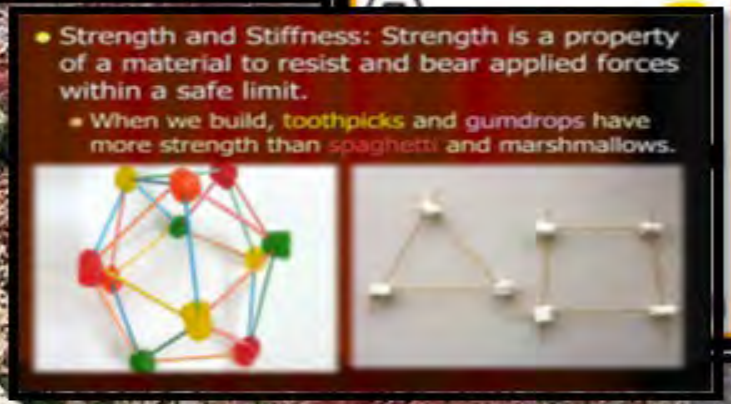


6 Parts, 60 Lessons

Hundreds of Amazing and Interactive Slides



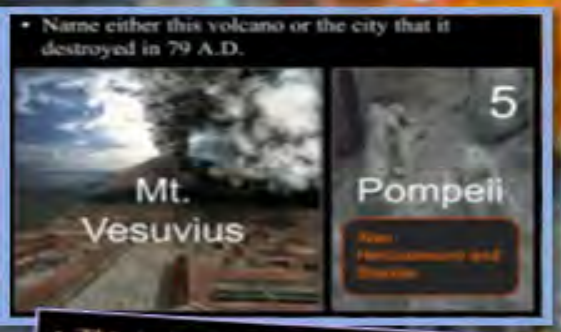


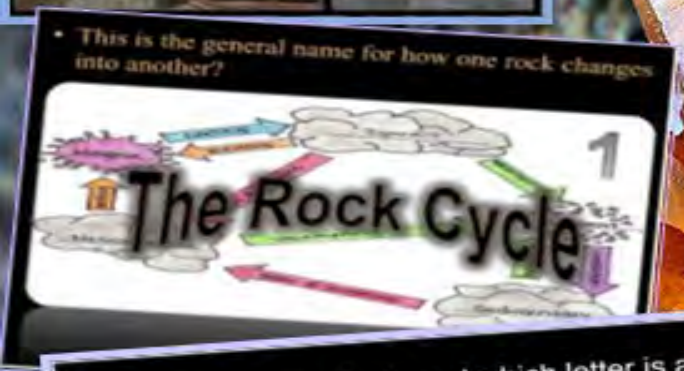


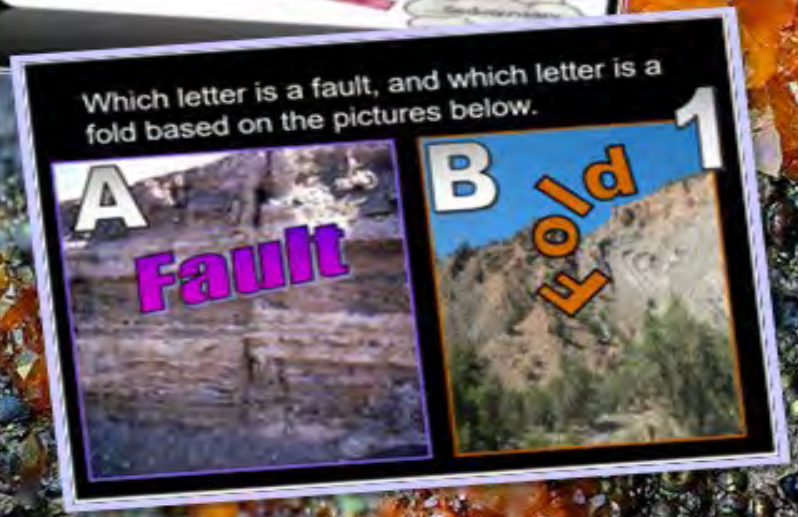
Follow Along Bundles

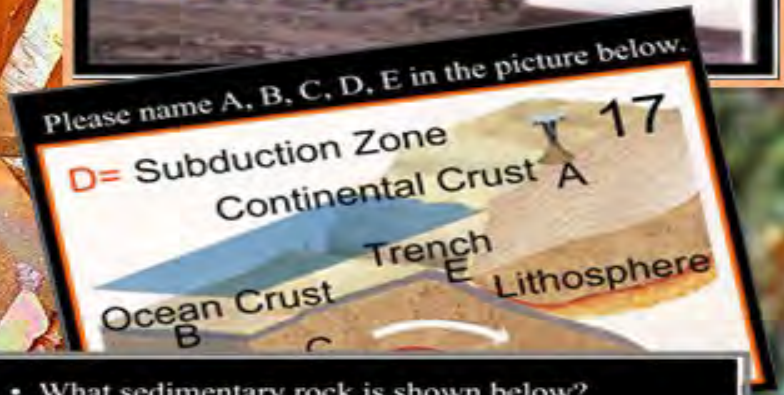
6 Bundles, 100 Pages

Assessments, Activities, Keys, Games and More







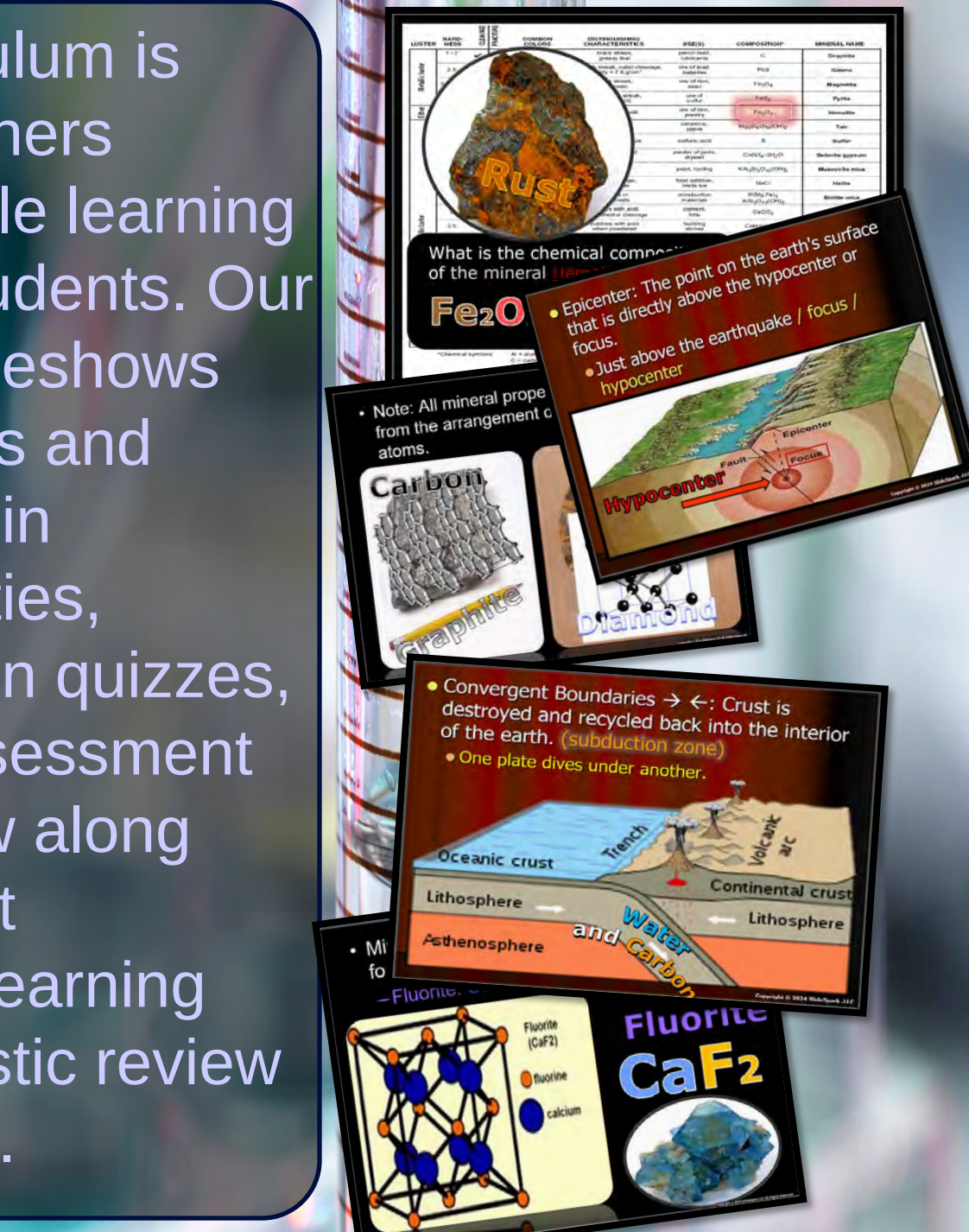


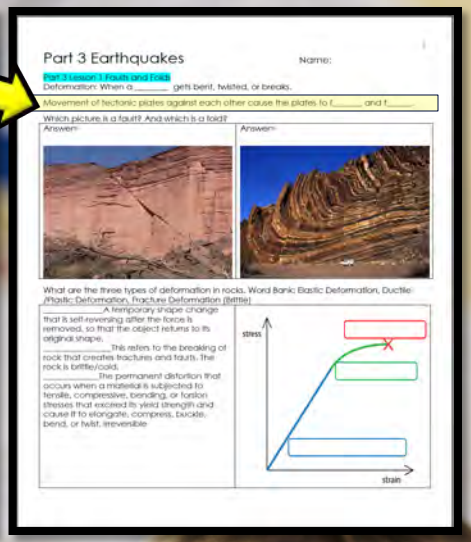
SlideSpark Science

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.

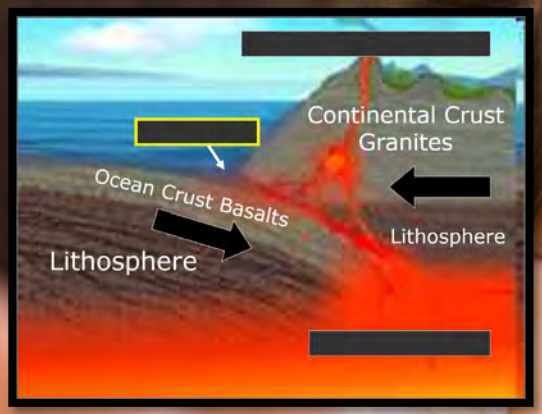
Each unit in the curriculum is designed to help teachers deliver the best possible learning experience for their students. Our interactive science slideshows are filled with questions and answers, important fill-in notes, hands-on activities, projects, games, built-in quizzes, and end of the unit assessment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



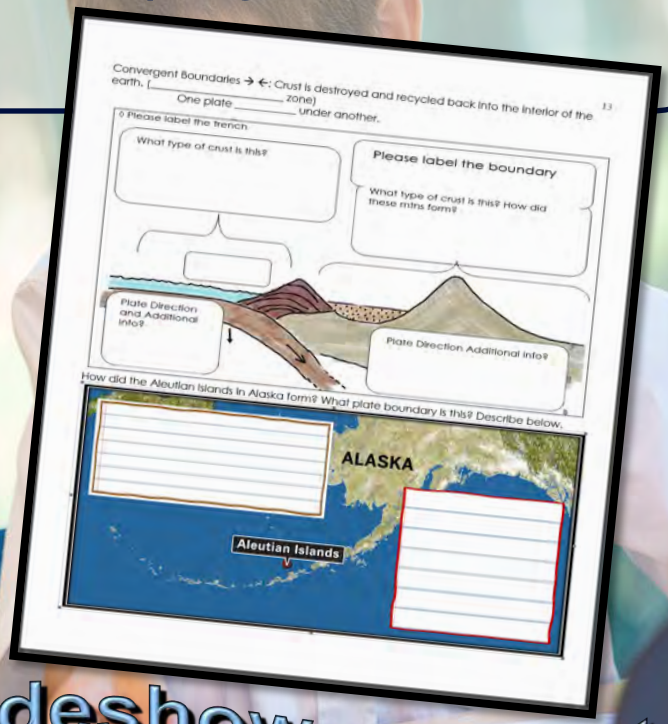


Red Slide Notes: Help students record important information in a fun and easy-to-understand way. Designed red-colored slides contain a few pieces of crucial information that students must record into their work bundle to complete the notes. Students will use these important notes throughout the work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



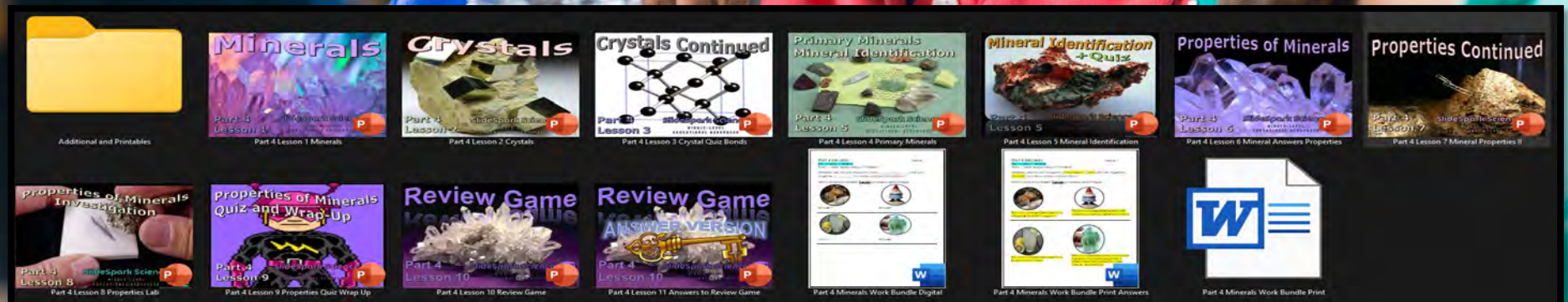
Next Slide



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.



One clear, organized bundle guides students through notes, review, and assessments with ease.

Follow Along Work Bundle

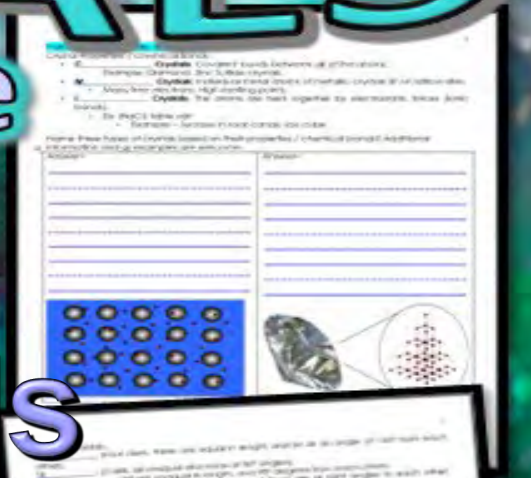
Each science unit comes with several work bundles. The bundles should be printed before the unit begins and distributed to the students on the first day of the unit. The work bundles will be due shortly after the completion of the unit. The work bundle will become a resource for the review games, crossword puzzles, and will be collected for assessment. The work bundle follows the entire learning experience and will be used every day. They are chronological to the lessons and provide places to record fill-in notes, answer questions, collect data, graph and much more. An answer version is provided that can that be distributed to your support professionals. A digital version of the work bundle and some writable .pdf versions are provided if you want to go paperless. These work bundles are perfect for students looking for an easy and organized way to track their progress and stay on top of their studies.

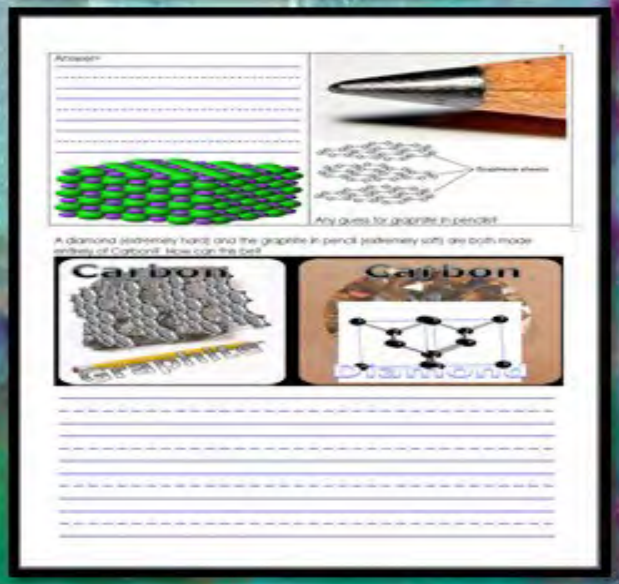
MINERALS

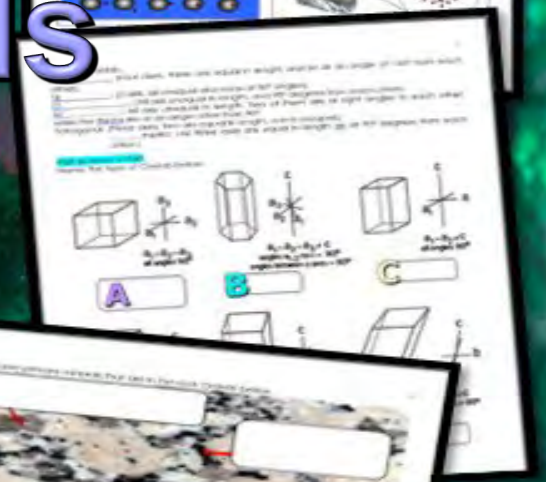
Work Bundle

Example

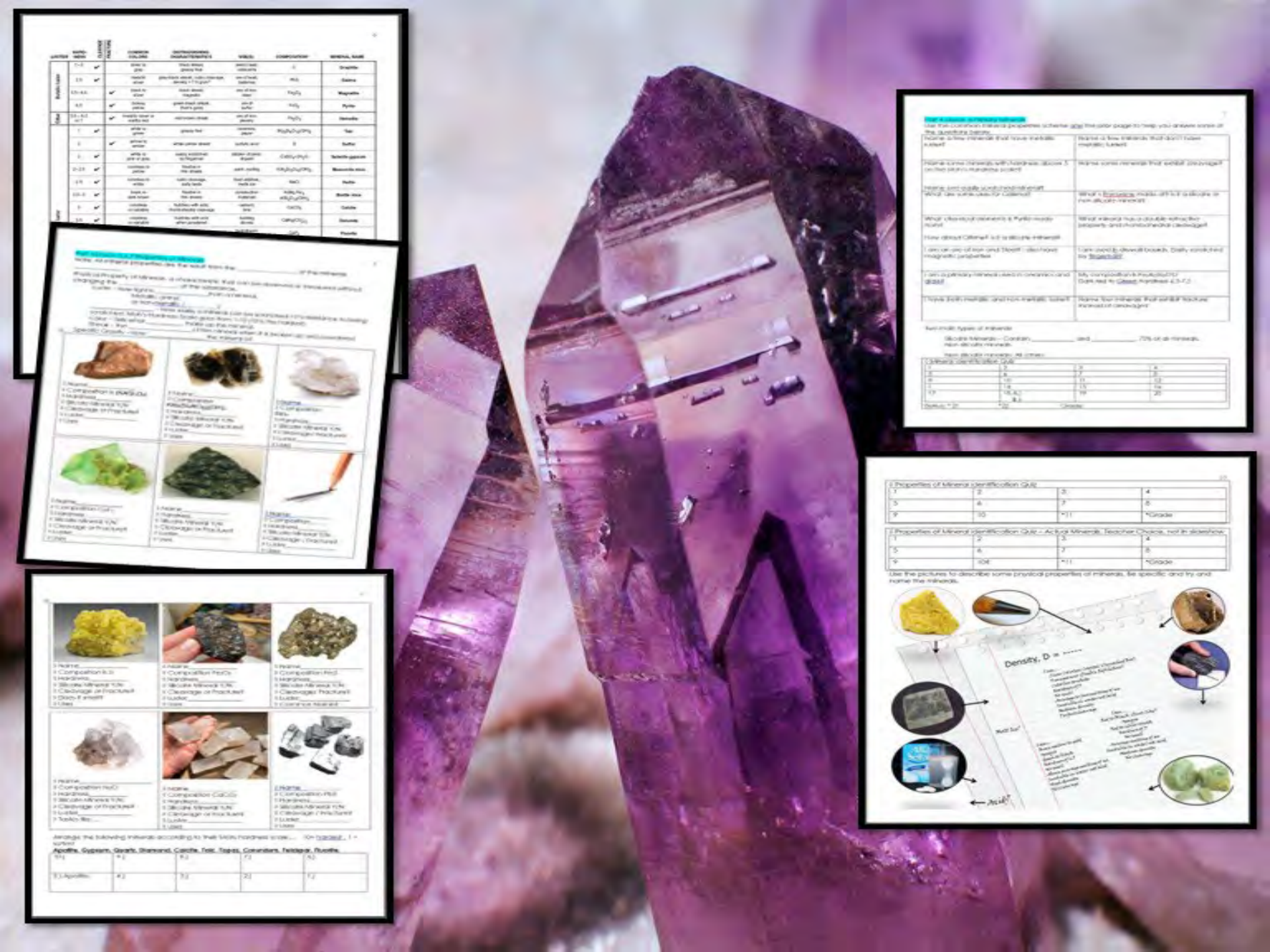
Part 4 Minerals







20 Pages



YOUR NAME HERE:

