

Science Journal

SPACE EDITION





Year 5 Team



Year 6 Team

Welcome to the Science Journal Team

Welcome to our new science journal team. The team is here and we are ready to create fun articles that are exciting for you to read. We hope our content will be educational for you, your family and your friends. This first edition will include lots of fascinating articles based on all Space and the universe. We hope these articles will inspire and interest you to become more excited about our solar system.

We hope you enjoy this first edition of many. With such a large team of pupils, we know we will have plenty of help. Now, go be entertained by this amazing addition!

Front cover by Arun

5M Science Journal logo made on logo maker

SOLAR SYSTEM:FACTS ABOUT THE PLANETS AND MORE!



WHAT IS SOLAR SYSTEM?

The solar system is high up very high up in the sky. It's home of the little stars as well as the Sun! It is home to our beautiful planets and dwarf planets. You will find the Milky Way, Galaxy, Nebula and dark matter. You can find out interesting facts about each planet!

MERCURY

Mercury is the first planet in our solar system. It is the second hottest planet as well as being the smallest planet in our solar system. If you live on Mercury you will only be able to survive for 2 minutes (which is quite shocking) since you're quite close to the blistering Sun! A year on Mercury is 88 days but a day on Mercury is like 58d 15h 30m approximately. Mercury is a rocky planet with a colour light grey colour. In addition to that, Mercury has dark grey strokes on the planet. Mercury surprisingly has no moon!

VENUS

Venus is the name of a Roman god of love. Venus is the second planet from the sun. Despite being second away from the sun, Venus is the hottest planet in our solar system. A year on Venus is almost a year on Earth. Venus, being 900 degrees Fahrenheit, is uninhabitable and you could only live on Venus for one second because of its boiling temperature of 900 degrees Fahrenheit.

Venus is the second most natural thing in the night sky after the moon. Earth and Venus are very similar. Venus is named after the Roman god of love. Venus looks like a big planet of fire. There are yellow clouds on Venus and shockingly, Venus has no moon at all!

EARTH

Earth is also known as "Terra" in Latin. Earth has been around for approximately 4.543 billion years. Earth is a sphere so it's not fully flat but also not fully circular.

Did you know? Scientists found another planet suitable for life just like another Earth called Kelph 37B. Venus and Earth are very similar as well as Mars. Elon Musk is trying to make the possibility of life possible on the planet Mars. The reason why this may be a good idea is because Earth has been getting more polluted and environmental damage is taking place such as melting glaciers. People everywhere are trying their absolute hardest to keep the Earth clean and save it. Earth has been a perfect planet for about 8 billion people. Earth is a lovely green land colour and blue seas on google and in real life. Earth should be perfect for all human beings. Earth is awesome.

MARS

Mars is the fourth planet in our solar system and is the second smallest planet as well. Mars has about 3.721 m/s gravity. Mars is also called the red planet because of the colour of it. Mars is dusty and cold as well as having a thin atmosphere. Mars is also a dynamic planet with seasons, polar ice caps, canyons and extinct volcanoes, and evidence that it was more active in the past. Mars is also the only planet in the whole universe that is inhabited by robots completely. That is quite shocking when you think about it! Mars might soon be a habitable planet if Elon Musk and his genius mind work hard and do everything well. Also, Mars was the god of warriors for Romans!

JUPITER

Jupiter is the 5th planet and also the biggest planet in our solar system. Jupiter is a gas planet so you would not even survive 1 second as you will just fall. Jupiter is mostly made out of hydrogen and helium. Jupiter has some clouds and there are 3 clouds in total and it is like an ammonia ice crystal. Another reason why you won't survive on Jupiter is because it's freezing cold with an average temperature of -238 degrees! Did you know that Jupiter's stripes and swirls are actually really cold?

Shockingly, Jupiter has rings but is too faint to see. Like the Earth, Jupiter has a moon but not 1 but 80! Jupiter has 80 moons. As you know, Jupiter is huge. It's so huge that you can fit eleven Earths into it. Also, Jupiter can fit all the other planets in itself twice. Jupiter is named after the Roman god of sky and thunder. Some people believe that Jupiter is a symbol of richness as well as being seen as protecting Earth. A year on Jupiter is 11.8 Earth days but a day on Jupiter goes super-fast.

SATURN

Saturn is the 6th planet away from the sun in our solar system and has the largest rings around it. Like Jupiter, Saturn is a gas planet mostly made up of hydrogen and helium which means you can't survive on Saturn for one second let alone stand on Saturn. In Saturn's centre, the dense core of this ringed planet has metal such as iron and nickel surrounded by rocky material and other compounds solidified by intense pressure and heat. As you know, Saturn has huge rings but they are not solid so if you somehow miraculously get to Saturn you won't be able to stand on its rings. Also, Saturn rings are really big but are surprisingly thin. It is extremely windy on Saturn. Saturn with 83 moons with 63 moons named and discovered and another 20 are waiting to be confirmed of discovery and being named by the International Astronomical Union (IAU). Fun fact is that one Saturn's moon is bigger than Mercury! Some bits of Saturn are small as grains in the sand. If you find Saturn interesting, you are lucky enough to see Saturn through a telescope. Saturn is known for being bright with beautiful rings and its equator. A year on Saturn is 29 Earth years! Also, a day on Saturn is 10 hours and 14 minutes. Saturn is my favourite planet as well as the second biggest.

URANUS

Uranus is the seventh planet away from the sun and the seventh planet in our amazing solar system. It is the first planet that was discovered by telescope. It was discovered in 1781 by William Herschel even though it was thought of as a star or comet but its surface has a little bit of ice. Although Uranus isn't the last planet in our solar system, Uranus is the coldest planet in the solar system. Uranus orbits the sun on its side. Uranus has 27 moons all orbiting around it. Uranus is made up of water, ammonia and methane and it is an ice gas planet. Uranus has a winter season and a summer season so according to google you could shockingly live an entire life with 42 years of a long summer and winter. Uranus is the only planet whose equator is nearly at a right angle to its orbit. Because of how big Uranus is, you can fit approximately 63 Earths on that cold planet!

