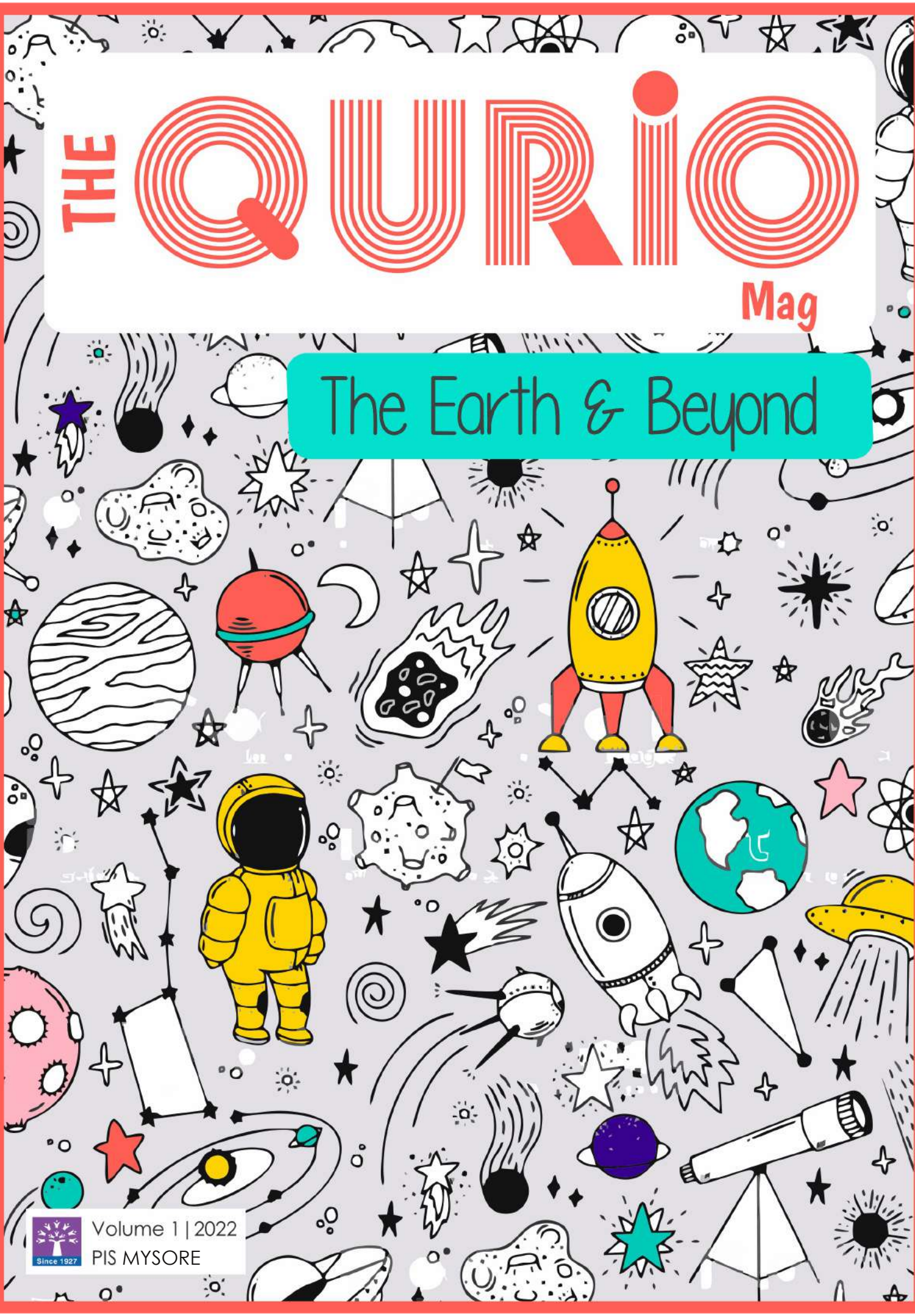
THE QURIO Mag

The Earth & Beyond



Volume 1 | 2022
PIS MYSORE

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FROM THE PRINCIPAL'S DESK

At the outset I express my sincere gratitude to parents for having faith in Podar and continuing the education of their children with us. We are seriously taking our role to promote interest and empower students with opportunities to become successful individuals. It is a known fact that the learning process is instrumental in shaping one's personality and the way he/she deals with the situation of life. For the development of the child, we focus on the important aspects such as mental aspect, physical aspect, social aspect and overall development through many scholastic and co-scholastic activities.

