



الأسبوع العالمي للفضاء



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Living in space



When people orbit the Earth, or travel to the Moon, they live in space for a while. There they are exposed to conditions that differ greatly from those on Earth. There is no air in space. The temperature rises and falls to extreme levels, and the sun emits extremely dangerous radiation. Some of the material particles that fill space pose a source of danger to astronauts. For example, dust particles called micrometeoroids threaten spacecraft with their destructive speed. Debris (waste) from previous space missions can also destroy the spacecraft

On Earth, the atmosphere represents Earth's natural protector against these dangers. In space, the astronaut and the equipment that accompanies him need other types of protection. They must also bear the physical effects resulting from space flight, and work to protect themselves from the enormous acceleration forces during the launch and landing processes. The astronaut's basic needs must also be provided, such as breathing, eating, drinking, eliminating bodily waste, sleeping, etc

الوصول إلى الفضاء والعودة منه

Space exploration involves significant technical challenges, so spacecraft must be launched at a certain directional velocity (velocity with a value and direction). If the spacecraft is carrying a crew, it must be able to slow down in order to land safely.

Preparing the spacecraft. Spacecraft are built in special factories with the utmost cleanliness. A small amount of pollution can cause a malfunction, which in turn leads to damage to the vehicle's equipment.

The vehicle is then transported to the launch site by truck, barge, tug or plane, where the crew assembles the vehicle and tests it to ensure its efficient performance. When the vehicle is completely ready for launch, specialists transport it to the launch pad to provide it with fuel

A powerful rocket called a launch vehicle helps the spacecraft overcome gravity. Each launch vehicle has two or more parts, called stages. The first stage must exert sufficient momentum to lift the spacecraft from the surface of the Earth. For the vehicle to perform this task effectively, the driving force of the booster must exceed its weight. The excess force increases - which is the driving force minus the weight of the vehicle - The speed of the spacecraft and its elevation in the sky. The booster generates momentum by burning fuel and blowing gases out of the vehicle. As for the rocket engines, they operate with a special fuel called propellant. The propellant consists of liquid or solid fuel mixed with an oxidizer. The oxidizer is a substance that provides the oxygen needed to burn fuel in the airless region of outer space. Liquid oxygen is generally used as an oxidant

Kingdom of Saudi Arabia

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Education Department in Hafar Al-Batin

Al Faisaliah School



Space Week

2023



head teacher



Falih Muhammad Al-Shammari



World Space Week



On October 4, 1957, the first man-made Earth rocket, Sputnik 1, was launched into outer space, opening the way for space exploration. Also, 10 October 1967 was the date on which the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, entered into force.

World Space Week is the largest annual space-related event in the world. It builds the workforce of the future by inspiring students, demonstrating public support for the space program, educating the public about space activities, and promoting international cooperation in space awareness and education. In 2018, more than 5,000 events were held in more than 80 countries to celebrate World Space Week.



Dawn of the space age

When people started dreaming of flying above the Earth's surface, they realized that objects in the sky could become a destination for human travellers. At the beginning of the seventeenth century AD, the German astronomer and mathematician Johannes Kepler became the first scientist to describe travel to other worlds. He also developed the laws of planetary motion that explain the orbits of objects in space. See: Kepler, Johannes.



In 1687 AD, the English scientist Sir Isaac Newton described the laws of motion, and these laws enabled scientists to predict the types of flight paths required to orbit the Earth and reach other worlds. Newton also described how a satellite could remain stable in its orbit. Newton's third law, which states that for every action there is an equal and opposite reaction, explains how a rocket works. See: Newton, Sir Isaac; Motion (Newton's laws of motion).

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Search for space

Preparation

Nayef Abdullah Al-Baeiji

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the introduction



Space is everything that surrounds us in this vast universe, with its planets, stars, galaxies, meteorites, meteors, and the void between celestial bodies. Space is surrounded by many amazing facts, some of which are shrouded in mystery. No matter how much we know, we will know little about the universe in which we live.

Until recently, the study of space was a form of astrology, which is not based on any scientific facts, but the amazing development in space science and the intensification of studies by specialized scientists made space a fertile material for research, discovering facts, and establishing laws, until man was able to research Space, and the galaxies, planets, stars, and celestial bodies it contains.

Information about space

Space contains huge numbers of planets, stars, and galaxies, but the only planet available for life is Earth, because most other planets are either too hot or too cold.

The space has a distinct odor similar to the smell of metal, fumes from welding, and the smell of burning coal.

The center of the Milky Way Galaxy in space contains very large concentrations of ethyl formate, the same compound that gives strawberries their distinctive, well-known smell.



Scientists estimate that the rate of star generation in space reaches two hundred and seventy-five million stars per day.

In outer space, the sun rises and sets sixteen times per day, because the sun rises and sets every hour and a half throughout the day.

