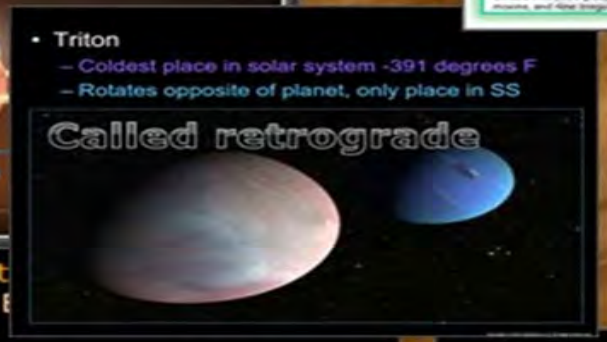
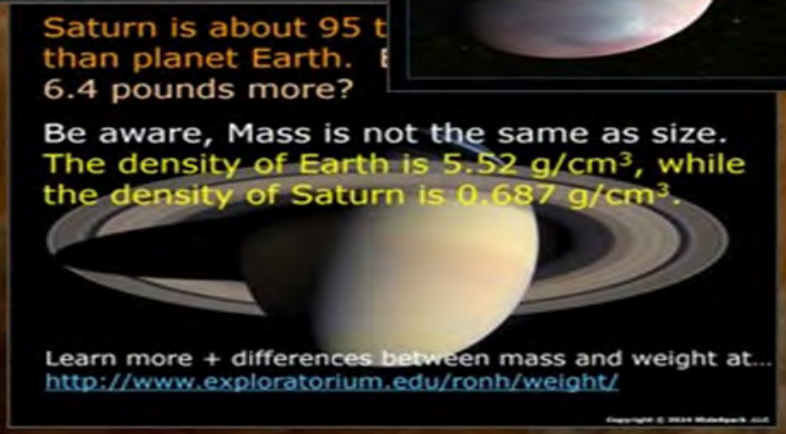
Outer Planetary Topics

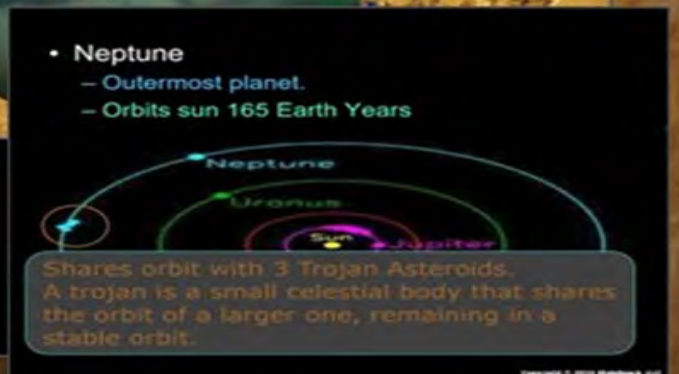
Preview is a compressed file

8 Lessons

Interactive Slideshows





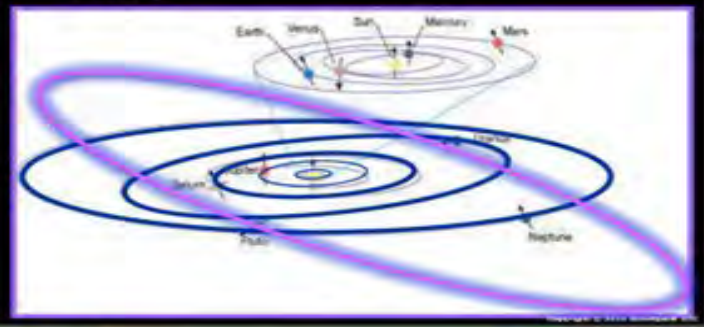


Activities, Notes, Keys, Games Assessments, and more all built-in

- Uranus

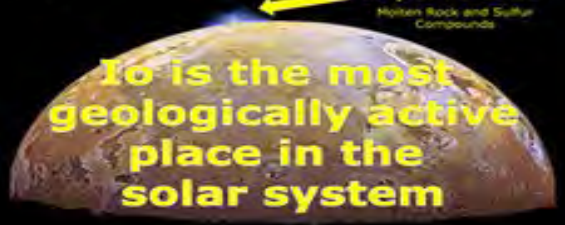
– Tipped on side (Early Comet Strike?).

– Orbits on a different plane than all the others.

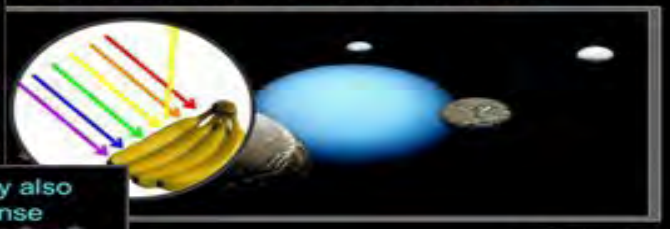


- Ice Giants: A giant planet composed mostly of astronomical ices including water, metha
  oxygen, carbon, nitrogen, and sulfur, an
  smaller than a gas giant.
  - (Uranus and Neptune)

- Io –



- Uranus
  - 3rd Largest Planet
  - Takes 84 Earth years to orbit sun.
  - Methane absorbs red and reflects blue.



- Jupiter's Red Spot
  - 2 Earth's would fit inside
  - Storm has been raging for 400 years.
  - It's a storm that becomes larger by consuming other storms.

- If the planet wasn't cool enough, it may also rain diamonds which then float in a dense liquid layer forming "diamondbergs" made of uncut diamonds.

Learn more about how these planets may be able to rain diamonds at...
https://www.smithsonianmag.com/smart-news/is-raining-diamonds-inside-neptune-and-uranus-180964589/

- Questions for Article (On Next Slide)
  - Who made this decision?
  - What disqualifies Pluto and qualifies a planet?

Pluto loses status as a planet

Astronomers have voted to strip Pluto of its status as a planet.

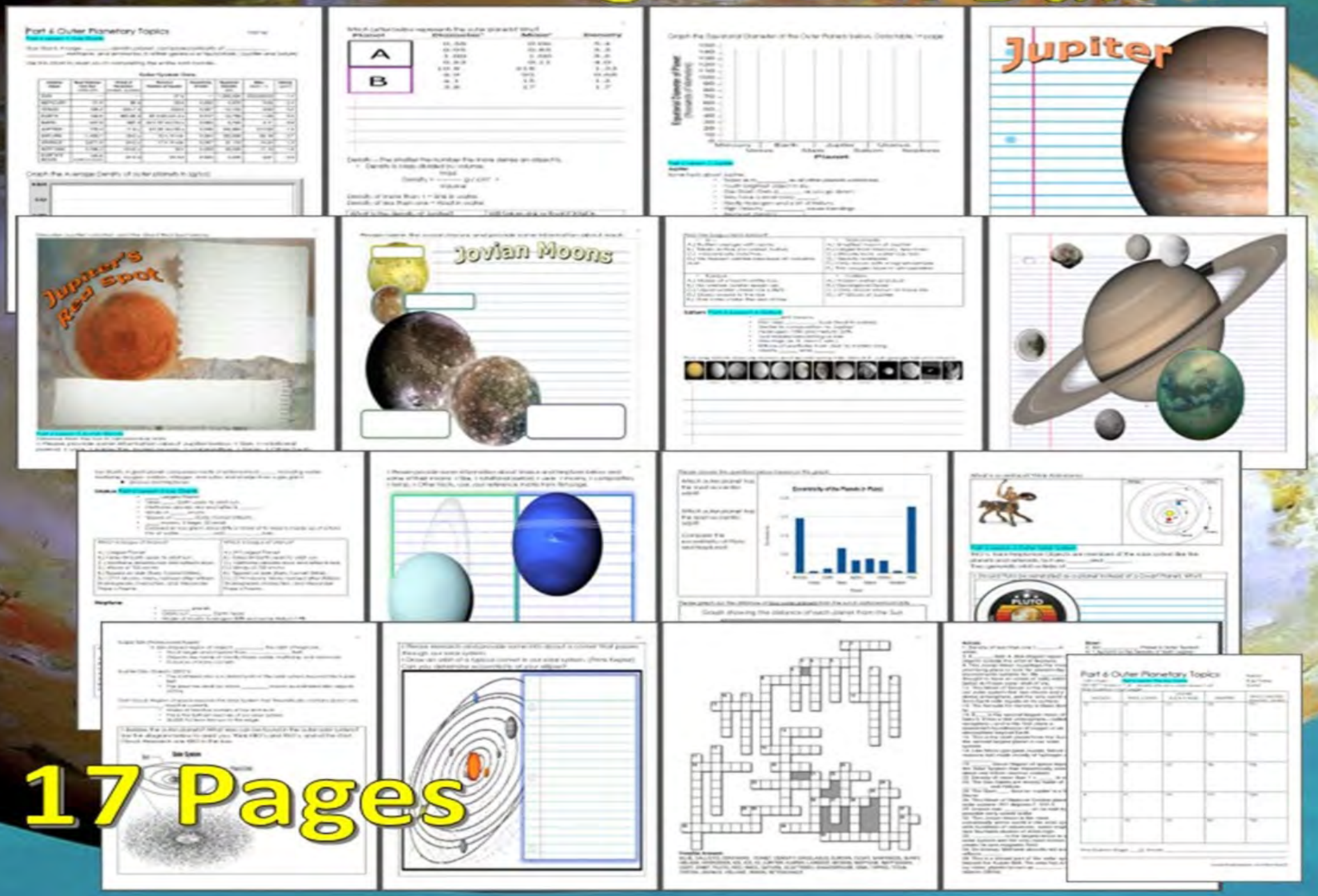
About 2,500 scientists meeting in Prague have adopted historic new guidelines that see the small, distant world demoted to a secondary category.

The researchers said Pluto failed to dominate its orbit around the Sun in the same way as the other planets.

