

Asteroids, Craters, NEO's

Preview is a compressed file



- Asteroids are rocky and metallic objects that orbit the sun but are too small to be considered planets.



- Which is Ceres and which is Vesta?



- Lake Manicouagan, Canada
— 212 million years old.

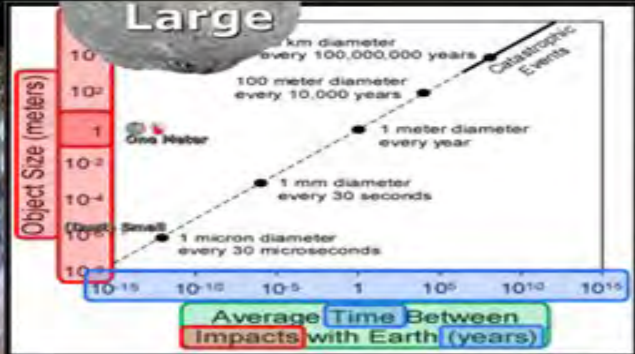
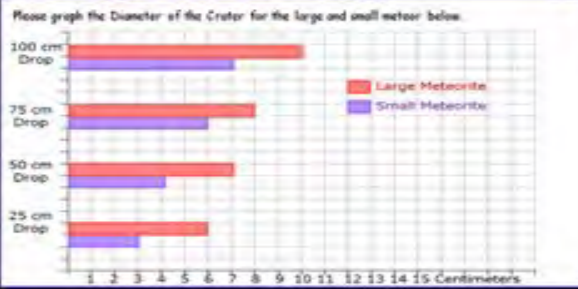


- Vesta Protoplanet

Protoplanet: A large body of matter in orbit around the sun or a star and thought to be developing into a planet.

Planetary Embryo

- Example Diameter of Crater



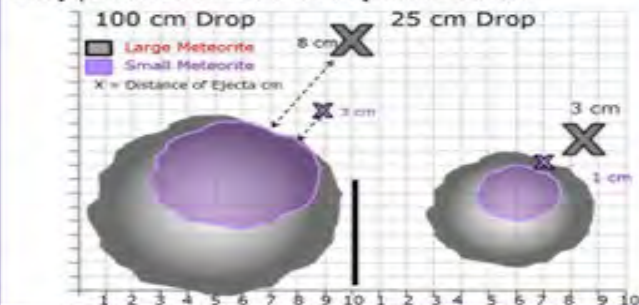
- Meteorite: Space matter that has fallen to the earth's surface from outer space.



Interactive Slideshows

• Another Graph Possibility (Diameter)

Please graph the Diameter of the Crater for the large and small meteor below



- Craters can be found on earth, but most craters are eroded away by wind and water.
- Small meteors also burn up in our atmosphere.



- There are three main types of meteorites.

– Iron, Stone, and Stony-Iron

Stony-Irons: They are composed of roughly equal amounts of nickel-iron and stone. They are thought to have formed at the core/mantle boundary of their parent bodies.

Stony: Once formed part of the outer crust of a planet or asteroid. Contain small, colorful, grain-like inclusions known as "chondrules." These tiny grains originated in the solar nebula, and therefore pre-date the formation of our planet and the rest of the solar system.

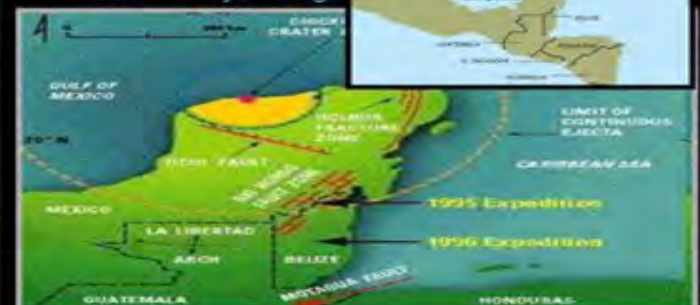


• NEO's: Near Earth Objects

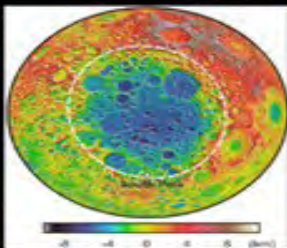
- (Comets and asteroids that come very close to Earth.)



• Chicxulub Crater – 65 million years ago



- The largest known impact basin in the solar system is the...
- South Pole-Aitken Basin on far-side of the moon.
- 3.9 billion years ago. During Late Bombardment



Asteroid 2004 MN4 will come close to Earth on April 13, 2029, but it will not hit.

– (It's a Friday the 13th ...Obhh)



Small (dust size to coin) piece of ... hits the earth's atmosphere and



Follow Along Work Bundle

Post 1: Main Asteroid Belt

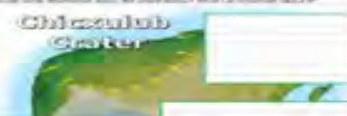
Where do most asteroids live? In the Asteroid Belt between Mars and Jupiter.



Ceres is the largest asteroid, about 940 km in diameter.

Chicxulub Crater

Where did the dinosaurs go? To extinction.



The Chicxulub Crater is located in the Yucatán Peninsula, Mexico. It is about 180 km in diameter and is the site of the impact that caused the extinction of the dinosaurs.

Stargazing

How can we see the night sky? By using a telescope.



A telescope can help us see objects that are too far away to see with our eyes. It can also help us see objects that are too small to see with our eyes.

Planets and the Solar System

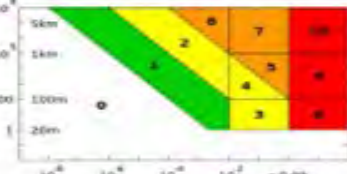
Where do the planets live? In the Solar System.



The Solar System consists of the Sun, the planets, and the objects that orbit them. The planets are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune.

Kinetic Energy (MJ)

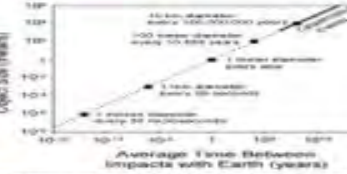
How much energy does an asteroid have? It depends on its mass and speed.



The graph shows that the probability of impact decreases as the kinetic energy increases. This is because larger asteroids are less likely to hit Earth.

Average Time Between Impacts with Earth (years)

How often do asteroids hit Earth? It depends on the size of the asteroid.



The graph shows that the average time between impacts increases as the diameter of the asteroid increases. This is because larger asteroids are less likely to hit Earth.

Meteor Impact Activity

How can we see the night sky? By using a telescope.



A meteor impact is a collision between a meteor and a planet or other celestial body. It can cause a large crater and release a lot of energy.

Small Meteoroids

How small are meteoroids? They can be as small as a grain of sand.



Meteoroids are small objects in space. They can be made of rock or metal. They can be as small as a grain of sand or as large as a boulder.

Probability of Impact

How likely is it that an asteroid will hit Earth? It depends on the size of the asteroid.



The graph shows that the probability of impact decreases as the diameter of the asteroid increases. This is because larger asteroids are less likely to hit Earth.

How a Meteoroid Becomes a Meteorite

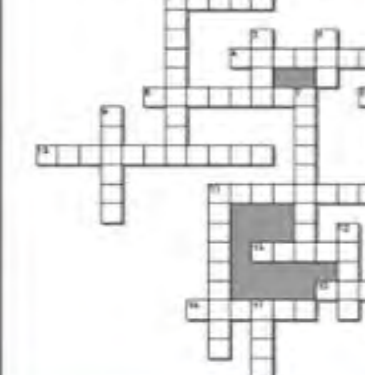
What happens when a meteoroid hits Earth? It becomes a meteorite.



A meteoroid is a small object in space. When it enters the Earth's atmosphere, it becomes a meteor. If it survives the journey and hits the ground, it becomes a meteorite.

Crossword Puzzle

Can you solve the crossword puzzle? It's a fun way to learn about asteroids.



The crossword puzzle contains words related to asteroids and meteorites. It is a fun way to test your knowledge of the topic.

Post 3 Review Game

How well do you know the material? Play the review game.



The review game is a board game that tests your knowledge of the material. It is a fun way to learn and review the concepts.

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

• The Torino Scale

- A scale for categorizing the impact hazard associated with Near-Earth Objects (NEOs).
- Combining probability statistics and known damage potentials into a single threat value.