One of the proven facts about the planets spread in space is that they all revolve around the sun in a counterclockwise direction, with the exception of Venus, which revolves around the sun in the same clockwise direction.

Planet Earth has the greatest density among all other planets in the solar system in large space.

Space contains no significant sounds, or at least no sounds are heard in it; This is because sound does not travel in a vacuum, and space is a vacuum, and does not contain a medium for sound to travel through. In space, we can never cry, because tears never fall.

In space, astronauts grow taller by at least five centimetres.

The color of the Sun from space appears white, not yellow as we see it from the surface of the Earth.

The first living creature to travel into space was the cat Felicette, in the year one thousand nine hundred and sixty-three.

Space contains a huge number of galaxies, estimated at one hundred and seventy billion galaxies, which differ from each other in terms of size and shape. For example, our Milky Way galaxy is spiral-shaped.

Definition of space



Space is defined as the void existing between celestial bodies. Space is not empty in the literal sense of the word; It contains certain particles, but with a low density, in addition to containing some radiation. As for the limit of outer space for the inhabitants of the Earth, it cannot actually be determined, but it has been used to designate the Karman line, which is located at an altitude of approximately one hundred kilometers above sea level. To be the starting line for outer space.

This term has allowed scholars and researchers from various relevant disciplines to delve more deeply into their research and studies, in addition to its impact on international agreements and treaties that are related to space.

Man and space



Since ancient times, man has been interested in space and its sciences. These sciences gradually developed over time until they reached what they are today. Today, after these in-depth studies of outer space, and after technologies have developed greatly and remarkably, scientists have been able to confirm, add, and deny some facts and information that were prevalent in the past, which has led to clarifying the unknown, and removing confusion and ambiguity regarding this miraculous creation - Blessed be its Creator - .

During the past century, human interest in space sciences took a new direction, through the launch of many rockets at fairly distant stages of time by official bodies in the major countries concerned with astronomy and outer space. Space flights were divided into manned space missions and non-manned ones. Inhabited, but the first could not reach long distances like the second; Unmanned space missions were able to reach various planets in the solar system, unlike manned ones, which remained confined to specific ranges.

The world of space is considered a dangerous world; It is not like the earthly world, so space has always represented a dangerous challenge for all scholars, researchers, and those wishing to explore its depths. One of the most prominent dangers facing a person if he is in outer space is that his organs and vital functions will be threatened due to the lack of gravity, and space is full of radiation that affects... Negatively on human health, in addition to many other risks.

Space monitoring



It is also known as astronomical observation, which is observing the universe closely using a telescope invented by the Italian astronomer Galileo Galilei. He is credited with proving the astronomical theory announced in 1543 AD, which states that the Earth is not the axis of the universe. Rather, it is the sun, and the sun is the center of the solar system. Among the most famous ancient tools for observing space are the astrolabe, the marble sundial, which is a daytime timing device consisting of several points and lines, and the sundial. With the progress and development of science, the telescope appeared and branched into several types.

Space observation came on the sidelines of human curiosity in exploring everything around it, including the depths of the Earth, the Moon, planets, the sun, and galaxies. In light of this, vehicles began to circumnavigate the Earth and beyond its borders, including some manned and some unmanned, in an effort to collect important information about the universe. Since ancient times, man has tried to explore space, including celestial bodies, based on developments

Which affects the mechanisms and techniques used, and with the development of space technology, the matter became more sophisticated and expanded, until astronomers were able to use unmanned robotic investigations and manned space flights.

History of space observation

The beginning of the era of space observation dates back to October 4, 1957, when the Soviet Union took a very bold step by launching the first satellite (Sputnik 1) to orbit the Earth. The year 1959 witnessed a remarkable development in the number of space sensors, and it increased thanks to... That is the breadth of knowledge about space and its horrors. One of the space probes was launched that year and another collided with it.

On April 12, 1961, the first manned space flight was launched, led by Soviet cosmonaut Yuri Gagarin. His spaceship, called Vostok 1, orbited the globe in a flight that lasted 108 minutes. With the advent of the year 1962 AD, an American space probe was able to fly close to the planet Venus, and manned flights began to launch on December 21, 1968 AD. The American spacecraft Apollo 8 was the first manned spacecraft to launch to the moon, and was able to orbit eight revolutions around it. The moon returned to its starting point

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Safe. The Apollo 11 spacecraft carried on board the two American astronauts: Neil Armstrong and Edwin Aldrin Jr., and landed on the surface of the moon on July 20, 1969. Thus, Armstrong was able to achieve the honor of being the first human to set foot on the surface of the moon, and manned space missions continued later with the launch. Five manned spacecraft landed with five American astronauts before the completion of the Apollo lunar program in 1972 AD.