Pluto was discovered in 1930 by US astronomer Clyde Tombaugh

READ MORE more details

Follow Along Work Bundle



17 Pages

Part 6 of Astronomy Unit: The Outer Planets, Gas Giants, Ice Giants, Density of Outer Planets, Jupiter, Red Spot, Composition of Outer Planets, Jovian Moons, Saturn and its Moons, Uranus and its Moons, Neptune and its Moons, The Kuiper Belt, Demotion of Pluto, Oort Cloud, Comets

Part 6 Astronomy Unit

Part 6 Lesson 1 Gas Giants

Part 6 Lesson 2 Jupiter

Part 6 Lesson 3 Jovian Moons

Part 6 Lesson 4 Saturn

Part 6 Lesson 5 Ice Giants

Part 6 Lesson 6 Outer Solar System

Part 6 Lesson 7 Review Game

Part 6 Lesson 8 Review Game Answers

Part 6 Lesson 9 Space Expo Project


Part 6 Work Bundle Answers


Part 6 Work Bundle Digital

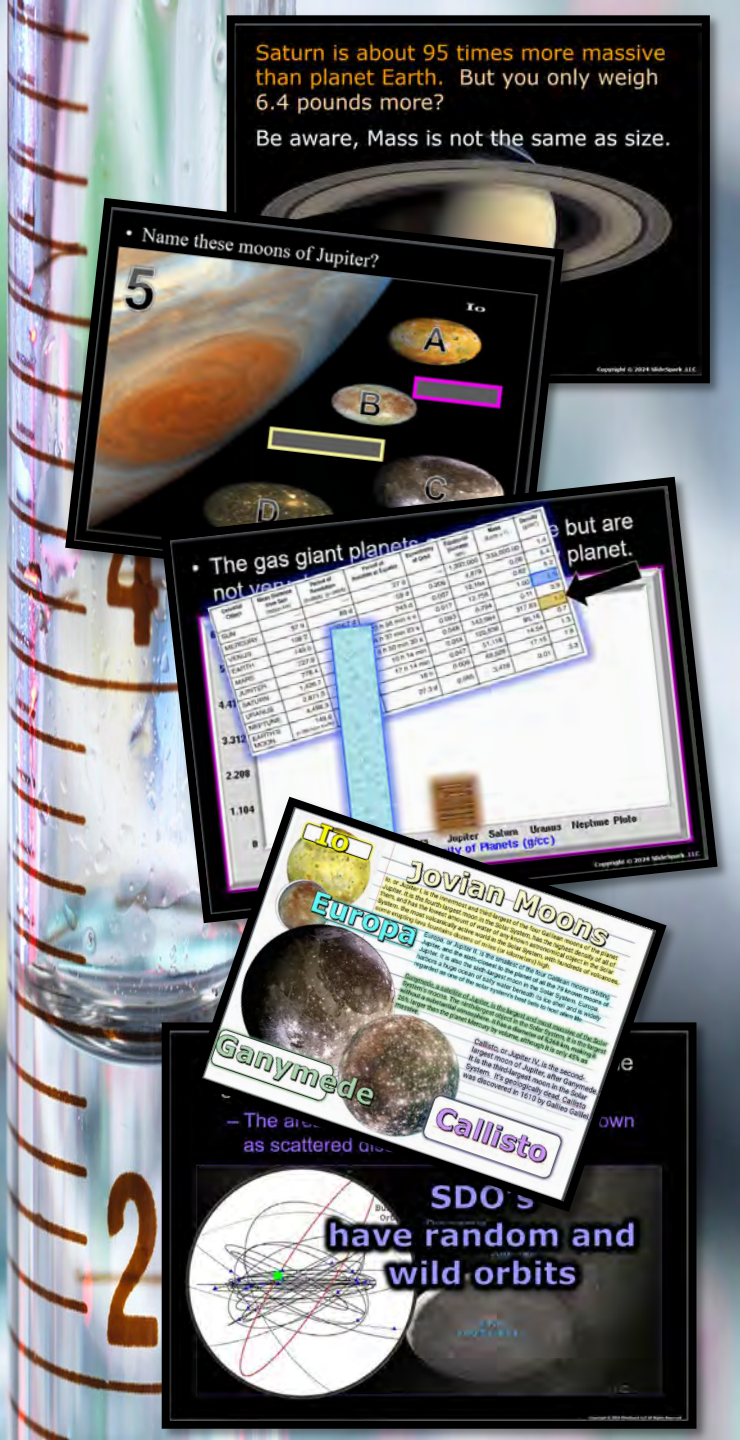

Part 6 Work Bundle Print

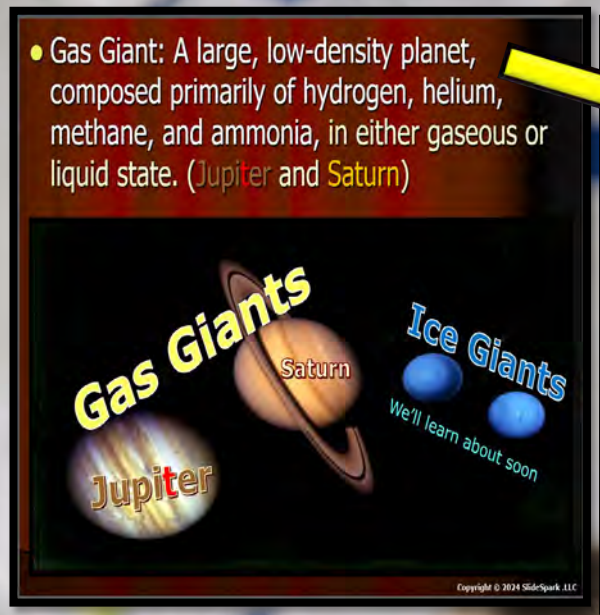
SlideSpark Science

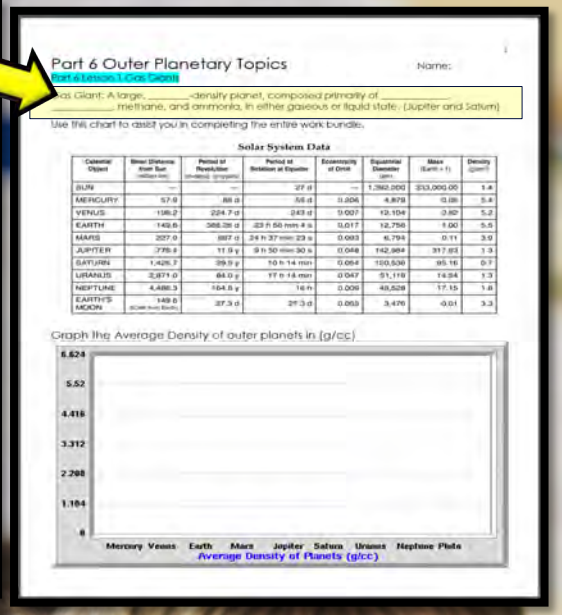
MIDDLE-LEVEL EDUCATIONAL RESOURCES

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.







Part 6 Outer Planetary Topics

Name:

Part 6 Lesson 1 Gas Giants

Gas Giant: A large, _____-density planet, composed primarily of _____, _____, _____ methane, and ammonia, in either gaseous or liquid state. (Jupiter and Saturn)

Use this chart to assist you in completing the entire work bundle.

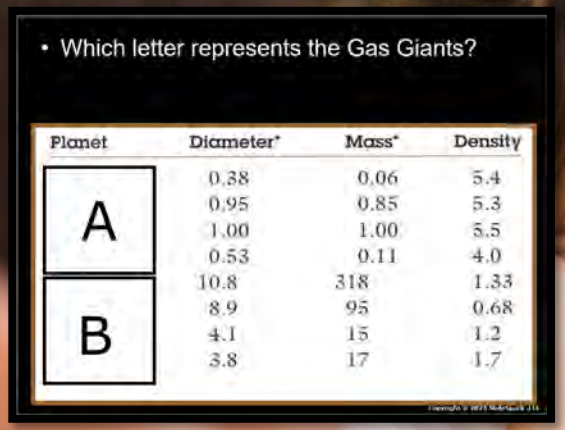
Solar System Data

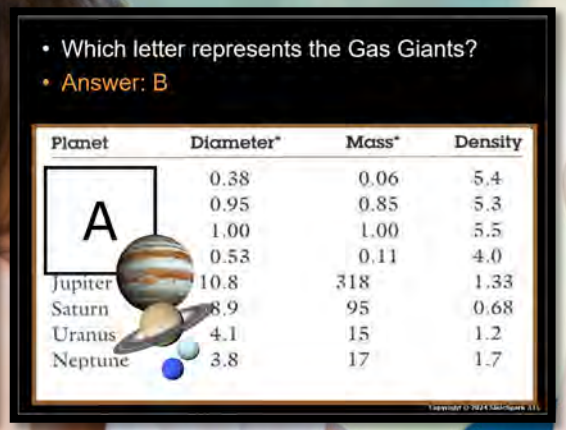
Celestial Object	Mean Distance from Sun (million km)	Period of Revolution (Earth days) (y=years)	Period of Rotation at Equator	Eccentricity of Orbit	Equatorial Diameter (km)	Mass (Earth = 1)	Density (g/cm³)
SUN	—	—	27 d	—	1,392,000	333,000.00	1.4
MERCURY	57.9	88 d	58 d	0.206	4,879	0.06	5.4
VENUS	108.2	224.7 d	243 d	0.007	12,104	0.82	5.2
EARTH	149.6	365.26 d	23 h 56 min 4 s	0.017	12,756	1.00	5.5
MARS	227.9	687 d	24 h 37 min 23 s	0.093	6,794	0.11	3.9
JUPITER	778.3	11.9 y	9 h 50 min 30 s	0.048	142,984	317.83	1.3
SATURN	1,426.7	29.5 y	10 h 14 min	0.054	120,536	95.16	0.7
URANUS	2,871.0	84.0 y	17 h 18 min	0.047	51,118	14.54	1.3
NEPTUNE	4,498.3	164.8 y	16 h	0.009	49,528	17.15	1.8
EARTH'S MOON	149.6 (Earth from Sun)	27.3 d	27.3 d	0.055	3,476	0.01	3.3

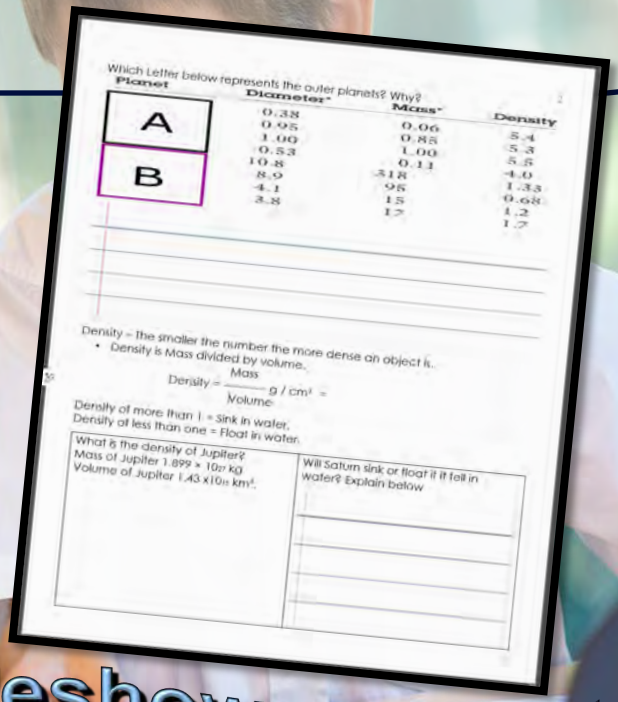
Graph the Average Density of outer planets in (g/cc)

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.