Uranus has 13 thin layers of rings and their names are, Zeta,6,5,4,Alpha,Beta,Eta,Gamma,Delta,Lambda,Epsilon, Nu and Mu. You may think the rings are white because of google images but they are actually a colour like dark grey. Did you know? The discovery of Uranus wanted to be called Georgium Sidus. So now that you know lots of amazing facts about Uranus, Go see it through a telescope Like Saturn. Apparently, Uranus is the only planet that spins on its side.

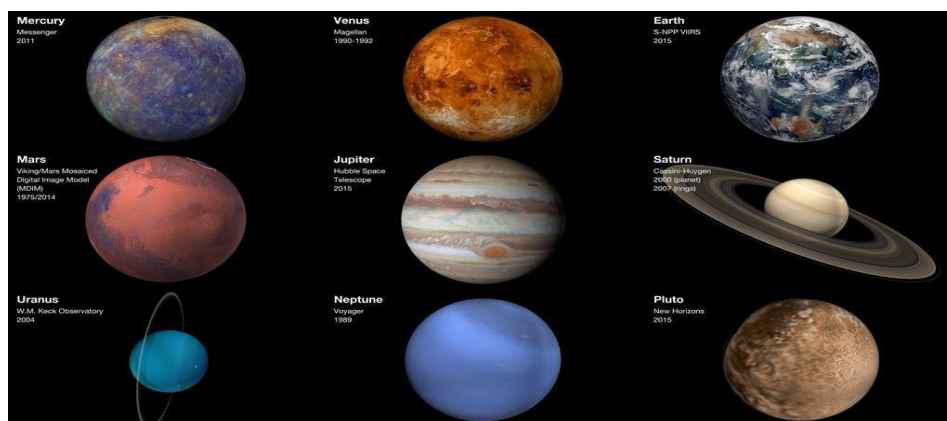
NEPTUNE

Neptune is the eighth planet from the sun and the last planet in our solar system. It is the fourth biggest planet in our solar system as well. Neptune is four times wider than Earth. Like Uranus, Neptune is known as a big ice planet. It also surprisingly has rings but like Uranus and Jupiter they are very faint and at least have about 5 rings. A year on Neptune is 164.81 Earth years. Neptune is recognized as the Roman god of horses but some debate that it was actually the Roman god of seas, water and storms. Scientists found that on Uranus and Neptune there is something called 'diamond rain phenomenon' which is basically diamonds falling on Uranus and Neptune. Neptune's mass is made up of hot dense fluid of icy materials as well as water, methane and ammonia. Neptune also has three people who claim to have discovered it: Verrier, Johann Gottfried Galle and John Couch Adams. Neptune is about 4.503 billion years old. Neptune is an old awesome planet as well as huge but sadly you can't survive as it is too cold.

Pluto is not considered to be a planet anymore and is now classified as a dwarf planet

PLUTO

Pluto WAS the ninth planet but was downgraded to a dwarf planet because of how small it is. Pluto was known as a planet but was then turned to a dwarf planet in 2006 because it was smaller than the moon. Nice fact is Pluto has lovely heart shapes on its surface. Pluto was named after the Roman god of death. As well as a heart shape on its surface, Pluto also has white mountains. Pluto has a long year; it's about 248 Earth years. Sometimes Pluto is closer to the sun than Neptune. Pluto has 5 bigger moons than itself. As I already said, Pluto was the ninth planet so it was freezing. In fact, it is -228 to -238 degrees which means human beings can live there sadly. If you are lucky enough to see Pluto through a telescope, you may probably think it's a star because of its tiny size. Pluto was the smallest planet until 2006 then Mercury took its word for smallest planet. Pluto is NOT in our solar system!



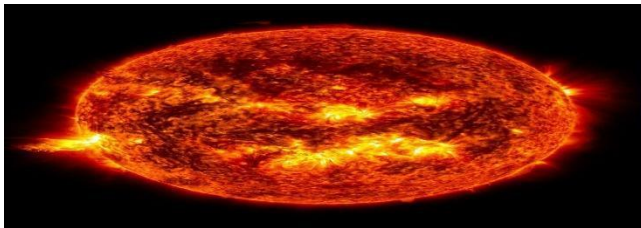
The SUN

The Sun is like an enormous fire ball up in the sky in our solar system. The sun was thought of as a planet but in reality, it is a huge fiery star. The sun is what gives Earth the perfect amount of heat and the perfect amount of coldness. As you know, the sun is huge; it may even be the biggest object in the solar system. It's so big that there are more than a million Earths in it. The Sun is the closest star to Earth and the hugest. The sun is about 4.5 billion years old

It is so old. The heat of the Earth, the sun spins quite quickly and also the sun is not solid. The sun is like a ball full of very blistering energy. Many people believe the sun is yellow or red, maybe orange but it's actually white. The sun is white even though that does not appear.

The temperature is about 5,973 to 15,000,000 which is so so so hot! As you know, the sun is in the centre of the solar system and is made out of hydrogen and helium. You may think the sun is the hottest object but scientists researched and found lightning to be hotter than the burning sun. The sun is 148.02 million km away from the goldilocks zone -which is the location of Earth- and this is because the location is 'Just Right 'to sustain human life. Scientists figure that the closest a human being can get to the sun is about 4 million miles which is 6.4 kilometres. Also, the average time to the journey to the sun is about 5321 hours which is 222 Earth days. I'm surprised it has been less than a year! You would be foolish to think that you can survive on the Sun as it's super-duper hot! This lovely ball of energy was discovered in 450 BC and was discovered by the smart man Galileo Galilei. Remember the Sun is a star not a planet or an asteroid.