Possible Answers
APATITE, ATOMS, BAUXITE, CALCITE, COBALT, COLTAN, COPPER, CORUNDUM, CRYSTAL, FELDSPAR, FLUORITE, GALENA, GRAPHITE, GYPSUM, HALITE, HARDNESS, HEMATITE, HEXAGONAL, ISOMETRIC, LUSTER, METALLIC, MICA, MINERALS, MOHS, MONOCLINIC, OLIVINE, ORE, ORTHORHOMBIC, PROPERTY, PYRITE, PYROXENE, QUARTZ, ROCKS, SILICATE, STREAK, SULFUR, TALC, TETRAGONAL, TOPAZ, TRIGONAL, ARRANGEMENT

MINERAL NAME	OBSERVATIONS	HARDNESS	COLOR	STREAK	SMELL	ICE	SOLUBLE WATER	GRAVITY DENSITY

Part 4 Minerals Review Game 10/11 Name:

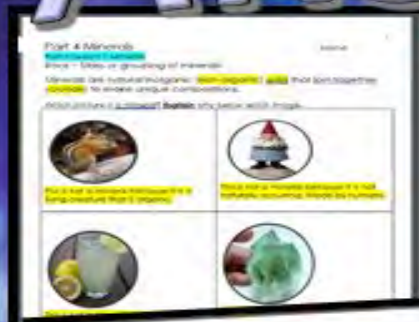
1-20 = 5 pts. Score ____ / 100
*20-*25 * = Bonus + 1 pt.
(Secretly write owl in correct space +1 pt)
Final Question = 5 pt wager

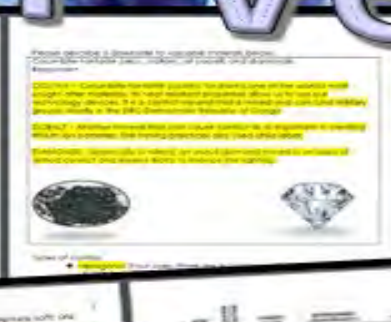
MINERALS 101	SHAPE-UP	PRETTY COLORS	PRIVATE PROPERTY	Minerals in MOVIES Bonus round 1 pt each
1)	6)	11)	16)	*21)
2)	7)	12)	17)	*22)
3)	8)	13)	18)	*23)
4)	9)	14)	19)	*24)
5)		15)		

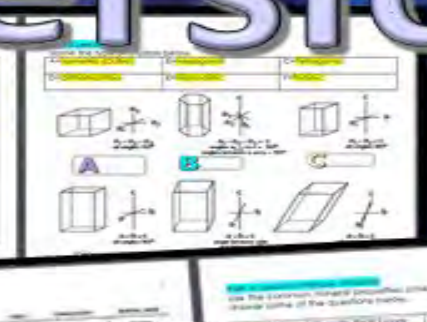
Across
2. This is a primary mineral that exists in almost all rock types.
3. Primary Mineral: Composition is (KAlSi3O8)
4. Type of Crystal with: (3 axis, all unequal and none at 90° angles)
10. Physical _____ of Minerals: is characteristic that can be observed or measured without changing the identity of the substance.
12. An important rock forming mineral: A major mineral in the rock basalt.
13. Minerals make up r_____
15. Common mineral containing lead. May form cubes and has luster/shine.
17. C_____ : Another mineral that can cause conflict as its important in creating lithium ion batteries. The mining practices also used child labor.
18. M_____ hardness scale...
19. A high grade of coal. Made of carbon, found in pencils, conducts electricity. Has luster / shine. Can be a lubricant.
21. Common phosphate mineral helps plants get phosphorus. Bones and teeth are composed of calcium phosphate.
25. This describes how easily a mineral can be scratched.
29. Type of Crystal: (Three axes, two are equal in length, one is unequal.)
30. These minerals contain silicon and oxygen. 75% of all minerals.
33. Type of Crystal: (All three axes are equal in length an at 90° degrees from each other.)
34. C_____ is one of the world's most sou_____ its heat resistance, our _____ and technology.
35. C_____

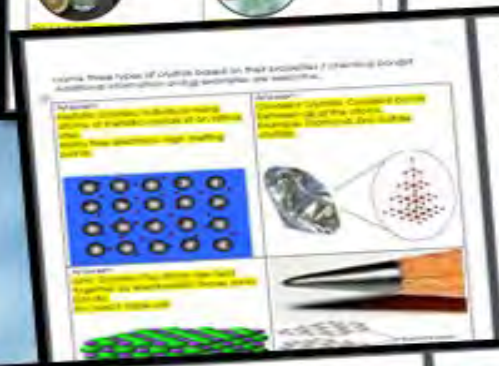
Down
1. Used in the manufacturing of acid, fertilizers, chemicals, explosives. Smells of rotten eggs. Yellow.
5. Processed and used as prefabricated wallboard or an industrial or building plaster.
6. Type of Crystal: (Four axes, three are equal in length and be at an angle of 120° from each other)
7. The color of the mineral when it is broken up and powdered.
8. Type of Crystal with: (All axis unequal in length, and 90° degrees from each other).
9. An iron sulfide often called "Fools Gold".
11. Used to create a spark in ancient times. Used in paper today and to create sulfuric acid.
11. This mineral is a magnesium iron silicate. Common mineral in the earth's surface. Olive in color
14. Important mineral in electric cables and wires, switches, plumbing, heating, roofing and building construction.
16. How light is reflected from a mineral.
17. It is an exceptionally hard aluminum oxide that forms in igneous and metamorphic rocks. Makes rubies and sapphires.
20. Iron Oxide - Black colored or reddish brown (rust-like) Named for the Greek word blood.
21. All mineral properties are the result from the _____ of the minerals atoms.
22. All mineral properties are the result from the arrangement of the minerals _____.
23. Type of Crystal: All axis unequal in length. Two of them are at right angles to each other, while the third is tilted at an angle other than 90°.
24. This ore is the main source of aluminum which the most abundant mineral in the Earth's crust.
26. A sought after crystal that is formed from the mineral of aluminum and fluorine.
_____ is a solid in which the _____ in a repeating pattern.
_____ and animal diet, food _____ preservations. Helps to
_____ Property
_____ Mineral that forms.
_____ is made of calcium
_____ form I can

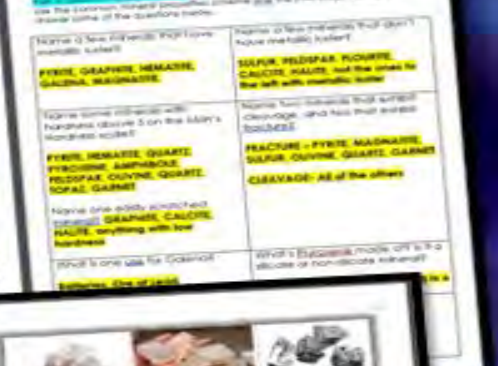
Answer Version

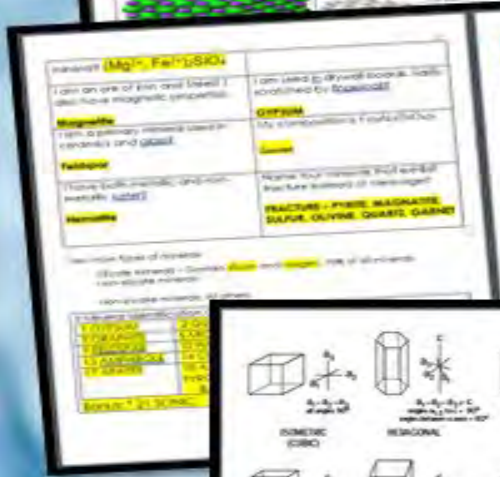


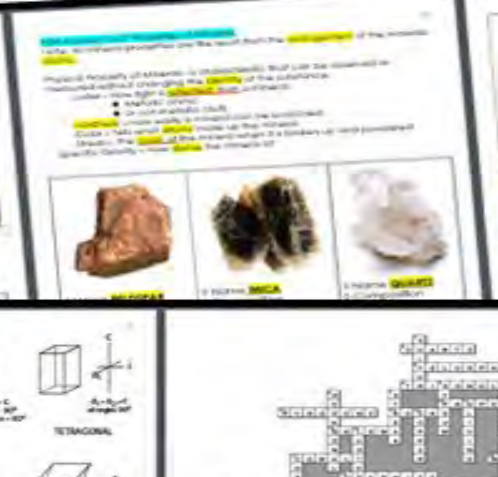


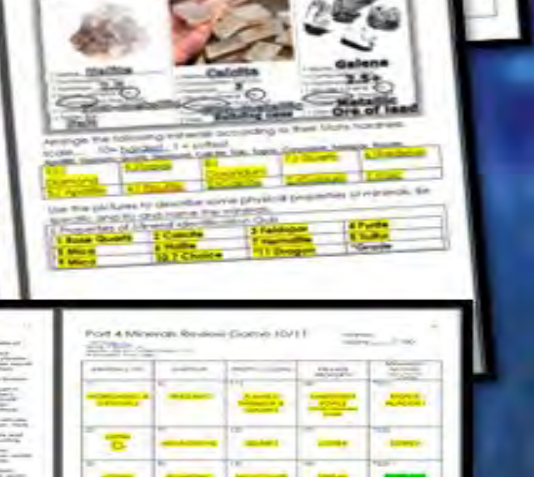


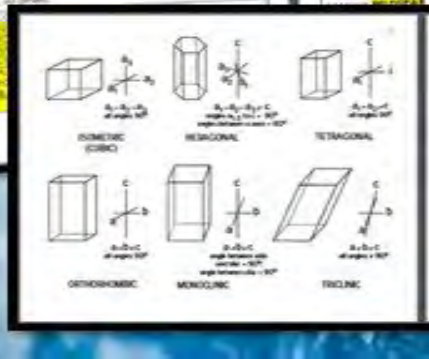


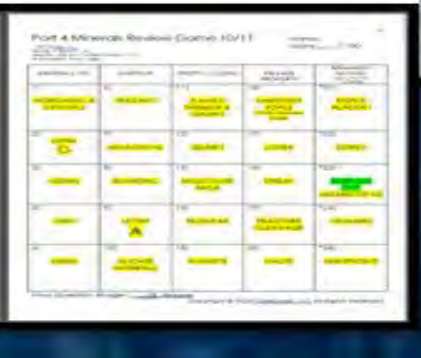






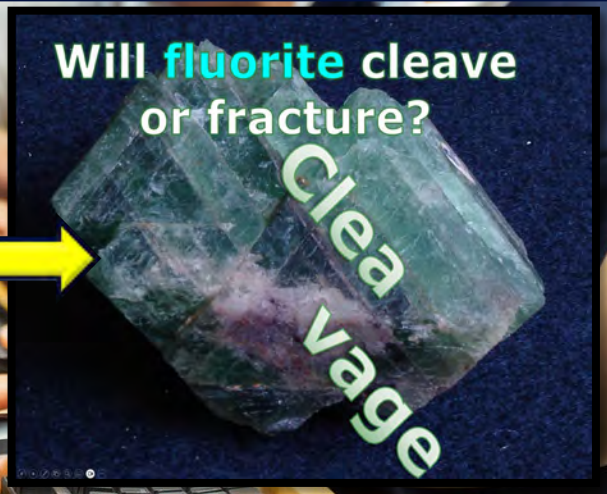






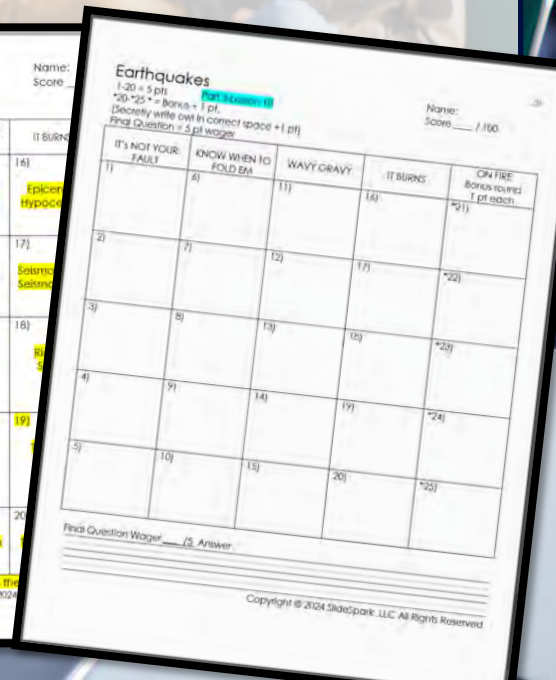
Built-in Questions and Assessments

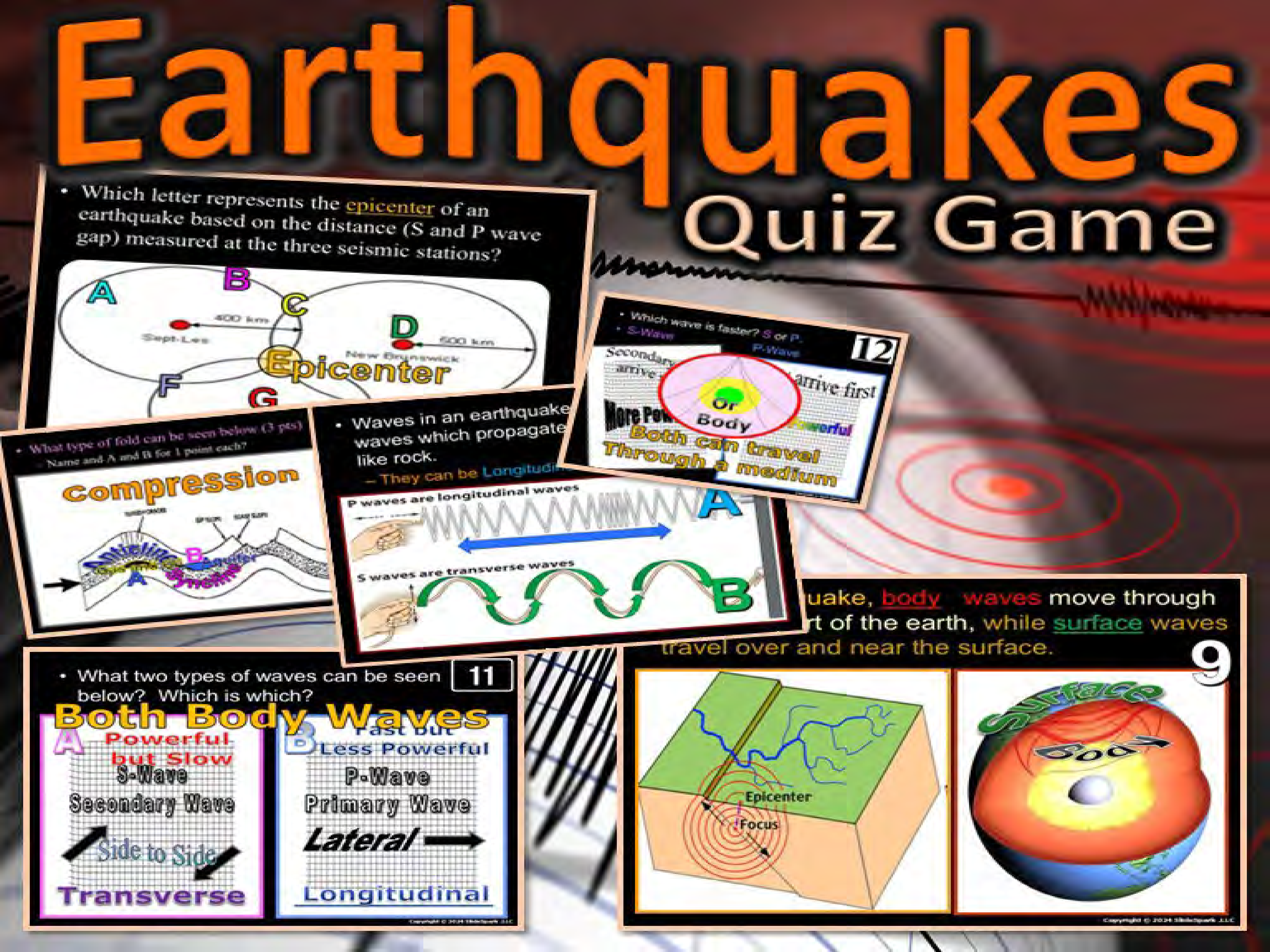
Many slides will have relevant terms covered with a box. When advancing through the slideshow an outline around the box will glow with a bright color. The next slide will make the box disappear. These slides allow the teacher to call upon students or table groups / check for understanding before advancing. 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.



Review Game / Assessments

Each of the 11 Units concludes with a review quiz. Answers are provided in slideshow form so students can self assess. A blank template sheet is provided in the work bundle. Students can benefit from working together in small table groups with quiet communication. You can decide if you want to allow the use of work bundles or not. These are a nice review opportunity and get the students looking through their work bundles for the answers.





