5th Grade Science

Earth and Sun Unit Review

Monday, March 23rd- Thursday, March 26th

Purpose: Reviewing our understanding of the solar system by asking and answering questions about the earth, sun, stars, and planets.

For each day, follow the steps below:

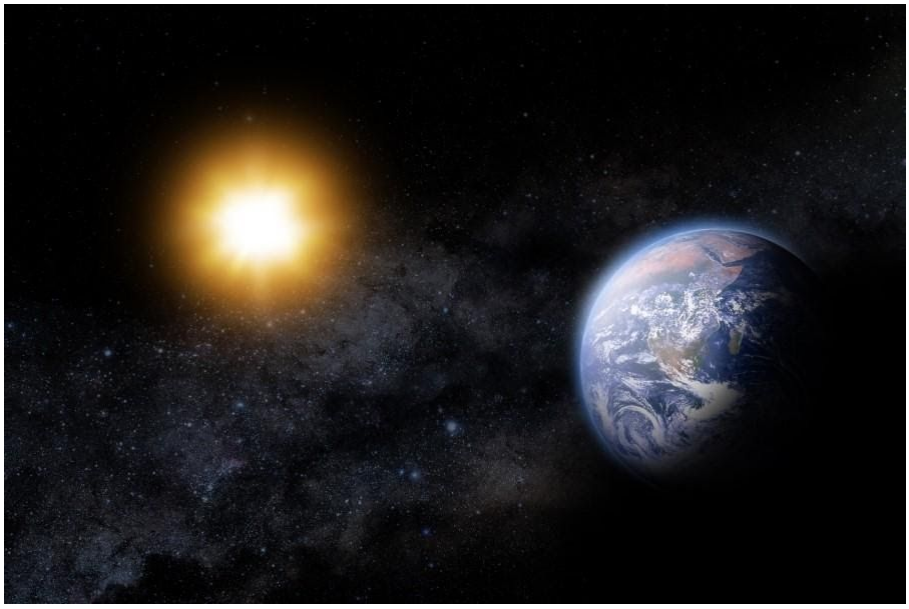
1. Complete the “Do Now” (you can do this on a separate piece of paper).
2. Watch the youtube video by clicking on the link and follow the video note-taking strategies (also on a separate piece of paper).
3. Read the comprehension passage and answer the questions.
4. Complete the “Exit Ticket” by clicking on the link.

Monday, March 23, 2020

Science- Earth and Sun Review

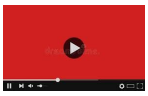
Do Now

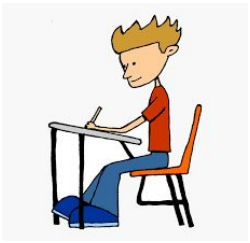
Eight planets orbit around the Sun including Earth. What would Earth be like without the Sun?



Video Note-Taking Strategies

Step 1: Watch the video (NO NOTES.)

Step 2: Re-watch the video  and take notes.



Step 3: Follow the **note-taking** tips

- Write down the topic of the video.

  Example:

  Topic: <u>The Sun.</u>

- Take notes in bullet point form.

  Example:

- <u>The sun is a star.</u>
- Take notes in your own words.
- Don't jot everything, only the important facts about the topic.
-  **Pause** and  **rewind** the video  as needed.

Mr. Ali

Make Science Fun Again

Activity 1: Watch the video, "What if the Sun Disappeared Right Now?." Take notes using the video note-taking strategies and answer the questions below.

Video: https://www.youtube.com/watch?v=YAjDtCuOHrA&t=165s

1. How long does it take for the Sun's light to reach Earth?
   A. 0 minutes **B.** 8 minutes **C.** 7 minutes **D.** 12 Minutes

2. Will the Earth continue to orbit in the same spot if the Sun disappeared?
   A. Yes, only for 8 minutes. **B.** No, it will stop orbiting.
   C. It will start to fly in a straight line after 8 minutes. **D.** Both A and B.

3. What would it be like to live on Earth without the Sun?
   A. We would have no idea at first, It would be very dark.
   B. It would be extremely cold, Oceans would freeze over.
   C. Some organisms would be just fine.
   D. All of the above.

Activity 2:
Read the article, "Space Systems: The Sun" using our Strategic Reading Plan (SRP) and answer the accompanying questions.

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Space Systems: The sun

By Encyclopaedia Britannica, adapted by Newsela staff on 03.29.17
Word Count **696**
Level **830L**

A flock of blackbirds flying against the sunset at Quivira National Wildlife Refuge in Kansas. Photo from: Wikimedia Commons

Although the sun is a rather ordinary star, it is very important to people on Earth. The sun is the source of almost all of Earth's energy. It provides the heat and light that make life on Earth possible. Yet Earth receives only a tiny fraction of the energy that leaves the sun. The sun is a huge ball of hot gases. Like other stars, it produces enormous amounts of energy by converting hydrogen to helium deep within its interior.