- Why do large meteorites often have more damage potential than smaller ones?
 - A.) Large meteorites travel faster.
 - B.) Large meteorites have more mass.
 - C.) Large meteorites are made of iron.
 - D.) Large meteorites explode in the air.
 - E.) Large meteorites spin as they travel.

$$F=ma$$

19



• Tunguska event (1908).

- A (comet or meteorite) exploded just above the surface of the earth causing a massive explosion.



• Name this famous crater in Arizona?

- It was from an impactor about 50,000 years ago.



- A layer of Iridium can be found across the globe in rock layers around 65 million years ago, K-T (Pg) Mass Extinction Event.
- Iridium is found on Meteorites.



• Which is an asteroid, meteorite, and meteor?



- Chelyabinsk Asteroid. February 15th, 2013
 - Injured 1,200 people in Chelyabinsk, Russia.
 - Created a supersonic shockwave that collapsed roofs and blew out windows.
 - Parts of the asteroid exploded 42 miles above the ground.

The "Asteroid" is really A bolide.
Bolide: A large meteor that explodes in the atmosphere.

• Tunguska event (1908).

- A (comet or meteorite) exploded just above the surface of the earth causing a massive explosion.



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 NEO's



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

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.

The largest known impact basin in the solar system is the...
 – South Pole-Aitken Basin on far-side of the moon. 3.9 billion years ago. **During Late Bombardment**

There are three main types of meteorites.
 – **Iron**, **Stone**, and **Stony-Iron**

Stony-Irons: They are comprised of roughly equal amounts of nickel-iron and stone. They are thought to have formed at the core/mantle boundary of their parent bodies.

Iron (90 to 95% composed of the metal iron with the remainder comprised of nickel)

Stone

Stony-Iron

Which is an asteroid, meteorite, and meteor?

Asteroid

Meteor

Meteorite

The Torino Scale

- A scale for categorizing the impact hazard associated with Near-Earth Objects (NEOs).
- Combining probability statistics and known **damage** potentials into a single threat value.

5km	Large	6	7	High
1km	2	Med.	5	9
	1	Low	4	8
			3	

Step #1! Parts of a Crater.

- Drop the marble meteorite from a height of one meter into the tray of sand / sugar / other and record a detailed sketch on the back of your work bundle.

- Asteroids are rocky and metallic objects that orbit the sun but are too small to be considered planets.



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Part 5 Main Asteroid Belt

Name: _____

Part 5 Lesson 1 Main Asteroid Belt

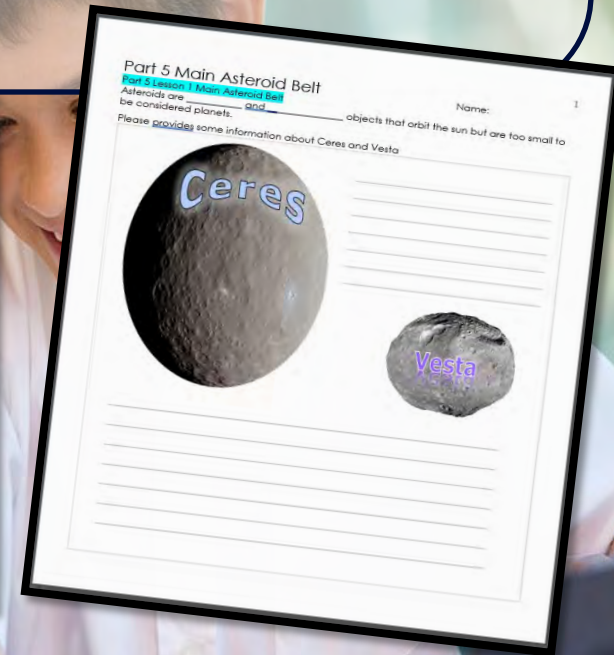
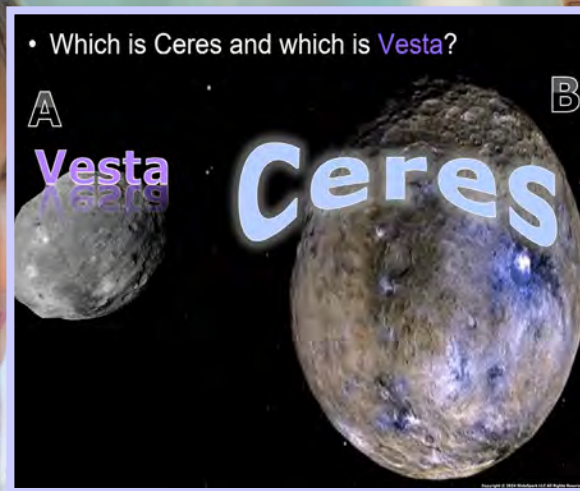
Asteroids are _____ and _____ objects that orbit the sun but are too small to be considered planets.

Please provide some information about Ceres and Vesta.



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.

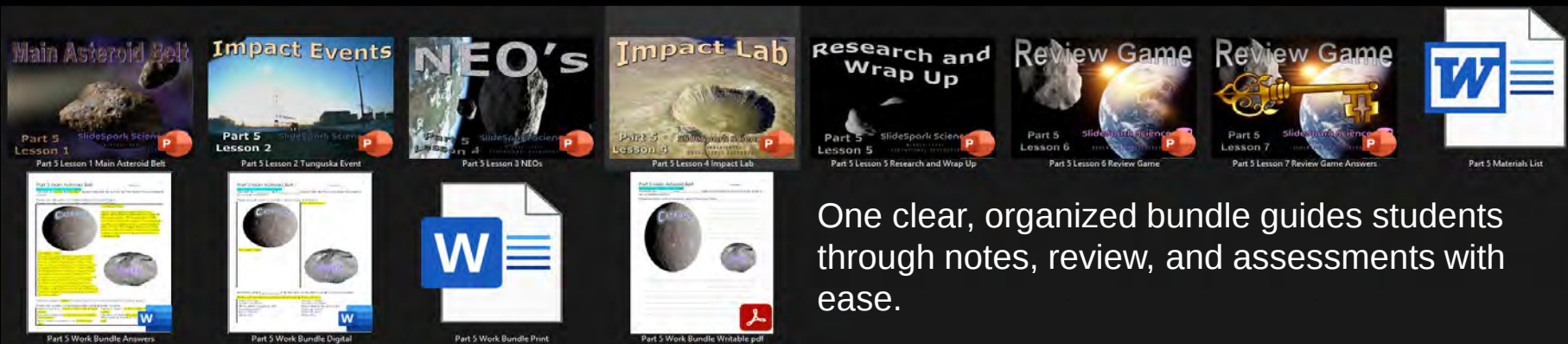


→
Next Slide

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 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.

Asteroids, Meteors, Meteorites, NEO's

Work Bundle

Part 5 Main Asteroid Belt

Part 5 Asteroid Belt

Asteroids are objects that orbit the sun but are too small to be considered planets.

Please provide some information about Ceres and Vesta.

Name: _____



Ceres



Vesta

Meteoroid Space

Imagine you are a meteoroid in outer space. Write down the name of the meteoroid you are.

When did the impactor hit?

How big was the impactor?

What was the impactor made of?

Other info:

When did the impactor hit?

How big was the impactor?

What was the impactor made of?

Other info:

Provide some information about the crater below. What's so important about it?

Chicxulub Crater



Which one is an iron, stony, and stony-iron meteorite?

10 to 1000 composed of the element iron with the remainder composed of nickel and trace elements.

Answer:

They are composed of roughly equal amounts of nickel and iron. They are thought to have formed at the core-mantle boundary of their parent bodies.

Answer:



Answer: Iron meteorite, Stony meteorite, Stony-iron meteorite.

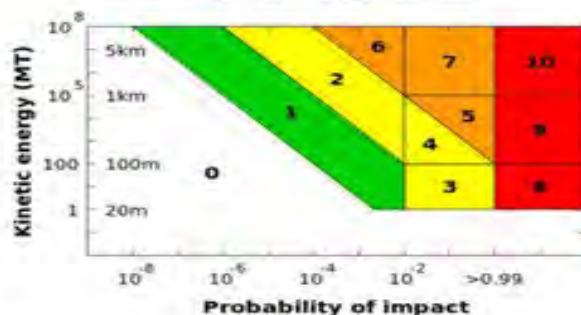
Part 3: Lesson NEOs

NEOs: N E O

• (Comets and asteroids that come very close to Earth.)

The Torino Scale

- A scale for categorizing the impact associated with Near Earth Objects (NEOs).
- Combining threat and known potential into a single threat value.



What is the threat value of a 5 meter sized object with 10% probability of impact?