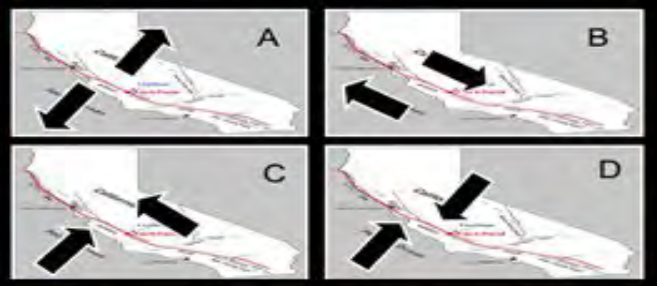
Earthquakes
Quiz Game
Which letter represents the epicenter of an earthquake based on the distance (S and P wave gap) measured at the three seismic stations?
A
B
C
D
400 km
500 km
Epicenter
F
G
Which wave is faster? S or P.
S-Wave
P-Wave
12
arrive first
Body
Both can travel Through a medium
What type of fold can be seen below (3 pts)
compression
Waves in an earthquake
waves which propagate
like rock.
– They can be Longitudin
P waves are longitudinal waves
S waves are transverse waves
A
B
uake, body waves move through
rt of the earth, while surface waves
travel over and near the surface.
9
Epicenter
Focus
Surface
Body
What two types of waves can be seen below? Which is which?
11
Both Body Waves
A
Powerful but Slow
S-Wave
Secondary Wave
Side to Side
Transverse
B
Fast but Less Powerful
P-Wave
Primary Wave
Lateral
Longitudinal

- Name this type of fault and stress?

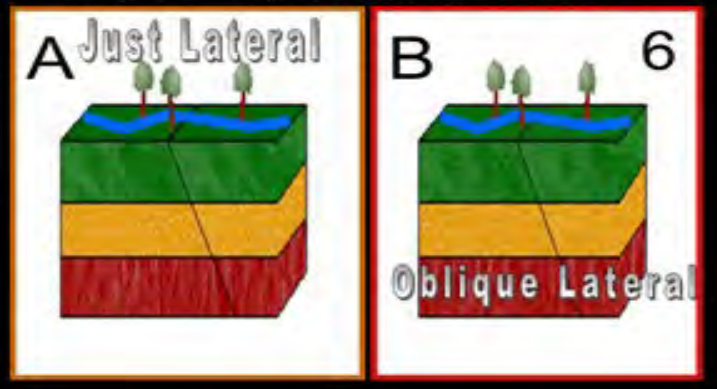
- What is this a picture of? – Be specific!
  - This is a picture of a lateral or strike-slip fault. The surfaces are moving past each other.

- What type of stress is breaking this rock?

- Which picture is the correct movement of the plates along the San Andreas Fault?



- Which is an oblique lateral fault? Answer B



Which letter is a fault, and which letter is a fold based on the pictures below.

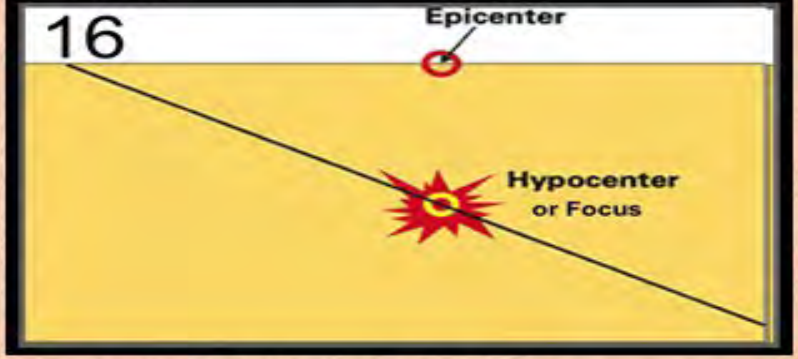
20 Questions

- This is an ocean wave generated by a submarine earthquake, volcano, or landslide.

19

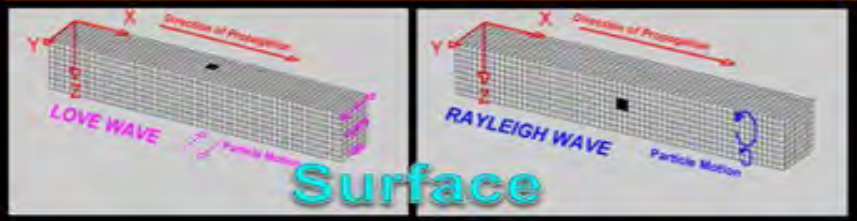
- Please name the two terms beneath the boxes below.

16



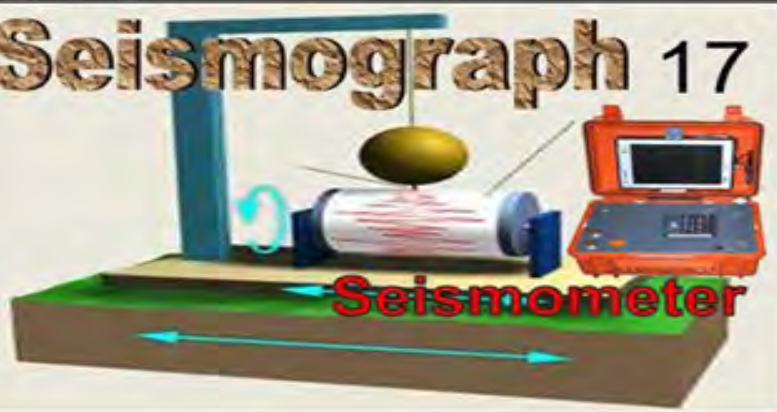
- Which grouping below is correct? 14

B Body Waves: Secondary and Primary
Surface Waves: Love and Rayleigh



This device measures the intensity of an earthquake?

Seismograph 17



- This is the name for a twelve-point scale for expressing the local intensity of an earthquake **20**
  - 1= Virtually Unnoticed to a 12= Total Destruction!

Modified Mercalli Intensity Scale

I	Instrumental: detected only by instruments	VII	Very strong: noticed by people in autos Damage to poor construction
II	Very fe[illegible]ople	VIII	Destructive: chimneys f[illegible]mage in substantial bu[illegible]ure
III	Slight: fe[illegible]y people at rest Like passing of a truck	IX	[illegible]ou[illegible]mage to substantial structures Ground cracked, pipes broken
IV	[illegible]oderate: [illegible]erally pe[illegible]	X	[illegible]astr[illegible]
V	[illegible]Rather [illegible]dishes broken, bells rung, pendulum clocks stopped People awakened	XI	Very disastrous: few structures
VI	Strong: felt by all, some people frightened Damage slight, some plaster cracked	XII	Catastrophic: total destruction

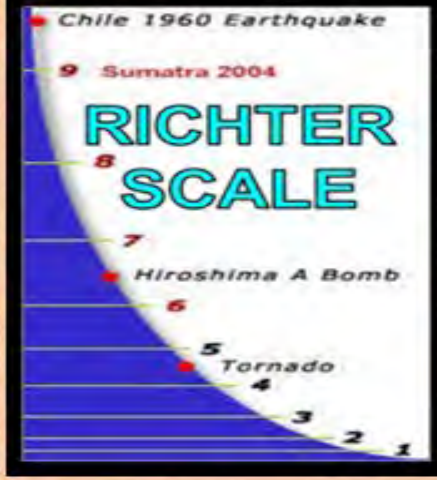
The Mercalli Intensity Scale

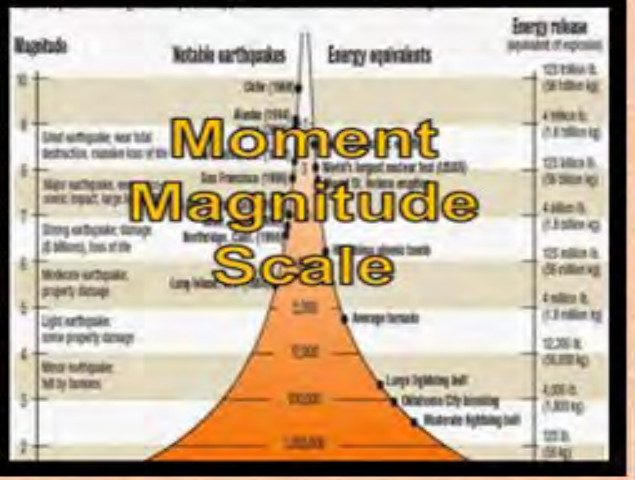
- This is a process where sand or landfill will often change from a wet solid into a dense liquid, which further amplifies shaking. **#15**

Liquefaction

- An earthquake is the shaking of the earth's crust from a sudden release of energy. **13**

Name either of these scales for measuring earthquake magnitude? **18**



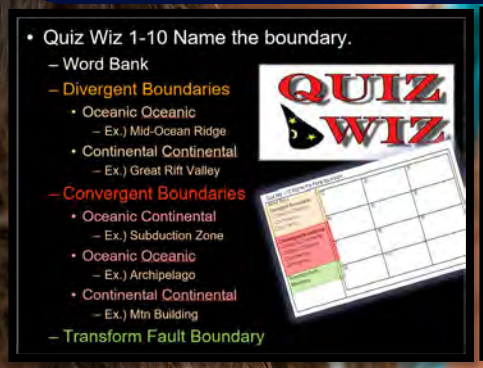


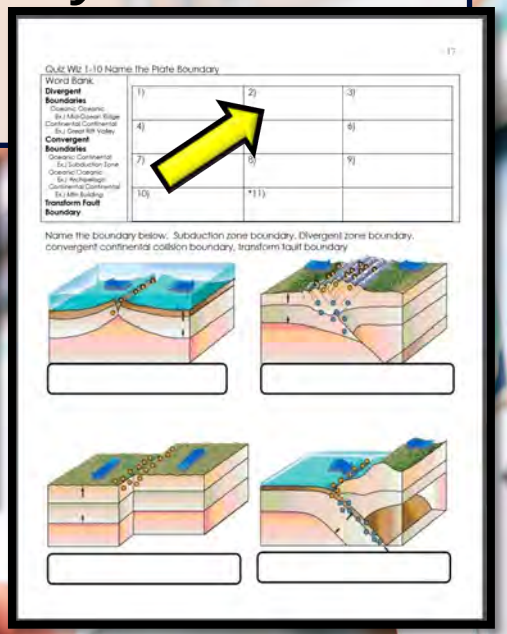
Activities / Labs

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.

Built-in Assessment

This unit contains built-in assessments that students 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.





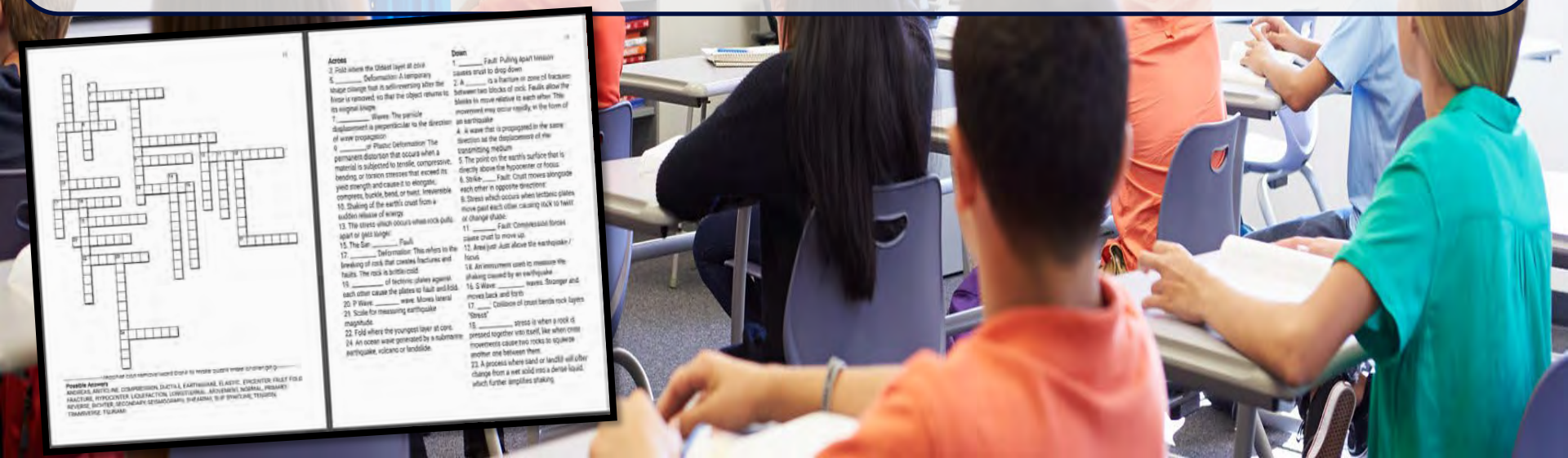
Quiz in Work Bundle

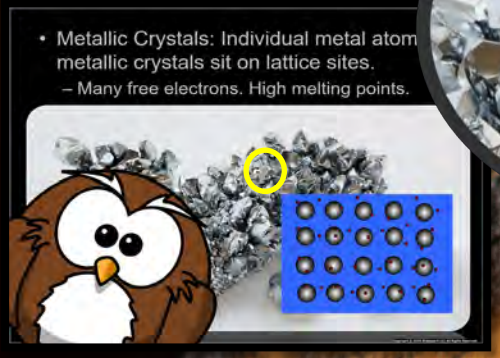
Built-in Video Links

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.

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.





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 1 Lesson 2 Continental ...

Google Slides

Part 1 Lesson 8 Plate Bound...

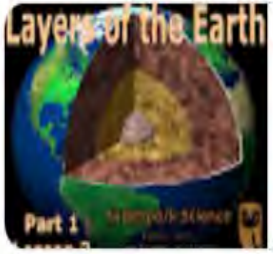
Google Slides

Part 1 Lesson 1 Plate Tectoni...

Google Slides

Part 1 Lesson 6 Heat Transf...

Google Slides



Part 1 Lesson 3 Layers of th...

Google Slides

Part 1 Lesson 9 Plate Bound...

Google Slides

Part 1 Lesson 11 Review Game

Google Slides

Part 1 Lesson 10 Plate Boun...

Google Slides

Part 1 Lesson 4 EM Layers c...

Google Slides

Part 1 Lesson 5 Heat Transfer

Google Slides

Part 2 Lesson 8 Types of La...

Google Slides

Part 2 Lesson 2 Eruptions M...

Google Slides

Part 2 Lesson 6 Magma and ...

Google Slides

Part 2 Lesson 9 Review Game

Google Slides

Part 2 Lesson 5 Hazards of ...

Google Slides

Part 2 Lesson 4 Types of Vol...

Google Slides

Part 2 Lesson 7 Viscosity

Google Slides

Part 2 Lesson 3 Impacts of V...

Google Slides

Part 3 Lesson 7 Epicenter

Google Slides

Part 3 Lesson 10 Earthquak...

Google Slides

Part 3 Lesson 1 Faults and F...

Google Slides

Part 3 Lesson 6 Seismograph

Google Slides

Part 3 Lesson 9 Tsunami

Google Slides

Part 3 Lesson 4 Compressio...

Google Slides

Part 3 Lesson 8 Design Chal...

Google Slides

Part 3 Lesson 5 Mechanical ...

Google Slides

Part 3 Lesson 3 Lateral Faults

Google Slides

Part 3 Lesson 2 Types of Fa...

Google Slides

Part 4 Lesson 8 Properties L...

Google Slides

Part 4 Lesson 3 Crystal Quiz...

Google Slides

Part 4 Lesson 1 Minerals

Google Slides

Part 4 Lesson 10 Review Ga...

Google Slides

Part 4 Lesson 2 Crystals

Google Slides

Part 4 Lesson 5 Mineral Iden...

Google Slides

Part 4 Lesson 4 Primary Min...

Google Slides

Part 4 Lesson 9 Properties ...

Google Slides

Part 4 Lesson 7 Mineral Pro...

Google Slides

Part 4 Lesson 6 Mineral Ans...

Google Slides

Part 5 Lesson 5 Sedimentar...

Google Slides

Part 5 Lesson 3 Igneous Roc...

Google Slides

Part 5 Lesson 6 Common Se...

Google Slides

Part 5 Lesson 1 Start Rock C...

Google Slides

Part 5 Lesson 8 Common M...

Google Slides

Part 5 Lesson 4 Rocks Flow ...

Google Slides

Part 5 Lesson 7 Metamorphi...

Google Slides

Part 5 Lesson 10 Review Ga...

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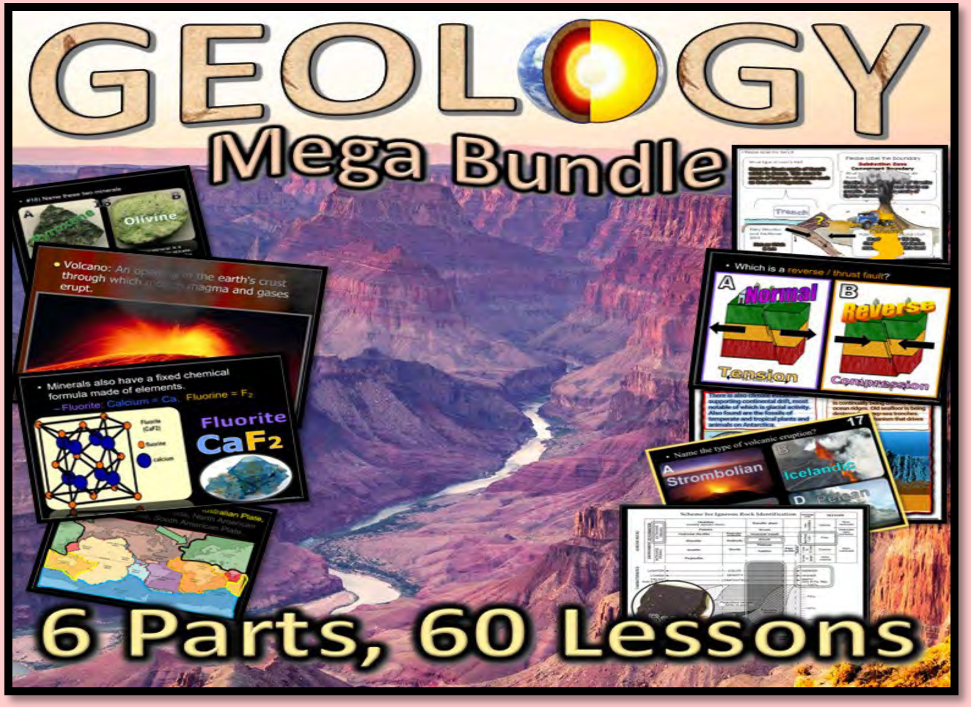
Part 5 Lesson 9 Quiz and Wr...

Google Slides

Part 5 Lesson 2 Igneous Roc...

Google Slides


GEOLOGY
Mega Bundle
Olivine
Volcano: An opening in the earth's crust through which molten magma and gases erupt.
Minerals also have a fixed chemical formula made of elements.
Fluorite
CaF2
Which is a reverse / thrust fault?
A Normal
B Reverse
Tension
Compression
Name the type of volcanic eruption?
Strombolian
Icelandic
6 Parts, 60 Lessons


Hundreds of Amazing and Interactive Slides
Mantle: Composed of Magnesium Silicates, Iron, Calcium, Oxygen, Aluminum.
Outer Mantle (asthenosphere)
More Rigid
More Flowing
Semi Rigid
Colorful mineral in light. Well known and prized for its glassy luster and rich variety of colors.
7
Fluorite
Convergent Boundaries → ←: Crust is destroyed and recycled back into the earth. (subduction zone)
One plate dives under another.
Oceanic crust
Trench
Lithosphere
Continental crust
Asthenosphere
Erosion
Islands get smaller
Older
Which is a normal fault?
B Normal
Tension
Mud volcanoes are built by a mixture of hot water and fine sediment (mud and clay) that is forced to the surface.
Strength and Stiffness: Strength is a property of a material to resist and bear applied forces within a safe limit.
When we build, toothpicks and gumdrops have more strength than spaghetti and marshmallows.