Because this energy is so intense, it is very dangerous to stare at the sun. Radiation from the sun's rays can damage your eyes. That is why you should never look directly at the sun, even with sunglasses on. One safe way to observe the sun is to use a pinhole viewer. This allows you to project an image of the sun onto a blank screen.

The Center Of The Solar System

The sun lies at the center of the solar system. It contains almost all of the solar system's mass. The pull of its gravity holds the planets, asteroids, comets and other bodies in orbit around it.

The average distance between the sun and Earth is about 93 million miles. Light travels through space at about 186,282 miles a second. That means a ray of sunlight takes about 8 minutes to reach Earth.

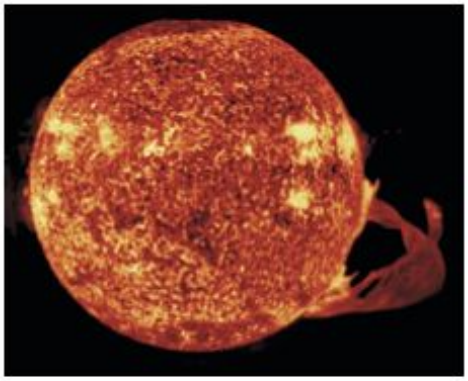
All Different Sizes And Colors

Stars come in all different sizes and colors. They range from giant stars to dwarf stars. Giant stars are much larger than the sun, while dwarf stars are much smaller. In color, stars range from whitish blue stars with very high temperatures, to red stars with relatively cool temperatures. The sun is a yellow dwarf star. It has a surface temperature of about 10,000 degrees Fahrenheit. Its diameter is about 864,950 miles. That is about 109 times the diameter of Earth.

Most of the sun is made of hydrogen and helium. The sun has no fixed surface, because it is too hot for matter to exist there as a solid or liquid. Instead, the sun's matter consists of different gases.

Like the planets, the sun rotates. Because the sun is not solid, different parts of it turn at different speeds. The parts of the surface near the equator spin most quickly, while those near the poles spin most slowly.

Tremendous Energy Output



The sun can be divided into several different layers. Energy is produced in the hot central region called the core and travels outward through the rest of the interior. The surface is called the photosphere. It releases most of the light and heat that reach Earth.

Scientists have come up with various ideas to explain the sun's tremendous energy output. In the 1800s, some thought that gravity was causing the sun's matter to become more tightly packed. This process could produce a great deal of energy. But it would produce energy for only 50 million years at most. That creates a problem for this theory. The sun is at least as old as Earth, which is 4.6 billion years old.

In the 1900s, scientists came up with a new idea to provide an explanation. They now agree that solar energy comes from thermonuclear reactions. These are special kinds of reactions that happen only at very high temperatures. Scientist Albert Einstein found that these reactions could turn a small amount of matter into a huge amount of energy. Thermonuclear reactions take place inside the sun every second. The sun has enough matter to "fuel" reactions for billions of years. Scientists believe that the sun is nearly halfway through its "lifetime" of 10 billion years.

The sun's thermonuclear reactions also keep the star from squeezing inward. The sun's gravity exerts a huge inward pull. But the energy the sun produces exerts a huge outward pull. At this stage in the sun's life, these forces balance each other out. As a result, the sun does not cave in under its own weight, or expand.

Quiz

1 Read the summary of the article. Choose the answer that BEST goes into the blank to complete the summary.

The sun is a yellow dwarf star that lies at the center of our solar system.

_____ _____

The sun is a huge ball of hot gases that produces almost all of the energy needed for life to survive on Earth.

(A) This large star is made up of helium and radiation, making it very dangerous to stare directly at it.

(B) This powerful star keeps all other planets in orbit through the pull of its gravity.

(C) It takes about 8 minutes for sunlight to reach Earth because light travels through space at about 186,282 miles per second.

(D) Stars can be whitish blue, red or yellow, depending on how hot they are.

2 What is the relationship between the sun's energy and gravity?

(A) The energy and gravity keep the sun balanced.

(B) The gravity of the sun makes it produce more energy.

(C) The gravity of the sun causes it to heat to higher temperatures.

(D) The energy of the sun is made by gravity.

3 Which selection from the article BEST shows why the sun is important to the Earth?

(A) Although the sun is a rather ordinary star, it is very important to people on Earth.

(B) The sun is the source of almost all of Earth's energy. It provides the heat and light that make life on Earth possible.

(C) Like other stars, it produces enormous amounts of energy by converting hydrogen to helium deep within its interior.

(D) The surface is called the photosphere. It releases most of the light and heat that reach Earth.