Part 6 Lesson 1 Gas Giants

Part 6 Lesson 2 Jupiter

Part 6 Lesson 3 Jovian Moons

Part 6 Lesson 4 Saturn

Part 6 Lesson 5 Ice Giants

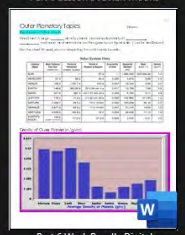
Part 6 Lesson 6 Outer Solar System

Part 6 Lesson 7 Review Game

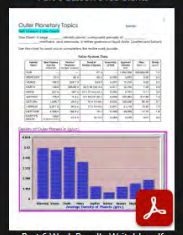
Part 6 Lesson 8 Review Game Answers

Part 6 Lesson 9 Space Expo Project


Part 6 Work Bundle Answers


Part 6 Work Bundle Digital


Part 6 Work Bundle Print

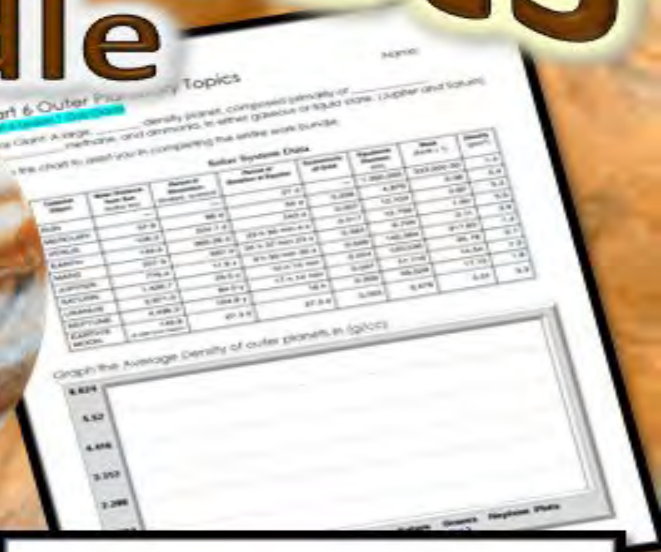

Part 6 Work Bundle Writable pdf

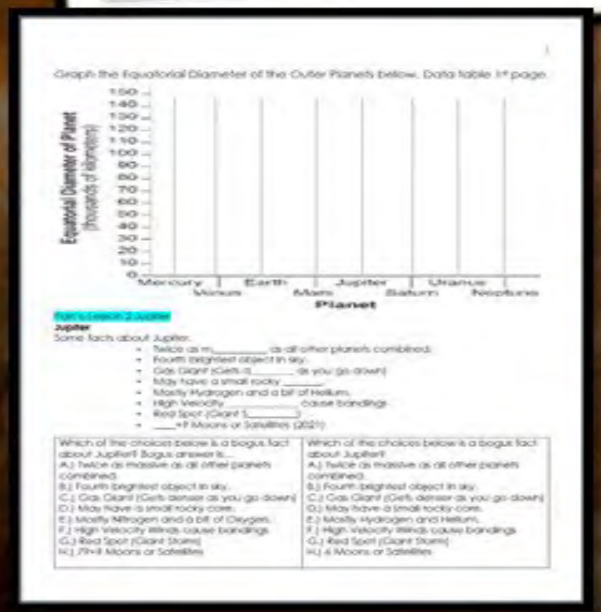
One clear, organized bundle guides students through notes, review, and assessments with ease.

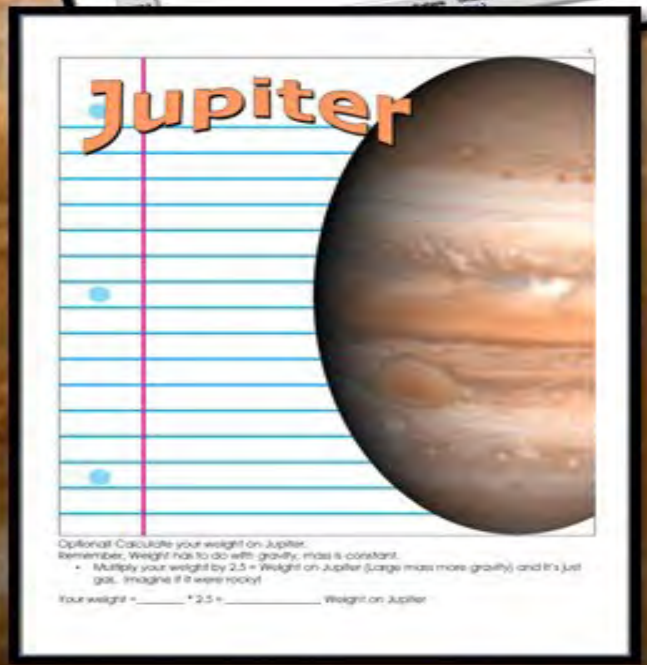
Follow Along Work Bundle

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.

Outer Planets
Work Bundle







Find the bogus term below?

• Io – A.) Rotten orange with acne. B.) Tidally active (no water, Sulfur). C.) Volcanically inactive. D.) No impact craters because of volcanic dust.	• Ganymede A.) Smallest moon of Jupiter B.) Larger than Mercury, less mass C.) Silicate rock, water ice, iron D.) Heavily cratered E.) Only moon with magnetosphere F.) Thin oxygen layer in atmosphere
• Europa A.) Made of smooth white ice. B.) No craters (water seeps up) C.) Liquid water under ice (life?) D.) Many cracks in the ice E.) Gas core under the sea of ice.	• Callisto A.) Frozen water and dust B.) Geological Dead C.) Only moon known to have life D.) 4th Moon of Jupiter

Saturn Part 6 Lesson 4 Saturn

- _____ of Moons (274+ Moons)
- Not very _____ (can float in water).
- Similar in composition to Jupiter
- Hydrogen 75% and Helium 25%
- Just missed becoming a star
- Has rings (A, B, and C etc.)
- Billions of particles from dust to meters long
- Mostly _____ and _____

Pick one Saturn obscure moons and record some info about it. Just google Saturn's Moons

Ice Giants: A giant planet composed mostly of astronomical _____ including water, methane, oxygen, carbon, nitrogen, and sulfur, and smaller than a gas giant.

- (Uranus and Neptune)

Uranus Part 6 Lesson 5 Ice Giants

- _____ Largest Planet
- Takes _____ Earth years to orbit sun.
- Methane absorbs red and reflects _____.
- Winds of _____ km/hr.
- Tipped on _____ (Early Comet Strike?).
- _____ moons, 5 large, 22 small.
- Dubbed an ice giant, since 80% or more of its mass is made up of a fluid mix of water, _____, and _____ices.

Which is bogus of Uranus?	Which is bogus of Uranus?
A.) Largest Planet B.) Takes 84 Earth years to orbit sun. C.) Methane absorbs red and reflects blue. D.) Winds of 700 km/hr. E.) Tipped on side (Early Comet Strike). D.) 27+8 Moons, Many named after William Shakespeare characters, and Alexander Pope's Poems	A.) 3rd Largest Planet B.) Takes 84 Earth years to orbit sun. C.) Methane absorbs blue and reflects red. D.) Winds of 700 km/hr. E.) Tipped on side (Early Comet Strike). D.) 27+8 Moons, Many named after William Shakespeare characters, and Alexander Pope's Poems

Neptune

- _____ planet.
- Orbits sun _____ Earth Years
- Made of mostly Hydrogen 80% and some Helium 19%
- Also Molten Rock, Methane, Water, Ammonia
- Winds of _____ mph
- 4 faint rings
- _____ Moons

Which is bogus of Neptune?	Which is bogus of Neptune?
A.) Innermost gas planet. B.) Orbits sun 165 Earth Years C.) Molten Rock, Methane, Water, [illegible] [illegible] 200 mph	A.) Outermost gas planet. B.) Orbits sun 165 Earth Years C.) Molten Rock, Methane, Water, Ammonia D.) Soft winds of 12 mph E.) 4 faint rings. F.) 14 Moons

Please name the Jovian Moons and provide some information about each.

Jovian Moons

[illegible]tion and the Giant Red Spot below.

Part 6 Lesson 3 Jovian Moons

Distance from the Sun in Astronomical Units

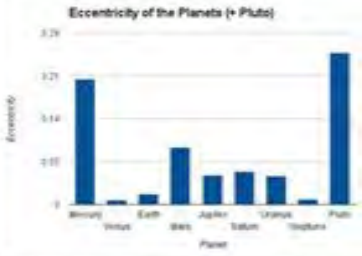
○ Please provide some information about Jupiter below. ○ Size. ○ rotational period. ○ year. ○ name the Jovian moons. ○ composition. ○ temp. ○ Other facts.

Please answer the questions below based on the graph.

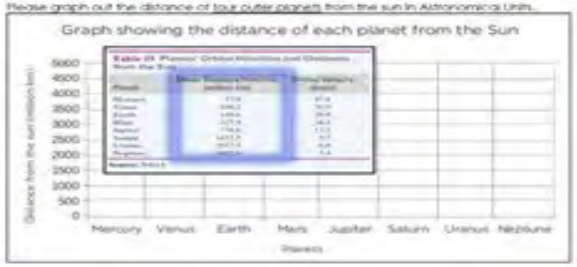
Which outer planet has the most eccentric orbit?

Which outer planet has the least eccentric orbit?

Compare the eccentricity of Pluto and Neptune?



Please graph out the distance of four outer planets from the sun in Astronomical Units.



Kuiper Belt (Pronounced Kyper)

- A disc-shaped region of objects _____ the orbit of Neptune.
- Much larger and recycled than _____ Belt.
- Objects are made of mostly frozen water, methane, and ammonia.
- Source of many comets.

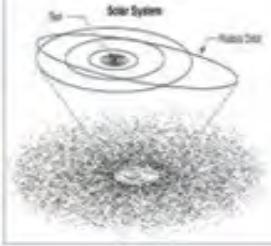
Scattered Disc Objects (SDO's)

- The scattered disc is a distant part of the solar system beyond the Kuiper Belt.
- The area has small icy minor _____ known as scattered disc objects (SDOs).

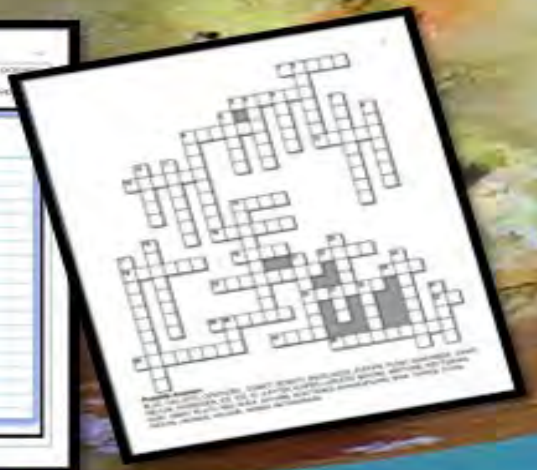
Oort Cloud Region of space beyond the solar system that theoretically contains about one _____ inactive comets.

- Made of inactive comets of ice and dust.
- This is the furthest reaches of our solar system.
- 50,000 AU from the sun to the edge.