What is the threat value of a 1 kilometer sized object with 50% probability of impact?

What is the threat value for a 5 km sized NEO that has 9.99 probability of impact?

What is the threat value for a 100 m sized NEO that has 10^-4 probability of impact?

Visit the reading of Asteroid 2011 AG5

<https://www.nasa.gov/feature/big-asteroid-2011-ag5-threat-earth.html>

When could it hit?

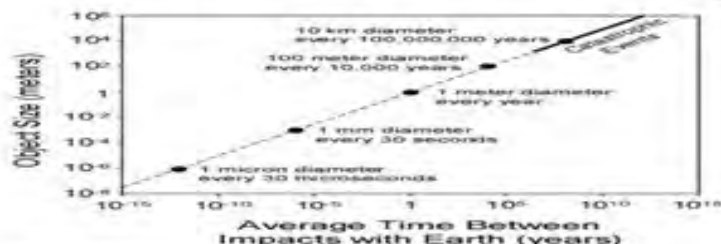
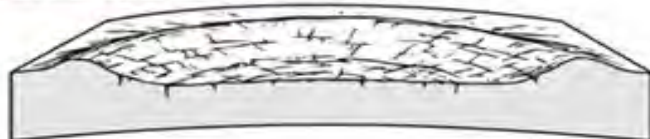
Is the earth in danger if it hits us? Consider its mass and composition. Are there known values?

What are the odds of impact? Are you worried?

Part 5: Lesson 4 Impact vs. Size

Meteor Impact Activity

Please label the Impact Crater below as described in the slideshow.



- How often do smaller meteoroids and millimeter (mm) sized objects hit Earth?
- How often do smaller meteoroids 1 micron in diameter enter Earth's atmosphere?
- How large does the object need to be to cause a catastrophic event?
- The Tunguska impactor may have been 100 meters. How often does an impact of this magnitude occur?
- The Chicxulub impactor may have been 10 km in diameter. How often do impacts of this size occur? What happened 65 million years ago?

Are large or small impacts more common? Explain below using data:

Small Meteorite

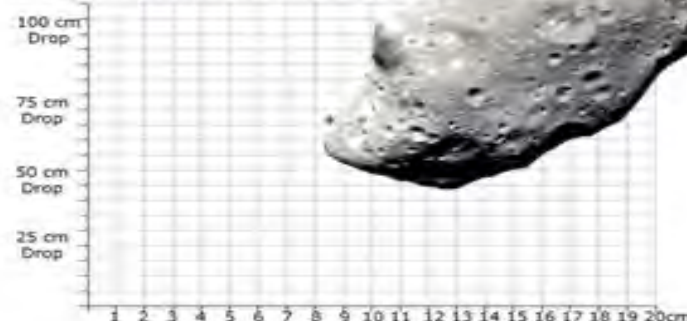
Height (Centimeters)	Mass of Meteor	Diameter of Crater	Distance of Ejecta (cm)
25cm			
50cm			
75cm			
100cm / 1m			

Large Meteorite

Height (Centimeters)	Mass of Meteor	Diameter of Crater	Distance of Ejecta (cm)
25cm			
50cm			
75cm			
100cm / 1m			

Procedure:

Drop meteorite from a height of 5 cm, 25 cm, 50 cm, and 100 cm. Collect diameter of crater and distance of ejecta material. Record data on spreadsheet. Smooth out and clean surface before each drop. Please graph the Diameter of the Crater for the large and small



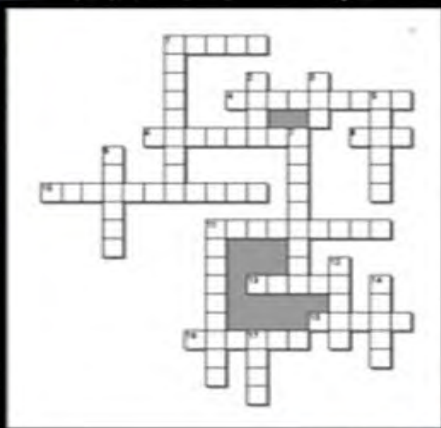
Part 5 Lesson 3 Research and Wrap-Up

Research one asteroid, plot impact event, or NEO and answer the following:

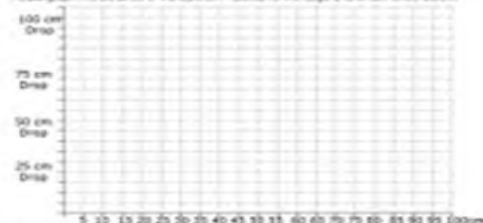
- What is the name of the asteroid or NEO?
 What is the probability of an impact on earth if it did impact, describe it?
 How large is your object?
 Where in the solar system is it? / When will it approach earth?
 Other / Additional info:



Why do large meteorites often have more damage potential than smaller ones?



Please graph the Distance of the object (in AU) for the large and small meteorites below.



How did the height of the object (change) the crater size and distance of impact? **See data in your response.**

How does the equatorial distance (change) the crater size and distance of impact? **See data in your response.**

Across

- This is the only known dwarf planet in the main asteroid belt.
- B. Crater (Meteor Crater) in Arizona, United States, is a simple crater created when a 50-meter-wide (160-foot-wide) iron-rich meteoroid struck Earth's surface about 50,000 years ago.
- This event was a massive explosion that occurred near the Podkamennaya Tunguska River in Yeniseysk Governorate (now Krasnoyarsk Krai), Russia, on the morning of 30 June 1908.
- These are (Comets and asteroids that come very close to Earth).
- The C. meteor was a superbolide that entered Earth's atmosphere over Russia on 15 February 2013 at about 09:20 YEKT (03:20 UTC). It was caused by an approximately 20 m (66 ft) near-Earth asteroid.
- Space matter that has fallen to the earth's surface from outer space.
- This is the second most massive body in the main asteroid belt, accounting for almost nine percent of the total mass of all asteroids.
- The _____ is the bottom of a crater.
- Scale: A scale for categorizing the impact hazard associated with Near-Earth Objects (NEOs). Combining probability statistics and known damage potential into a single threat value.

Down

- The impact event that created this crater have helped wipe out the dinosaurs.
- Bright streaks extending away from the crater sometimes for great distances, composed of ejecta material.
- The top edge of a crater.
- Rock material thrown out of the crater area during an impact event. It is distributed outward from the crater's rim onto the planet's surface as debris. It can be loose materials or a blanket of debris surrounding the crater, thinning at the outermost regions.
- These are rocky and metallic objects that orbit the sun but are too small to be considered planets.
- A. is an extremely bright meteor, especially one that explodes in the atmosphere.
- A small (dust size to coin) piece of matter that hits the earth's atmosphere and burns up.
- The interior sides of a crater.
- Type of meteorite. Once formed part of the outer crust of a planet or asteroid. Contain small, colorful, grain-like inclusions known as "chondrules." These tiny grains originated in the solar nebula, and therefore pre-date the formation of our planet and the rest of the solar system.
- Type of meteorite, 90 to 95% composed of the element iron with the remainder comprised of nickel and trace elements.

Possible Answers

ASTEROIDS, BARRINGER, CERES, CHELYABINSK, CHICKULUB, EJECTA, FLOOR, IRON, METEORITE, METEOROID, NEO, RAYS, RIM, STONE, TORINO, TUNGUSKA, VESTA, WALLS, BOLIDE

Part 5 Review Game

1. 20 to 500. 2. 100 to 1,000. 3. 100 to 1,000. 4. 100 to 1,000. 5. 100 to 1,000.

SPACE JUNK	LONG/SHORT FIRE ALLOY	IF BURNING	WAVE ANY WINDS?	SOON BOTTOM DOWNWARD
1.2	4.1	1.1	1.1	1.1
2.1	5.1	1.1	1.1	1.1
3.1	6.1	1.1	1.1	1.1
4.1	7.1	1.1	1.1	1.1
5.1	8.1	1.1	1.1	1.1

How Question: How? **See Answer**

Part 5 Main Asteroid Belt

Activity 1: Asteroid Belt

Answer the **QUESTIONS** that appear after each section and use the material to complete the **QUESTIONS**.

Answer **QUESTIONS** that appear after each section and use the material to complete the **QUESTIONS**.