Follow Along Bundles
6 Bundles, 100 Pages


Assessments, Activities, Keys, Games and More
Name either this volcano or the city that it destroyed in 79 A.D.
5
Mt. Vesuvius
Pompeii
This is a fast-moving avalanche of hot lava fragments?
12
Pyroclastic Flow
This is the general name for how one rock changes into another?
1
The Rock Cycle
Please name A, B, C, D, E in the picture below.
17
D= Subduction Zone
Continental Crust
Trench
Ocean Crust
Lithosphere
Which letter is a fault, and which letter is a fold based on the pictures below.
1
A Fault
B Fold
What sedimentary rock is shown below?
15
Shale

Geology Topics Unit

Geology Unit

60 Lessons, (6^{th}-8^{th} Medium Difficulty) Part 1 Dynamic Earth, is 11 Lessons and 15 Page Work Bundle, Part 2 Volcanoes is 8 Lessons and 18 Page Work Bundle, Part 3 Earthquakes is 11 Lessons and 16 Page Work Bundle, Part 4 is Minerals 9 Lessons and 15 Page Work Bundle, Part 6 Rocks is 10 Lessons and 14 Page Work Bundle, Part 7 Earth System History is 8 Lessons and 9 Page Work Bundle

Part 1: Geology Unit: Plate Tectonics, Uniformitarianism, Continental Drift, Evidence for Continental Drift, Pangea, Rodinia, Heat and Convection, Energy Waves, Layers of the Earth, The EM Field, Heat Transfer, Types of Crust, Plate Boundaries, Subduction Zones, Converging and Diverging Boundaries, Ring of Fire, Archipelagos, Transform Boundaries, Visual Quiz of Plate Boundaries with Answers, Box Game Review, Crossword Puzzle, End Unit Assessment with Answers so Students Can Self-Assess

Part 2: Volcanoes: Hot Spots, Volcanoes, Super volcanoes, Yellowstone, Sidoarjo "Lusi" Mud Volcano Case Study, Pompeii, Positives and Negatives of Volcanoes, Types of Volcanoes, Parts of a Volcano, Hazards of Volcanoes, Lahar, Pyroclastic Flows, VEI Index, Magma, Types of Lava, Viscosity of Lava / Silica Content, Box Game Review, Crossword Puzzle, End Unit Assessment with Answers so Students Can Self-Assess

Part 3: Earthquakes: Deformation, Types of Deformation, Faults, Folds, Types of Stress on Rock, Types of Faults, Lateral Faults, Types of Folds, Anticlines, Synclines, Energy Waves, Mechanical Waves, Body Waves, Surface Waves, Earthquakes, Moment Magnitude Scale, Richter Scale, Earthquake Case Study, Mercalli Scale, Epicenter, Finding an Epicenter, Earthquake Design, Design Challenge with a shake table, Tsunami, Tsunami Case Studies, Causes of Tsunami, Tsunami Warning Signs, Box Game Review, Crossword Puzzle, End Unti Assessment with Answers so Students Can Self-Assess

Part 4: Minerals: Minerals, Crystals, Uses of Minerals, Types of Crystals, Atomic Bonding, Physical Properties of Minerals, Primary Minerals, Mineral Properties Lab, Common Mineral Identification, Box Game Review, Crossword Puzzle, End Unit Assessment with Answers so Students Can Self-Assess

Part 5: Rocks and the Rock Cycle: Rocks, Scheme for Igneous Rock Identification, Intrusive, Extrusive Igneous Rocks, Classification for Igneous Rocks, Rocks Flow Chart, Common Igneous Rocks, Common Sedimentary Rocks, Common Metamorphic Rocks, Scheme for Metamorphic Rocks, Regional and Contact Metamorphism, Rock Identification Quiz, Rock Auction Project, Box Game Review, Crossword Puzzle, End Unti Assessment with Answers so Students Can Self-Assess

Part 6: Earth System History: 8 Lessons of 50 Minutes and 8 Page Follow Along Work Bundle, Earth Broken down into a 12 Hour Day and emergence of Humans, Age of the Earth, Uniformitarianism, Review of the Five Fingers of Evolution, Principle of Superposition, Card Activity with the Principle of Superposition, Earth System History, Units of Time, Understanding the Units of Time, Fragility of the System, Mass Extinction Events, Build a timeline project where students work in groups and create a 4.65 meter long timeline of Earth System History, Protoplanet, Precambrian Supereon, Hadean Eon, Crust Formation, Formation of the Moon, Importance of the Moon Formation, Earth's EM Field, Major Events of the Hadean, Events of the Archean, First Prokaryotic Cells, Tectonic Activity, Stromatolites, Proterozoic Eon, Cyanobacteria, Oxygen Catastrophe, Banded Iron Formations, Snowball Earth, Multi-cellular Life, Major Events of the Proterozoic Eon, Paleozoic Era, Major Events of the Cambrian, Ediacaran fauna, Burgess Shale, Make Burgess Shale Activity, Ordovician, Tetrapod Evolution, Tiktaalik, Ichthyostega, Silurian, Devonian, Carboniferous, Fossil Fuels, and Permian Periods, End Permian Mass Extinction, Major Events of the Mesozoic Era, Pangea, Bird Hipped and Lizard Hipped Dinosaurs, Dinosaur Challenge Activity, How Modern Birds and Dinosaurs are Similar, K-Pg Mass Extinction Event, Cenozoic Era, Paleogene, and Neogene Periods, Epochs and Ages, Presentation of Student Timelines, Box Game Review, Crossword Puzzle, End Unit Assessment where Students Use their Timeline, Answers to Assessment so Students Can Self Assess.

Geology Topics Unit Part 1: Plate Tectonics, Uniformitarianism, Continental Drift, Evidence for Continental Drift, Pangea, Rodinia, Heat and Convection, Energy Waves, Layers of the Earth, The EM Field, Heat Transfer, Types of Crust, Plate Boundaries, Subduction Zones, Converging and Diverging Boundaries, Ring of Fire, Archipelagos, Transform Boundaries,

Part 1: Geology Unit


Additional and Printables

Part 1 Lesson 1 Plate Tectonics

Part 1 Lesson 2 Continental Drift

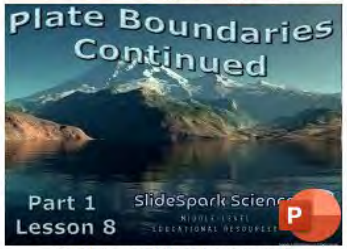
Part 1 Lesson 3 Layers of the Earth I

Part 1 Lesson 4 EM Layers cont.

Part 1 Lesson 5 Heat Transfer

Part 1 Lesson 6 Heat Transfer II

Part 1 Lesson 7 Plate Boundaries



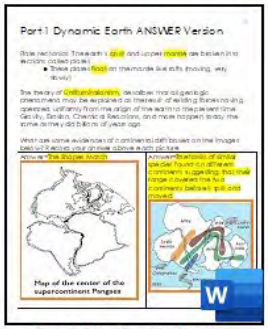
Part 1 Lesson 8 Plate Boundaries II

Part 1 Lesson 9 Plate Boundaries III

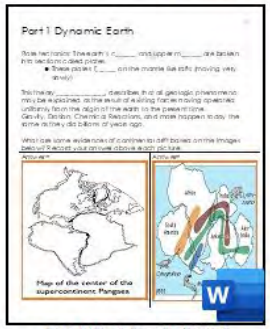
Part 1 Lesson 10 Plate Boundaries IV

Part 1 Lesson 11 Review Game

Part 1 Lesson 12 Review Game Answers



Part 1 Work Bundle Answers



Part 1 Work Bundle Digital

DYNAMIC EARTH

- African Plate, Antarctic Plate, Australian Plate, Eurasian Plate, Indian Plate, North American Plate, Pacific Plate, South American Plate.

- Archipelago: Group of volcanic islands formed from ocean crust convergence.

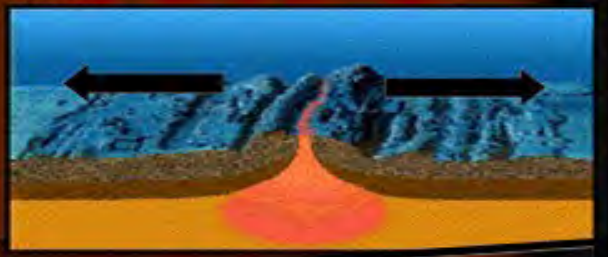
- What type of plate boundary is shown below.
  - A.) Subduction Zone answer is…
  - B.) Divergent Ocean Boundary
  - C.) Convergent Continental Boundary
  - D.) Divergent Continental Boundary

16

- Mantle: Composed of Magnesium Silicates, Iron, Calcium, Oxygen, Aluminum.
  - Outer Mantle (asthenosphere)

Neat reading article that suggests that the mantle holds enormous quantities of mineral water.
http://www.scientificamerican.com/article/rare-diamond-confirms-that-earths-mantle-holds-an-oceans-worth-of-water/

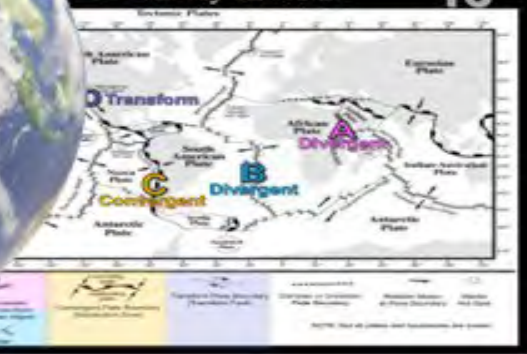
- Divergent Boundaries ← →: Crust is created as two or more plates pull away from each other.



- Plate tectonics: The earth's crust and upper mantle are broken into sections called plates.
  - These plates float on the mantle like rafts (moving very slowly)

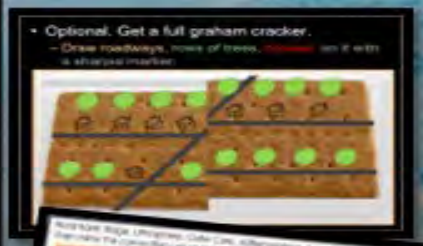
…ndary on earth?

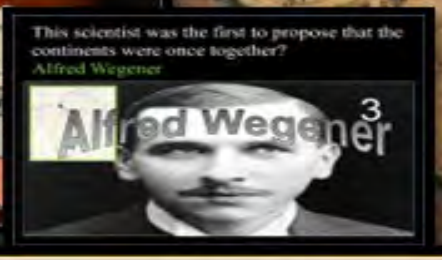
18



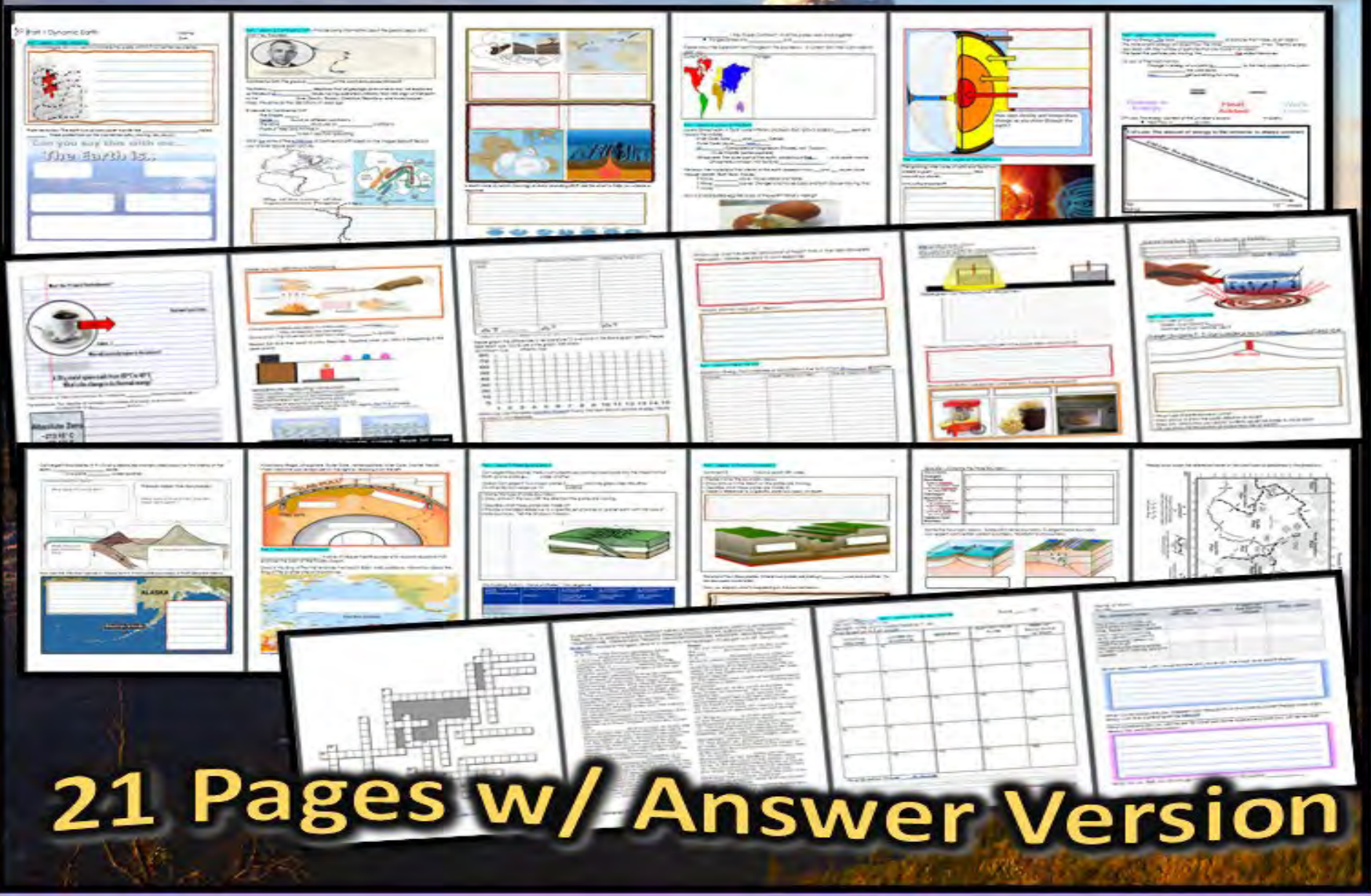
12 Lessons

Interactive Slideshows



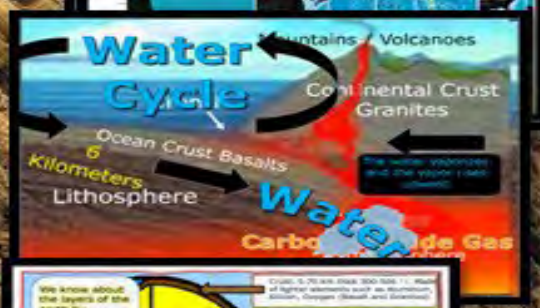


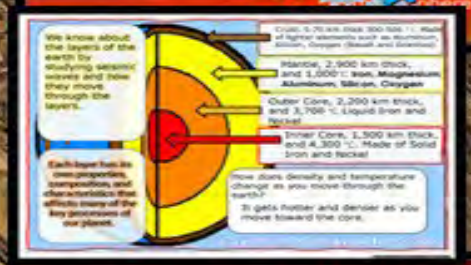
Follow Along Bundles

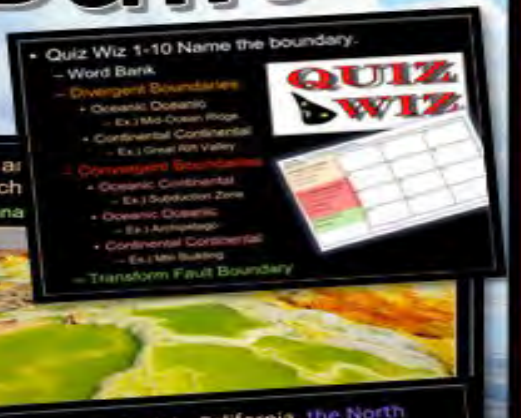


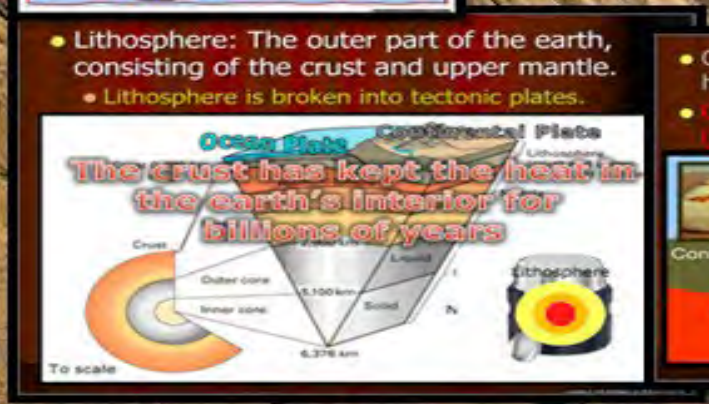
21 Pages w/ Answer Version

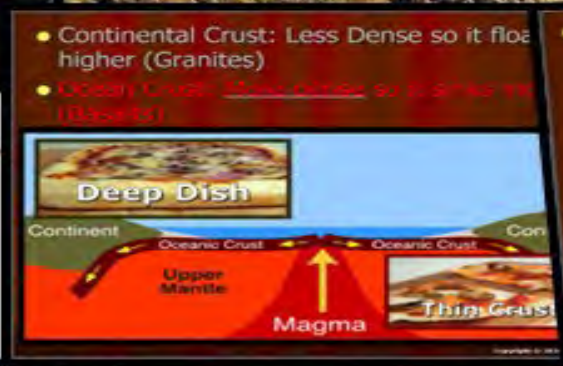
Activities, Links, Keys, Assessments, All Built in











Geology Topics Unit Part 2: Hot Spots, Hawaii, Volcanoes, Supervolcano, Yellowstone, Sidoarjo “Lusi” Mud Volcano Case Study, Pompeii Case Study, Positives and Negatives of Volcanoes, Types of Volcanoes, Parts of a Volcano, Hazards of Volcanoes, Lahar, Pyroclastic Flows, VEI Index, Magma, Types of Lava, Viscosity of Lava / Silica Content