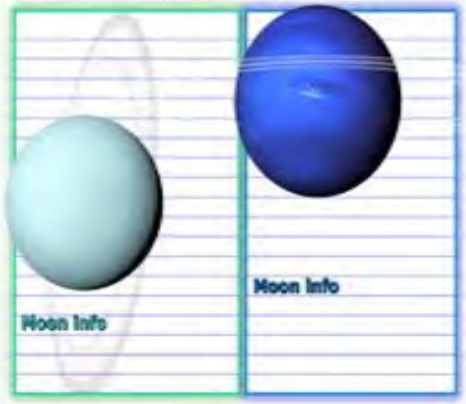
- Besides the outer planets! What else can be found in the outer solar system? Use the diagram below to assist you. Think KBO's and TNO's, and of the Oort Cloud. Research and KBO in the box.



- Please research and provide some info about a comet that p
through our solar system.
- Draw an orbit of a typical comet in our solar system. (Think Ke
Can you estimate an eccentricity of your orbit?



- Please provide some information about Uranus and Neptune below and some of their moons. (Size, orbital period, year, moons, composition, temp.) Other facts. Use your reference matrix from first page.



What is a contact? Think Astronomy

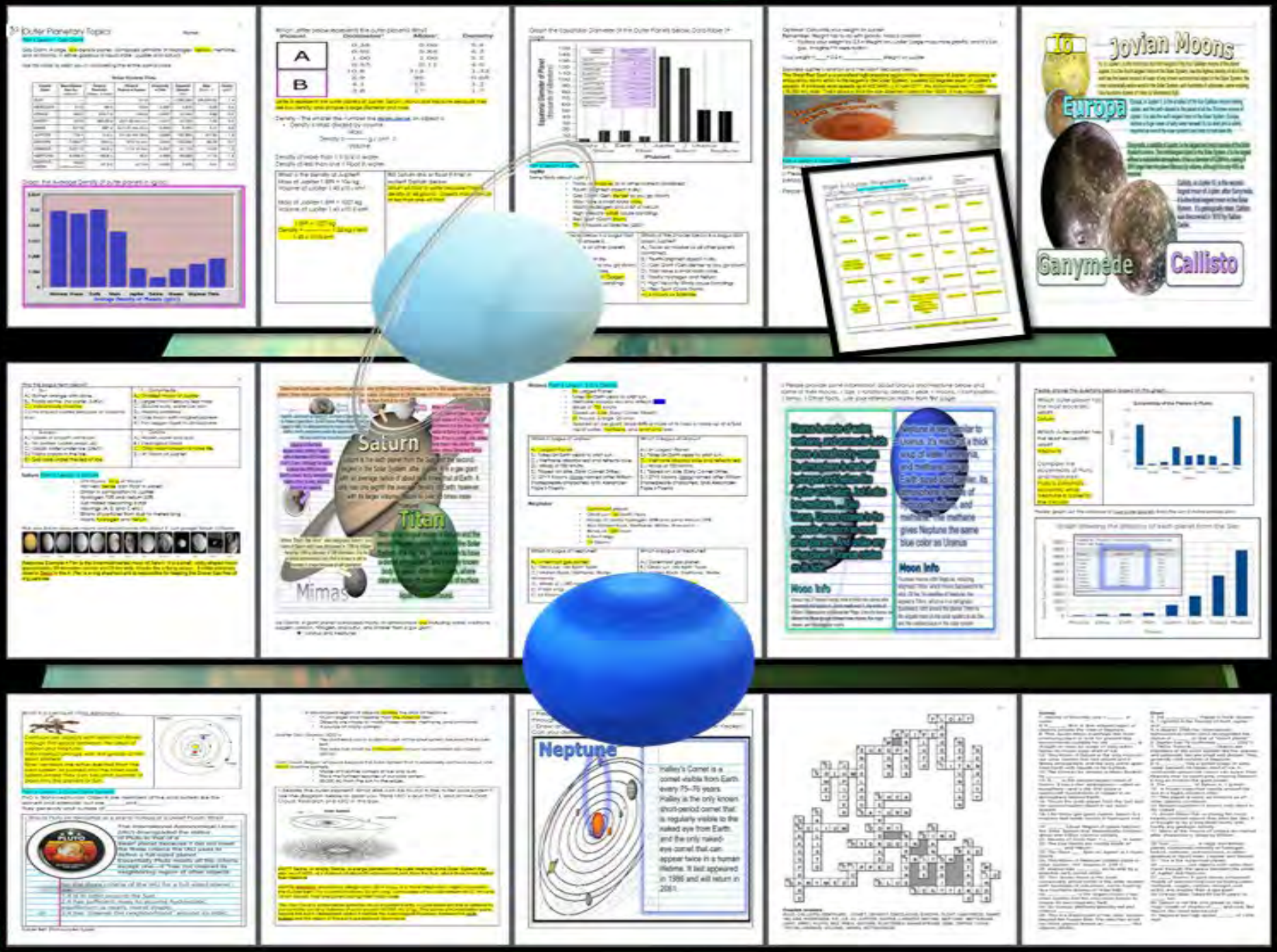
Part 5 Lesson 5 Outer Solar System

TNO's, Trans-Neptunian Objects are members of the solar system like the planets and asteroids, but are _____ and _____.
They generally orbit outside of _____.

Should Pluto be reinstated as a planet instead of a Dwarf Planet? Why?

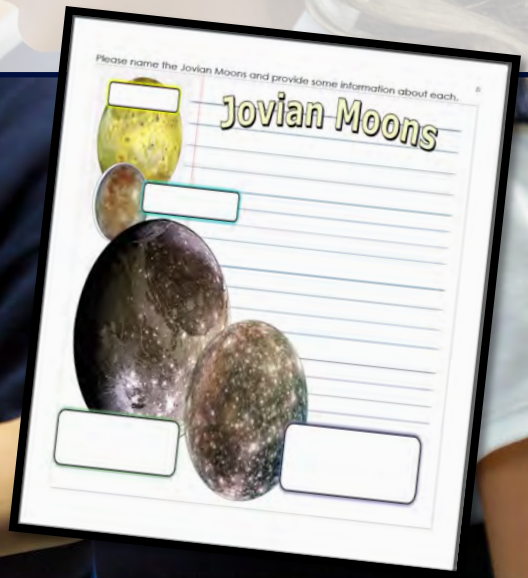
Part 6 Outer Planetary Topics

Final Question Bigger: _____ Answer: _____


Outer Planetary Topics
A
B
Io
Jovian Moons
Europa
Ganymede
Callisto
Saturn
Titan
Mimas
Neptune
Neptune is very similar to Uranus. It's mostly a thick soup of water, ammonia, and methane over a small, Earth-sized rocky core. Its atmosphere, made of hydrogen, helium, and methane, gives Neptune the same blue color as Uranus
Moon Info
Moon Info
Halley's Comet is a comet visible from Earth every 75–76 years. Halley is the only known short-period comet that is regularly visible to the naked eye from Earth, and the only naked-eye comet that can appear twice in a human lifetime. It last appeared in 1986 and will return in 2061.

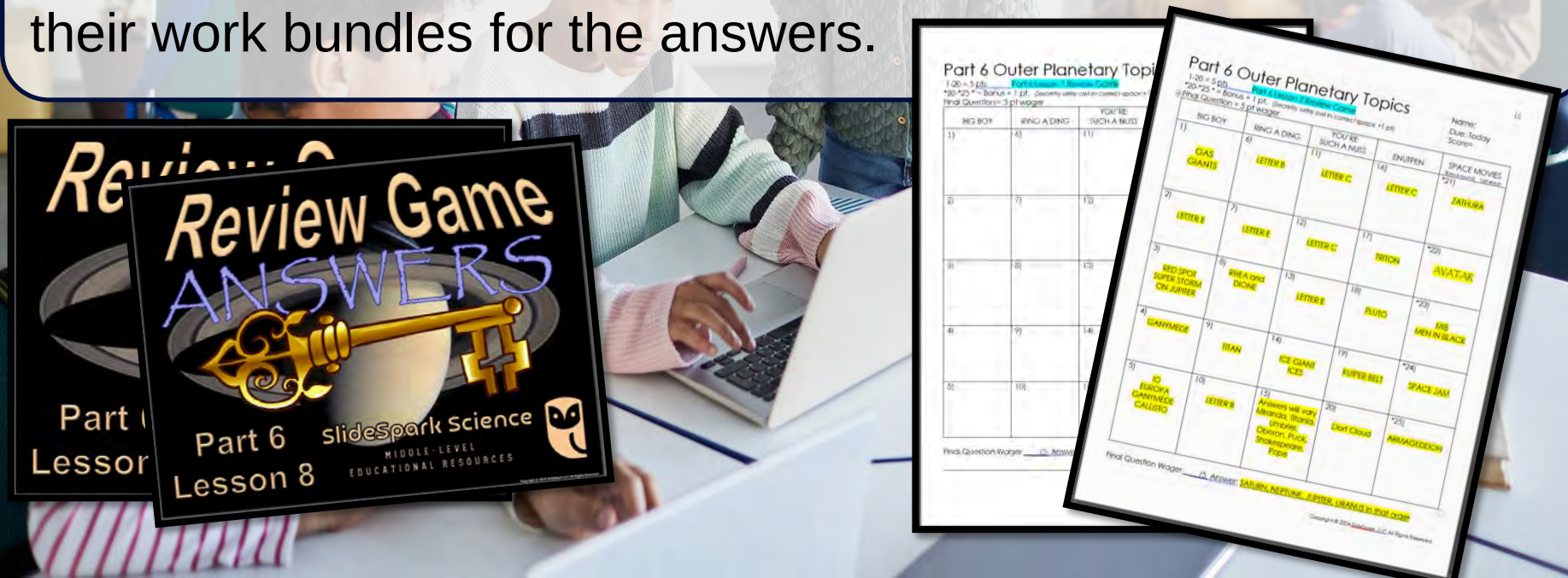
Built-in Questions and Assessments

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.



OUTER PLANETS
Quiz Game

- Name these two moons of Saturn?

8

- Which of the choices below is a bogus fact about Jupiter? Bogus answer is…
  - A.) Twice as massive as all other planets combined.
  - B.) Fourth brightest object in sky.
  - C.) Gas Giant (Gets denser as you go down)
  - D.) May have a small rocky core.
  - E.) Mostly Hydrogen and Helium.
  - F.) High Velocity Winds cause bandings
  - G.) Red Spot (Giant Storm)
  - H.) 79+? Moons or Satellites

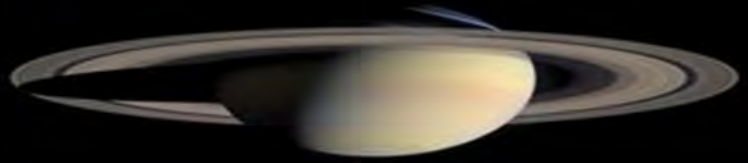
2

- Saturn's rings are primarily composed of…
  - A.) Hydrogen and Helium
  - B.) All Rocks and Debris
  - C.) Methane Gas
  - D.) Tidally Active Sulfur
  - E.) Mostly Ice

7

- What is the density of Saturn?
  - A.) 5.52 g/cm³ Earth
  - B.) 0.687 g/cm³ Saturn
  - C..) 1.638 g/cm³ Neptune
  - D.) 1.326 g/cm³ Jupiter
  - E.) 17 AU's ?