4 Select the paragraph from "Tremendous Energy Output" that BEST explains how the sun's energy is produced.

PPN Remote Learning - Grade 5	Exit Ticket: Day 1 (03/23/2020)

Illuminate link: https://illuminate.online?access_code=5BW2P97

Exit Ticket

1. The sun is a _____.
    a. galaxy
    b. planet
    c. moon
    d. star

2. The sun looks so bright because it is located much _____ Earth than other stars.
    a. closer to
    b. farther from

3. What makes the sun more important than other stars?
    a. Unlike other stars, the Sun is very large
    b. When compared to other stars, the Sun is the hottest.
    c. Unlike other stars, the Sun is the right color for living things.
    d. When compared to other stars, the Sun is very close to Earth.

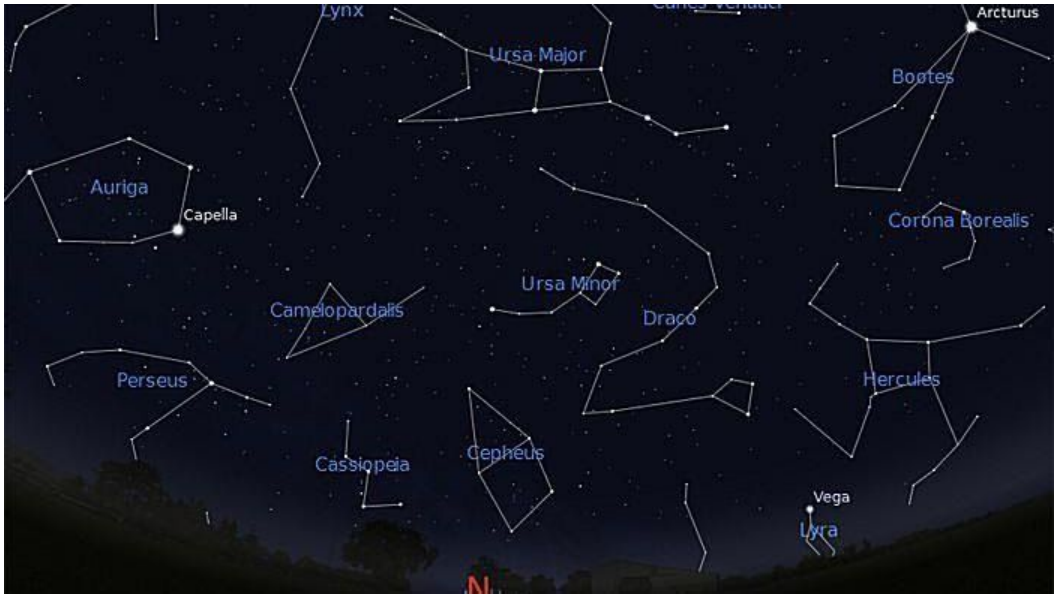
4. The Sun is _____ million miles away from Earth.
    a. 103
    b. 23
    c. 93
    d. 3

5. Our Sun is made of
    a. mainly the gases hydrogen and helium.
    b. hydrogen, water and carbon dioxide.
    c. red, blue and yellow coronas.
    d. sunspots and flares.

Tuesday; March 24,2020

Science- Earth and Sun Review

Do Now: (5 minutes) Many constellations have Greek and Roman names along with a story that accompanies each name. **Choose one of the constellations below** and write your own “mini-myth” for the group of stars.



Activity 1: Video Scavenger hunts!

Watch the video and take notes using the video note-taking strategies to help you find the answer to the questions below. Good Luck on the "Video Scavenger Hunt!"

Video: https://www.youtube.com/watch?v=--MGQNhVs3s

1. **How can you identify constellations?**

A. Connecting the dots. **B.** Drawn with an imaginary boundary.
C. look at it from the right perspective. **D.** All of the above.

2. **Since the Earth is moving around the Sun we see all the constellations in the sky at various points.**

A. True B. False

3. **In the past people used the constellations to _____.**

A. navigate ships. **B**. tell seasons.
C. build map to alert them if there was change in season. **D.** All of the above.

4. **The names of the constellations stayed the same from the past because it's a tradition.**

A. True **B.** False

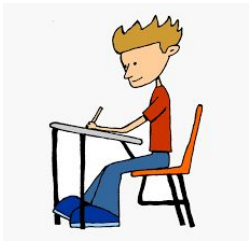
Activity 2:

Read the article, "Myths and Legends: The Greek Gods in the Stars and Constellations" using our Strategic Reading Plan (SRP) and answer the accompanying questions.

Video Note-Taking Strategies

Step 1: Watch the video (NO NOTES.)

Step 2: Re-watch the video  and take notes.



Step 3: Follow the **note-taking** tips

- Write down the topic of the video.

  Example:

  Topic: <u>The Sun.</u>

- Take notes in bullet point form.

  Example:

- <u>The sun is a star.</u>
- Take notes in your own words.
- Don't jot everything, only the important facts about the topic.
-  **Pause** and  **rewind** the video  as needed.