Ceres is the largest object in the asteroid belt. It is about the size of the planet Pluto. It is the only object in the asteroid belt that is round. It is the only object in the asteroid belt that has a atmosphere. It is the only object in the asteroid belt that has a moon. It is the only object in the asteroid belt that has a ring. It is the only object in the asteroid belt that has a jet. It is the only object in the asteroid belt that has a volcano. It is the only object in the asteroid belt that has a lake. It is the only object in the asteroid belt that has a forest. It is the only object in the asteroid belt that has a city. It is the only object in the asteroid belt that has a country. It is the only object in the asteroid belt that has a planet. It is the only object in the asteroid belt that has a star. It is the only object in the asteroid belt that has a galaxy. It is the only object in the asteroid belt that has a universe.



Vesta is the second largest object in the asteroid belt. It is about the size of the planet Pluto. It is the only object in the asteroid belt that is round. It is the only object in the asteroid belt that has a atmosphere. It is the only object in the asteroid belt that has a moon. It is the only object in the asteroid belt that has a ring. It is the only object in the asteroid belt that has a jet. It is the only object in the asteroid belt that has a volcano. It is the only object in the asteroid belt that has a lake. It is the only object in the asteroid belt that has a forest. It is the only object in the asteroid belt that has a city. It is the only object in the asteroid belt that has a country. It is the only object in the asteroid belt that has a planet. It is the only object in the asteroid belt that has a star. It is the only object in the asteroid belt that has a galaxy. It is the only object in the asteroid belt that has a universe.

Activity 2: Asteroid Belt

Activity 2: Asteroid Belt

Answer the **QUESTIONS** that appear after each section and use the material to complete the **QUESTIONS**.



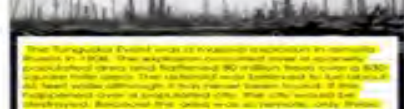
The **ASTEROID BELT** is a region of space between the orbits of Mars and Jupiter. It contains millions of asteroids of various sizes. The largest asteroid is Ceres, which is about the size of the planet Pluto. The asteroid belt is a remnant of the protoplanetary disk that surrounded the Sun. It is the only region in the solar system where the material that formed the planets did not coalesce into a planet.

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Activity 3: Tunguska Event

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Answer the **QUESTIONS** that appear after each section and use the material to complete the **QUESTIONS**.



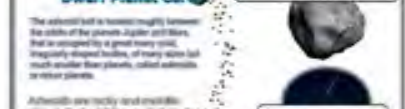
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Activity 4: Dwarf Planet Ceres

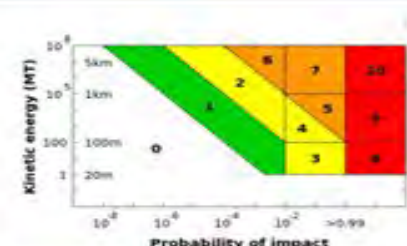
Activity 4: Dwarf Planet Ceres

Answer the **QUESTIONS** that appear after each section and use the material to complete the **QUESTIONS**.

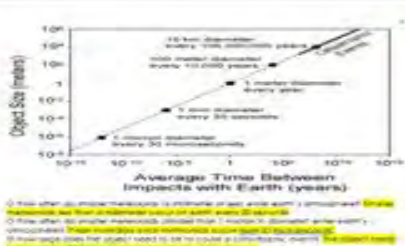


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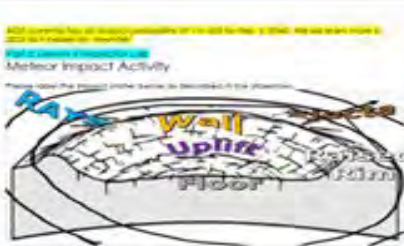
Ceres is the largest object in the asteroid belt. It is about the size of the planet Pluto. It is the only object in the asteroid belt that is round. It is the only object in the asteroid belt that has a atmosphere. It is the only object in the asteroid belt that has a moon. It is the only object in the asteroid belt that has a ring. It is the only object in the asteroid belt that has a jet. It is the only object in the asteroid belt that has a volcano. It is the only object in the asteroid belt that has a lake. It is the only object in the asteroid belt that has a forest. It is the only object in the asteroid belt that has a city. It is the only object in the asteroid belt that has a country. It is the only object in the asteroid belt that has a planet. It is the only object in the asteroid belt that has a star. It is the only object in the asteroid belt that has a galaxy. It is the only object in the asteroid belt that has a universe.



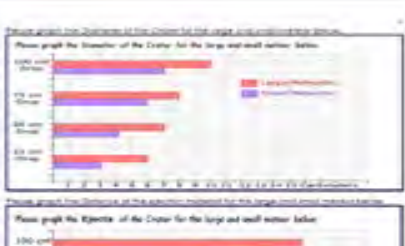
The **PROBABILITY OF IMPACT** is the chance that an object will hit the Earth. It is calculated by dividing the number of objects that could hit the Earth by the total number of objects in the solar system. The **KINETIC ENERGY** is the energy of an impact. It is calculated by multiplying the mass of the object by the square of its velocity. The **IMPACT RISK** is the combination of the probability of impact and the kinetic energy of the impact.



The **AVERAGE TIME BETWEEN IMPACTS** is the average time between impacts with Earth. It is calculated by dividing the number of impacts by the total number of objects in the solar system. The **OBJECT SIZE** is the size of the object. It is calculated by dividing the volume of the object by its density. The **IMPACT RISK** is the combination of the average time between impacts and the object size.



The **TUNGUSKA EVENT** was a massive explosion that occurred in the Tunguska River valley in Siberia, Russia, on August 18, 1908. It is the only event in the solar system where the material that formed the planets did not coalesce into a planet.

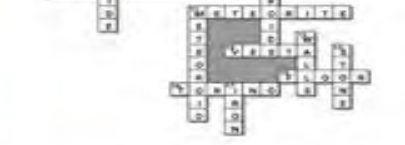


The **SIZE OF THE CRATER** is the size of the crater. It is calculated by dividing the area of the crater by its depth. The **IMPACT RISK** is the combination of the size of the crater and the impact risk.

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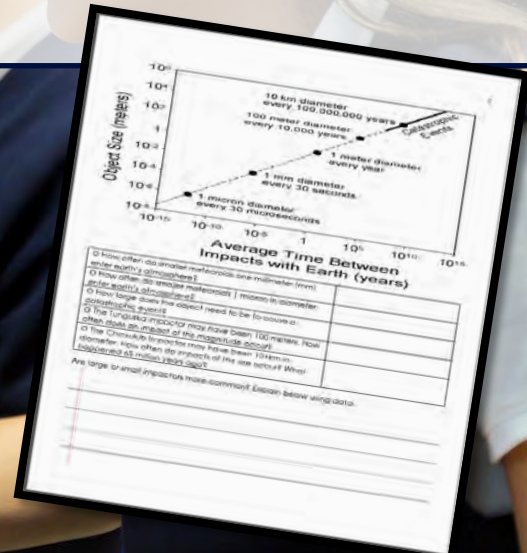
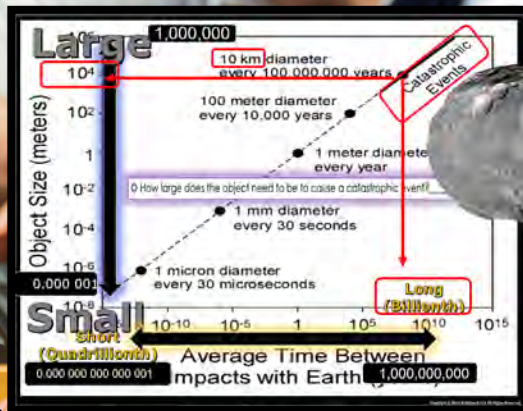
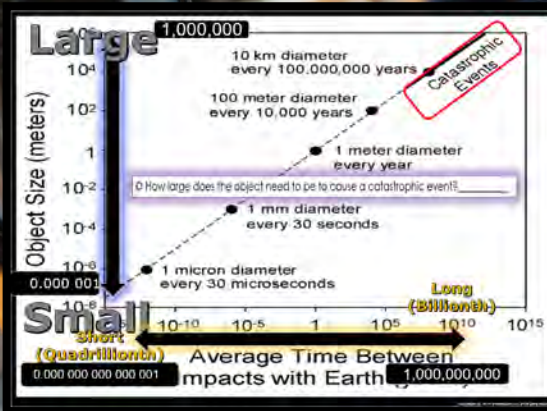
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Built-in Questions and Assessments