6



- This moon has liquid lakes of methane on it.
  - The only known place in our solar system.

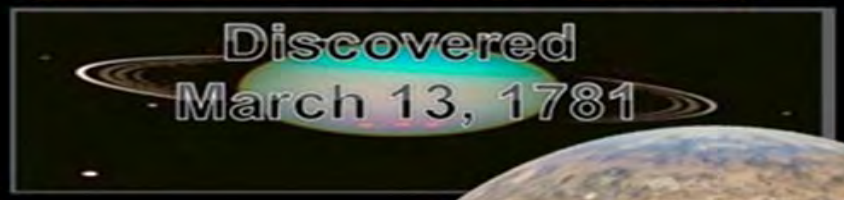
9

- What famous person characters are the moons of Uranus named after? (Just one needed)
  - Also name at least one moon of Uranus.

15

- Which is not correct of Uranus?
  - A.) Winds of 700 km/hr.
  - B.) 27 moons
  - C.) Has Methane which absorbs red and reflects blue.
  - D.) Tipped on side (Early Comet Strike) which creates extreme seasons.
  - E.) The first planet observed by Ancient Greeks.

13



- It takes Uranus _____ years to orbit the sun?
  - A.) 1 Earth year
  - B.) 7 Earth years
  - C.) 84 Earth years
  - D.) 798 Earth years
  - E.) 100,000,000 Earth years

12

- Uranus is sometimes dubbed a Ice Giant since 80 percent or more of its mass is made up of a fluid mix of water, methane, and ammonia ices.

14

- Uranus the _____ largest p
  - A.) 1st Largest planet
  - B.) 2nd Largest planet
  - C.) 3rd Largest Planet
  - D.) 5th Largest planet
  - E.) Cannot be determined

- Name each planet based on its symbol below?

A B C D

Saturn Jupiter Neptune Uranus

- Name this region of space beyond the Solar System that theoretically contains about one trillion inactive comets.

20

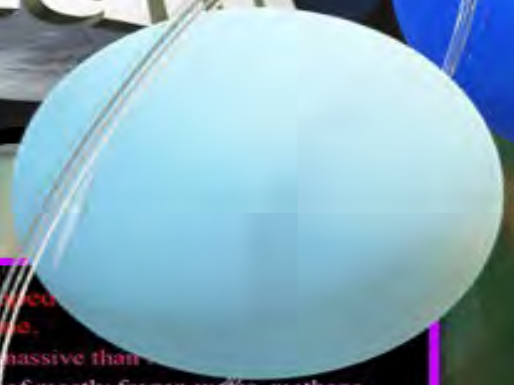
- Which fact is bogus from the list below about Neptune?

16

A.) Outermost gas planet.
B.) Orbits sun 165 Earth Years
C.) Softest winds in the solar system of 12 mph
D.) 4 faint rings.
E.) 13+? Moons

Name this demoted planet and he[illegible] Dwarf Planet?

18



[illegible]on of Neptune is….

17

- Coldest place in solar system -391 degrees F
- Rotates opposite of planet, only place in SS
- Has an atmosphere (Nitrogen)

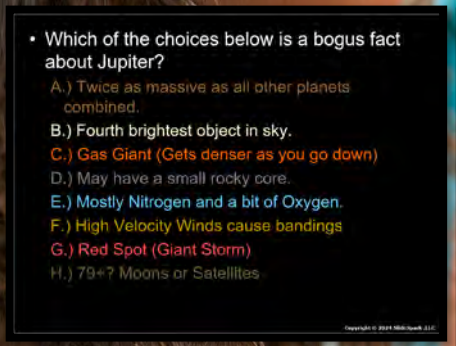
- Name the disk-sh[illegible] the orbit of Nep[illegible].
  - Much larger an[illegible] massive than [illegible]
  - Objects are ma[illegible] of mostly frozen water, methane, and ammonia.

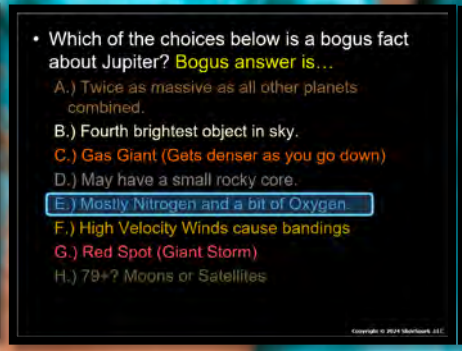
Kuiper Belt

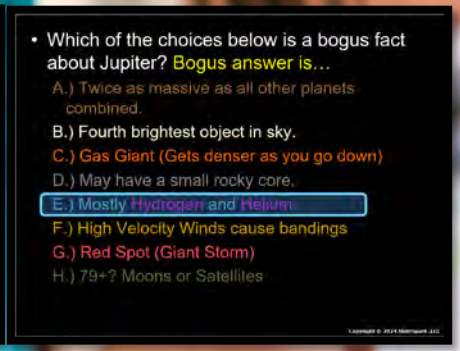
19

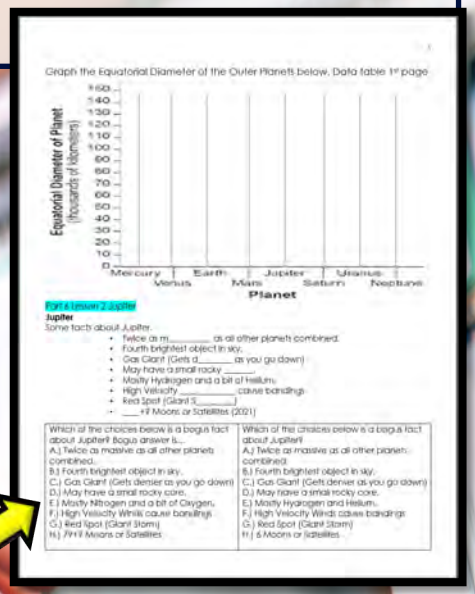
Built-in Assessment

This unit contains built-in assessment questions 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.





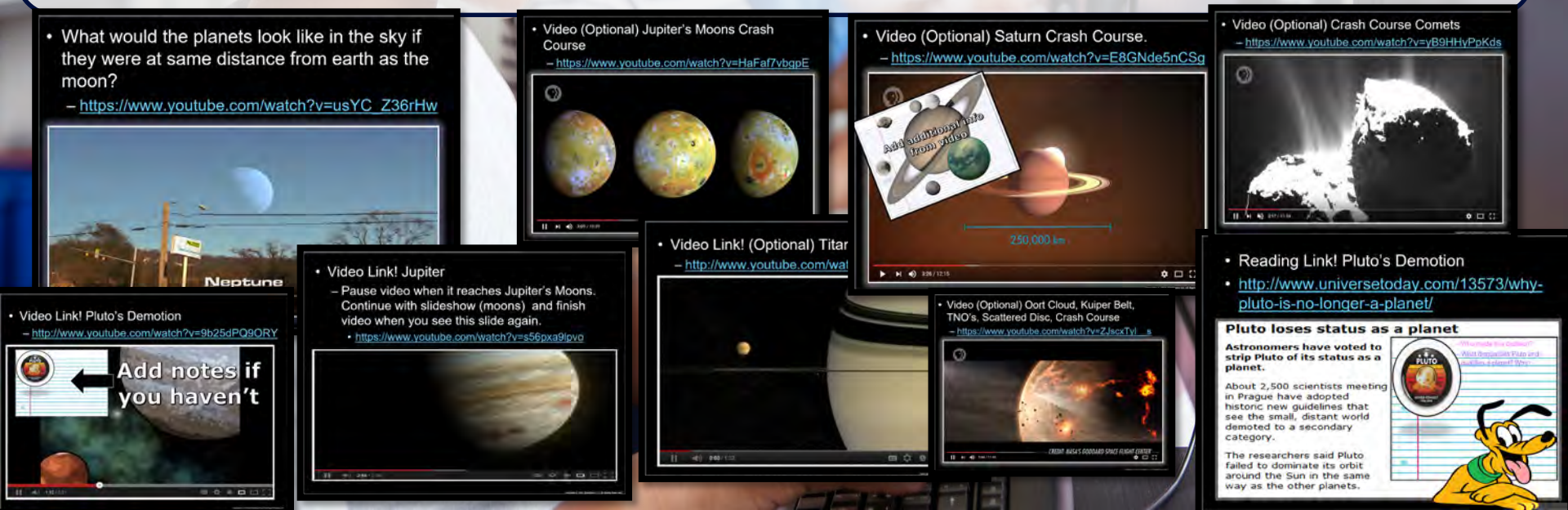




Quiz in Work Bundle

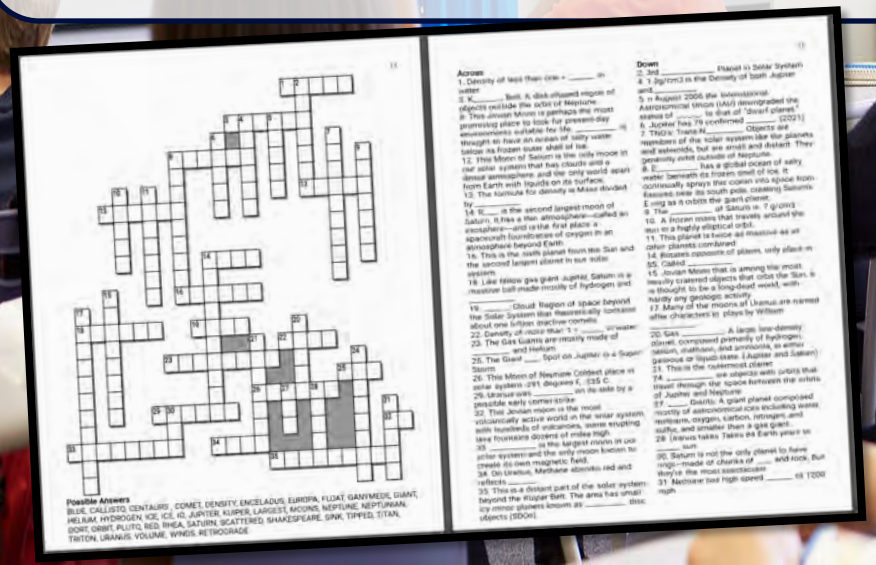
Built-in Video Links

Our science education program is designed with the modern, multimedia learner in mind, and our video and academic 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.