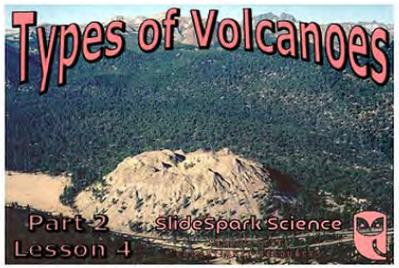
Part 2: Volcanoes

Additional and Printables

Part 2 Lesson 1 Volcanoes Hawaii Yellowstone

Part 2 Lesson 2 Eruptions Mud Read

Part 2 Lesson 3 Impacts of Volcanoes

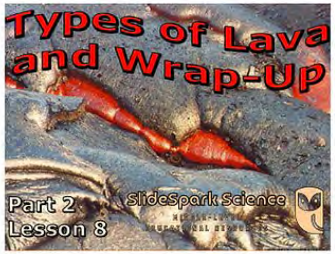


Part 2 Lesson 4 Types of Volcanoes

Part 2 Lesson 5 Hazards of Volcanoes

Part 2 Lesson 6 Magma and Lava

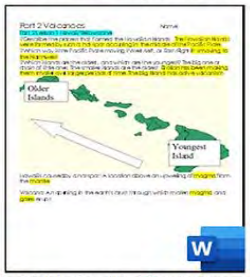
Part 2 Lesson 7 Viscosity



Part 2 Lesson 8 Types of Lava and Wrap Up

Part 2 Lesson 9 Review Game

Part 2 Lesson 10 Review Game Answers

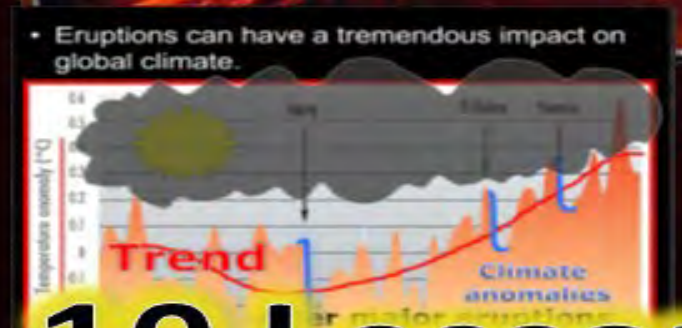


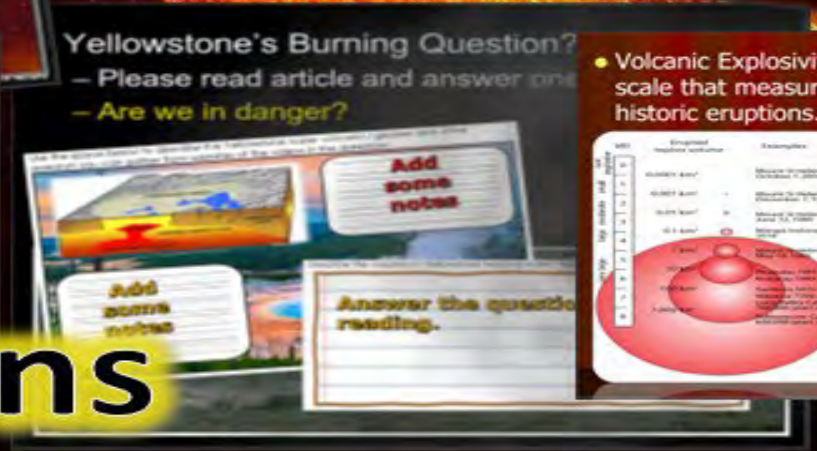
Part 2 Volcanoes Work Bundle Answers

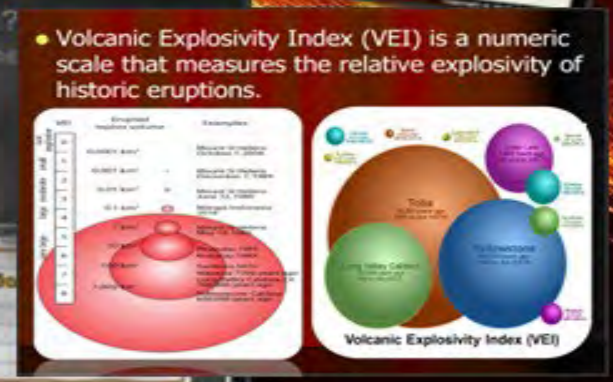
Part 2 Volcanoes Work Bundle Digital

Part 2 Volcanoes Work Bundle Print

Volcanoes Unit



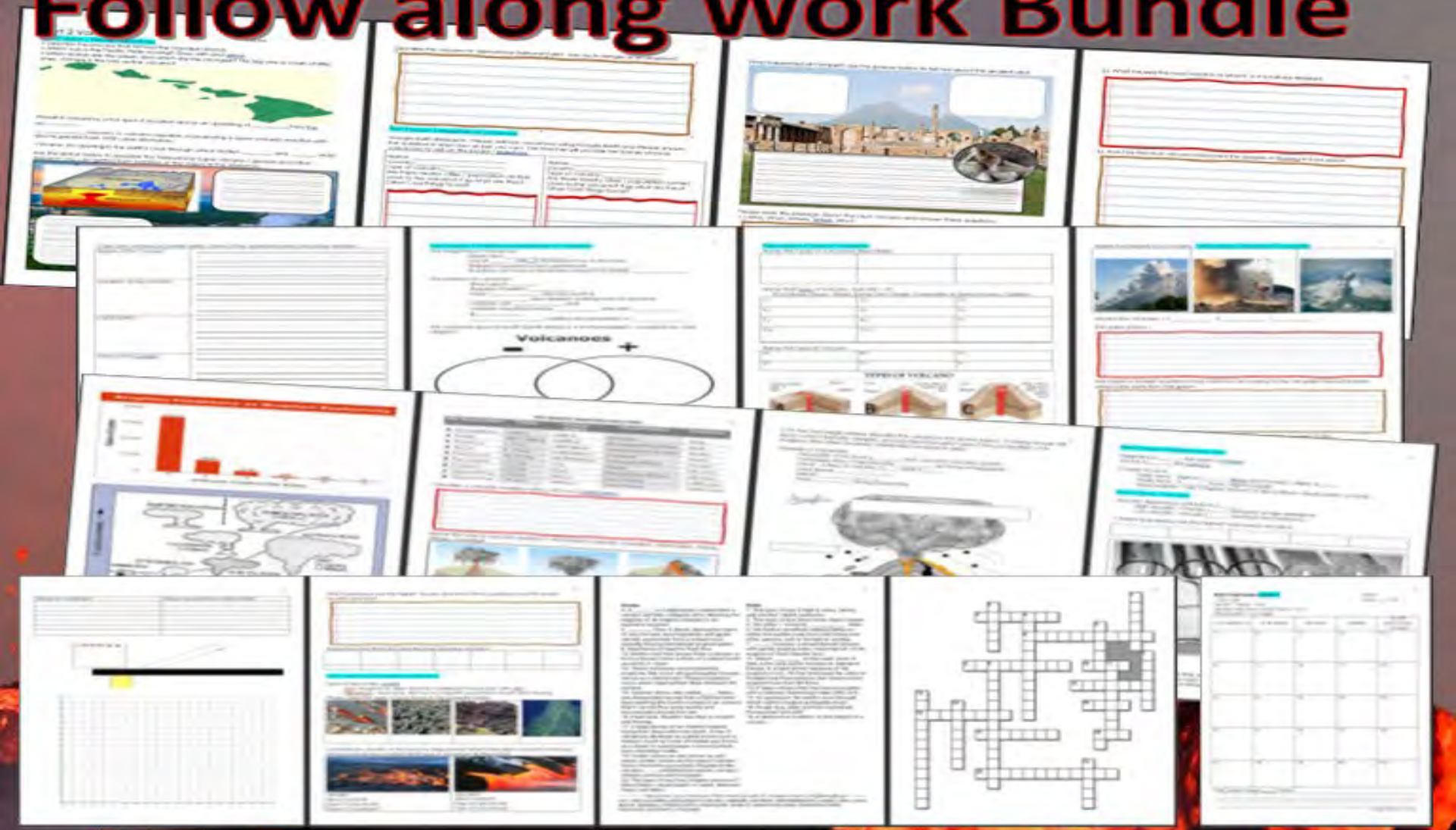




10 Lessons

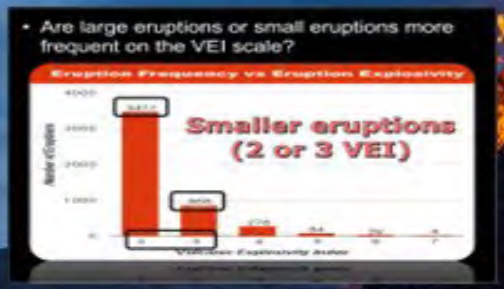
Interactive Slideshows

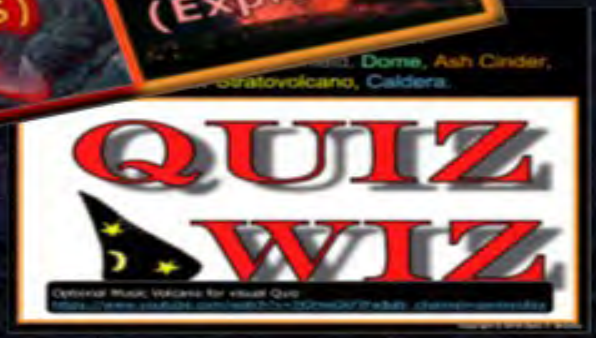
Partnered with a detailed Follow along Work Bundle



17 Pages

Activities, Assessments, games, and much more all built-in

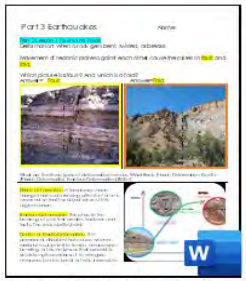


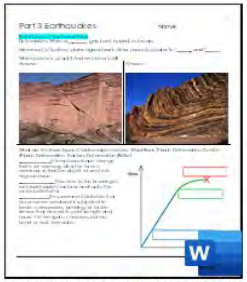


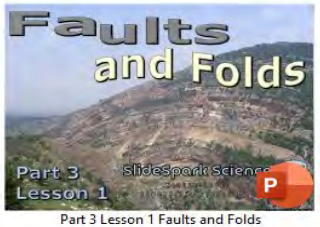
Part 3: Deformation, Types of Deformation, Faults, Folds, Types of Stress on Rock, Types of Faults, Types of Folds, Energy Waves, Mechanical Waves, Body Waves, Surface Waves, Earthquakes, Moment Magnitude Scale, Richter Scale, Earthquake Case Study, Mercalii Scale, Epicenter, Finding an Epicenter, Earthquake Design, Design Challenge with a shake table, Tsunami, Tsunami Case Studies, Causes of Tsunami, Tsunami warning signs

Part 3: Earthquakes


Additional and Printables


Part 3 Earthquakes Work Bundle Answers


Part 3 Earthquakes Work Bundle Print



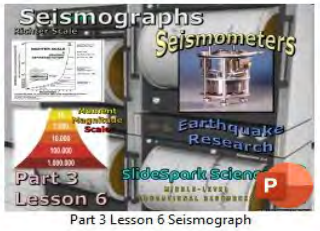
Part 3 Lesson 1 Faults and Folds

Part 3 Lesson 2 Types of Faults

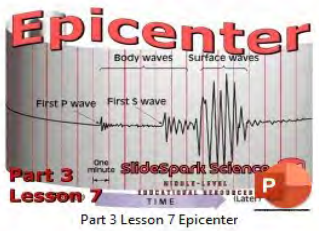
Part 3 Lesson 3 Lateral Faults

Part 3 Lesson 4 Compression Folds

Part 3 Lesson 5 Mechanical Waves



Part 3 Lesson 6 Seismograph



Part 3 Lesson 7 Epicenter

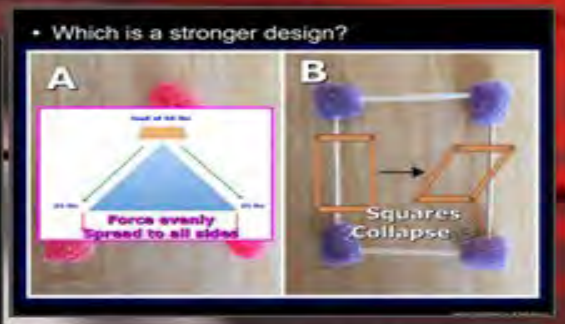
Part 3 Lesson 8 Design Challenge

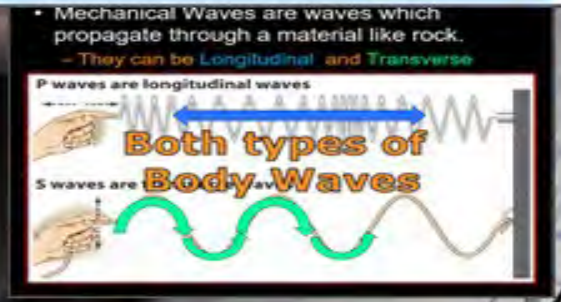
Part 3 Lesson 9 Tsunami

Part 3 Lesson 10 Earthquakes Review Game

Part 3 Lesson 11 Review Game Answers

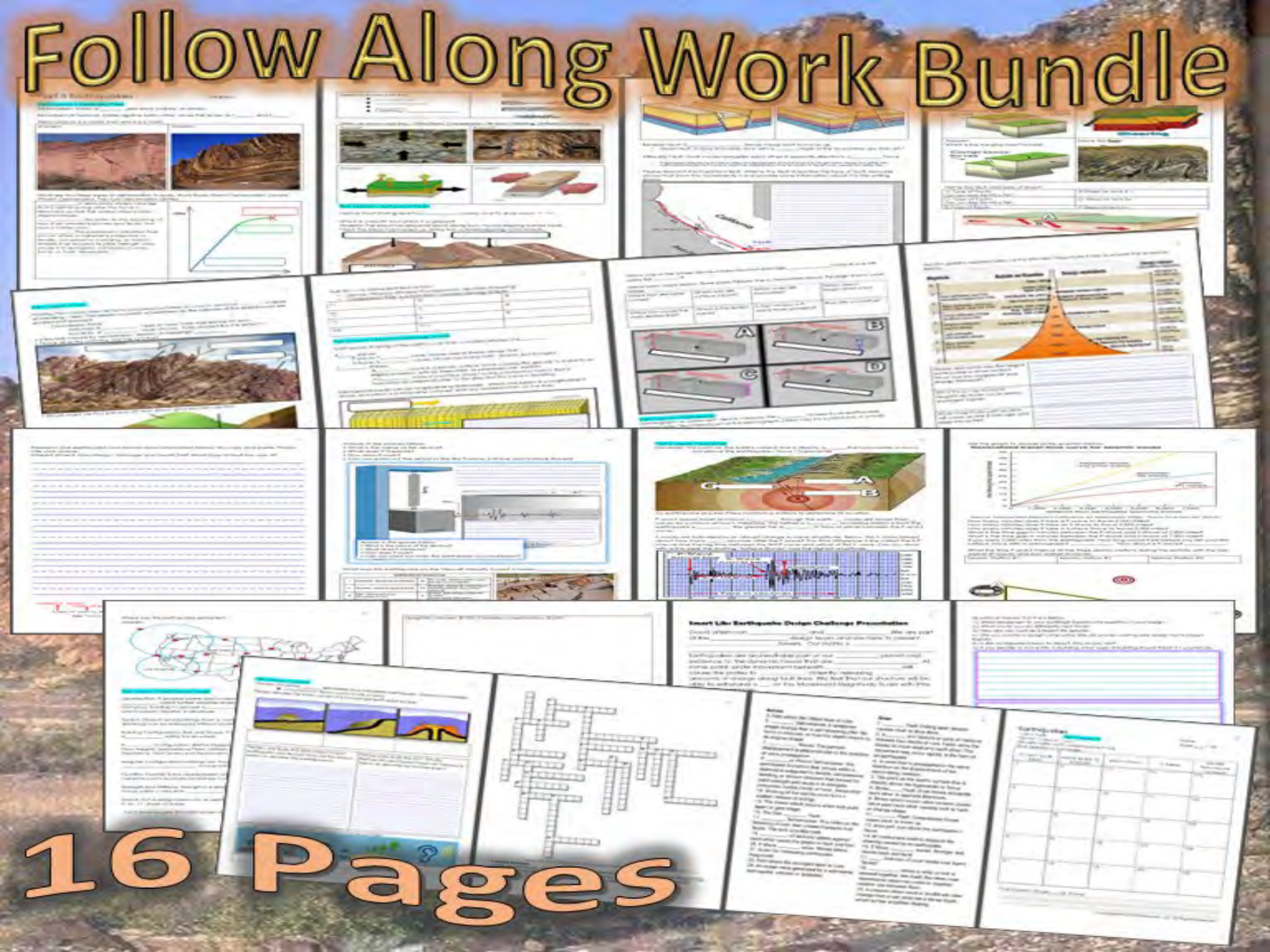
Earthquake Unit





11 Lessons

Follow Along Work Bundle



16 Pages

Interactive Slideshows

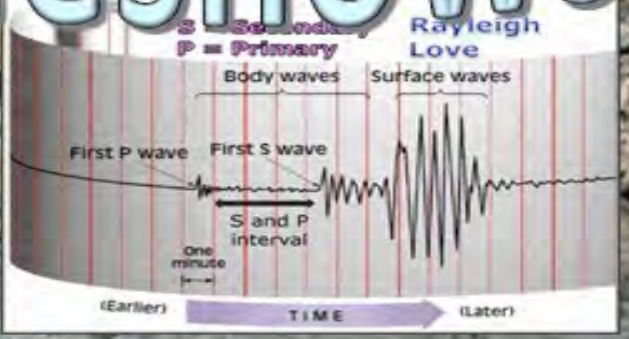
- Anticline: ☹ Oldest layer at core.

- This is the name for a twelve-point scale for expressing the local intensity of an earthquake
  - I= Virtually Unnoticed to a [illegible]

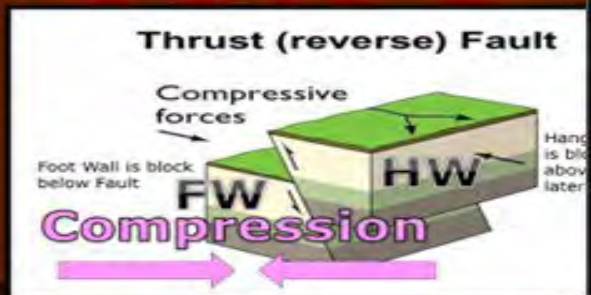
Modified Mercalli Intensity Scale

I	Instrumental: detected only by instruments	VII	Very strong: noticed by people in autos. Damage to poor construction
II	Very [illegible]	VIII	Destructive: chimneys [illegible] damage in structure.
III	Slight: [illegible] rest. Like passing of a truck	IX	[illegible] to substantial. Ground cracked, pipes broken
IV	[illegible]	X	[illegible]
V	pendulum clocks stopped. People awakened	XI	Very disastrous: few structures left standing
VI	Strong: felt by all, some people frightened. Damage slight, some plaster cracked.	XII	Catastrophic: total destruction

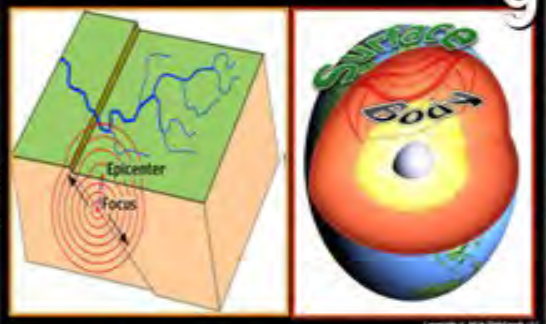
The Mercalli Intensity Scale



- Reverse Fault: Compression forces ca[illegible] crust to move up.

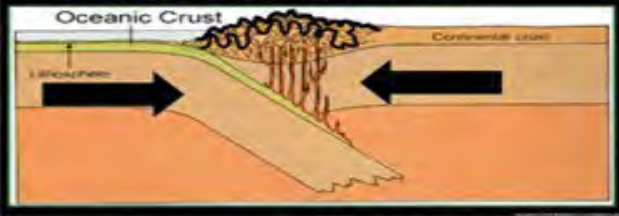


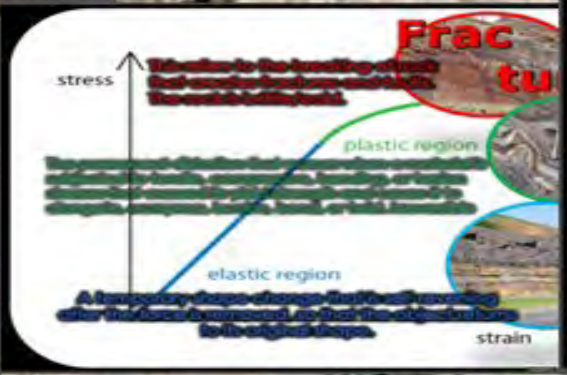
- In an earthquake, body waves move through the inner part of the earth, while surface waves travel over and near the surface.