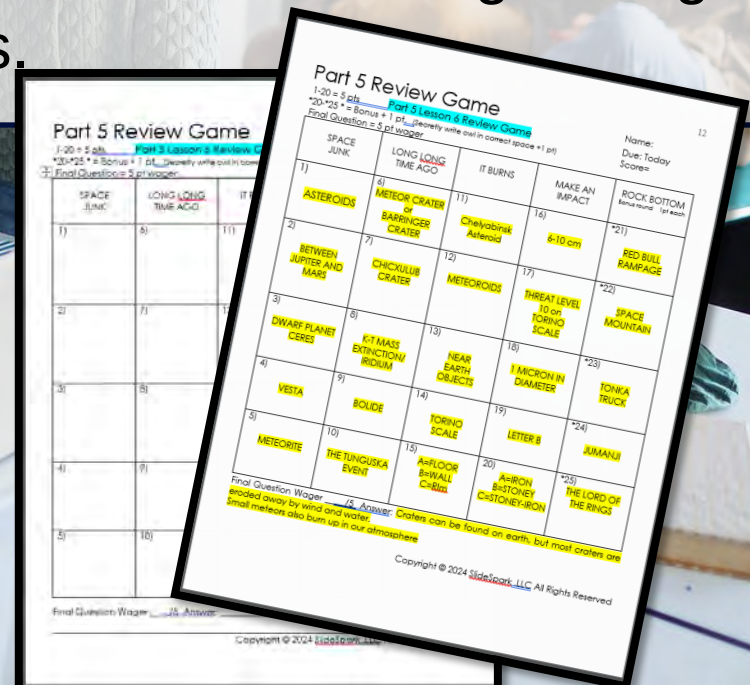
Many slides will have relevant terms covered with a box. When advancing through

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.



Asteroids, Meteors, Meteorites, NEO's Quiz Game

- This is the name for rocky and metallic objects that orbit the sun but are too small to be considered planets.



1

- This is the name for space matter that has fallen to the earth's surface from outer space.



5

meteorite

Cores

3

Freshwater Ice and maybe liquid mantle

- This is the second largest object by both mass and volume in the asteroid belt with a minor-planet designation:
 - It constitutes an estimated 9% of the mass of the asteroid belt and also has the largest mtn in the solar system.



- The Main Asteroid Belt lies between these two planets?



- Name this famous crater in Arizona?
— It was from an impactor about 50,000 years ago.

Meteor Crater or Barringer Crater

6



- A layer of Iridium can be found across the globe in rock layers when the dinosaurs went extinct. When did this impactor hit the earth? Iridium is found on Meteorites.



- Name this crater whose impactor may have contributed the extinction of the dinosaurs?

7

Chicxulub Crater



- This is an extremely bright meteor, especially one that explodes in the atmosphere.

9



- This event occurred in (1908) over remote Siberia where a comet or meteorite exploded just above the surface of the earth causing a massive explosion.

10



- This meteor exploded in the air above Russia February 15th, 2013
 - Injured 1,200 people
 - Created a supersonic shockwave that collapsed roofs and blew out windows.
 - Parts of the asteroid exploded 42 miles above the ground. Some parts landed in a lake.
 - Weighed 10 tons and was traveling at 45,000 mph



Chelyabinsk Meteor

- This is a piece of matter that hits the earth's atmosphere and (burns up).



- NEO's stand for Near Earth Objects
 - (These are comets and asteroids that come very close to Earth.)

NEO's



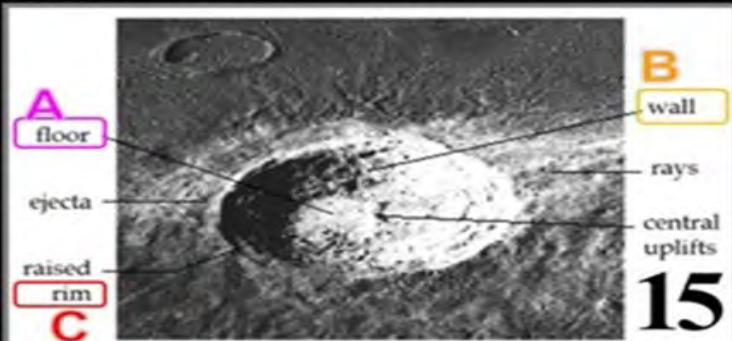
13

- This is a scale for categorizing the impact hazard associated with (NEOs).

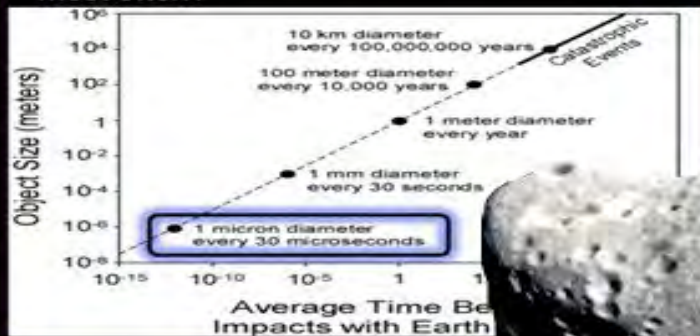
- Combining probability statistics and known damage potentials into a single threat value.



- Please name the terms below?



- What size meteorites enter our atmosphere most often?



- There are three main types of meteorites. 20
 - Which is **iron**, **Stone**, and **Stony-Iron**

Stony-Irons: They are comprised of roughly equal amounts of nickel-iron and stone. They are thought to have formed at the core/mantle boundary of their parent bodies.

Iron: 90 to 99% composed of the element iron with the remainder composed of nickel and trace elements.

Stone: Once formed part of the outer crust of a planet or asteroid. Contain small, colorful, grain-like inclusions known as "chondrules." These tiny grains originated in the solar nebula, and therefore pre-date our planet and the rest of



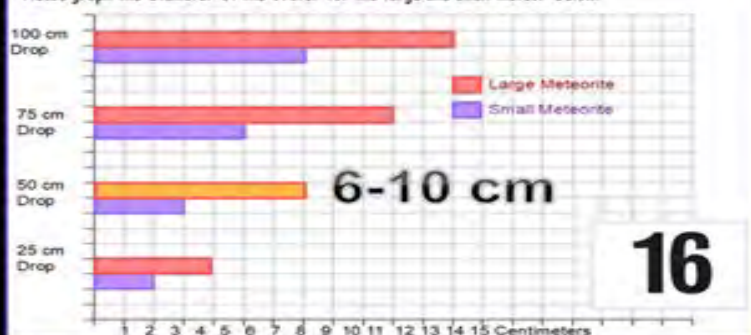
- What is the threat value on the Torino Scale?

- A 5 km size object with a very high probability of impact. **Threat Level 10**



- Predict the diameter of the missing crater

Please graph the Diameter of the Crater for the large and small meteor below.



Large meteorites often have more potential than smaller ones?

Large meteorites travel faster.

Large meteorites have more mass.

Large meteorites are made of iron.

Large meteorites explode in the air.

Large meteorites spin as they travel.

$$F=ma$$

- Craters can be found on earth, but most craters are eroded away by wind and water.
 - Small meteors also burn up in our atmosphere.



Activities

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.

• Meteor Impact pages in Work Bundle.

Meteor Impact Activity

Read about the meteor impact on the Earth and the Moon.

Small Meteorite

Drop Height	Crater Diameter	Crater Depth
100 cm		
75 cm		
50 cm		
25 cm		

Large Meteorite

Drop Height	Crater Diameter	Crater Depth
100 cm		
75 cm		
50 cm		
25 cm		

• Step #1! Parts of a Cr

– Drop the marble meteor meter into the tray of sugar to record a detailed sketch bundle.

• Important note: Our impact angle will be 90°
Many impact craters can be at low angles.

We'll also measure the bulk of the distance of the ejecta (estimated)

• Example Diameter of Crater

Please graph the Diameter of the Crater for the large and small meteor below.

Drop Height	Large Meteorite Diameter (cm)	Small Meteorite Diameter (cm)
100 cm	10	8
75 cm	8	6
50 cm	6	4
25 cm	4	2

• Another Graph Possibility (Diameter)

Please graph the Diameter of the Crater for the large and small meteor below.

100 cm Drop
25 cm Drop
3 cm
1 cm

We'll measure from rim to rim (in cm) through the center of the crater

• Set-up of experiment.