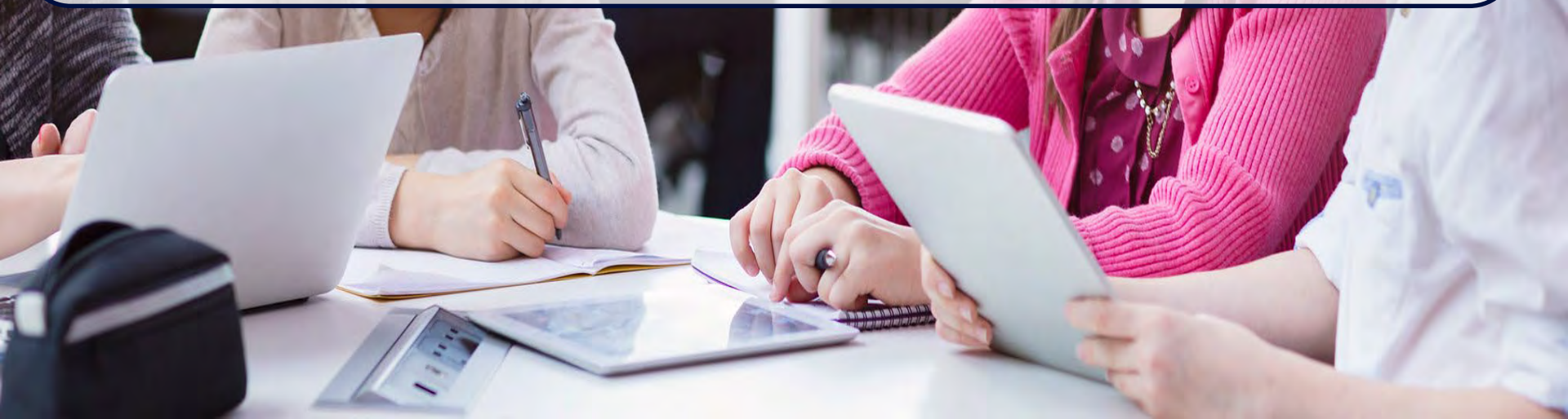


Possible Answers
BLUE, CALLISTO, CENTAURI , COMET, DENSITY, ENCELADUS, EUROPA, FLOAT, GANYMEDE, GIANT, HELIUM, HYDROGEN, ICE, ICE, IO, JUPITER, KUIPER, LARGEST, MOONS, NEPTUNE, NEPTUNIAN, PORT, ORBIT, PLUTO, RED, RHEA, SATURN, SCATTERED, SHAKESPEARE, SINK, TIPPED, TITAN, TRITON, URANUS, VOLUME, WINDS, RETROGRADE

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 6 Lesson 3 Jovian Moons

Google Slides

Part 6 Lesson 1 Gas Giants

Google Slides

Part 6 Lesson 5 Ice Giants

Google Slides

Part 6 Lesson 4 Saturn

Google Slides

Part 6 Lesson 7 Review Game

Google Slides

Part 6 Lesson 6 Outer Solar ...

Google Slides

Part 6 Lesson 2 Jupiter

Google Slides

Part 6 Lesson 7 Review Game

Google Slides

Astronomy Unit

Astronomy Unit

60 Lessons (6th -8th Medium Difficulty) Part 1 is 6 Lessons and 18 Page Work Bundle, Part 2 is 10 Lessons and 19 Page Work Bundle, Part 3 is 14 Lessons and 19 Page Work Bundle, Part 4 is 9 Lessons and 20 Page Work Bundle, Part 5 is 6 Lessons and 13 Page Work Bundle, Part 6 is 8 Lessons and 17 Page Work Bundle, Part 7 is 9 Lessons and 19 Page Work Bundle

Part 1: Astronomy Unit : Introduction to Astronomy, Copernicus, Heliocentrism, Galileo, Kepler's Laws of Planetary Motion, Ellipse, Perihelion, Aphelion, Orbits, Orbital Velocities, Eccentricity, Calculating Eccentricity, Astronomical Units, Distances in the Solar System, Graphing Planetary Data, Order of the Planets, Box Game Review, Crossword Puzzle, End Unit Assessment with Answer Version so Students can Self-Assess.

Part 2: Astronomy Unit: The Sun, Absolute Magnitude, Apparent Magnitude, Parsec, Stellar Classification / Spectra, Hertzsprung Russell Diagram, Composition of the Sun, Nuclear Synthesis, Layers of the Sun, Solar Flares, Coronal Mass Ejections, Carrington Event, Life Cycle of a Star, Blackhole, Neutron Star, Solar System Formation, Shadows, Sun Dials, Eratosthenes, Graphing Shadow length, Solar Eclipse, Lunar Eclipse, Path of Totality, Box Game Review, Crossword Puzzle, End Unit Assessment with Answer Version so Students can Self-Assess

Part 3: Astronomy Unit: The Habitable Zone, Important data about Mercury, Venus, Earth, Venn Diagram of Earth and Venus, Moon Formation Theories, Earth's Axial Tilt, Seasons on Earth, Equinox, Solstice, Earth's EM Field, Aurora borealis, Synchronous Orbit of the moon, Features of the moon, Phases of the Moon (with OREOS), Tides, Neap Tide, Spring Tide, Tidal Cycle, Reading a Tide Chart, Mars, Features on Mars, Moons of Mars, Rover Exploration, Missions Past and Future, End Unit Assessment with Answer Version so Students can Self-Assess

Part 4: Astronomy Unit: Rocketry, Apollo Missions, Parts of the Saturn V Rocket, Apollo Modules, Parts of a Rocket, Water Bottle Rockets, Newton's Laws, Lift, Drag, Thrust, Weight, Law of Gravitation, Einstein and Gravity, Spacetime, Space Shuttle Program, International Space Station, Future in Space, Box Game Review, Crossword Puzzle, End Unit Assessment with Answer Version so Students can Self-Assess

Part 5: Astronomy Unit : Main Asteroid Belt, protoplanet Ceres, Vesta, Meteors, Meteorites, Asteroids, Bolides, Chicxulub Crater, Tunguska Event, Chelyabinsk meteor, Craters, Parts of a Crater, Crater Impact Activity, NEO's, Torino Scale, Box Game Review, Crossword Puzzle, End Unit Assessment with Answer Version so Students can Self-Assess

Part 6 Astronomy Unit: The Outer Planets, Gas Giants, Ice Giants, Density of Outer Planets, Jupiter, Red Spot, Composition of Outer Planets, Jovian Moons, Saturn and its Moons, Uranus and its Moons, Neptune and its Moons, The Kuiper Belt, Demotion of Pluto, Oort Cloud, Comets, Box Game Review, Crossword Puzzle, End Unit Assessment with Answer Version so Students can Self-Assess

Part 7: Astronomy Unit: Constellations, Hubble Space Telescope, Spitzer Space Telescope, Speed of Light, Nebulas, Types of Nebulas, Galaxy, Type of Galaxies, Gravity, The Special Theory of Relativity , Blackholes, Neutron Stars, Spacetime, Pulsars, Quasars, Exoplanets, Hubble Deep Field, Beyond the Solar System, Black holes, Exoplanets, The Big Bang, Evidence for the Big Bang, Box Game Review, Crossword Puzzle, End Unit Assessment with Answer Version so Students can Self-Assess

Astronomy Mega Bundle

7 Units

INTERACTIVE SLIDESHOWS

Follow Along Bundles

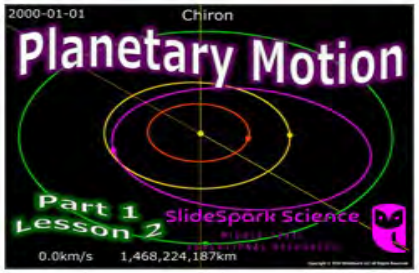
Hundreds of pages

Activities, Projects, Assessments, All Built-in

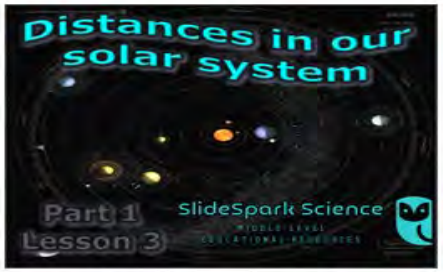
Introduction to Astronomy, Copernicus, Heliocentrism, Galileo, Kepler's Laws of Planetary Motion, Ellipse, Perihelion, Aphelion, Orbits, Orbital Velocities, Eccentricity, Calculating Eccentricity, Astronomical Units, Distances in the Solar System, Graphing Planetary Data, Order of the Planets, Box Game Review, Crossword Puzzle, End Unit Assessment with Answer Version so Students can Self-Assess

Part 1: Astronomy Unit

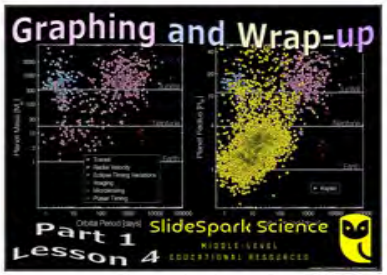
Part 1 Lesson 1 Introduction Kepler



Part 1 Lesson 2 Planetary Motion



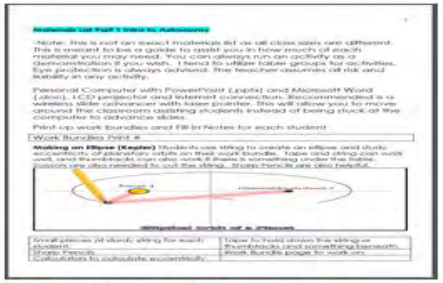
Part 1 Lesson 3 Distances Solar System



Part 1 Lesson 4 Graphing Wrap Up

Part 1 Lesson 5 Review Game

Part 1 Lesson 6 Review Game Answers


Part 1 Materials List Intro to Solar System


Part 1 Work Bundle Answers


Part 1 Work Bundle Digital


Part 1 Work Bundle Print

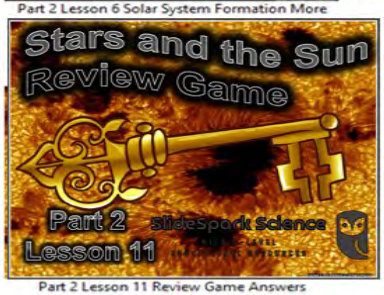

Part 1 Work Bundle Writable pdf

Part 2: The Sun, Absolute Magnitude, Apparent Magnitude, Parsec, Stellar Classification / Spectra, Hertzsprung Russell Diagram, Composition of the Sun, Nuclear Synthesis, Layers of the Sun, Solar Flares, Coronal Mass Ejections, Carrington Event, Life Cycle of a Star, Blackhole, Neutron Star, Solar System Formation, Shadows, Sun Dials, Eratosthenes, Graphing Shadow length, Solar Eclipse, Lunar Eclipse, Path of Totality, Box Game Review, Crossword Puzzle, End Unit Assessment with Answer Version so Students can Self-Assess

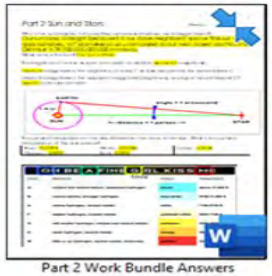
Part 2: Astronomy Unit

Part 2 Lesson 1 The Sun | Part 2 Lesson 2 HR Diagram | Part 2 Lesson 3 Inside the Sun | Part 2 Lesson 4 Solar Flares | Part 2 Lesson 5 Life Cycle of Stars