Samaa 5M



10 FACTS ABOUT THE MOON



1. The Moon is actually slowly drifting away from the Earth at 3.8cm every year.
2. The Moon was actually created when a rock smashed into the Earth and then later became the moon.
3. The United States was actually the first country to land on the moon.
4. The moon actually controls the tides on Earth.
5. The moon is made of oxygen, silicon, magnesium, iron, calcium, and aluminium, titanium, uranium, thorium, potassium, and hydrogen.
6. During the day the moon can reach a temperature of 120 C and in the night, it is -130 C
7. Moon dust smells like gunpowder.
8. The moon is 400 x smaller than the sun.
9. The moon is 400 x closer to the earth than the sun.
10. It takes around 27 days for the moon to orbit the Earth

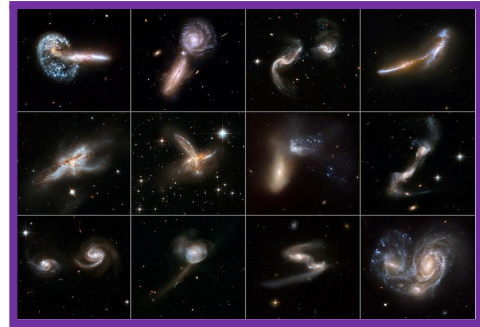
Logan 5D

The Milky Way

What is the Milky Way?

The Milky Way is a huge collection of stars, dust and gas. It's called a spiral galaxy because if you could view it from the top or bottom, it would look like a spinning pinwheel. The Sun is located on one of the spiral arms, about 25,000 light-years away from the centre of the galaxy.

Is there milk in the Milky Way?



Arcing overhead, a faint band of light may appear to look like milk spilled across the sky. The ancient Romans called the band *via lactea*, which means “milky road” or “milky way.” The band of light that you see isn't actually milk, of course—it's a galaxy.

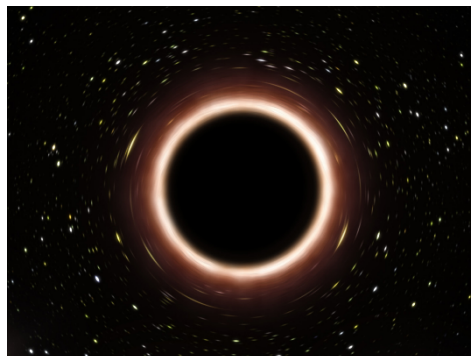
What happens if the Milky Way dies?

The Sun will heat up, swell into a red giant, fuse helium in its core, then blow off its outer layers and contract into a white dwarf. But new stars will pop up, too, and shine, and keep the galaxy alive and rife with stars far into the future.

How did the milky way form?

The evolution of the Milky Way began when clouds of gas and dust started collapsing, pushed together by gravity. First stars sprung up from the collapsed clouds, those that we see today in the globular clusters. The spherical halo emerged soon after, followed by the flat galactic disk.

Wai Hin 5M



Black Holes - How do they work?

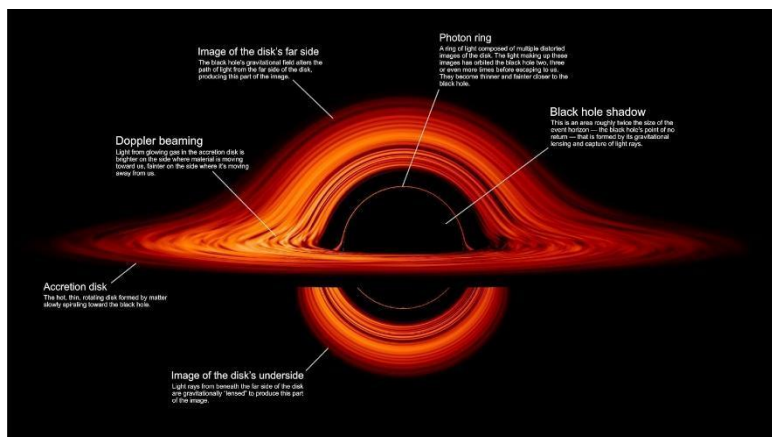
Black holes aren't actually holes. **They are places in space where so much matter has been squeezed into a tiny space.** Therefore, the gravitational pull of said space is so immense that not even light can escape it. Since light cannot leave a black hole it is invisible and looks just like a regular part of space.

What if I fall into a black hole?

Since Earth is not situated near a black hole, it is **impossible to fall into one.** But let's suppose for a second that you are falling into a black hole. What would happen? Firstly, you would helplessly float about, being pulled **deeper and deeper into the black hole.** Then you would reach the **Event Horizon**, where you'd be pulled into a shape that resembles spaghetti. Scientists call this process **Spaghettification.** Afterwards, you'd vanish into the black abyss and disappear **forever.** Fortunately, as mentioned before, there is virtually **no chance** of you suffering such a terrible death.

How many black holes are there?

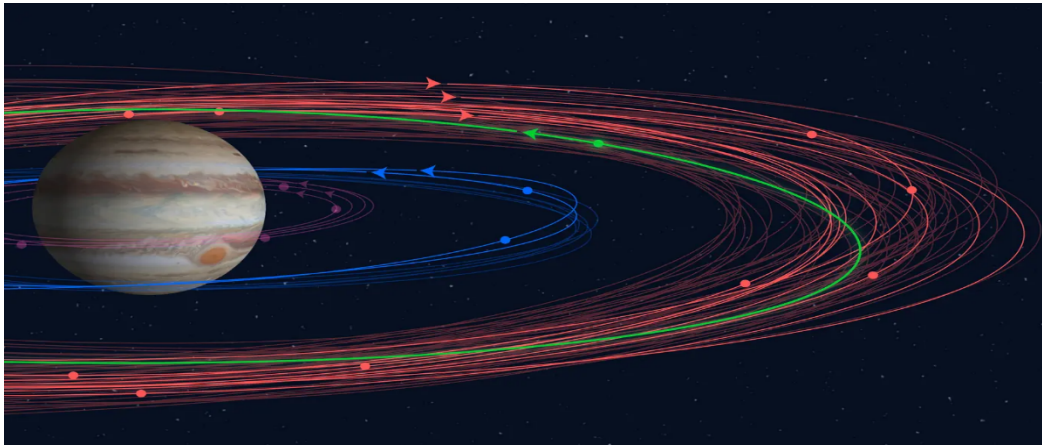
Scientists estimate that there are at least **a billion** black holes in the Milky Way alone, judging by their estimates of how many stars have died, and how many will have **become black holes** following the **supernova** explosion.



Dimitris Chavales 6B

Is there life on Jupiter?

Jupiter's red spot has been observed since 1830. There has been a sight of water clouds by a team of people. This may suggest that there is life on Jupiter. In contrast, NASA which is the National Aeronautics and Space Administration disagrees.



