WHAT'S HAPPENING IN OUTER SPACE?

What do we mean by outer space?

Outer space is the UNIVERSE. The universe is INFINITE—meaning we do not have any idea how big it is and as far as we know, it has no end. Here is an illustration of the sizes of each part.

UNIVERSE

GALAXY

Solar System

planet/star

• Inside the UNIVERSE are GALAXIES.
• There are too many galaxies to know how many exist in the universe.
• Next there are SOLAR SYSTEMS inside the galaxies.
• WHAT ARE SOLAR SYSTEMS? SOLAR SYSTEMS are planets that work together as they travel around a star that is usually called a SUN. Yes, we have a star that we call THE SUN and our planets in our solar system travel around the sun. (see the picture below of our solar system).
• Our galaxy is called the Milky Way because when you look up at the night sky it appears that there is large white cloud like form in the night sky. This is the Milky way which is really a collection of stars.
• Here is a video about the Milky Way
  https://www.youtube.com/watch?v=RubnGwhcT6E
Here is a picture of our solar system which contains our sun, the planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune and Pluto. Earth is one of the planets that is in the solar system and we all live on earth. Our galaxy is called the milky Way.

Planets are large natural objects that orbit, or travel around, stars. Eight planets orbit the star called the Sun. In order from the closest to the Sun, these planets are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune. Pluto is also a star but is considered a dwarf planet.

Here is a video for kids about our solar system:  
https://www.youtube.com/watch?v=jEXWxNbpTzU

WHY DO PLANETS TRAVEL IN A CIRCLE OR OVAL AROUND OUR SUN?

Sir Isaac Newton, a famous scientist pictured here, from a long time ago, studied and discovered GRAVITY. He realized that the reason the planets orbit the Sun is related to why objects fall to Earth when we drop them. The Sun's gravity pulls on the planets, just as Earth's gravity pulls down anything that is not held up by some other force and keeps you and me on the ground.
HOW ARE WE ABLE TO DISCOVER THINGS IN OUTER SPACE? WE USE THE HUBBELL TELESCOPE

The first telescope was invented by Galileo in 1610. Soon we learned because of a telescopes, that Saturn, had rings. Jupiter had moons. That patch across the center of the sky called the Milky Way was not a cloud but a collection of countless stars.

Edwin Hubble, worked on very enormous telescopes and so the telescope pictured here was named after him. This Hubble telescope, is the first telescope to be placed in space. Because it was launched into space, it can see more than we have ever been able to see. The Hubble telescope was launched in April 1990.

LET’S TALK ABOUT OUR SOLAR SYSTEM.

What Is The Solar System?
The solar system is made of the eight planets that orbit our sun it is also made of asteroids, moons, comets and lots, lots more. The sun has such powerful gravity it tries to pull the planets towards it. While the planets try to fly away in the end they are kind of in the middle floating around the sun.

Here is a cute video about the solar system:

https://www.youtube.com/watch?v=xKKzIoJgMSQ
WHO ARE THE PLANETS IN OUR SOLAR SYSTEM?

THE SUN: FUN FACTS ABOUT THE OUR SUN

Over one million Earth’s could fit inside the Sun

- The Sun will continue to burn for about 130 million years after it burns through all of its hydrogen, instead burning helium.
- The Sun is almost a perfect sphere – meaning a perfect circle or ball.
- It takes eight minutes for light to reach Earth from the Sun.
- The Sun has a powerful magnetic field. Temperatures inside the Sun can reach 15 million degrees Celsius.
- The Sun generates solar winds.
- The Aurora Borealis (Northern lights) are caused by the interaction of solar winds with Earth’s atmosphere.

MERCURY FACTS  Mercury is the closest planet to the Sun and is also the smallest of the eight planets in our solar system. For every 2 orbits of the Sun, which takes around 88 Earth days, Mercury completes three rotations of its axis.

VENUS FACTS  Venus is the second planet from the Sun and the third brightest object in Earth's sky after the Sun and Moon. It is sometimes referred to as the sister planet to Earth, because their size and mass are so similar. Venus is also the closest planet to Earth. The planet is named for Venus, the Roman goddess of love and beauty and is the second largest terrestrial planet.
**MARS FACTS** Mars is the fourth planet from the Sun and last of the terrestrial planets. Like the rest of the planets in the solar system (except Earth), Mars is named after a mythological figure - the Roman god of war. In addition to its official name, Mars is sometimes called the **Red Planet** because of the brownish-red color of its surface. Mars is the second smallest planet in the solar system behind Mercury.

**JUPITER FACTS** Named after the Roman king of the gods, Jupiter is fitting of its name. Jupiter is easily the largest and most massive planet in the Solar System. To better understand this, it would take 11 Earths lined up next to each other to stretch from one side of Jupiter to the other.

**SATURN FACTS** Saturn is the sixth planet from the Sun and second largest planet of the Solar System. If compared, it is easy to see why Saturn and Jupiter have been designated as relatives because these two planets are extremely similar.

**URANUS FACTS** Uranus, named after the father of the Roman god Saturn, is the seventh planet in the Solar System and third of the gas giants. It is the third largest planet by diameter, yet fourth most massive.

**NEPTUNE FACTS** Neptune is the eighth planet from the Sun and last of the known planets. While it is the third largest planet with respect to mass, it is only the fourth largest in terms of diameter. Due to its blue coloration, Neptune was named after the Roman god of the Sea.

Happy travels in our solar system.