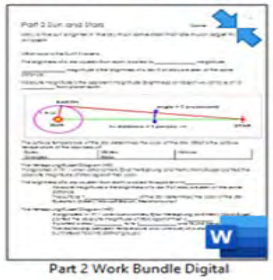
Part 2 Lesson 6 Solar System Formation More | Part 2 Lesson 7 Optional Sun Song | Part 2 Lesson 8 Shadows Sun Dials | Part 2 Lesson 9 Solar Lunar Eclipse | Part 2 Lesson 10 Review Game



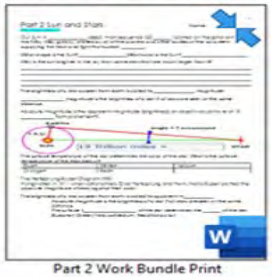
Part 2 Lesson 11 Review Game Answers



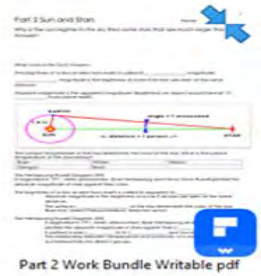
Part 2 Work Bundle Answers



Part 2 Work Bundle Digital



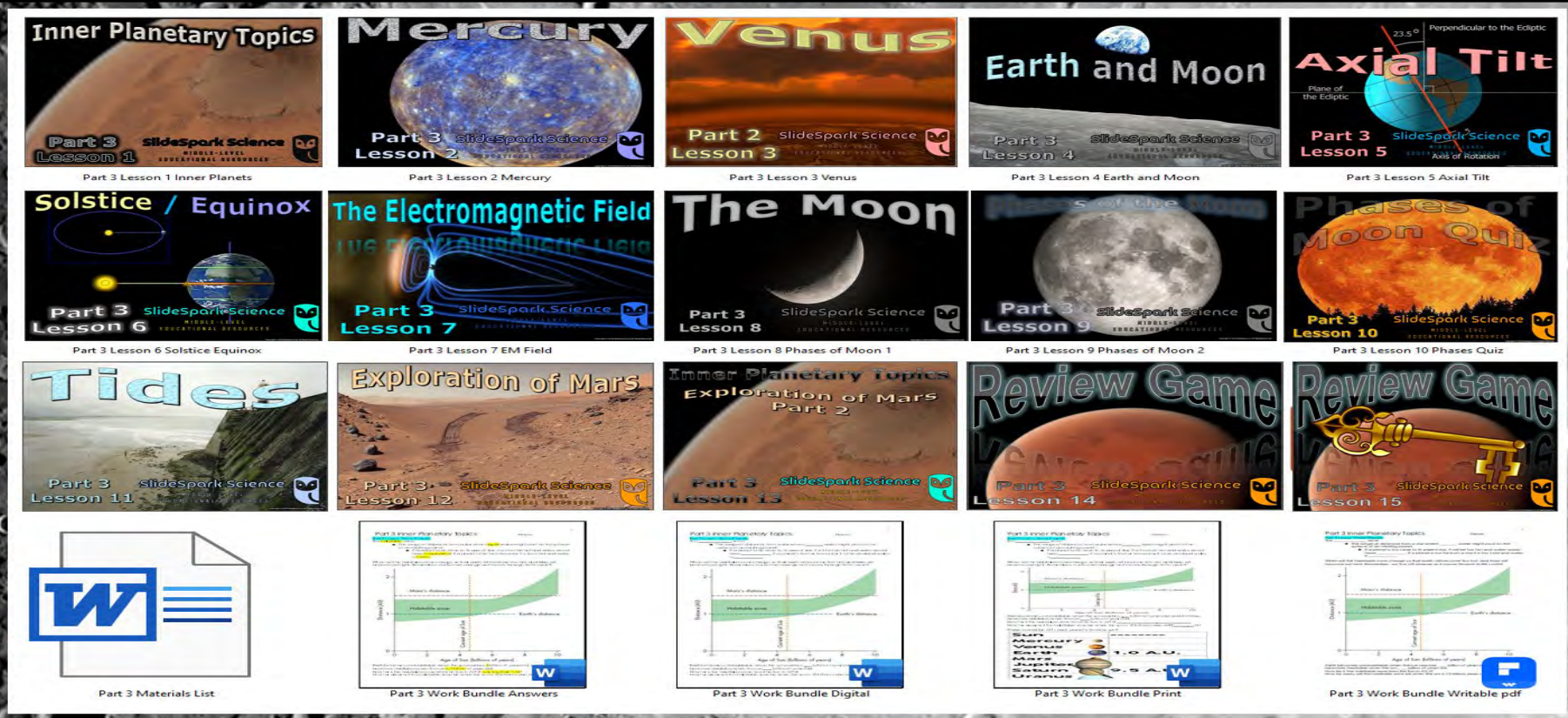
Part 2 Work Bundle Print



Part 2 Work Bundle Writable pdf

Part 3: The Habitable Zone, Important data about Mercury, Venus, Earth, Venn Diagram of Earth and Venus, Moon Formation Theories, Earth's Axial Tilt, Seasons on Earth, Equinox, Solstice, Earth's EM Field, Aurora borealis, Synchronous Orbit of the moon, Features of the moon, Phases of the Moon (with OREOS), Tides, Neap Tide, Spring Tide, Tidal Cycle, Reading a Tide Chart, Mars, Features on Mars, Moons of Mars, Rover Exploration, Missions Past and Future

Part 3: Astronomy Unit



Astronomy Unit Part 4: Rocketry, Apollo Missions, Parts of the Saturn V Rocket, Apollo Modules, Parts of a Rocket, Water Bottle Rockets, Newton's Laws, Lift, Drag, Thrust, Weight, Law of Gravitation, Einstein and Gravity, Spacetime, Space Shuttle Program, International Space Station, Future in Space

Part 4: Astronomy Unit

Part 4 Lesson 1 Mission to the Moon

Part 4 Lesson 2 Water Rockets Gravity

Part 4 Lesson 3 Gravity Rocket Built Cont

Part 4 Lesson 4 Space Shuttle ISS

Part 4 Lesson 5 Newtons 1st Law

Part 4 Lesson 6 2nd Law of Motion

Part 4 Lesson 7 3rd Law of Motion

Part 4 Lesson 8 Rocketry Wrap Up

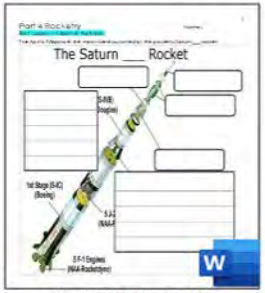
Part 4 Lesson 9 Review Game

Part 4 Lesson 10 Review Game Answers

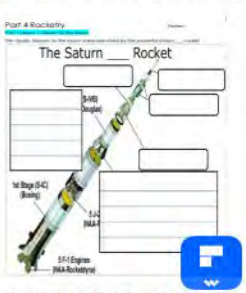

Part 4 Materials List


Part 4 Work Bundle Answers

Part 4 Work Bundle Digital



Part 4 Work Bundle Print



Part 4 Work Bundle Writable pdf

Part 5: Main Asteroid Belt, protoplanet Ceres, Vesta, Meteors, Meteorites, Asteroids, Bolides, Chicxulub Crater, Tunguska Event, Chelyabinsk meteor, Craters, Parts of a Crater, Crater Impact Activity, NEO's, Torino Scale,

Part 5: Astronomy Unit

Part 5 Lesson 1 Main Asteroid Belt

Part 5 Lesson 2 Tunguska Event

Part 5 Lesson 3 NEOs

Part 5 Lesson 4 Impact Lab

Part 5 Lesson 5 Research and Wrap Up

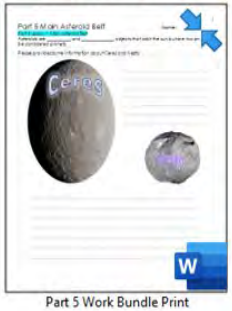
Part 5 Lesson 6 Review Game

Part 5 Lesson 7 Review Game Answers


Part 5 Materials List


Part 5 Work Bundle Answers


Part 5 Work Bundle Digital


Part 5 Work Bundle Print


Part 5 Work Bundle Writable pdf

Part 6 of Astronomy Unit: The Outer Planets, Gas Giants, Ice Giants, Density of Outer Planets, Jupiter, Red Spot, Composition of Outer Planets, Jovian Moons, Saturn and its Moons, Uranus and its Moons, Neptune and its Moons, The Kuiper Belt, Demotion of Pluto, Oort Cloud, Comets

Part 6 Astronomy Unit

Part 6 Lesson 1 Gas Giants

Part 6 Lesson 2 Jupiter

Part 6 Lesson 3 Jovian Moons

Part 6 Lesson 4 Saturn

Part 6 Lesson 5 Ice Giants

Part 6 Lesson 6 Outer Solar System

Part 6 Lesson 7 Review Game

Part 6 Lesson 8 Review Game Answers

Part 6 Lesson 9 Space Expo Project


Part 6 Work Bundle Answers


Part 6 Work Bundle Digital


Part 6 Work Bundle Print

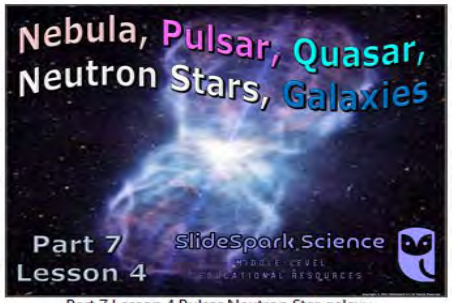
Astronomy Unit Part 7: Constellations, Hubble Space Telescope, Spitzer Space Telescope, Speed of Light, Nebulas, Types of Nebulas, Galaxies , Type of Galaxies, Gravity, The Special Theory of Relativity , Blackholes, Neutron Stars, Spacetime, Pulsars, Quasars, Exoplanets, Hubble Deep Field, Beyond the Solar System, Black holes, Exoplanets, The Big Bang, Evidence for the Big Bang