- Which is a reverse / thrust fault?

- Orogeny: The formation of mountain ranges by intense upward displacement of the earth's crust.
  - Usually associated with folding, thrust faulting, and other compressional processes.



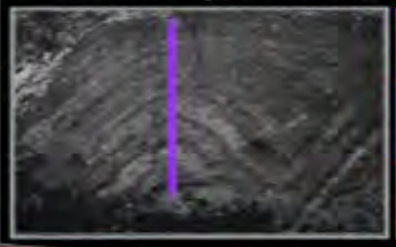


- Earth Quake Drill: "Drop, Cover, and Hold on."
  - http://www.youtube.com/watch?v=LP57C0LITrc

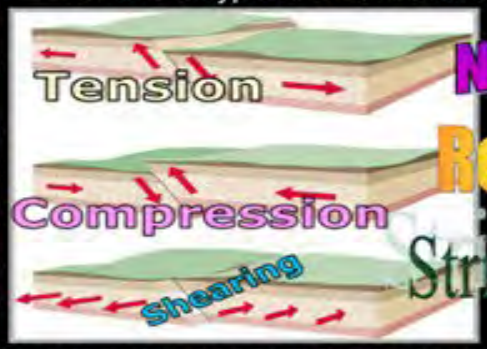
Assessments, Projects, Games, Keys, and much more

- Activity! Making folds.
  - Flatten out layers of different colored clay and lay them on top of each other.
  - Compress clay together from either end.
  - Draw your compression fold in your journal.

- Which type of fold?

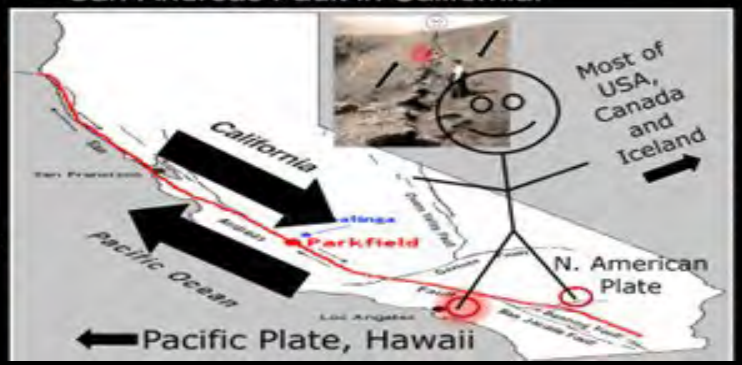


- Name the type of fault or stress.



Normal
Reverse
Strike-slip

- Movement of tectonic plates against each other cause the plates to fault and fold.



- This is an ocean wave generated by a submarine earthquake, volcano, or landslide.

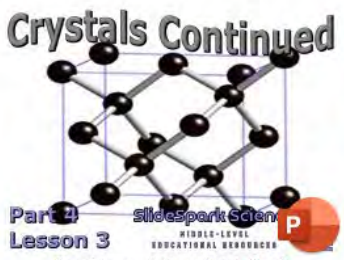
Minerals, Crystals, Uses of Minerals, Types of Crystals, Atomic Bonding, Physical Properties of Minerals, Primary Minerals, Mineral Properties Lab, Common Mineral Identification

Part 4: Minerals


Additional and Printables

Part 4 Lesson 1 Minerals

Part 4 Lesson 2 Crystals



Part 4 Lesson 3 Crystal Quiz Bonds

Part 4 Lesson 4 Primary Minerals

Part 4 Lesson 5 Mineral Identification

Part 4 Lesson 6 Mineral Answers Properties

Part 4 Lesson 7 Mineral Properties II

Part 4 Lesson 8 Properties Lab

Part 4 Lesson 9 Properties Quiz Wrap Up

Part 4 Lesson 10 Review Game

Part 4 Lesson 11 Answers to Review Game

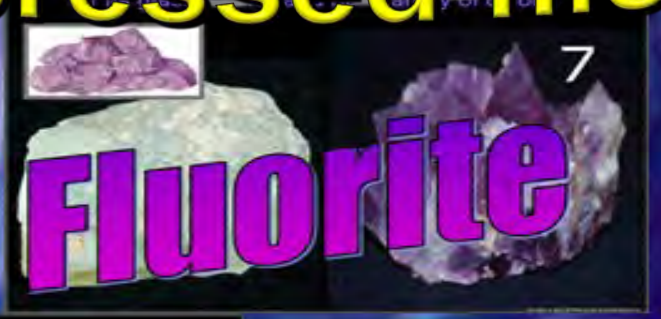

Part 4 Minerals Work Bundle Digital


Part 4 Minerals Work Bundle Print Answers

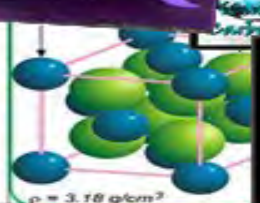

Part 4 Minerals Work Bundle Print

Minerals Unit

Preview is a compressed file



A chipmunk is not a mineral because it is a living creature. Minerals must be inorganic.

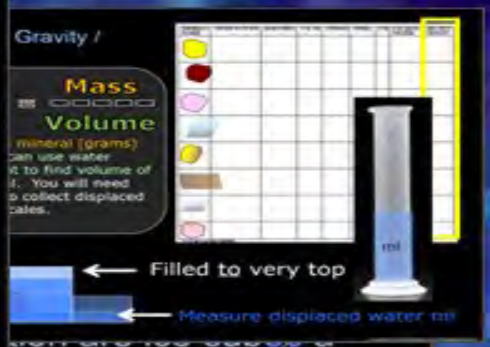


- Minerals are natural inorganic (non-living) solids that join together (crystals) to make unique compositions.

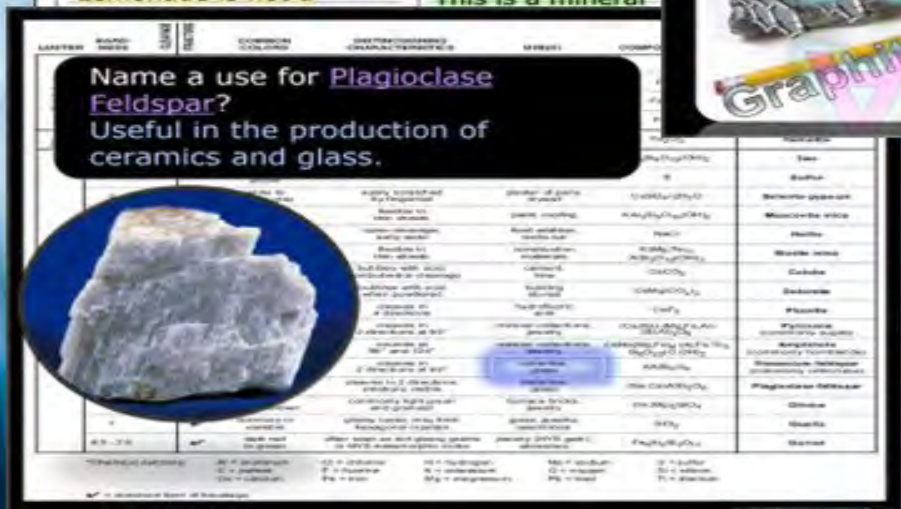
Lemonade is not a

This is a mineral

- Note: All mineral properties are the result from the arrangement of the minerals atoms.



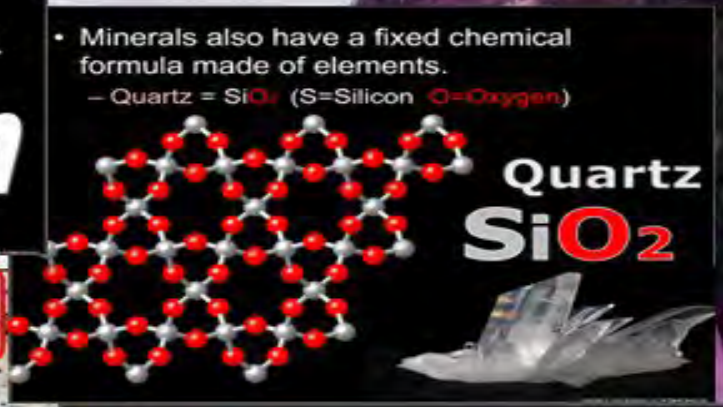
Name a use for Plagioclase Feldspar?
Useful in the production of ceramics and glass.

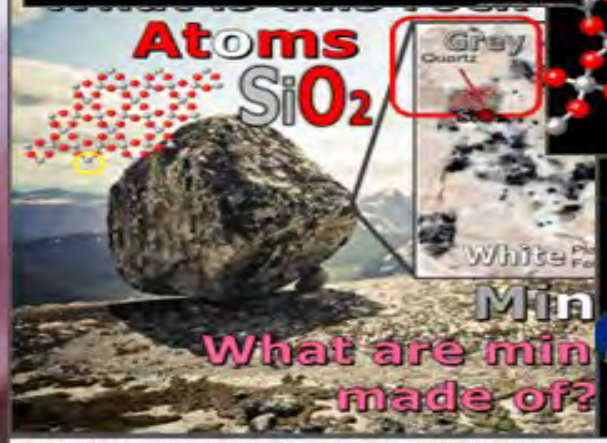


cubes are not a mineral because they were man made. These ice blocks are minerals because they're naturally occurring.

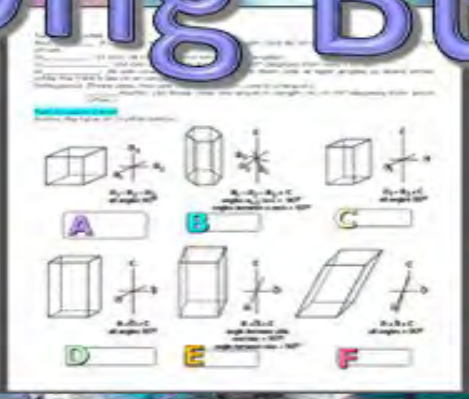
- Minerals are natural inorganic (non-living) solids that join together (crystals) to make unique compositions.

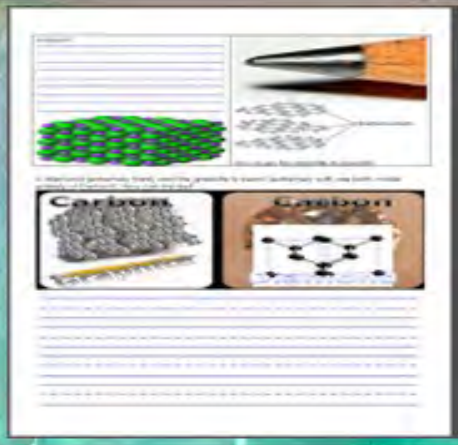
Interactive Slideshows

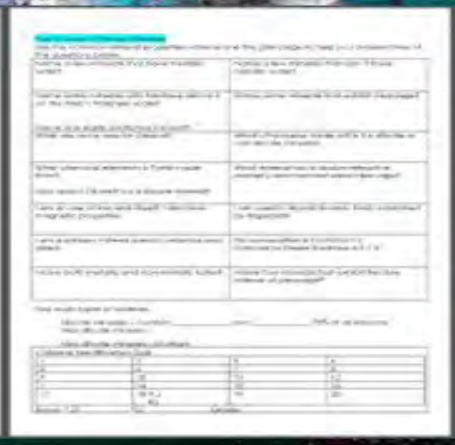




Follow Along Bundle

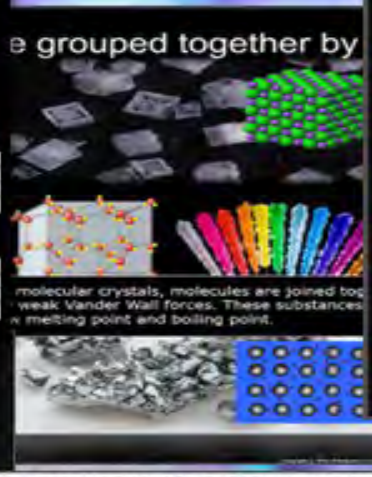


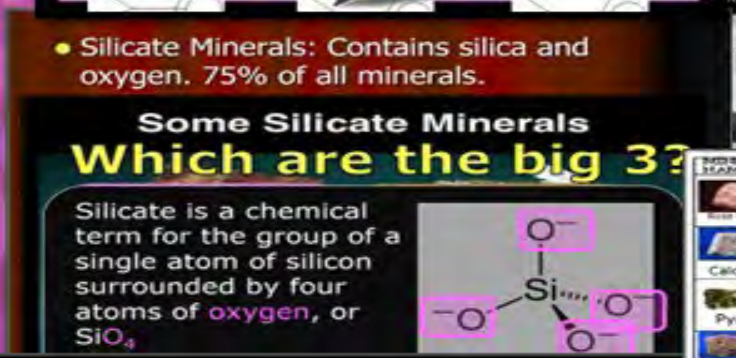




15 Pages

Activities, Assessments, Review, Games, and more all built-in

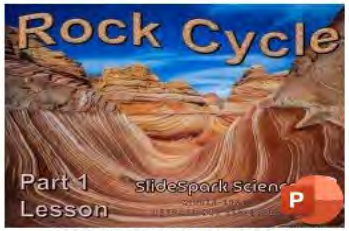




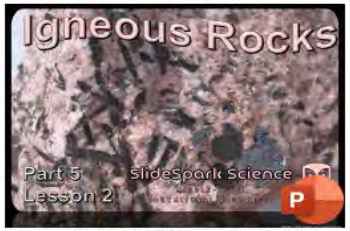
Rocks, Scheme for Igneous Rock Identification, Intrusive, Extrusive Igneous Rocks, Classification for Igneous Rocks, Rocks Flow Chart, Common Igneous Rocks, Common Sedimentary Rocks, Common Metamorphic Rocks, Scheme for Metamorphic Rocks, Regional and Contact Metamorphism, Rock Identification Quiz