The first Arab Muslim astronaut

The first Arab Muslim astronaut



Prince Sultan bin Salman is the first Arab Muslim astronaut. His Royal Highness Prince Sultan bin Salman bin Abdulaziz Al Saud is the first Arab Muslim astronaut. He was born in the Kingdom of Saudi Arabia on June 27, 1956 AD, corresponding to the 19th of Dhul-Qi'dah in the year 1375 AH. He is considered the second son of King Salman bin Abdulaziz Al Saud.

Qualifications

Prince Sultan bin Salman obtained many qualifications and academic certificates, including: He holds a license in the field of civil aviation, from the Federal Aviation Administration of the United States of America. Payload specialist on the Discovery

mission as an astronaut in 1985 AD. He holds a master's degree entitled (Tribal Transformation and National Building in the Saudi Experience) from Syracuse University

In the United States of America, in the field of social and political sciences in 1999. He obtained a license to fly BBJ/B737 in 2012. Practical experiences.

Practical experiences

Prince Sultan bin Salman has diverse experiences in many professional and functional fields, the most important of which is: researcher at the Saudi Ministry of Information in the Department of International Communications in 1982 AD. Deputy Director of the Saudi Olympic Committee in Los Angeles during the 1984 Olympic Games. Acting Director of the Advertising Department of the Saudi Ministry of Information in 1984. A specialized astronaut and one of the members of the international astronaut team, he was a representative of the Arab Satellite Communications Corporation known as Arabsat in 1985 AD. An officer in the Kingdom's Air Force Saudi Arabia with the rank of lieutenant colonel in 1985. Chairman of the Science Oasis Project Committee, which will be established in the Saudi

capital, Riyadh. President of the Saudi Charitable Society for Children with Disabilities within a year 1989 AD, and was re-elected in 1992 AD, and Chairman of the Board of Trustees of the Prince Salman Center for People with Disabilities. Honorary President of the Saudi Computer Society in 1991. President of the Saudi Architecture Association in 1993.

The journey into space

After implementing the agreement for the second Arab satellite launch project between NASA and Arabsat, known as the Arab Satellite Communications Corporation, in 1982, Arabsat asked Saudi Arabia to nominate a person to represent it on the space mission to launch this satellite. As one of the most important contributors to the launch project, the Saudi Ministry of Defense and Aviation opened the door for nominations for this space flight to Saudi pilots in 1985, and the results ended with the nomination of three pilots, of whom Prince Sultan bin Salman was one.

After NASA obtained the results from the Saudi Ministry of Defense and Aviation, it chose Prince Sultan bin Salman to be the primary candidate for the flight, and Major Abdul Mohsen Al-Bassam to be a

reserve candidate, and the training phase for Prince Sultan and Major Abdul Mohsen to participate in the flight began, and on 17 June 1985: The Discovery shuttle was launched, containing Prince Sultan bin Salman and six astronauts. In order to launch the second Arab satellite (Arabsat), this journey lasted for eight days and included many important scientific experiments. On the eighth day, the space shuttle returned to Edwards Base in California.

Prince Sultan remained in the United States of America for two weeks after the trip, and NASA awarded him the Leadership Medal, and the Saudi Ministry of Defense and Aviation allocated a private plane in which Prince Sultan and the Saudi scientific team returned to Taif, and they were received with a ceremony that was interested in the Saudi television and press, and then Prince Sultan visited many... Among the countries in the world where he was honored, such as Egypt, Tunisia, Thailand, Japan, China, South Korea, and others.

The first astronauts



In the world, since man invented the means of traveling to space, and created spacecraft, there has been a clear interest among many individuals to travel on space trips, and the following is information about the first astronaut and woman in the world:

The first astronaut in the world: He is Yuri Gagarin from the Soviet Union. (Russia). He was born in a small village on March 9, 1934 AD. On October 25, 1951 AD, he went to the flying club in the Saratov region, and in 1955 AD he flew for the first time. By plane, he later graduated from the Military Aviation College, served for two years in the fighter regiment, and in 1959 AD he submitted an application to be a candidate for space travel. Which led to him moving to Moscow, and he was chosen with six people to travel into space. The date for the launch of the trip was set in the time period between April 11 and 17, 1961 AD, and Yuri Gagarin was part of this trip on board a ship.

(Vostok - 1), and on the morning of April 12, 1961 AD, the spaceship was launched and carried out one orbit around the Earth. [8] The first female astronaut in the world: She is Valentina Tereshkova from the Soviet Union (Russia), and she became the first

female astronaut. In the world on June 16, 1963 AD; That is, two years after Yuri Gagarin's flight, Valentina traveled on a Vostok missile. 6), and to this day she is the only woman to have participated in a solo space flight. This flight lasted three days, during which the rocket orbited the Earth 48 times.

the reviewer :



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World Space Week competition



1- What is the farthest planet from the sun?

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2- In what year was the first Arab satellite launched?



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3- What is the name of the first space shuttle that was made for use several times and was launched in 1981?

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4- What was the first satellite launched?

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5- Who is the first American astronaut?

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6- What is the name of the first Arab Muslim astronaut?

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