- Create a sugar pile on table about 2cm thick
- Drop a large and small meteorite (marbles or ball bearings) at different heights (25, 50, 75, 100 cm) one at a time
- Smooth crater between each drop
- Measure diameter of crater and

Drop Height

Crater Diameter

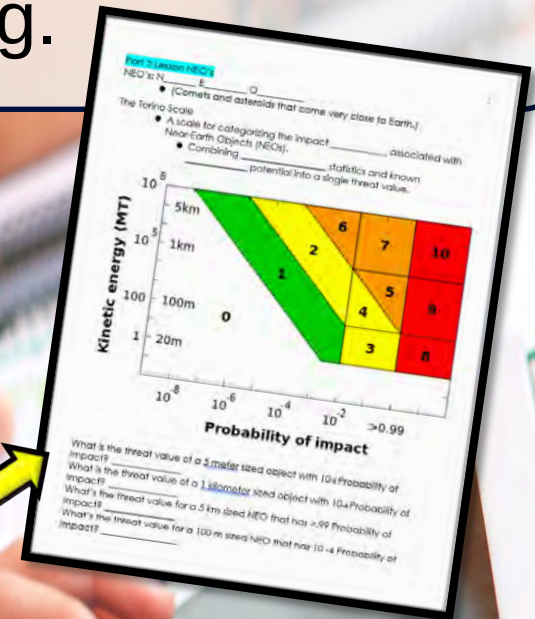
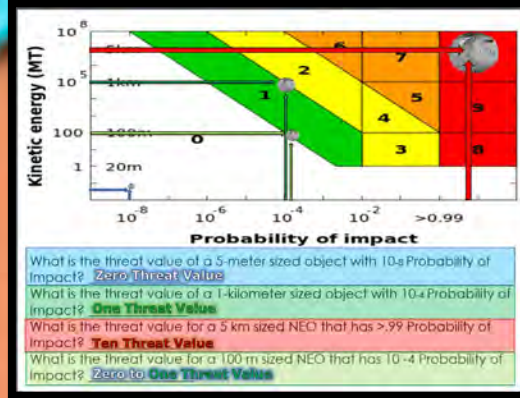
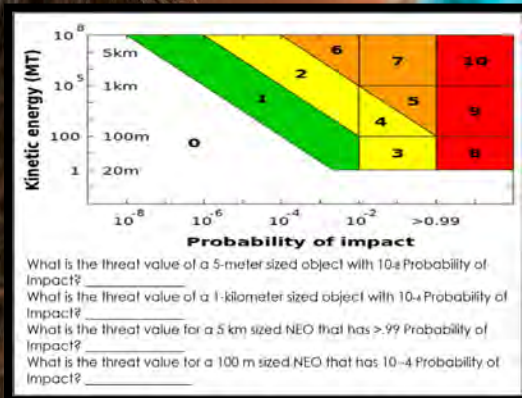
How does the equation Force = mass times acceleration relate to this activity? Be sure to show your response.

The larger meteorite had more mass than the smaller meteorite so it impacted with greater force. The large impactor weighed 40 grams and created a diameter crater that was twice as large as the small impactor which was only 6 grams. The object with more mass had more force when dropped with the same acceleration $F=ma$

Force = mass * acceleration

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

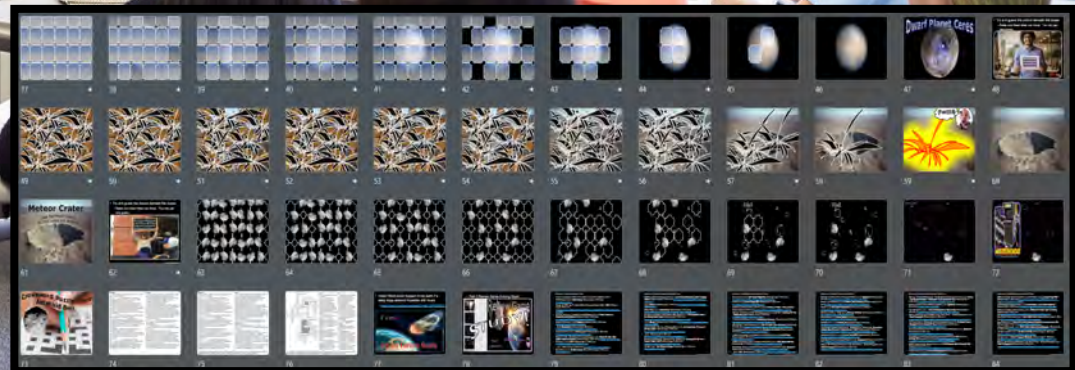
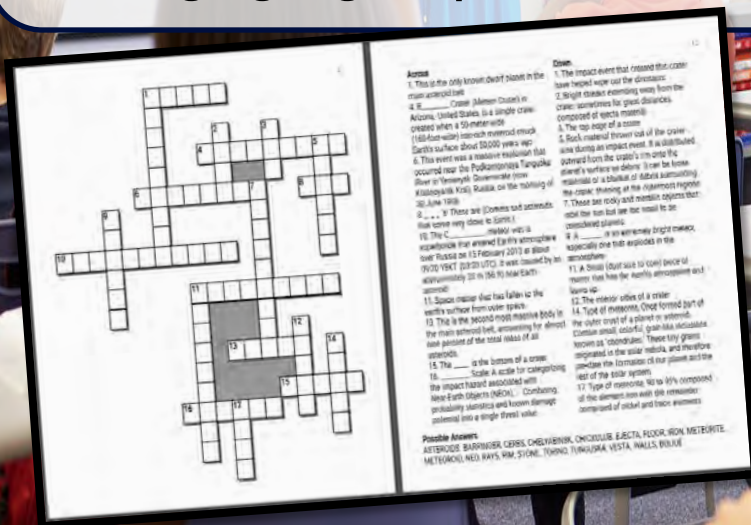
Our science education program is designed with the modern, multimedia learner in mind, and our video and academic links are a perfect complement to our educational materials. These short clips are embedded into the slideshow at just the right places for a fantastic review. Whether you're studying biology,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

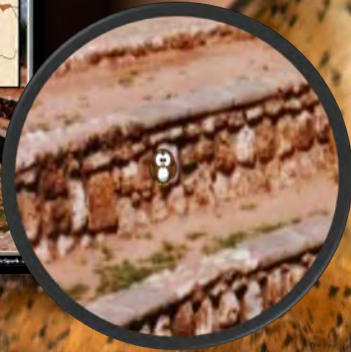
- Chicxulub Crater (Optional).
– <https://www.youtube.com/watch?v=dNRTILLuNM8>
- Optional Video Tunguska event (1908).
– <https://www.youtube.com/watch?v=F7PX51eMbIU>
- Video: Shoemaker Levy Comet Impact on Jupiter (1994)
– https://www.youtube.com/watch?v=KvBKOvKMPx8&ab_channel=AmazingSpaceVideos
- Reading Link! Asteroid 2011 AG5
– <http://www.space.com/14683-big-asteroid-2011-ag5-threat-earth.html>
– When could it hit? **2040**
– Is the earth in danger if it hits us? **Maybe**, mass and composition are currently unknown. More Observation.
– What are the odds of impact? Are you worried?
 - No immediate Danger! It will make another close approach to Earth in 2040, passing at a distance of around 670,000 miles (1.1 million kilometers).
- Video Link! (Optional) Ceres and Da Mission
– <https://www.youtube.com/watch?v=dzAOXdeJb0>
- Chelyabinsk Bolide / Asteroid
– https://www.youtube.com/watch?v=gRdSwhQhY0&ab_channel=ABCNews
- Video Link! (Optional) The Moons Violent Past and mapping of impact craters.
– http://www.youtube.com/watch?v=wWIFG_Yw1I

les a reality check of 2011 AG5 (1-in-500).
nasa.gov/mission_pages/asteroids/news/20128.html

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 5 Lesson 3 NEOs

Google Slides



Part 5 Lesson 5 Research an...