They do suggest that it could be true. Jupiter is the 5th planet from the sun and is the largest in the solar system. Jupiter has many moons that revolve the entire. Fifth in line, Jupiter is the biggest planet in our solar system. If we were the size of a penny, then Jupiter would be the size of a pumped- up basketball.

So, Is there life on Jupiter?

There might well be life but there are more possibilities of its moon, especially Europa, which could sustain living creatures or people. Who knows?

It is our conclusion therefore that it is unlikely there are living forms on Jupiter but perhaps on the moon there holds the answer.

Thank you for Reading!

Philippa and Manasvini 6B

This is a book we looked at about Jupiter's moon and how there might be life on the moon. We predict that this book will be exciting for science readers and people who are looking and learning about space. For example, Year 5 are learning about this topic.



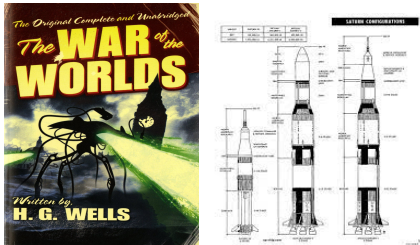
4 TIMES SCIENCE FICTION -DID THEY GET SPACE RIGHT?

Did you know some of your favourite SCI FI books, films and TV shows predicted the future about space? So, let me take you on a journey to far of galaxies, black holes, planets, & more with 4 TIMES SCIENCE FICTION -DID THEY GET SPACE RIGHT?



4: A trip to the moon (1902)

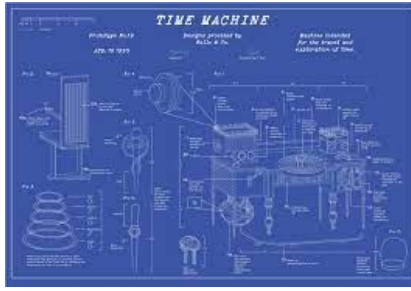
A trip to the moon was a silent film by French filmmaker Georges Melies and if you did not work it out from the title it predicted humans literally taking a trip to the moon. As you probably know, it was achieved in the Apollo 11 space mission in 1969. It's amazing that the often thought of as the first SCI FI film predicted such an iconic part of human history.



3: War of the world's (1898)

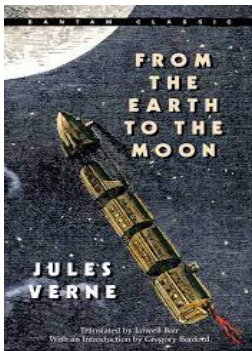
Did you know that the classic book by H.G Wells War of the worlds predicted liquid powered rockets?

If you did not know already, rockets burn liquid fuel to turn it into hot gas to launch, and that's exactly what H.G Wells wrote way back in 1898.



2: Like literally everything with time travel in it

Ok, this is a bit of a cheat on my part because this is only theoretical. The theory is that it is indeed possible to time travel forward in time. It works like this: you find a way to speed up time for the time traveller such as freezing them. Sorry time travel fans, no police boxes or old fashion sports cars today for you.



4: The Earth to the moon (1865)

The classic novel by Jules Verne, The Earth to the Moon predicted one of the most important parts of space travel history. How a rocket is launched.

So what Verne predicted was that a rocket would be launched by a large gun and if you did not know the same principles apply to a rocket being launched.

I hope you have enjoyed your trip though many different Sci Fi universes and hopefully learned something new.

Arun Drummond 5M





A SHORT STORY SET IN SPACE...

Lost in Nothing

Max awoke and floated up. He forgot that this was his first few weeks in space and he had no default if he made a mistake. “Come on, get up Max!” Alex called. It was time for the so-called breakfast, which consisted of a few tightly packed eggs and bread. He felt as if it would make him sick if he had another lunch or dinner like this. He looked at the timetable. It was time to go outside and try to fix the broken satellite that had erupted from the heat of the sun. Nervous but happy, Max looked at what might lay ahead of him. His five years of university to ensure this position was worth it. He gazed outside of the triple-glazed window. He could see Earth, Mars and the Sun.

After his typical, disappointing breakfast, Max put on his spacesuit, along with a few other astronauts. Double-checking that his rope was secured, he headed out into the cold and vast space, ready to face his fears after so much time. He grabbed a wrench and shut his eyes. He was finally afloat, by himself. Satisfaction flowed through his veins, though Max felt rather sleepy...

Max found himself stranded in the middle of nowhere. This wasn't the type of generic stories he would find himself enjoying. Instead, this was a life or death situation...

He pulled himself back to see if he could see the rope from before. All Max could see was stars and space. He could hear the throbbing of his heart and

blood pumping through his veins as his eyes widened. His lungs screamed at him as they ran out of air. Max was sure the rope was tightly secured to the ISS - but one thing he didn't check was the International Space Station itself. He examined a speck of white in the distance. Could it be his saviour? Could it just be a star? Could it simply be Max's visor? The speck grew closer as he could slowly notice things that could signal it was a spaceship. 'European Space Agency' was written on the speck. It wasn't his ISS, but he couldn't ignore the fact that this was his genuine saviour. As the ESA module grew closer, Max's hope slowly started to rise.

Finally, his dread was finally lifted as he entered the ESA module. Max asked himself, '*Would I do this again?*' Luck may have not been on his side, but once he got back to Earth, he was called the 'Invincible Man'.

By Tim Jackson, 5M



TOP SEVEN FACTS ABOUT SPACE

- 1.SPACE IS COMPLETELY SILENT.
- 2.THE HOTTEST PLANET IN OUR SOLAR SYSTEM IS 450 DEGREES
- 3.A FULL NASA SUIT COST ABOUT 12,000,000 POUNDS
- 4.THE SUN MASS TAKES UP TO 99.86% OF THE SOLAR SYSTEM
- 5.ONE MILLION EARTHS CAN FIT INTO THE SUN
- 6.THERE ARE MORE TREES ON EARTH THAN STARS
- 7.THE SUNSET ON MARS IS BLUE

Russian cosmonaut Yuri Gagarin was famous. He was 1.57m long and he died on 27th of March. He was born March the 9th Klushino Russia. Yuri Alekseyevich Gagarin was a Soviet pilot and cosmonaut who became the first human to journey into outer space. Travelling in the Vostok 1 capsule, Gagarin completed one orbit of Earth on 12 April 1961.Yuri Alekseyevich Gagarin was a Soviet pilot and cosmonaut who became the first human to journey into outer space. Travelling in the Vostok 1 capsule, Gagarin completed one orbit of Earth on 12 April 1961.