At Podar importance has been given for asking questions, inquiry based learning, technology driven learning, 21st century skills etc. We are happy to launch the school magazine 'The Qurio Mag' , a magazine which gives opportunities to the students to showcase their creativity in the form of stories, articles, poems, anecdotes and so on. The students, with the guidance of teachers were instrumental in bringing up this magazine. The theme for the 1st volume is 'Earth and Beyond'. This has given an opportunity for the students to explore the 'Outer Space'.

I congratulate the entire editorial team of teachers and students for their wonderful work. I also thank the parents for encouraging their children to contribute to this magazine. We are confident the readers will enjoy going through all the articles, poems and other contents of the magazine.

Regards,

Krishna Bangera, Principal

Editor-in-Chief: Mr Avinash K N, Mr Mathew A | Student Editor: Ms Nitya Jain | Student Editor: Ms P Nagalakshmi Neeraja, Ms Gaana Akshaya

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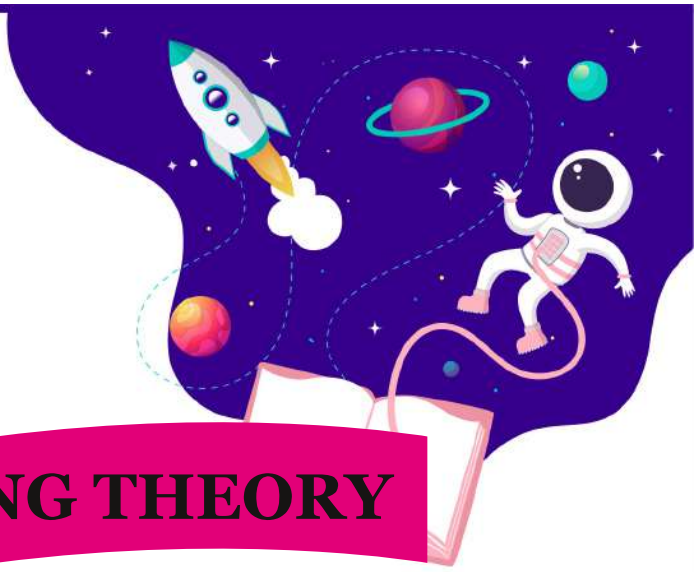
PODAR, MYSORE

CHRONICLES OF SPACE



THE BIG BANG THEORY

The Big Bang Theory describes how the universe expanded from an initial state of high density and temperature. It is the prevailing cosmological model explaining the evolution of the observable universe from the earliest known periods through its subsequent large-scale form the model offers a comprehensive explanation for a broad range of observed phenomena, including the abundance of light elements, the Cosmic Microwave Background (CMB) radiation and large-scale structure. Crucially, the theory is compatible with Hubble lemaitre law – the observation that the farther away a galaxy is, the faster it is moving away from the earth. The cosmic expansion backwards in time using the known laws of Physics, the theory describes an increasingly concentrated cosmos preceeded by a singularity in which space and time lose meaning (typically named "the Big Bang singularity). Detailed measurments of the expansion rate of the universe place the Big Bang singularity at the estimated 13.787±0.020 billion years ago, which is considered the age of the universe.

After its initial expansion, an event that is by itself often called "The Big Bang",
the universe coded sufficiently to allow the formation of subatomic particles and later atoms. Giant clouds of these primordial elements – mostly hydrogen, with some helium and lithium – later coalesced through gravity, forming early stars and galaxies, the descendants of which are visible today. Besides these primordial building materials, astronomers observe the gravitational effects of an unknown dark matter surrounding galaxies. Most of the gravitational potential in the universe seems to be in the form the Big Bang theory observations indicate that the excess gravitational potential isn't created by baryonic matter, such as normal atoms. Measurement of the redshifts of supernova indicate that the expansion of the universe is accelerating, an observation attributed to dark energy's existence.

Georges Lemaitre first in 1927 that an expanding universe could be tracked back in time to an originating single point, which he called the "primeval atom" Edwin Hubble confirmed through analysis of galaxies are indeed drifting apart; this is an important observational evidence for an expanding universe. For several decades, the scientific community was divided between supporters of the Big Bang and the rival steady-state model which both offered explanations for the observed expansion, but the steady-state model stipulated an eternal universe in contrast to the Big Bang's finite age.