Part 7: Astronomy Unit

Part 7 Lesson 1 Constellations Hubble

Part 7 Lesson 2 Speed of Light More

Part 7 Lesson 3 Spacetime



Part 7 Lesson 4 Pulsar Neutron Star galaxy

Part 7 Lesson 5 Galaxies

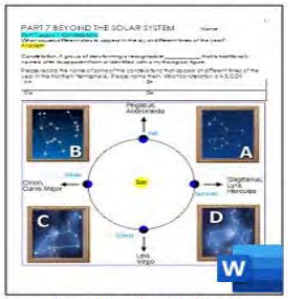
Part 7 Lesson 6 Exoplanets

Part 7 Lesson 7 Big Bang

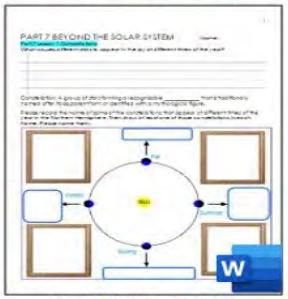
Part 7 Lesson 8 Review Game

Part 7 Lesson 9 Review Game Answers

Part 7 Work Bundle Answers



Part 7 Work Bundle Digital



Part 7 Work Bundle Print

Curriculum Guide

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

EASIEST =Easier, MORE DIFFICULT = More difficult, Most Difficult =Most difficult

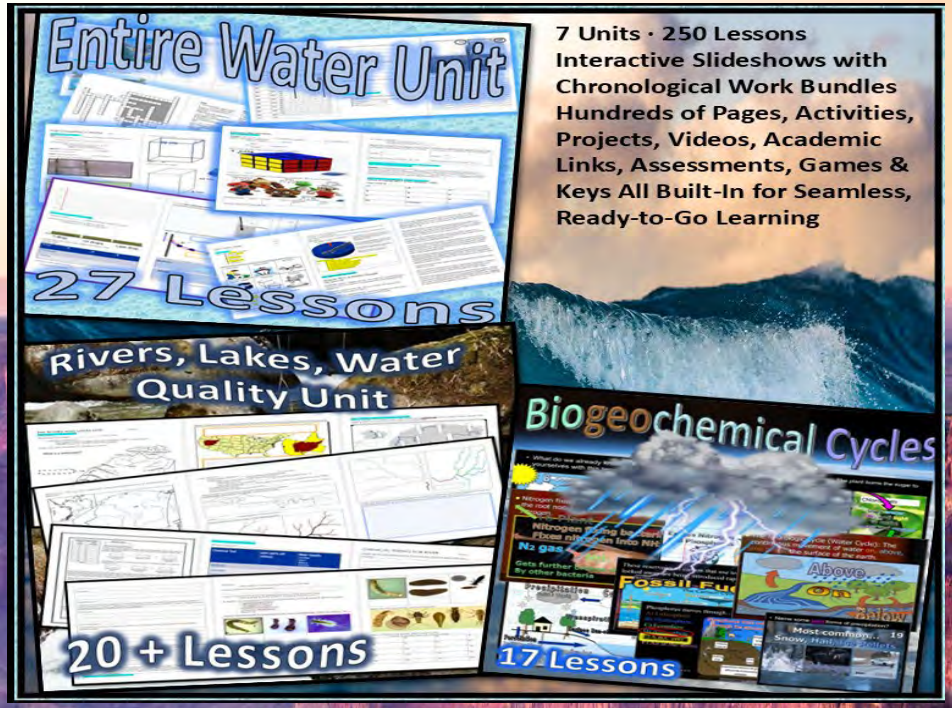
Earth Science Units	Daily Lessons	Intended Grade	
Geology Topics Unit	60 Lessons	6-8 medium difficulty	MORE DIFFICULT
Weather and Climate Unit	40 Lessons	6-8 medium difficulty	MORE DIFFICULT
Astronomy Unit	60 Lessons	6-8 medium difficulty	MORE DIFFICULT
Weathering, Soil Sciences	28 Lessons	5-7 easier	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

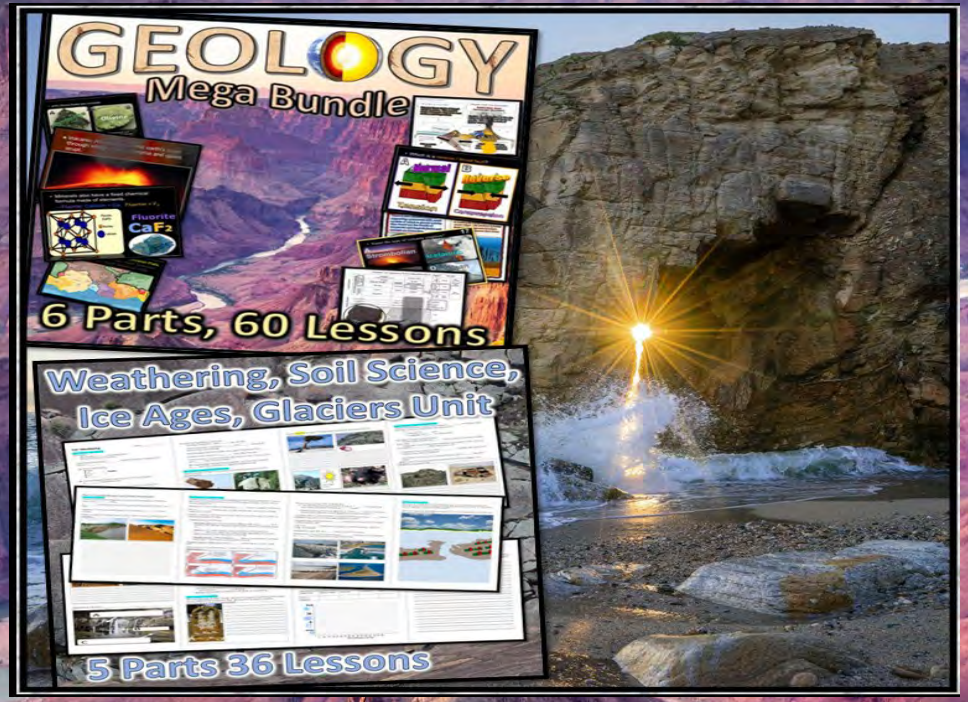
Earth Science Curriculum

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	EASIEST
Ecology Interactions Unit	30 Lessons	5-6 easier	EASIEST
Ecology Abiotic Factors Unit	13 Lessons	5-6 easier	EASIEST
Botany Unit	50 Lessons	5-7 easier	EASIEST
Evolution and Natural Selection	40 Lessons	5-7 easier	EASIEST
Taxonomy and Classification	50 Lessons	6-8 medium difficulty	MORE DIFFICULT
Infectious Diseases Unit	30 Lessons	7-9 more difficult	MORE DIFFICULT
DNA and Genetics Unit	42 Lessons	8-10 most difficult	Most Difficult
Human Body Systems Unit	85 Lessons	6-8 medium difficulty	MORE DIFFICULT
Cell Biology Unit	30 Lessons	8-10 most difficult	Most Difficult

Life Science Curriculum

Life Science Curriculum

SlideSpark Science

MIDDLE-LEVEL EDUCATIONAL RESOURCES

Interactive Slideshows

Follow Along Bundles

10 Units of Study

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

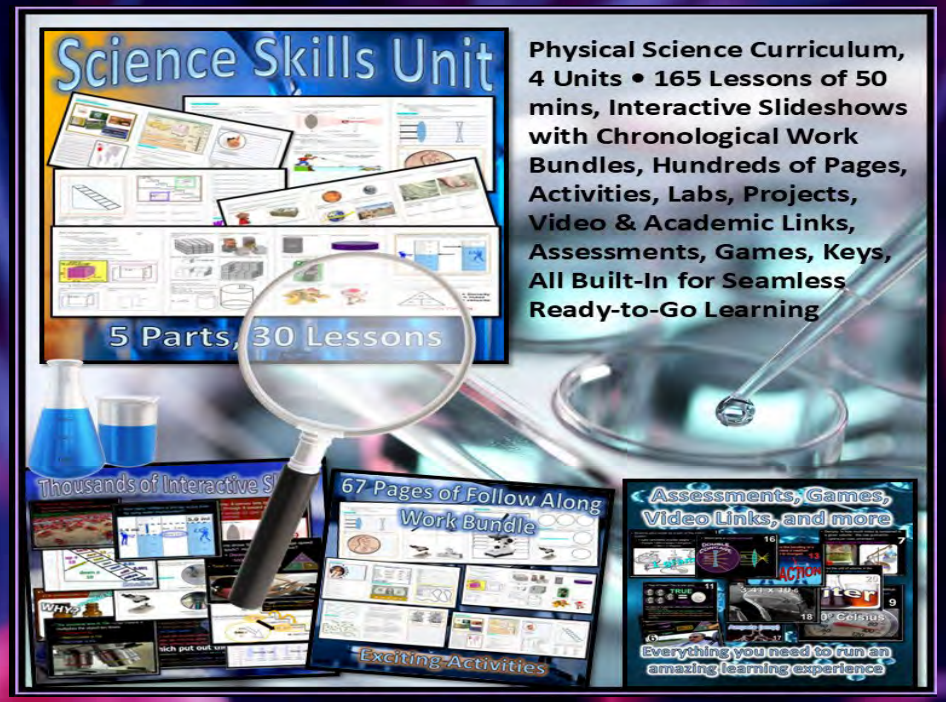
Physical Science Curriculum

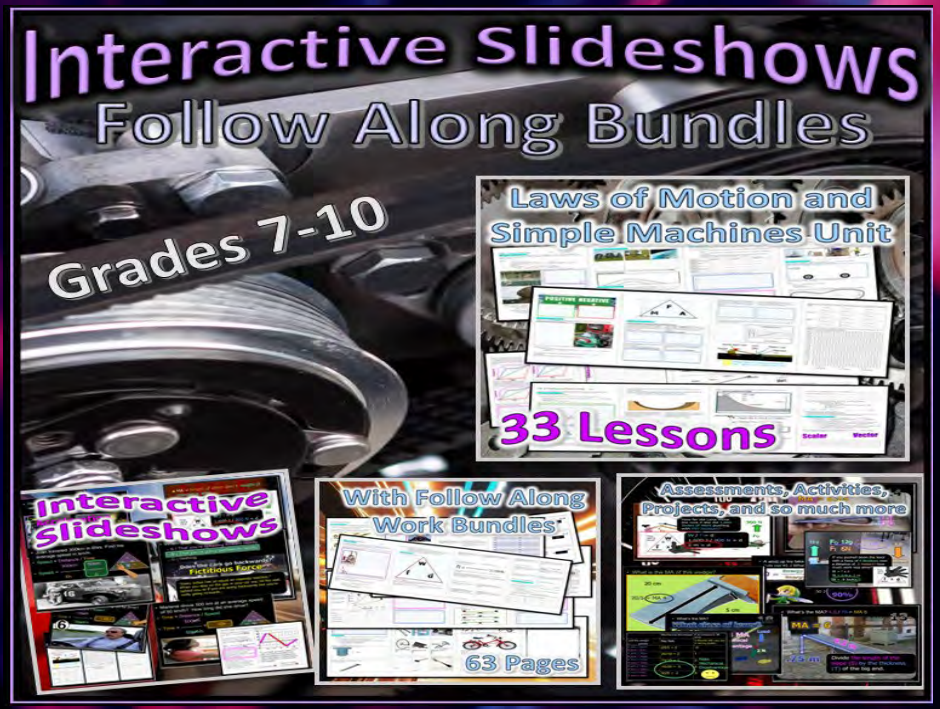
Entire SlideSpark Science Curriculum

Physical Science Curriculum

slideSpark Science

MIDDLE-LEVEL EDUCATIONAL RESOURCES





Dear Valued Educator,

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

With appreciation,

Support@SlideSpark.net

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

Sincerely,

Support@slidespark.net

SlideSpark Science

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SlideSpark Science on TpT