His flight, on April 12, 1961, lasted 108 minutes as he circled the Earth for a little more than one orbit in the Soviet Union's Vostok spacecraft. Following the flight, Gagarin became a cultural hero in the Soviet Union. 50 years ago, the

Russian cosmonaut Yuri Gagarin—the first human launched into space—reportedly returned to Earth with a simple, Soviet-style message: “I looked and looked and looked, but I didn't see God.”

This is a picture of his statue.

Maria 5M

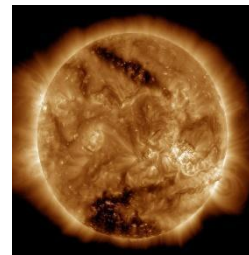


3 of the coolest planets-in my opinion

1#Earth is the only planet in our solar system known to support life. This is because it has two very important things that living creatures need to survive — lots of oxygen and lots of water! Its distance from the sun means it's not too hot and not too cold for creatures to live on, too.

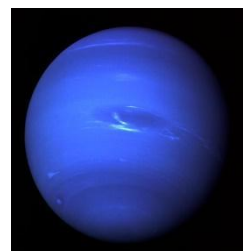


2# The Sun is the centre of The Solar System, with all the other planets orbiting around it. However, its size is average compared to other stars. About 1 million Earths could fit in the Sun. The Sun is a star, it just looks different because we are so close to it.



3#

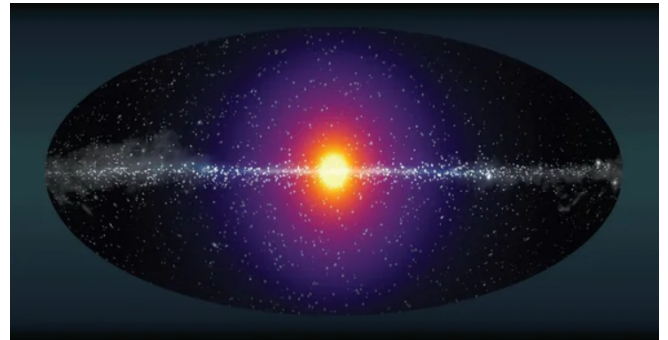
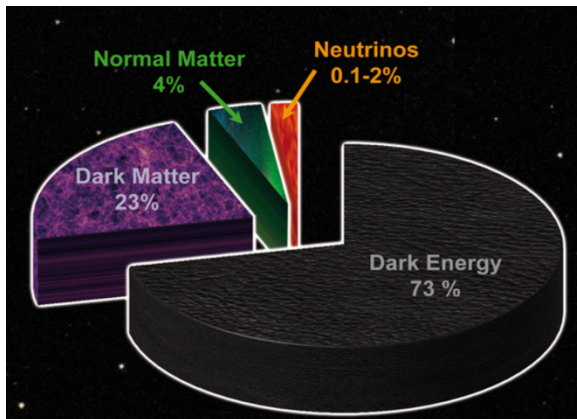
Uranus is the seventh planet from the Sun, and has the third-largest diameter in our solar system. Uranus is an ice giant. It's made up of dense “icy” materials, mainly water, methane and ammonia – above a small rocky core.



Antonio 5M

Dark Matter

Dark Matter is a hypothetical form of matter that was thought to account for approximately 85% of the matter in the universe. Dark Matter is called “DARK” because it does not absorb, reflect or emit electromagnetic radiation and therefore is difficult to detect.



Scientists believe that dark matter may be composed of strange particles which were created in the very early universe. Such particles may include axions, weakly interacting massive particles (called WIMPs), or neutrinos. Even though, at any given instant, there's only around 10^{-22} kilograms of dark matter inside you, much larger amounts are constantly passing through you. Every second, you'll experience about 2.5×10^{-16} kilograms of dark matter passing through your body.

When was Dark Matter formed?



Have you ever wondered what caused this incredible thing that we now call dark matter? Well, scientists have just what you're looking for. This ordinary and *old* component of dark matter has been determined by measuring the abundance of elements heavier than hydrogen that were created in the first few minutes after the big bang occurred 13.8 billion years ago. Scientists think dark matter was made in the hot aftermath of the Big Bang. Evidence is everywhere we look. Water freezes, melts, or boils; chemical bonds break and form to make new substances out of

different arrangements of atoms. The universe itself went through major changes in earlier times, earlier than your great grandparents!



Vera Rubin and her importance to the evidence of Dark Matter.



At a young age, Rubin was fascinated by stars and loved to spot them in her north-facing bedroom in Washington DC. This love of space was then carried on into her later life, as she helped discover a chunk of dark matter that was never yet considered before.

Rubin is perhaps best known for helping to establish the importance of dark matter in the universe, a consequence of her painstaking research of spiral galaxies, much of it a team effort with physicist Kent Ford. Rubin and Ford discovered that the outer stars in a spiral galaxy rotate as quickly as those at the centre, which suggested that there had to be something else in the galaxy providing extra gravity.

Natasha 5M

What the Future Holds

Elon Musk has announced that by the year 2050 all the world's travel will be focused on space travel and Mars. All of the normal essential factors which sustain life here on Earth eventually, he feels, be supported on Mars. A few days ago, NASA's 'Curiosity Rover' sent pictures of an old sea bed located on Mars which may offer hope that water and life existed on Mars once.

The Largest Rocket in History



Star ship is said to do an orbital launch next month which will be the most powerful launch in the history of the world. Starship will also include the most advanced manoeuvres ever.

What the future holds

Elon Musk has announced that by the year 2050 all the world's travel will be focused on space travel and Mars. All of the normal essential factors which sustain life here on Earth eventually, he feels, be supported on Mars. A few days ago, NASA's 'Curiosity Rover' sent pictures of an old sea bed located on Mars which may offer hope that water and life existed on Mars once.