Mr. Ali

Make Science Fun Again

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Myths and Legends: The Greek gods in the stars and constellations

By Charles D. Shaw, adapted by Newsela staff on 01.26.17
Word Count **668**
Level **820L**

TOP: Here is an astronomical chart showing a bear forming the constellation of stars known as the "Great Bear." It is also known as Ursa Major in Latin. This chart was drawn by Sidney Hall in 1825. The seven brightest stars, located in the Bear's hindquarters and tail, form the famous Big Dipper. BOTTOM: The "Great Bear" seen in the sky. Courtesy of Wikimedia Commons.

Greek mythology began thousands of years ago. There was a need to explain natural events, disasters and events in history. The Greeks believed there were gods and goddesses who had supernatural powers and human feelings and looked human. These ideas were passed down in beliefs and story telling.

The Greeks thought the stars were the homes of bright spirits who once had lived on Earth. In fact, they often spoke as if the stars were the spirits themselves. In the northern sky were seven bright stars that have been admired for thousands of years. These were sometimes called the "Dipper," and are part of a larger group of stars named the "Great Bear." This is the story, or myth, of the "Great Bear."

Zeus Sends "Great Bear" And "Little Bear" Up To The Stars

Hera, queen of gods, became jealous of a beautiful woman named Callisto. The goddess changed Callisto into a bear so dogs and hunters would chase her through the forest.

When Callisto was a beautiful woman, she had a son she loved dearly. But when she was a bear she did not dare to go near him. Years passed and one day Callisto accidentally met him in the woods. She ran toward him. Callisto had forgotten that she was a wild beast.

The young man was afraid. He was just about to kill her with his spear, when Zeus, the king of the gods, saw what was about to happen and stopped it. Then he sent both of them up to the heavens as stars. The mother is the "Great Bear," and another smaller group of stars nearby is called the "Little Bear."

Orion And Artemis

Here is another myth. Poseidon, the king of the sea, had a son named Orion, who was a giant that loved hunting. His father had taught him how to walk on and under water.

Orion loved Merope, daughter of the king of an island filled with wild beasts. To marry the king's daughter, Orion had to kill all the wolves and bears. He did as the king asked. But he was not allowed to marry her. One night the king got Orion drunk with wine and took away his sight. Now blind, Orion wandered around until he found Hephaestus, the god of fire, who felt sorry for the poor blind giant. Orion was sent up to meet Apollo, the god of the sun, who gave Orion his sight again.

Apollo's sister, Artemis, the goddess of the hunt, fell in love with Orion and wanted to marry him. But Apollo was against them being together. One day he saw Orion wading in the sea with his head just out of the water.

"Sister," said Apollo, "you think you are a good shot with your arrows."

"Yes, I am," Artemis said.

"Well, do you see that black thing bobbing up and down in the sea? I don't believe you can hit it with your arrow," Apollo said.

Artemis shot the arrow and the black thing disappeared. After a while, the waves rolled poor Orion to the shore. Artemis could not bring back him back to life, but sent him up to the stars with his dog, Sirius, and seven sisters, the Pleiades, who had hunted with Artemis.

Groups Of Stars Shaped Like Animals

There is another myth about a group of stars, called the Hyades. When Bacchus, the god of wine, was a little child, his mother, Semele, died, and he was left helpless. A family of sisters pitied him and took care of him until he was grown up. The king of the gods was greatly pleased with their kindness, and rewarded the sisters, by taking them up to heaven and making them shine like stars.

Other constellations, or groups of stars, are shaped like animals. Not only are there two bears, but also a lion, bull, ram, goat, crab, scorpion and two fishes.

From "Stories of the Ancient Greeks" by Charles D. Shaw.

Quiz

1 Which section of the article highlights the reasons why the Greeks created myths?

(A) the caption beneath photograph 1

(B) Introduction [paragraphs 1-2]

(C) "Orion And Artemis"

(D) "Groups Of Stars Shaped Like Animals"

2 Based on the section "Groups Of Stars Shaped Like Animals," how did the king of the gods reward the sisters?

(A) by turning them into stars in heaven so that they always shine

(B) by giving Bacchus seven sisters to look after him

(C) by turning Bacchus into a star to shine forever

(D) by reuniting the family of sisters with their mother

3 Why does the author include the section "Zeus Sends Great Bear And Little Bear Up To The Stars"?

(A) to explain the different animal shapes in the sky and how the Greeks believed they came to be

(B) to provide the background story of how Poseidon and Zeus created all of the stars in the sky

(C) to describe reasons why the Greeks believed Zeus was the most important god

(D) to explain the Greek myth behind two constellations shaped as bears

4 What purpose does the introduction [paragraphs 1-2] serve in developing the main idea of the article?

(A) It provides a modern-day scientist's perspective on Greek mythology.

(B) It gives the reader further details about a photo from the beginning of the article.

(C) It gives the reader context about the ancient Greeks and why they told their stories.

(D) It gives the reader specific details about a myth mentioned later in the article.