Google Slides



Part 5 Lesson 4 Impact Lab

Google Slides



Part 5 Lesson 6 Review Game

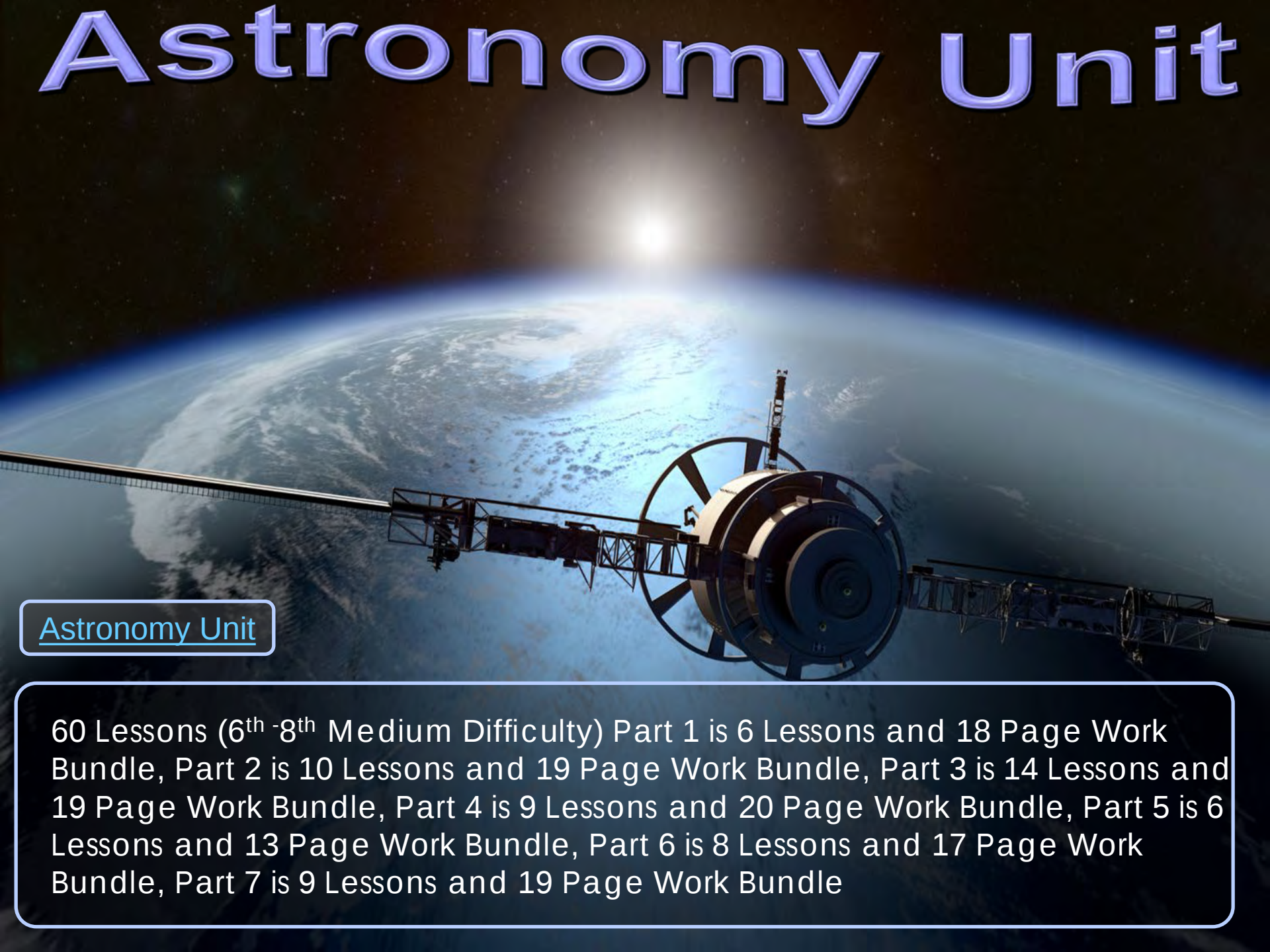
Google Slides



Part 5 Lesson 2 Tunguska Ev...

Google Slides

Astronomy Unit

A composite image featuring a large satellite or space station in the foreground, with the Earth's horizon and a bright sun in the background against a starry space.

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

Neutron Star
Super-dense ball of neutrons

- What are two possible outcomes if a massive star dies?

During powered flight, the propellants of the reaction system are constantly being exhausted from the nozzle. This creates a

Penumbra
The region of partial shadow of the Moon is called the penumbra. It is surrounded by the umbra. The atmosphere is a filtered lens. The atmosphere is a filtered lens. The atmosphere is a filtered lens.

Eccentricity is a measure of how an orbit deviates from circular. Eccentricity circular orbits are an eccentricity of 0. The further the orbit is from circular, the higher the eccentricity. The further the orbit is from circular, the higher the eccentricity.

The Habitable Zone
The relationship between temperature and luminosity of a star was not random but instead fell into distinct groups.

Cooler Warmer Really Hot
Which star has the hottest core?
Cooler Warmer Really Hot

Linear Module (LM)
Service Module
Nail Armstrong
2nd

7 Units

• Name the types of galaxies below?

A Barred B Irregular C Elliptical D Spiral

• What is the name for a large cloud of gas and dust which can form stars and galaxies?

NEBULA

• Which two should be switched between Earth and Venus?

Venus Earth

• What is the name of this extinct volcano on Mars that's one of the largest mountains in the solar system?

Olympus Mons

• Name A, B, C, D?

Winter Solstice (Northern, December 21st) Spring Equinox (March 20th) Summer Solstice (Northern, June 21st) Autumn Equinox (September 20th)

Secure with Duct Tape

Fins need to be above nozzle, their bases should be parallel, organized a distance apart, need 3+ fins, and limit their size to avoid unnecessary drag.

Tape Tight Fins. Make them perpendicular to the ground. Finns Secured

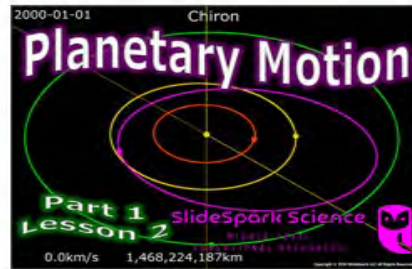
Hundreds of pages

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



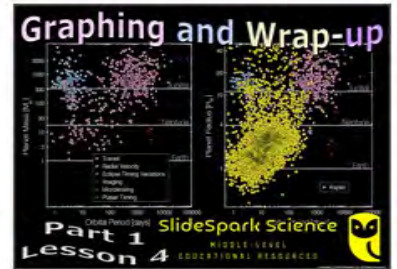
Part 1 Lesson 1 Introduction Kepler



Part 1 Lesson 2 Planetary Motion



Part 1 Lesson 3 Distances Solar System



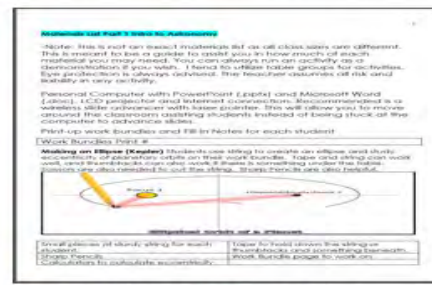
Part 1 Lesson 4 Graphing Wrap Up



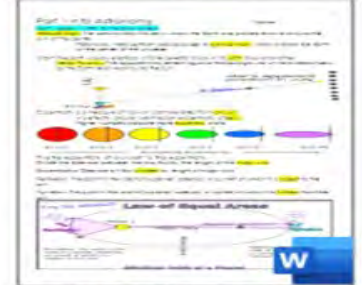
Part 1 Lesson 5 Review Game



Part 1 Lesson 6 Review Game Answers



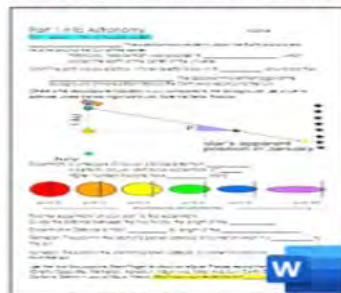
Part 1 Materials List Intro to Solar System