Starship sn20

Star ship is the newest and most advanced rocket ever designed by anyone. Elon Musk is the mastermind behind this operation-founder of Tesla and Space-X he has a dream where all humans will be able to thrive on Mars. In 2012 Elon musk revealed his biggest plan yet, it was a 230ft monster of engineering. [Akay 6L](#)



Black holes

A Black hole is located in space where a gravity force pulls so much light that it can't get out. The gravity is so strong because the weight has been squeezed into a small space. This can happen when a star in the sky is dying.

What does it look like?

A black hole is a large area in space that consumes light around the side, because black holes look like a dark hole, here are a few things that give away where it is: The items around get sucked in. So, you can see where the rocks disappear. They have light around which is approximately 1 billion suns!

How big are Black holes?

It depends black holes can be large or small. Scientists think the smallest black hole is the size of a particle. These black holes are very tiny even though they have the mass of a large mountain. Mass is the amount of stuff in a given object.

Where can they be found in space?

They are found in random bits of the universe, you will not find it in a particular location or know when one would appear, for they randomly appear anywhere across space.

Could a black hole destroy Earth?

Happily, no. Black holes don't go around in space and eat stars, moons and planets. Earth will not fall into a black-hole because no black-hole is close enough for our solar system to do that.

Even if a black hole had the same weight as the sun, Earth wouldn't fall in. The black-hole will take the sun's place and the planets will orbit the black-hole. By Imogen and Tara 6B.



✿ Thank you ✿

Space word search

N	E	P	U	E	M	E	R	C	U	R	Y	T	U
A	E	U	C	A	M	E	C	A	P	S	P	O	S
A	P	R	A	O	A	E	C	S	A	T	U	R	N
R	N	R	U	I	R	A	S	S	N	M	C	C	T
M	A	T	N	S	S	N	S	R	E	I	I	A	U
S	U	N	E	V	R	A	U	E	S	L	M	U	A
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Y	P	E	S	U	S	E	R	T	R	A	H	R	T
P	L	A	N	E	T	S	R	E	U	Y	E	T	S
E	R	K	R	S	U	R	O	A	N	N	A	H	A
V	T	U	T	R	V	T	N	R	A	E	A	E	E
E	M	L	E	I	H	T	S	E	T	Y	W	S	R

EARTH
PLANETS
URANUS
SPACE
VENUS
ASTRONAUT
SATURN
MILKY WAY
NEPTUNE
MERCURY
MARS
JUPITER

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Ayla 5M

TOP TEN FACTS THAT YOU NEED TO KNOW ABOUT SPACE

10 Crazy Facts You Didn't Know About Space

1. SPACE IS COMPLETELY SILENT



There is no atmosphere in space, which means that sound has no medium or way to travel to be heard.

2. THE HOTTEST PLANET IN OUR SOLAR SYSTEM IS 450°C. Venus is the hottest planet in the solar system and has an average surface temperature of around 450° C. Did you know that Venus isn't the closest planet to the sun? That is Mercury. You would think that Mercury would then be the hottest, but Mercury has no atmosphere (which regulates temperature), resulting in big fluctuations.

3. NASA had spent \$420 million (£343,845,600.00) developing next-generation Space suits. There is a rough estimation that the price of \$15 million to \$22 million per unit for the spacesuit made in 1974.



4.THE SUN'S MASS TAKES UP 99.86% OF THE SOLAR SYSTEM.

The Sun accounts for 99.86% of the mass in our solar system with a mass of around 330,000 times that of Earth. Did you know that the Sun is made up of mostly hydrogen (three quarters worth) with the rest of its mass attributed to helium. If the Sun had a voice would it be high and squeaky from all that helium!

5.ONE MILLION EARTHS CAN FIT INSIDE THE SUN

The Sun is large enough that approximately 1.3 million Earths could fit inside (if squashed in) or if the Earths retained the spherical shape then 960,000 would fit. But can you visualise that number of Earths?

6. THERE ARE MORE TREES ON EARTH THAN STARS IN THE MILKY WAY

There are about three trillion trees on Planet Earth, and between 100-400 billion stars, approximately, in the galaxy.



7. THE SUNSET ON MARS APPEARS BLUE

Just as colours are made more dramatic in sunsets on Earth, sunsets on Mars, according to NASA, would appear bluish to human observers watching from the red planet. Fine dust makes the blue near the Sun's part of the sky much more visible, while normal daylight makes the Red Planet's familiar rusty dust colour the most perceptible to the human eye.

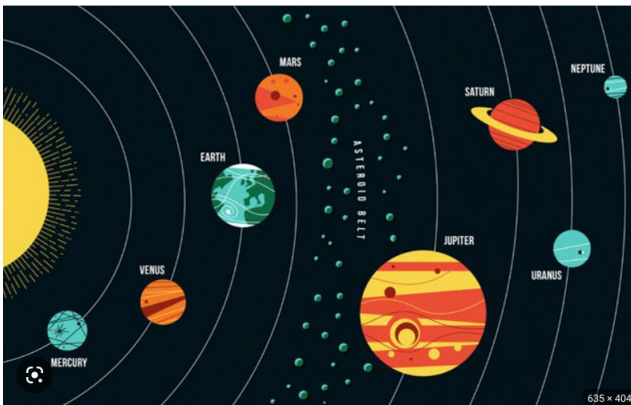


8. THERE ARE MORE STARS IN THE UNIVERSE THAN GRAINS OF SANDS ON EARTH

The universe extends far beyond our own galaxy, *The Milky Way*, which is why scientists can only estimate how many stars are in space. However, scientists estimate the universe contains approximately 1,000,000,000,000,000,000,000 stars, or a septillion. While no one can actually count every single grain of sand on the earth, the estimated total from researchers at the University of Hawaii, is somewhere around seven quintillion, five hundred quadrillion grains. That is an awfully big sand castle!

9. ONE DAY ON VENUS IS LONGER THAN ONE YEAR. Venus has a slow axis rotation which takes 243 Earth days to complete its day. The orbit of Venus around the Sun is 225 Earth days, making a year on Venus 18 days less than a day on Venus.