PPN Remote Learning - Grade 5	Exit Ticket: Day 2 (03/24/2020)

Exit Ticket

Illuminate link: https://illuminate.online?access_code=NRS9EMW

1. What is a constellation?
    a. a group of stars that appear to make a pattern
    b. a large, round object that orbits the Sun and doesn't have any objects orbiting in its path
    c. a group of stars that are fairly close to each other in space

2. How many constellations are officially recognized by astronomers today?

    a. 48
    b. 88
    c. 68
    d. 38

3. Many constellations were identified by ancient Greek and Roman astronomers.

    a. True
    a. False

4. Which of the following statements about stars is true?

    a. Smaller stars are always brighter.
    b. Two stars that are the same temperature are the same color.
    c. The smaller a star appears, the closer it is to Earth.
    d. Stars that are the same color are usually the same size.

Science- Earth and Sun Review

Wednesday, March 25, 2020

Do Now (5 minutes)

Considering Earth is the only planet with evidence of human life, what effect have humans had on our planet and what questions or concerns do you have about Earth?

Activity 1: Watch the video, “The Planet Earth.” Take notes using the video note-taking strategies and answer the questions below.

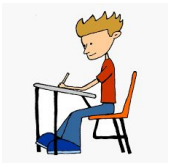
Video: https://www.youtube.com/watch?v=IDhapt7nw4A

Activity 2:
Read the article, “Earth, Our Constantly Changing Home” using our Strategic Reading Plan (SRP) and answer the accompanying questions.

Video Note-Taking Strategies

Step 1: Watch the video (NO NOTES.)

Step 2: Re-watch the video  and take notes.



Step 3: Follow the **note-taking** tips

- Write down the topic of the video.

  Example:

  Topic: <u>The Sun.</u>

- Take notes in bullet point form.

  Example:

- <u>The sun is a star.</u>
- Take notes in your own words.
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-  **Pause** and  **rewind** the video  as needed.

Mr. Ali

Make Science Fun Again

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Earth, our constantly changing home

By NASA.gov, adapted by Newsela staff on 11.02.16
Word Count **726**
Level **680L**

TOP: This picture of Earth is sometimes called the blue marble, NASA. SECOND: The tilt of Earth causes seasons, NASA. THIRD: Earth's core. BOTTOM: An image of the moon in orbit around Earth, captured by the Galileo spacecraft in 1992, NASA.

Earth is the fifth largest planet in the solar system. It is the third closest planet to the sun.

Earth is home to countless living things, including us. So far, it is the only planet where life has been found.

Size And Distance

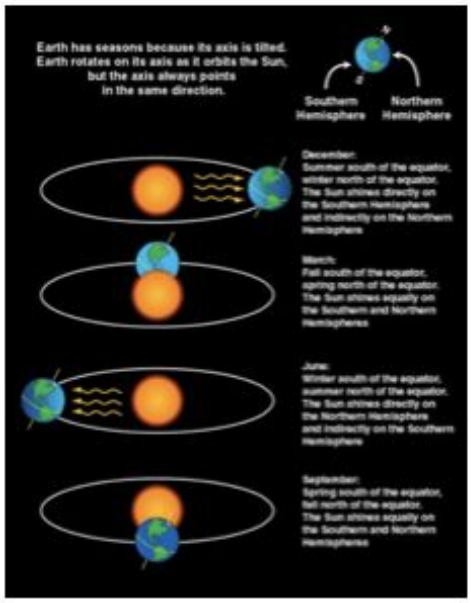
Earth is the biggest of the terrestrial planets, which are made of rock or metal, rather than gas. The other terrestrial planets are Mercury, Venus and Mars.

The Earth has a radius of 3,959 miles. Radius is the distance from the planet's center to its surface.

The Earth is 93 million miles from the sun. Light from the sun takes about eight minutes to reach our planet.

Orbit And Rotation

Earth rotates, or turns, once every 24 hours. One complete rotation of the Earth is what we call a day.



QUICK FACTS

Planet Type
Terrestrial

Orbit Size Around Sun
Metric: 149,598,262 km
English: 92,956,050 miles

Equatorial Circumference
Metric: 40,030.2 km
English: 24,873.6 miles

What's in the Atmosphere?
Nitrogen, Oxygen
Scientific Notation: N2, O2

Earth also orbits the sun. It takes the Earth around 365 days to complete one trip around the sun. One complete orbit is called a year.

During part of the year, the Northern Hemisphere, or top half, of the Earth is tilted toward the sun. At the same time, the Southern Hemisphere, or bottom half, is tilted away from the sun. The stronger sunlight in the north makes it summer there. Weaker sunlight makes it winter in the south.

Six months later, things are reversed. Then, it is winter in the north and summer in the south.

Formation

Earth is about 4.5 billion years old. It formed after gravity pulled swirling gas and dust into a ball. Gravity is a force that pulls things together. It is what keeps us from floating into space.

Like the other terrestrial planets, Earth has a central core, a rocky mantle, and a solid crust.