Part 5: Rocks and the Rock Cycle


Additional and Printables



Part 5 Lesson 1 Start Rock Cycle

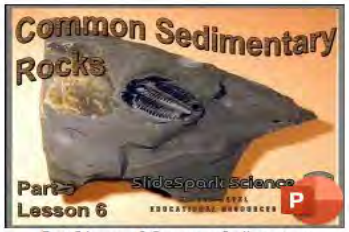


Part 5 Lesson 2 Igneous Rocks

Part 5 Lesson 3 Igneous Rocks cont

Part 5 Lesson 4 Rocks Flow Chart

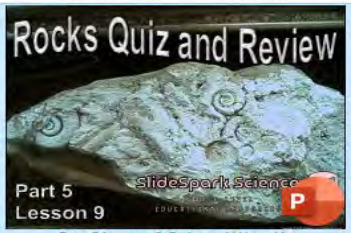
Part 5 Lesson 5 Sedimentary Rocks



Part 5 Lesson 6 Common Sedimentary

Part 5 Lesson 7 Metamorphic Rocks

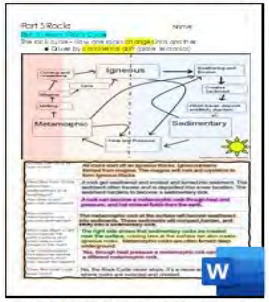
Part 5 Lesson 8 Common Metamorphic

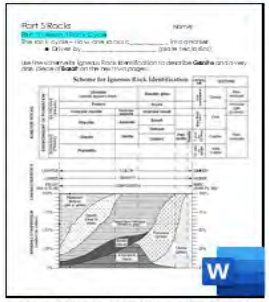


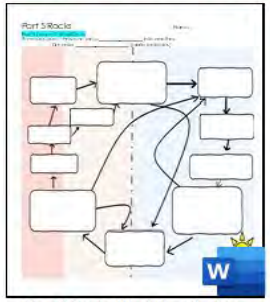
Part 5 Lesson 9 Quiz and Wrap Up

Part 5 Lesson 10 Review Game

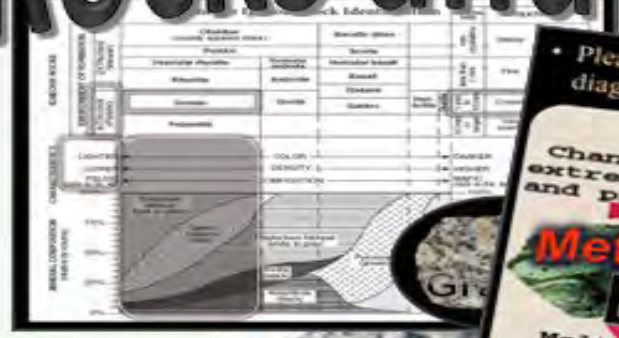
Part 5 Lesson 11 Review Game Answers

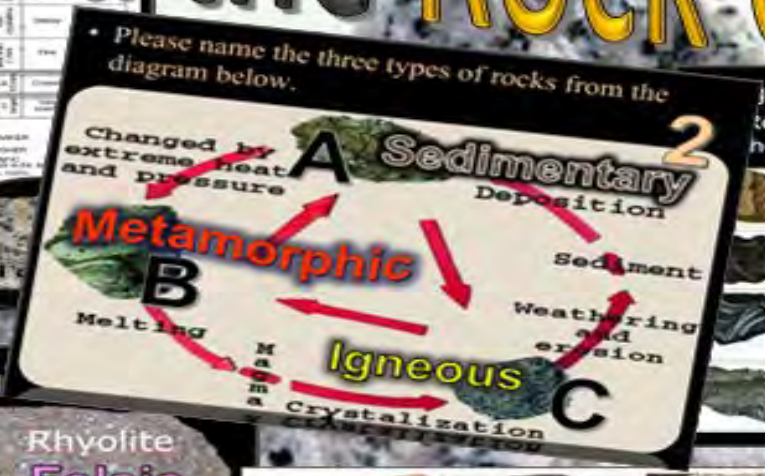

Part 5 Rocks Work Bundle Answers

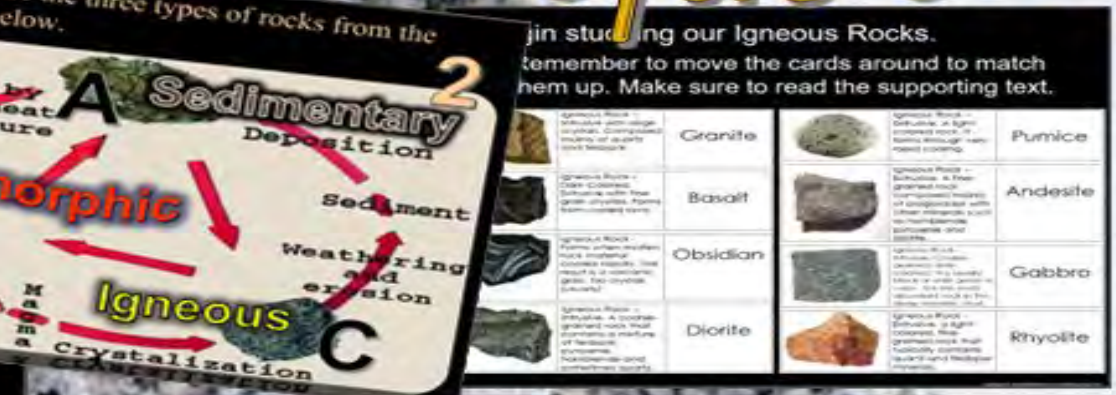

Part 5 Rocks Work Bundle Digital

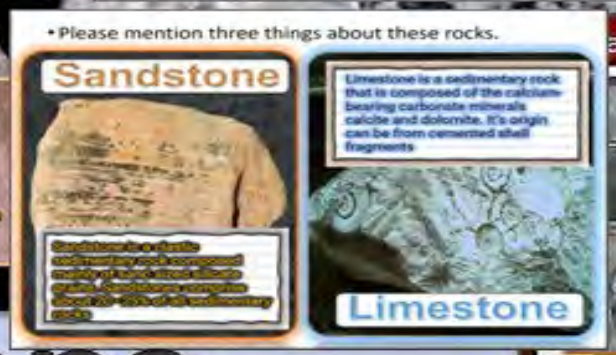

Part 5 Rocks Work Bundle Print

Rocks and the Rock Cycle Unit



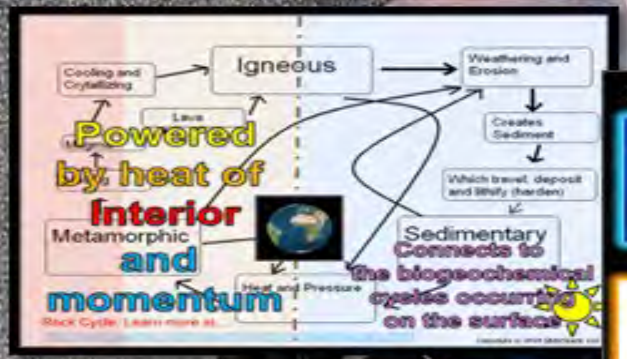


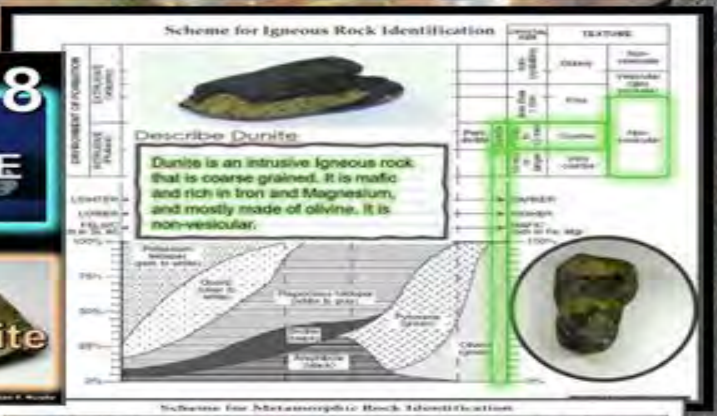


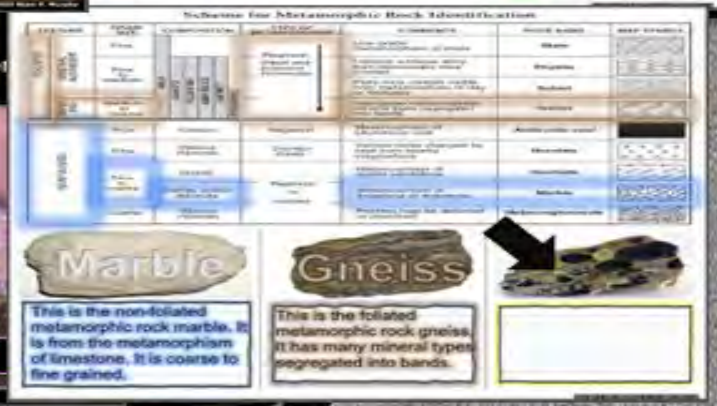


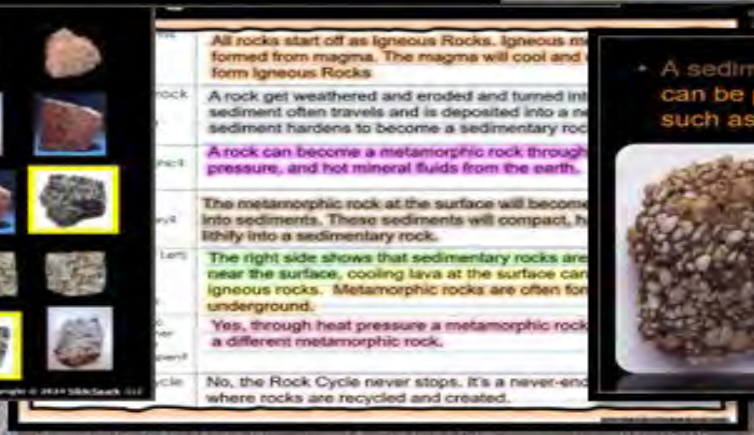
10 Lessons

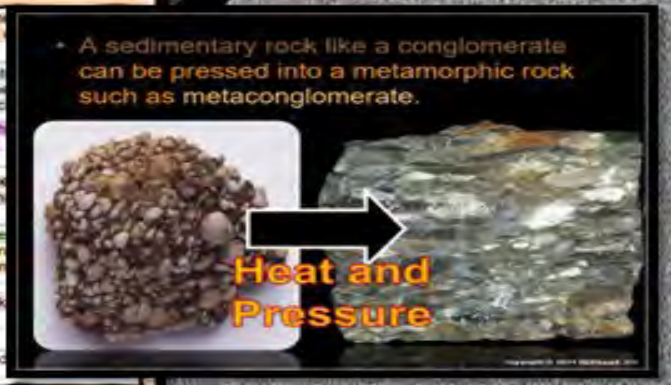
Interactive Slideshows



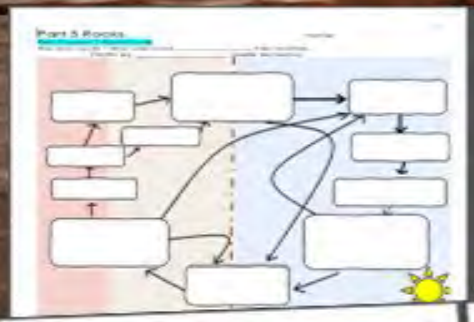


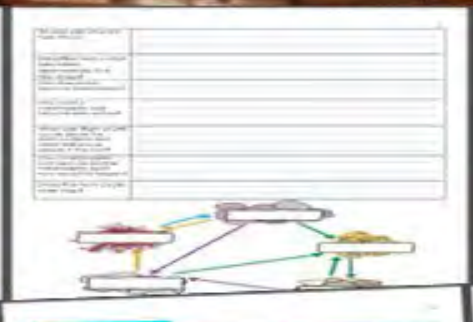


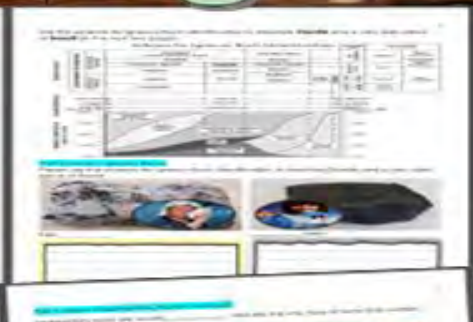


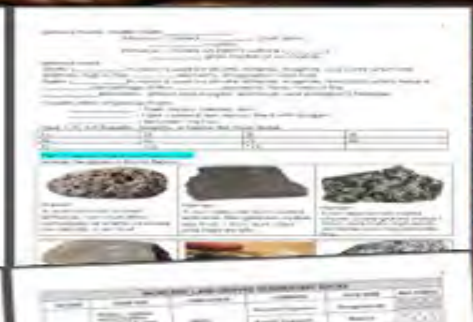


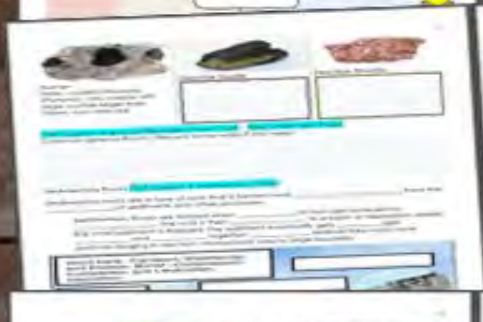
Follow Along Bundle

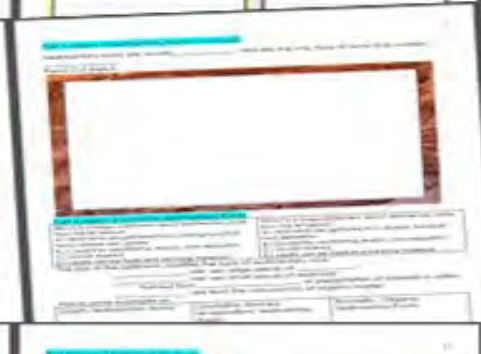


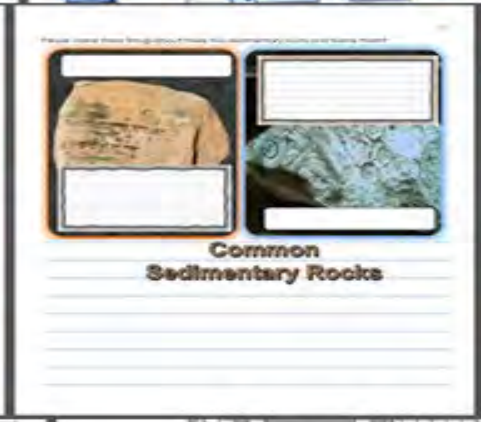


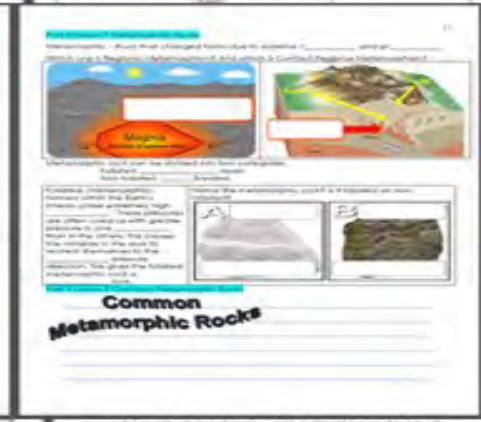


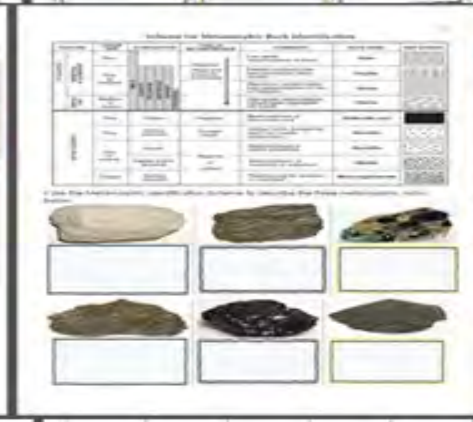


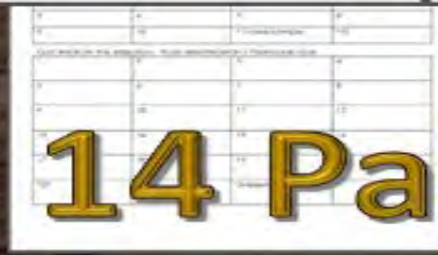












14 Pages

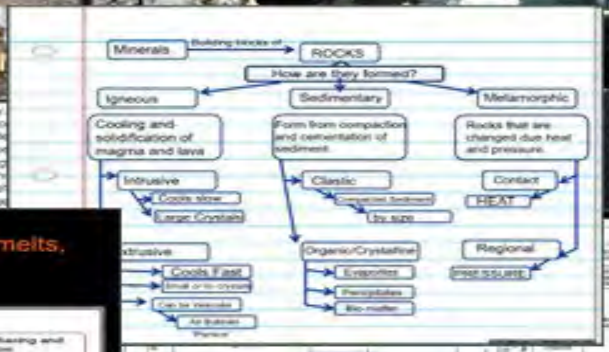
Activities, Projects, Assessments, and more

- There are 8 primary plates and several more secondary plates that make up the earth's landmass.

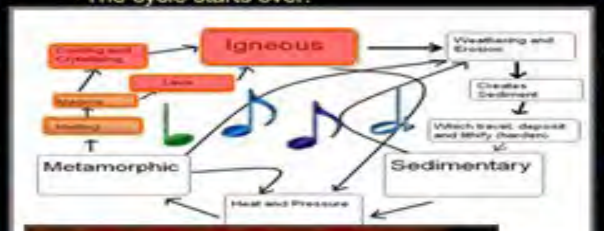
- Review: Rock: A mixture of Minerals

- Clastic sedimentary rocks have particles ranging in size from microscopic clay to large boulders.

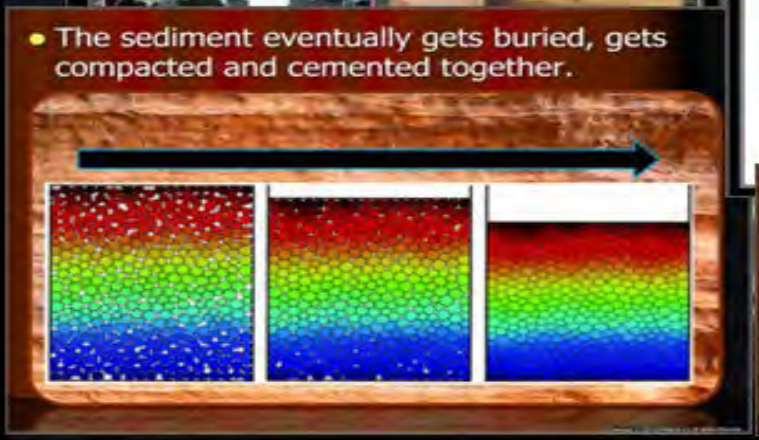
- Which of the rocks below cooled quickly (Extrusive) and which cooled slowly (Intrusive)? Which one has large crystals?



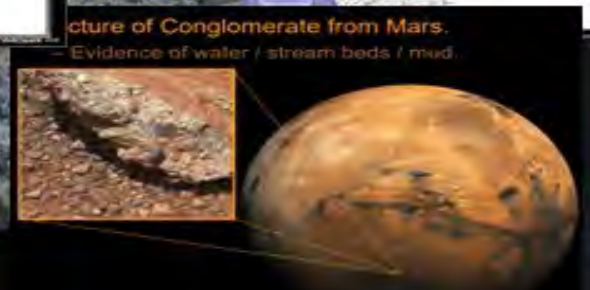
- If a metamorphic rock gets hot and melts, it becomes igneous.
  - The cycle starts over.



- The sediment eventually gets buried, gets compacted and cemented together.



- Igneous Rocks: Molten Earth cooled.
  - Intrusive – Cooled below crust (slow)
    - Larger crystals
  - Extrusive – Cooled on Earth's surface (faster).
    - Fine grain crystals or no crystals



Part 6: Earth System History: 8 Lessons of 50 Minutes and 8 Page Follow Along Work Bundle, Earth Broken down into a 12 Hour Day and emergence of Humans, Age of the Earth, Uniformitarianism, Review of the Five Fingers of Evolution, Principle of Superposition, Card Activity with the Principle of Superposition, Earth System History, Units of Time, Understanding the Units of Time, Fragility of the System, Mass Extinction Events, Build a timeline project where students work in groups and create a 4.65 meter long timeline of Earth System History, Protoplanet, Precambrian Supereon, Hadean Eon, Crust Formation, Formation of the Moon, Importance of the Moon Formation, Earth's EM Field, Major Events of the Hadean, Events of the Archean, First Prokaryotic Cells, Tectonic Activity, Stromatolites, Proterozoic Eon, Cyanobacteria, Oxygen Catastrophe, Banded Iron Formations, Snowball Earth, Multi-cellular Life, Major Events of the Proterozoic Eon, Paleozoic Era, Major Events of the Cambrian, Ediacaran fauna, Burgess Shale, Make Burgess Shale Activity, Ordovician, Tetrapod Evolution, Tiktaalik, Ichthyostega, Silurian, Devonian, Carboniferous, Fossil Fuels, and Permian Periods, End Permian Mass Extinction, Major Events of the Mesozoic Era, Pangea, Bird Hipped and Lizard Hipped Dinosaurs, Dinosaur Challenge Activity, How Modern Birds and Dinosaurs are Similar, K-Pg Mass Extinction Event, Cenozoic Era, Paleogene, and Neogene Periods, Epochs and Ages, Presentation of Student Timelines, Box Game Review, Crossword Puzzle, End Unit Assessment where Students Use their Timeline, Answers to Assessment so Students Can Self Assess.