10. THERE IS A PLANET WHICH COULD BE MADE OF DIAMONDS There's a planet made of diamonds twice the size of Earth the "super earth," aka 55 Cancri e, is most likely covered in graphite and diamond. Paying a visit to that planet would probably pay for the \$12 million-dollar space suit needed to get there!



Ayla 5M

Aliens and Extraterrestrial Life



Is there actually alien life?

Well, scientists actually don't really know but there are lots of space missions looking for alien life.

Have aliens ever visited earth?

Even though there have been lots of movies and stories there is no scientific proof to say that they have. so they didn't build the pyramids

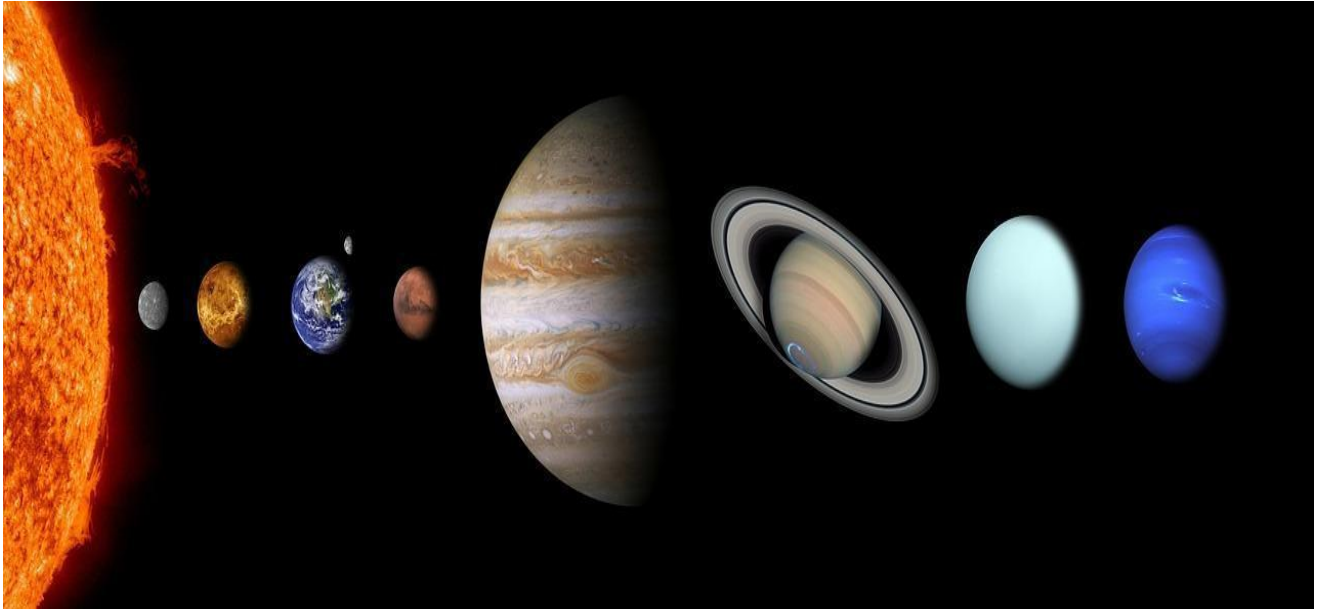
Is there an ultimate dimension?

we wouldn't have noticed by now. It's so small that we couldn't possibly hope to directly probe it with our high-energy experiments. And if those dimensions are wrapped up on themselves, then every time you move

around in four-dimensional space, you're really circumnavigating those extra dimensions billions upon billions of times.

Paloma 5D

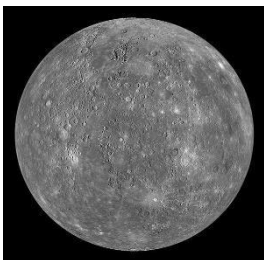
Planets look like majestic things in space but can they sustain life?



This document is for you to find out if you can survive on each planet, what planet and, for how long.

Mercury

Mercury is the first planet from the sun. It is highly unlikely that you would survive on Mercury due to extreme temperatures. Normally it takes about 176 earth days to experience one Mercurian day-night cycle but you wouldn't make it to the next day because you would die in about 2 minutes of arrival due to freezing or burning up.



FUN FACTS

Did you know that the most well-known black hole is Sagittarius A (it's also a zodiac sign, a zodiac sign is an astrological map of the planets and a zodiac sign is a horoscope).

Venus

Venus, at 900 degrees Fahrenheit (482 degrees Celsius), you already know it's not going to be pretty. Venus has about the same type of gravity as Earth, so you'd be familiar walking around until you completely evaporate so the total survival time is less than 1 second.



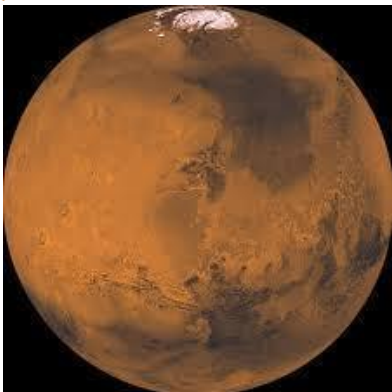
FUN FACTS

Did you know that even though Mercury is the closest planet to the sun, Venus is the hottest planet in our solar system hot enough to melt lead! (and trust me lead is nearly impossible to melt).

We all know that we can survive on Earth but...

Mars

It's relatively cool on Mars with an average annual temperature of -60 degrees Celsius, but Mars lacks an Earth atmospheric pressure. Upon stepping on Mars' surface, you could probably survive for around 2 minutes before your organs ruptured (this is without protected shielded clothing).



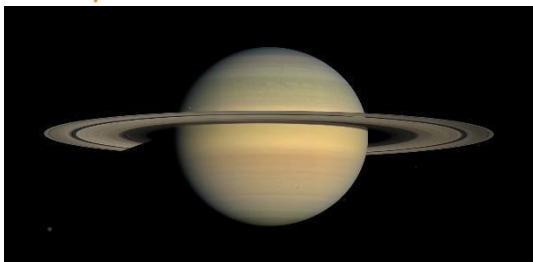
Jupiter

Being a gaseous planet, Jupiter would make for a uniquely uncomfortable life on (or in it since it's a gas giant planet) this enormous planet. You would descend forever into the gaseous atmosphere until you're crushed by the pressure of the planet's layers. After about 2.5 hours of exploration, we will have reached the liquid metallic hydrogen ocean but since it's a gas giant you could not really stand on this "ocean".