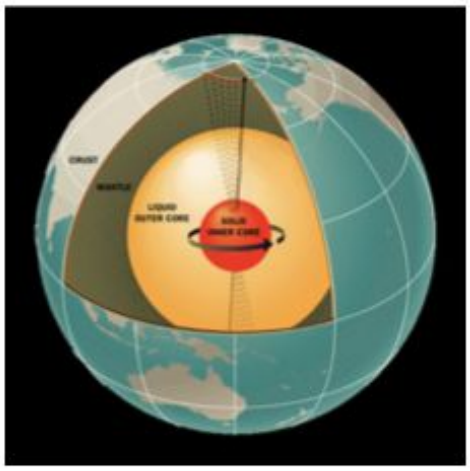
Structure

Earth is made of four main layers. The inner core is at the planet's center. It is a hard ball made of iron and nickel. Its temperature reaches as high as 9,800 degrees.

Surrounding the inner core is the outer core. The outer core is about 1,400 miles thick. It is made of melted iron and nickel.

Next comes the mantle, which is the thickest layer. It is made of partly melted rock and metal. It is about 1,800 miles thick.

The outermost layer is Earth's crust. On land the crust is about 19 miles deep. At the bottom of the ocean it's thinner. There it is only about 3 miles deep.



Surface

Like Mars and Venus, Earth has volcanoes, mountains and valleys. Earth's crust and upper mantle are divided into huge plates. These plates are constantly moving. When the plates run into each other, it can cause an earthquake.

Seven-tenths of the Earth's surface is covered by ocean.

Atmosphere

Earth has an atmosphere, or outer layer of gases that surround the planet. Our atmosphere is mostly made up of nitrogen and oxygen.

The atmosphere protects us from the sun's more harmful rays. It also helps protect us from meteors. Most meteors burn up in the atmosphere before they reach Earth.

Potential for Life

Unlike most planets, Earth is mostly covered in water. This is because of the temperature. It's not so cold that the water freezes, and it's not so hot that it turns to steam. Earth's oceans are where life began about 3.8 billion years ago.

Moons

Earth is the only planet that has just one moon. It is the brightest object in our night sky.

Our moon was formed after a huge crash that happened billions of years ago. When Earth was a young planet, a huge space rock smashed into it. The loose pieces of rock created by this crash then floated into space. There, they clumped together and formed our moon.

The moon is located 238,855 miles away from Earth.

Rings

Earth has no rings.

Magnetosphere

The Earth's nickel-iron center acts like a giant magnet. It creates a magnetic field. This force makes compass needles point to the North Pole.

Pop Culture

Storytellers have explored our planet in many books, movies and television shows. In the movie "Planet of the Apes," future astronauts "discover" a planet of very smart apes. Later, they realize that it was Earth all along.

In other stories, Earth has been abandoned or destroyed. This is the case in the book "The Hitchhiker's Guide to the Galaxy."

Quiz

1 Which sentence from the article BEST explains what makes Earth special?

(A) Earth is the fifth largest planet in the solar system.

(B) It is the third closest planet to the sun.

(C) So far, it is the only planet where life has been found.

(D) The Earth has a radius of 3,959 miles.

2 Which sentence from the section "Atmosphere" explains HOW the Earth's atmosphere keeps life on Earth safe?

(A) Earth has an atmosphere, or outer layer of gases that surround the planet.

(B) Our atmosphere is mostly made up of nitrogen and oxygen.

(C) It also helps protect us from meteors.

(D) Most meteors burn up in the atmosphere before they reach Earth.

3 What is the MAIN reason why the Earth has seasons?

(A) The Earth makes one complete rotation every 24 hours.

(B) The sun produces weaker light in the winter, and stronger light in the summer.

(C) The Earth orbits the sun, and it becomes summer when it gets close to the sun.

(D) The Earth is tilted, giving each hemisphere half a year pointed toward the sun.

4 Based on the section "Structure," which of the following statements is TRUE?

(A) The Earth's crust can be thicker in some places than in others.

(B) The outer core is the thickest of the three outer layers of Earth.

(C) The thinnest of the three outer layers of Earth is the mantle.

(D) The Earth's layers go in this order: crust, mantle, outer core, inner core.

PPN Remote Learning - Grade 5	Exit Ticket: Day 3 (03/25/2020)

Illuminate link: https://illuminate.online?access_code=PDCNMET

Exit Ticket

Direction: Watch the video to help you find answers to the questions below. Use Video "note-taking strategies" to gather information.

https://www.youtube.com/watch?v=IDhapt7nw4A

1. The Earth's surface is mainly _____.
    a. air
    b. water
    c. rock
    d. Ice
2. The core is the central part of Earth.
    a. true
    b. false

3. The _____ includes all of the gases around Earth.
    a. hydrosphere
    b. atmosphere
    c. cloud
    d. crust
4. How many parts form Earth's system.
    a. 5
    b. 4
    c. 6
    d. 3
5. What is the name of the thin layer of solid rock that makes up the outermost part of Earth?
    a. core
    b. mantle
    c. crust
    d. biosphere

Science- Earth and Sun Review

Thursday, March 26, 2020

Do Now (5 minutes)

What are some similarities and differences between the eight planets? Use the image below to help generate some of these ideas.