Part 6: Earth System History

Part 6 Lesson 1 Age of the Earth

Part 6 Lesson 2 Units of Time

Part 6 Lesson 3 Precambrian Super Eon

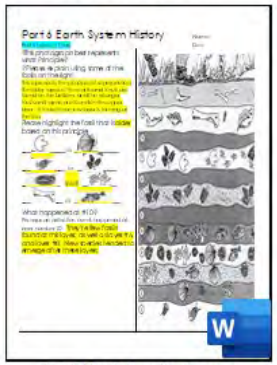
Part 6 Lesson 4 Paleozoic

Part 6 Lesson 5 Mesozoic

Part 6 Lesson 6 Cenozoic

Part 6 Lesson 7 Review Game

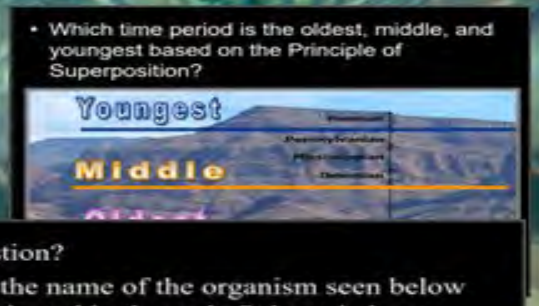
Part 6 Lesson 8 Review Game Answers



Part 6 Work Bundle Answers

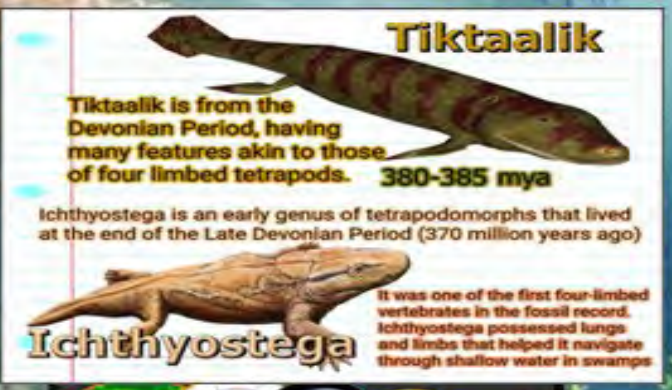
Part 6 Work Bundle Digital

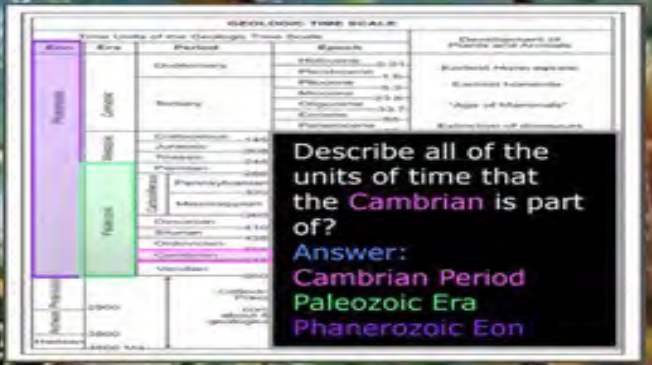
Earth System History Unit



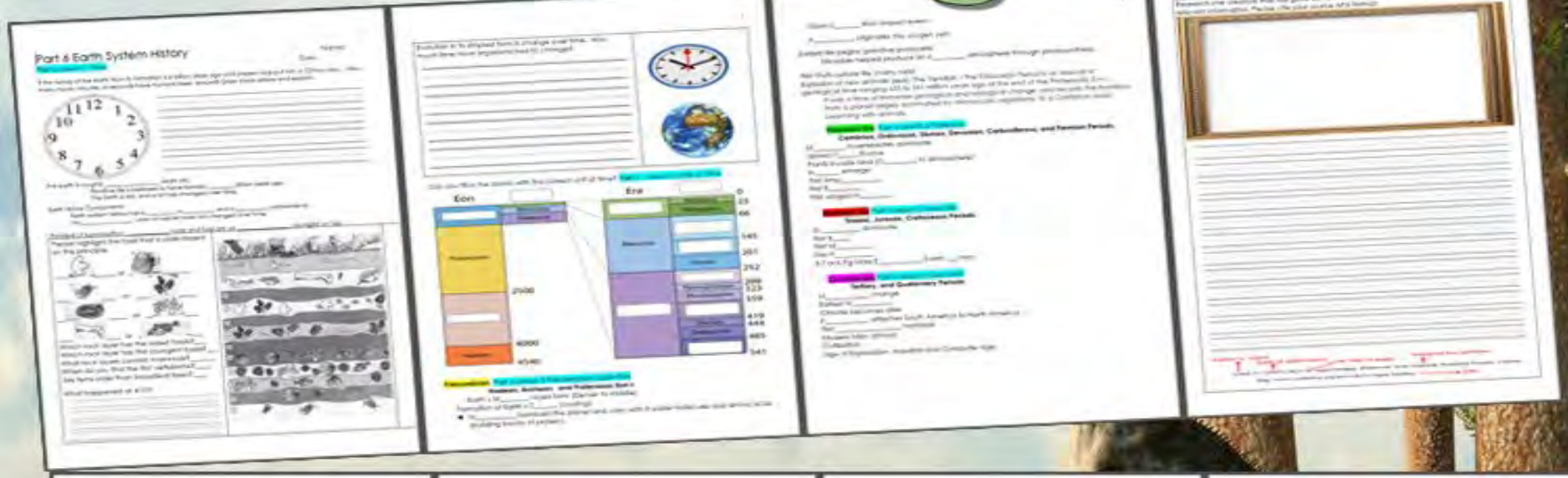
8 Lessons and Project

Interactive Slideshows





Follow Along Bundle

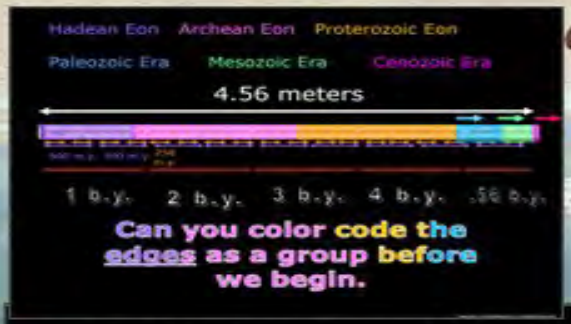


+ Build a timeline Project

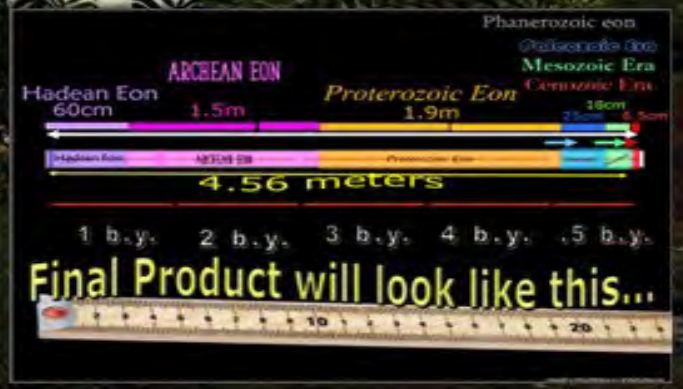
Project, Assessments, Games And more all built-in

- Video Link! Animation of Paleozoic Sea Life at Field Museum in Chicago. (Cambrian)
  - http://www.youtube.com/watch?v=LbhGWDjOkP0

- Meteorites bombard the planet.
  - The earth increases in size.



- Earth's Timeline is divided into various units of time.
  - Eon (Longest amount of time)
  - Hadean, Archean, Proterozoic



Curriculum Guide

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

=Easier,


= More difficult,


=Most difficult

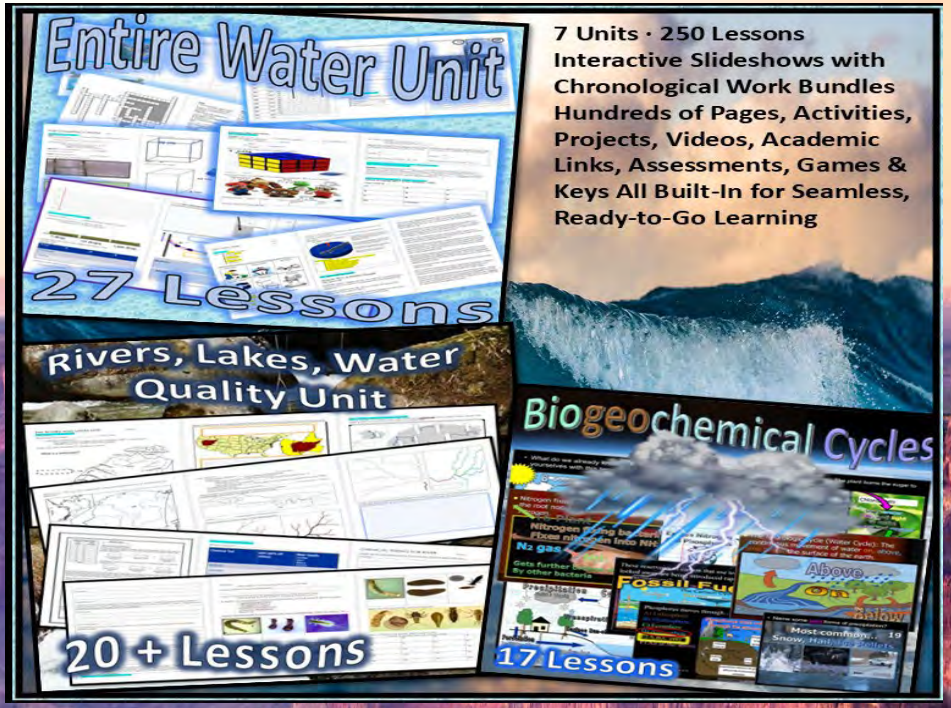
Earth Science Units	Daily Lessons	Intended Grade	
Geology Topics Unit	60 Lessons	6-8 medium difficulty	MORE DIFFICULT
Weather and Climate Unit	40 Lessons	6-8 medium difficulty	MORE DIFFICULT
Astronomy Unit	60 Lessons	6-8 medium difficulty	MORE DIFFICULT
Weathering, Soil Sciences	28 Lessons	5-7 easier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

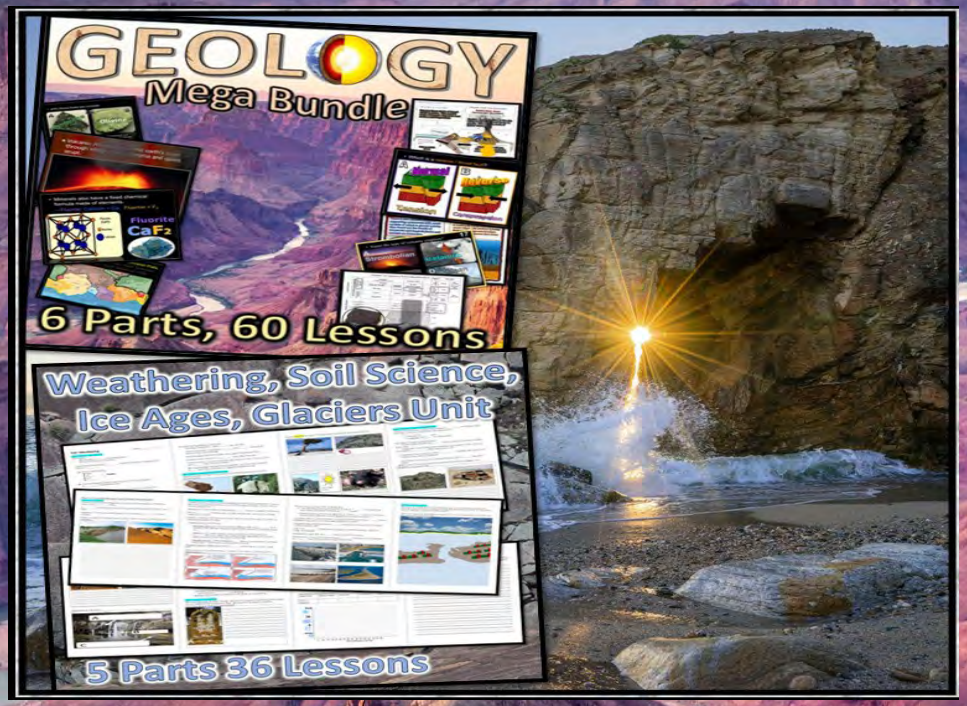
Earth Science Curriculum

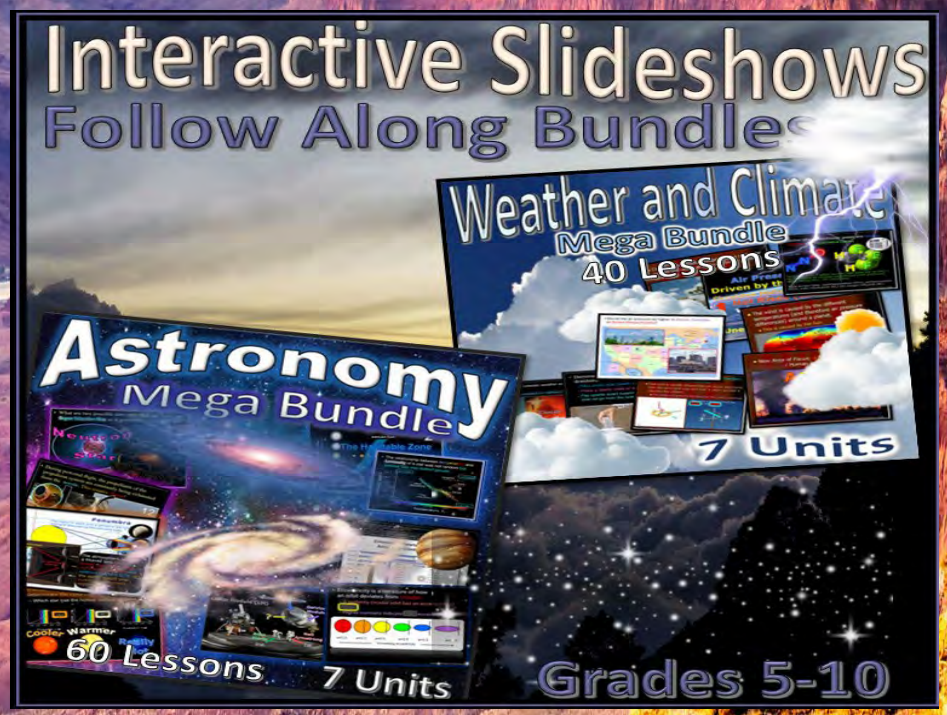
Earth Science Curriculum

SlideSpark Science

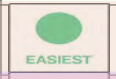
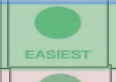
MIDDLE-LEVEL EDUCATIONAL RESOURCES





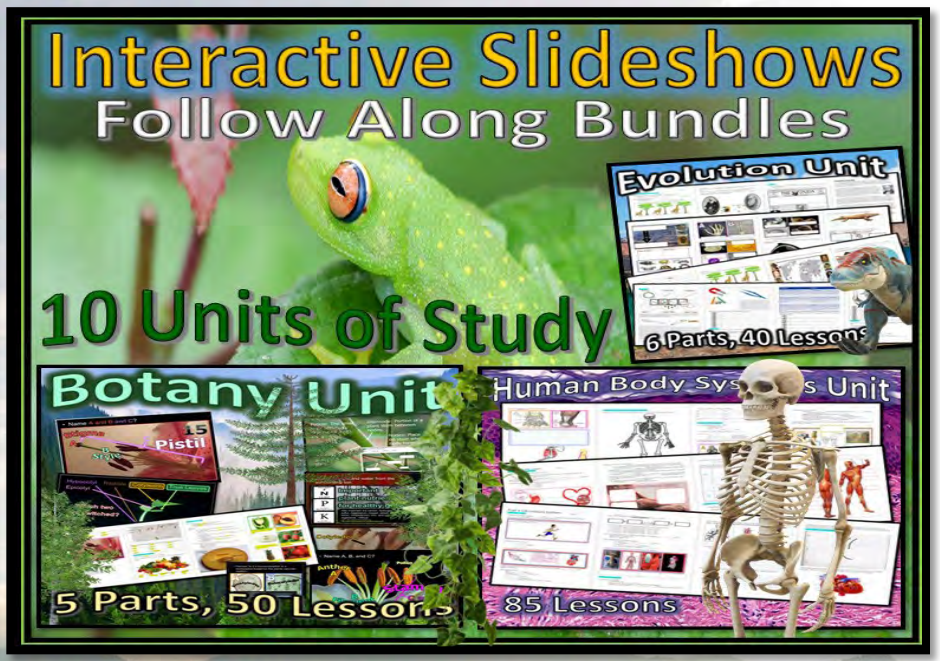


Life Science Units

	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	

Life Science Curriculum


Life
Science
Curriculum
SlideSpark Science
MIDDLE-LEVEL
EDUCATIONAL RESOURCES


Interactive Slideshows
Follow Along Bundles
10 Units of Study
Evolution Unit
6 Parts, 40 Lessons
Botany Unit
5 Parts, 50 Lessons
Human Body Sys s Unit
85 Lessons


Cellular Biology Unit
Form Follows Function
30 Lessons of 50 minutes
DNA and Genetics Unit
40 Lessons
Infectious Diseases
30 Lessons


Taxonomy and Classification Unit
6 Parts
50 Lessons
Ecology Interactions Unit
30 Lessons
Ecology Feeding Le
Full Unit
Ecology Abiotic Factors Unit
27 Lessons

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	

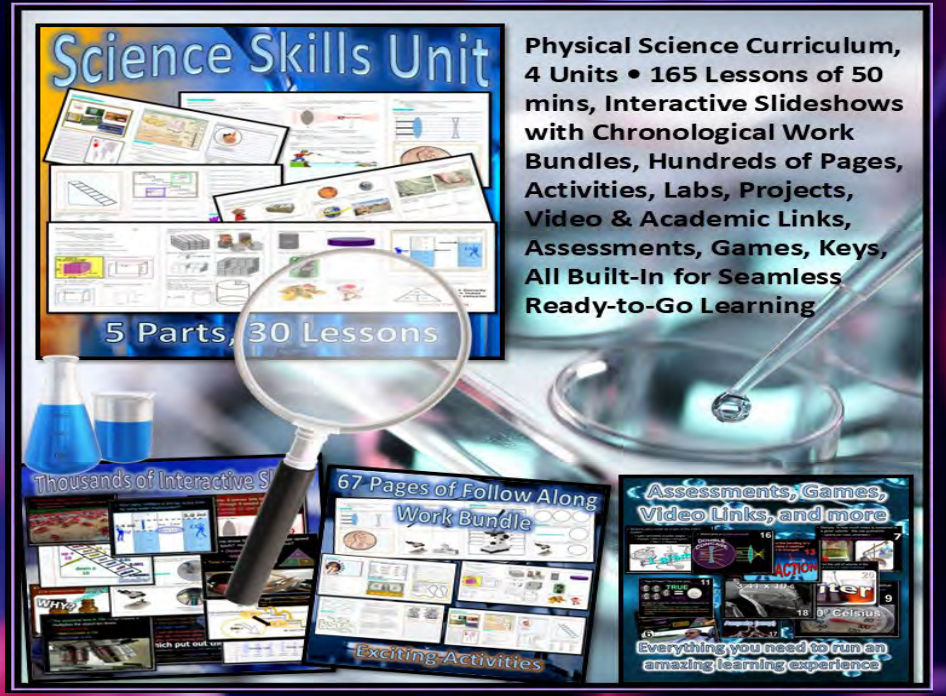
Physical Science Curriculum

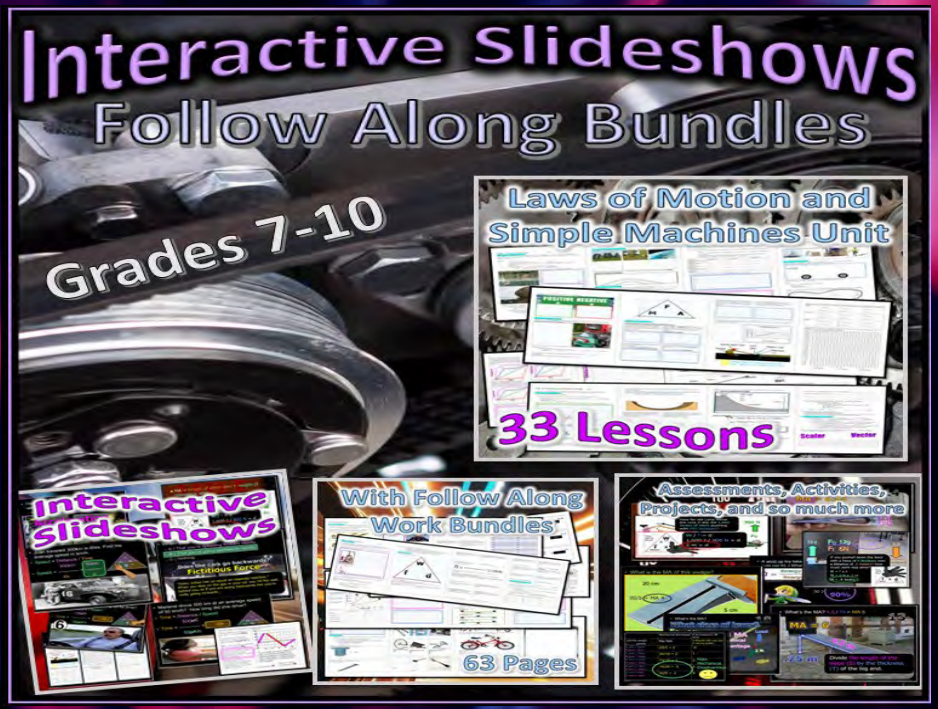
Entire SlideSpark Science Curriculum

Physical Science Curriculum

SlideSpark Science

MIDDLE-LEVEL EDUCATIONAL RESOURCES





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