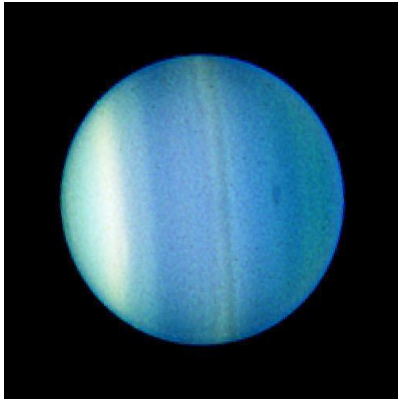
Saturn

Saturn's environment is not as conducive to life as we know it. The temperatures, pressures, and materials that characterise this planet are most likely too extreme for organisms to adapt to do the answer is no you can't live on Saturn.



Uranus

One year on Uranus equals to 84 Earth years (YEARS!). You would die of old age before you would reach the whole year in addition to the temperatures and that there is NO solid surface.



Neptune

Here on Uranus it's far too cold and is primarily made up of ice. You would survive for about 30 seconds. You would not be able to survive the whole day.

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Planets and Stars

So, maybe you think the Sun is a planet? Or maybe you think that some planets that look smaller than others you've seen, are stars? Whatever you think or want to ask is about to be answered and corrected.

The Sun

You might be thinking, 'There are 8 planets in our solar system, Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune but what about the Sun? Well, you have been mistaken. The Sun is not actually a planet! It is a star! The reason as to why it is hot is at its core, the sun burns millions of tons of a gas called hydrogen every second in a process called "nuclear fusion". Fusion turns hydrogen into helium and releases incredible amounts of energy in the process. It's fusion that creates the heat and the rays of light that eventually reach Earth. The temperature of the surface of the sun is 5,505 °C! The sun is 4.603 billion years old! Older than your Grandpa!

Without the sun there would be no vegetation on Earth, because every plant needs light to live and grow. The sun even enables them to generate oxygen by means of photosynthesis, which humans and animals need to breathe. If there was no sun then the Earth would freeze. The Earth's position in the solar system is optimal for the development of life. According to the World Meteorological Organization, Yuma (Arizona) is the sunniest place on Earth. It has a total of 11 hours of sunlight in winter and up to 13 in summer. This means Yuma experiences an average of 4,015 hours of sunshine per year. Located more than 200 miles north of the Arctic Circle, Tromsø, Norway, is home to extreme light variation between seasons. During the Polar Night, which lasts from November to January, the sun doesn't rise at all!

Star or Planet?

Imagine (or do) going to your bedroom window and seeing a very large star. Ok. You got the picture? Great! You rush down to your parents and say, "Mummy, Daddy, come look, I think I saw a planet!" then they say to you,

"Ok dear, very good..." whilst half listening to you, and half watching TV.

You storm upstairs and look out the window again thinking, 'is that actually a planet?' well it could be, but it's probably a star that's just closer than the rest to Earth. To be sure, I recommend an app (copy the link below to google to find out more) called Star walk 2(read more to find the app).

Where you can point in any direction and it will show you what star or constellation is in that direction. In Star walk 2 you can tap on a star or planet and it will tell you its name. You can rotate the star or planet ...

Supernovas

What is a supernova?

A supernova is the biggest explosion that humans have ever seen. Each blast is the extremely bright, super-powerful explosion of a star.

What causes a supernova?

One type of supernova is caused by the “last hurrah” of a dying massive star. This happens when a star at least five times the mass of our sun goes out with a fantastic bang!

Massive stars burn huge amounts of nuclear fuel at their cores, or centres. This produces tons of energy, so the centre gets very hot. Heat generates pressure, and the pressure created by a star’s nuclear burning also keeps that star from collapsing.

A star is in balance between two opposite forces. The star’s gravity tries to squeeze the star into the smallest, tightest ball possible. But the nuclear fuel burning in the star’s core creates strong outward pressure. This outward push resists the inward squeeze of gravity. When a massive star runs out of fuel, it cools off. This causes the pressure to drop. Gravity wins out, and the star suddenly collapses. Imagine something one million times the mass of Earth collapsing in 15 seconds! The collapse happens so quickly that it creates enormous shock waves that cause the outer part of the star to explode!

Usually a very dense core is left behind, along with an expanding cloud of hot gas called a nebula. A supernova of a star more than about 10 times the size of our sun may leave behind the densest objects in the universe—black holes.

A second type of supernova can happen in systems where two stars orbit one another and at least one of those stars is an Earth-sized white dwarf. A white dwarf is what's left after a star the size of our sun has run out of fuel. If one white dwarf collides with another or pulls too much matter from its nearby star, the white dwarf can explode. Kaboom!

How bright are supernovas?

These spectacular events can be so bright that they outshine their entire galaxies for a few days or even months. They can be seen across the universe.

How common are supernovas?

Not very. Astronomers believe that about two or three supernovas occur each century in galaxies like our own Milky Way. Because the universe contains so many galaxies, astronomers observe a few hundred supernovas per year outside our galaxy. Space dust blocks our view of most of the supernovas within the Milky Way.

What can we learn from supernovas?

Scientists have learned a lot about the universe by studying supernovas. They use the second type of supernova (the kind involving white dwarfs) like a ruler, to measure distances in space.

They have also learned that stars are the universe's factories. Stars generate the chemical elements needed to make everything in our universe. At their cores, stars convert simple elements like hydrogen into heavier elements. These heavier elements, such as carbon and nitrogen, are the elements needed for life.

Only massive stars can make heavy elements like gold, silver, and uranium. When explosive supernovas happen, stars distribute both stored-up and newly-created elements throughout space.

Search the links below to find out more fun facts!

<https://spaceplace.nasa.gov/sun-heat/en/>

[Or for the game starwalk:](#) <https://starwalk.space/en>

Sophia 5M