Activity 1: Watch the video, “Exploring our Solar System.” Take notes using the video note-taking strategies and answer the questions below.

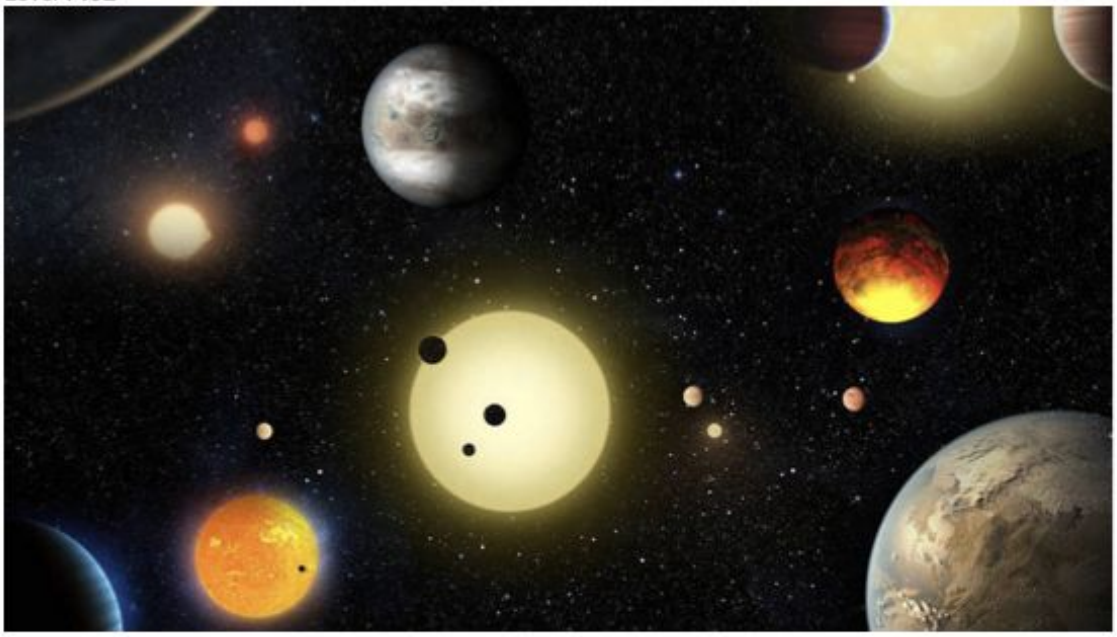
Video: https://www.youtube.com/watch?v=Qd6nLM2QlWw&t=556s

Activity 2:
Read the article, “What Is A Planet?” using our Strategic Reading Plan (SRP) and answer the accompanying questions.

newsela

What is a planet?

By NASA.gov, adapted by Newsela staff on 10.27.16
Word Count **632**
Level **710L**



TOP: This artist's concept depicts select planetary discoveries made to date by NASA's Kepler space telescope. NASA/W. Stenzel. MIDDLE: The size of the planets and dwarf planets, drawn to scale. Wikimedia Commons. BOTTOM: A diagram showing solar system orbits, with the highly tilted orbit of Eris in red. NASA.

An important part of science is questioning old ideas. Scientists study what happens in the real world and record what they see. They use the results to test their ideas. Sometimes scientists prove old ideas wrong, and then they test new ideas.

Over time, scientists' understanding of the universe has changed. So has their definition of a planet.

Early Astronomy

Long ago, the ancient Greeks thought the moon and the sun were planets, along with Mercury, Venus, Mars, Jupiter and Saturn. They did not think Earth was a planet. Instead, they thought Earth was the center of the universe. They thought everything else in space rotated around it.

A little over 2,000 years ago, one person in ancient Greece said the sun, not Earth, was the center of the universe. His name was Aristarchus of Samos. His idea was not accepted by the Greeks. It

was not until much, much later that some people started to take this idea seriously. The scientist Nicholas Copernicus reintroduced Aristarchus' idea in the 1500s.

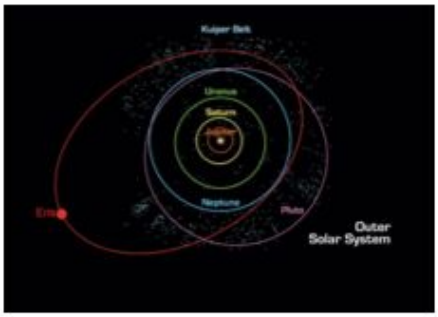
Planets Are Discovered

By the 1600s, scientists understood that all planets circle around the sun. They also realized that the moon is not a planet. It is a satellite, an object that orbits a planet. In 1781, the planet Uranus was discovered. Neptune was discovered in 1846.