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



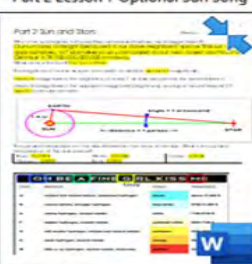
Part 2 Lesson 9 Solar Lunar Eclipse



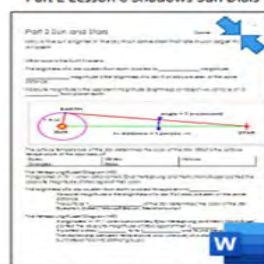
Part 2 Lesson 10 Review Game



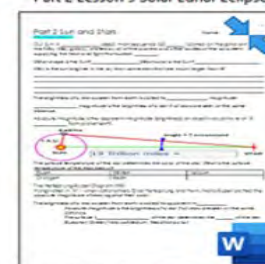
Part 2 Lesson 11 Review Game Answers



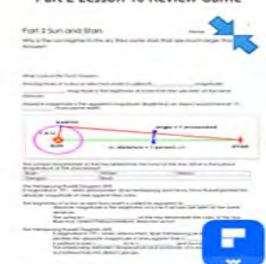
Part 2 Work Bundle Answers



Part 2 Work Bundle Digital



Part 2 Work Bundle Print



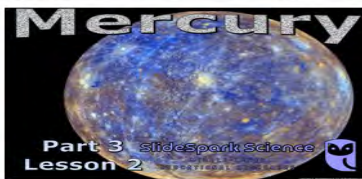
Part 2 Work Bundle Writable pdf

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



Part 3 Lesson 1 Inner Planets



Part 3 Lesson 2 Mercury



Part 3 Lesson 3 Venus



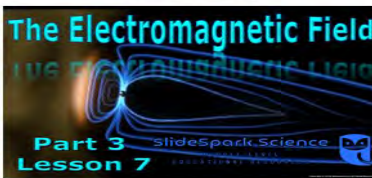
Part 3 Lesson 4 Earth and Moon



Part 3 Lesson 5 Axial Tilt



Part 3 Lesson 6 Solstice Equinox



Part 3 Lesson 7 EM Field



Part 3 Lesson 8 Phases of Moon 1



Part 3 Lesson 9 Phases of Moon 2



Part 3 Lesson 10 Phases Quiz



Part 3 Lesson 11



Part 3 Lesson 12



Part 3 Lesson 13



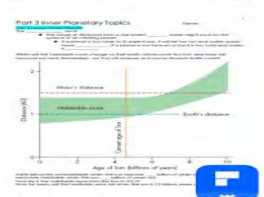
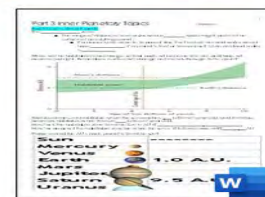
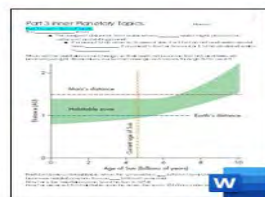
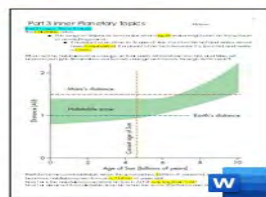
Part 3 Lesson 14



Part 3 Lesson 15



Part 3 Materials List



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 Newton's 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



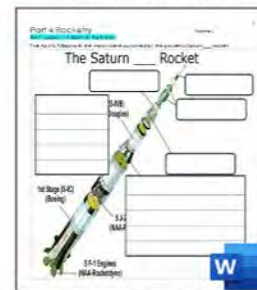
Part 4 Materials List



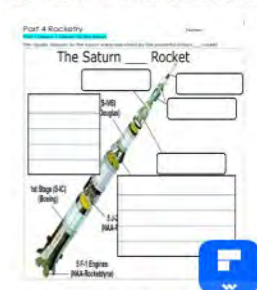
Part 4 Work Bundle Answers



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 NEO's



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



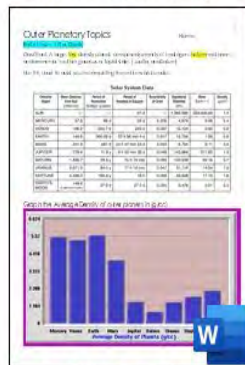
Part 6 Lesson 7 Review Game



Part 6 Lesson 8 Review Game Answers



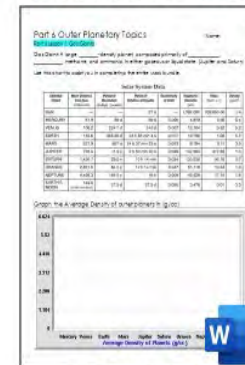
Part 6 Lesson 9 Space Expo Project



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



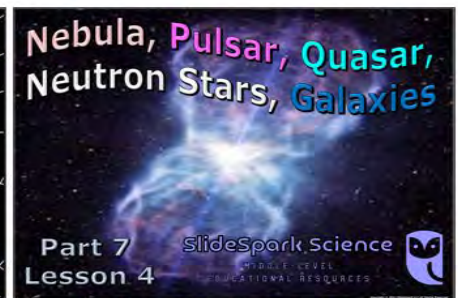
Part 7 Lesson 1 Constellations Hubble



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



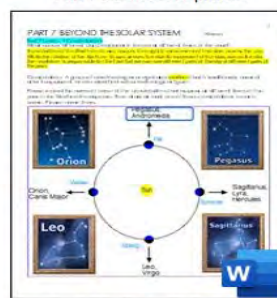
Part 7 Lesson 7 Big Bang



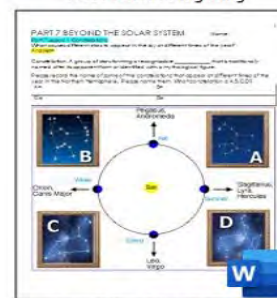
Part 7 Lesson 8 Review Game



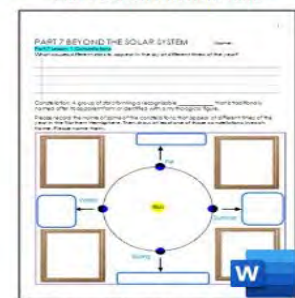
Part 7 Lesson 9 Review Game Answers



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.

 =Easier,

 = More difficult,

 =Most difficult

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

Earth Science Curriculum

SlideSpark Science

MIDDLE-LEVEL
EDUCATIONAL RESOURCES



Entire Water Unit

27 Lessons

Rivers, Lakes, Water Quality Unit

20+ Lessons

7 Units • 250 Lessons

Interactive Slideshows with Chronological Work Bundles
Hundreds of Pages, Activities, Projects, Videos, Academic Links, Assessments, Games & Keys All Built-In for Seamless, Ready-to-Go Learning

Biogeochemical Cycles

17 Lessons

GEOLOGY Mega Bundle

6 Parts, 60 Lessons

Weathering, Soil Science, Ice Ages, Glaciers Unit

5 Parts 36 Lessons

Interactive Slideshows Follow Along Bundles

Weather and Climate Mega Bundle

40 Lessons

7 Units

Astronomy Mega Bundle

60 Lessons

7 Units

Grades 5-10

Life Science Units

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

Life Science Curriculum

SlideSpark Science

MIDDLE-LEVEL
EDUCATIONAL RESOURCES



Interactive Slideshows Follow Along Bundles

10 Units of Study



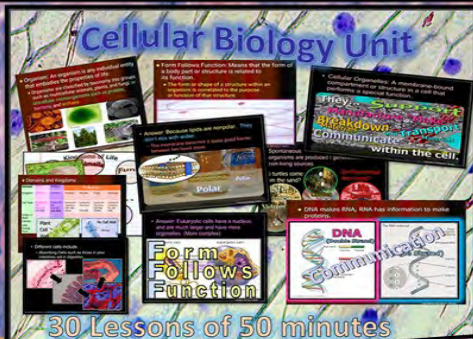
Botany Unit



Human Body Systems Unit



Cellular Biology Unit



Infectious Diseases



DNA and Genetics Unit



Taxonomy and Classification Unit



Ecology Interactions Unit



Ecology Feeding Level Full Unit



Ecology Abiotic Factors Unit



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



Science Skills Unit

5 Parts, 30 Lessons

Physical Science Curriculum,
4 Units • 165 Lessons of 50
mins, Interactive Slideshows
with Chronological Work
Bundles, Hundreds of Pages,
Activities, Labs, Projects,
Video & Academic Links,
Assessments, Games, Keys,
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Thousands of Interactive Slides

67 Pages of Follow Along
Work Bundle

Assessments, Games,
Video Links, and more

Everything you need to run an
amazing learning experience

Interactive Slideshows Follow Along Bundles

Grades 7-10

Laws of Motion and
Simple Machines Unit

33 Lessons

With Follow Along
Work Bundles

63 Pages

Assessments, Activities,
Projects, and so much more

Atoms and Periodic Table Unit

6 Parts, 44 Lessons

Thousands of Interactive Slides

Follow Along Work Bundle

108 Pages, with Labs,
Quizzes, more, all built-in

Exciting Activities, Questions,
Videos, All built-in

Matter and Energy and the Environment Unit

58 Lessons

Interactive Slideshows

with Follow Along Work Bundles

Activities, Assessments,
and more all built-in

125 Pages

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.

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Sincerely,

Support@slidespark.net



SlideSpark Science

MIDDLE-LEVEL
EDUCATIONAL RESOURCES



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