In 1801, Ceres was discovered between Mars and Jupiter. Scientists first said it was another planet. Then they found many more objects just like it in the same area. Scientists decided that Ceres was actually an asteroid. These small, rocky bodies also circle around the sun.

Pluto was discovered in 1930 and identified as the ninth planet. Years later, scientists started to question this. They realized that Pluto is not like any of the other eight planets. For one thing, it's much smaller than the others. It's even smaller than Mercury, the smallest planet in our solar system. Through the 1980s, Pluto was still called a planet. However, things began to change in the 1990s, thanks to some new discoveries.

The Kuiper Belt



Using new and improved telescopes, scientists were able to spot very small objects, very far away. They began finding many icy worlds circling the sun. These worlds are in a doughnut-shaped area called the Kuiper Belt. It is just beyond Neptune, near Pluto. The Kuiper Belt's icy objects are called Kuiper Belt Objects, or KBOs.

After KBOs were discovered, some scientists had an idea. They said Pluto was not a tiny planet, but a big KBO. Then, in 2005, scientists found a new KBO even bigger than Pluto. They called it Eris. People began to wonder what it really means to be called a planet. What is a planet, anyway? Suddenly the answer to that question did not seem so clear. Today, there are still many disagreements about it.

The Debate Continues

The International Astronomical Union (IAU) is a group of astronomers, scientists who study space. In 2006, the group got together to decide if the new KBO, Eris, was a planet. The IAU came up with its own definition of a planet. The group also created a new kind of space object called a dwarf planet. The IAU said that Pluto and the new KBO were both dwarf planets. There may be many more dwarf planets in the solar system and beyond.

Not all scientists agree with the IAU. Some think the IAU's definitions were made to limit the number of planets. Others think the definitions are not clear enough.

Quiz

1 Which sentence from the article BEST summarizes a main idea of the article?

(A) Over time, scientists' understanding of the universe has changed.

(B) A little over 2,000 years ago, one person in ancient Greece said the sun, not Earth, was the center of the universe.

(C) They began finding many icy worlds circling the sun.

(D) The International Astronomical Union (IAU) is a group of astronomers, scientists who study space.

2 How does the information in the section "The Kuiper Belt" MOST support a main idea of the article?

(A) It explains why scientists began to question their definition of a planet.

(B) It explains the location of the Kuiper Belt in our solar system.

(C) It suggests that improved telescopes help scientists make discoveries.

(D) It suggests that the discovery of the KBOs made scientists upset and confused.

3 Click on the graphic in the section "Planets Are Discovered." Notice which planets are closest to the sun.

Based on the article, what do we know about the planets that are closest to the sun?

(A) They are located in the Kuiper Belt.

(B) They have been reclassified as dwarf planets.

(C) They were discovered by the ancient Greeks.

(D) They were found by scientists in 1781.

4 Click on the graphic in the section "The Kuiper Belt."

Use the graphic and the article to select the TRUE statement below.

(A) Pluto is the only object classified as a Kuiper Belt object.

(B) Jupiter and Saturn are the only objects outside the Kuiper Belt.

(C) The Kuiper Belt is located between Uranus and Neptune.

(D) Pluto and Eris both orbit within the Kuiper Belt.

PPN Remote Learning - Grade 5	Exit Ticket: Day 4 (03/26/2020)

Exit Ticket

Illuminate link: https://illuminate.online?access_code=XAAKTYZ

Direction: Watch **"Exploring our Solar System."** to help you find answers to the questions below. Use "Video note-taking strategies" to help you gather information.

Video: https://www.youtube.com/watch?v=Qd6nLM2QlWw&t=556s

1. Every object revolves around the Sun in a path called a(n) _____.
    a. ellipse
    b. orbit
    c. Revolution

2. _____is the fifth and largest planet in the solar system.
    a. Uranus
    b. Saturn
    c. Jupiter

3. The center of our solar system is _____.
    a. the Milky Way
    b. the Sun
    c. Earth

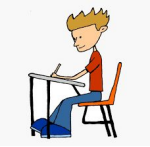
4. List the four inner planets in order from the Sun.
    a. Mercury, Venus, Earth, Mars
    b. Mercury, Earth, Venus, Neptune
    c. Mars, Earth, Venus, Mercury
    d. Mars, Venus, Earth, Saturn

5. Which planets have rings?
    a. Mars, Jupiter, and Saturn
    b. Saturn, Mars, Neptune, and Venus
    c. Jupiter, Saturn, Uranus, and Neptune
    d. Jupiter, Saturn, Neptune, and Venus

Video Note-Taking Strategies

Step 1: Watch the video (NO NOTES.)

Step 2: Re-watch the video  and take notes.



Step 3: Follow the **note-taking** tips

- Write down the topic of the video.

  Example:

  Topic: The Sun.

- Take notes in bullet point form.

  Example:

- The sun is a star.
- Take notes in your own words.
- Don't jot everything, only the important facts about the topic.
- **Pause** and **rewind** the video  as needed.

Mr. Ali

Make Science Fun Again