In 1964, the CMB was discovered. This convinced many cosmologist that the steady-state theory was falsified. Unlike the steady-state theory, the hot Big Bang predicted a uniform background radiation throughout the universe caused by the high temperature and densities in the distant past. A wide range of empirical evidence strongly favours the Big Bang, which is now essentially and universally accepted.

Ms Abhigna H C
Grade 7A

CHRONICLES OF SPACE

Ms. Amrutha
Grade 8C

CHRONICLES OF SPACE

BLACK HOLE

Thinking about Black Hole itself gives us a very perplexed feeling, doesn't it?
Well how are black holes formed? Where do they come from? Why can't anything pass through them? When and how were they first discovered? All these questions pass in our minds.
Well we all know that nothing can escape through a black hole, not even light and that is because of the intense gravity that it holds.

A black hole is formed when a massive star dies. All stars at one point come to an end and that is when they run out of fuel to burn. Oh, but don't worry, our sun will last till another 5 billion years.
Now when a star runs out of fuel, its own mass starts flowing into its core and soon enough when the star is not able to withstand its own gravitational force, its core collapses creating a huge explosion called supernova. And trust me; supernovas can be so powerful that it can sometimes wipe out galaxies. The remains of the supernova either turns into a 'neutron star' or if there is a good amount of mass, it turns out as a black hole whose gravitational force is so much that nothing can escape through it.

Spaghettification:-
Well, do you know what would happen if you get into a black hole?
Your body will be ripped apart through a process called 'Spaghettification' that is, your body will become thin, and long in shape like spaghetti. Ouch!
Now coming to the question 'who first discovered black holes?'
The idea of objects whose gravity is so intense that not even light can escape was first brought by John Michell in 1783. In 1917, Albert Einstein predicted the existence of black hole. The term 'black hole' was coined many years later by an astronomer John Wheeler in 1967.
The first photo of a black hole was captured on April 2019 and it is 6.5 billion times as massive as our sun. This black hole is present in the center of a galaxy called 'Messier 87 galaxy'.
And did you know that black holes are invisible? As said earlier the strong gravity of black holes pulls all the light into it hence a black hole doesn't emit light.
But then, how do scientists figure out the presence of black hole?
The presence of black hole can be detected by the effect on the other matter nearby.

EVENT HORIZON:-
A black hole's surface is called its event horizon. To escape the event horizon you will need the velocity faster than the speed of light. You will be doing just fine till you meet the point of event horizon and when you pass the event horizon, that is, when you will be swallowed by the black hole and forever vanish from our universe.

Ooof! That's scary. But the black hole nearest to our Earth is several thousand light years away.

Ms Riya Sabu
Grade -9B

CHRONICLES OF SPACE

TREK INTO SPACE

Space is an almost perfect vacuum, nearly void of matter and with extremely low pressure. In space, sound doesn't carry because there isn't any molecules close enough together to transmit sound between them.

A black body is an idealised physical body that absorbs all incident electromagnetic radiation, regardless of frequency or angle of incidence. The name "black body" is given because it absorbs all colours of light. A black body also emits black-body radiation.

A black hole is a place in space where gravity pulls so much that even light cannot get out. The gravity is so strong because matter has been squeezed into a tiny space.

There remains 2 giant mysteries about space:

- Dark matter
- Dark energy

While scientists have provided extensive evidence for the existence of dark matter and dark energy, they are each still poorly understood as, so far, scientists cannot directly observe them and can only observe their effects.

Roughly 80% of all the mass in the universe is made up of what scientists have dubbed "dark matter", but it's not known what it is or if it is even matters by our current definition. However, dark matter does not emit light or energy and cannot, therefore, be directly observed. Scientists have found overwhelming evidence that it makes up the vast majority of the matter in cosmos.

Dark energy might have a similar name to dark matter, but it's a whole different component entirely.

Thought to make up nearly 75% of the universe, dark energy is a mysterious and unknown force or entity that scientists think is responsible for the universe's ongoing expansion.

Smaller black holes can form from the gravitational collapse of a gigantic star, which forms a singularity from which nothing can escape-not even light. No one is quite sure what lies within a black hole or what would happen to a person or object who fell into it - but research is ongoing.

Because no light can get out, people can't see black holes. They are invisible. Space telescopes with special tools can help find black holes. The special tools can see how stars that are very close to black holes act differently than other stars.

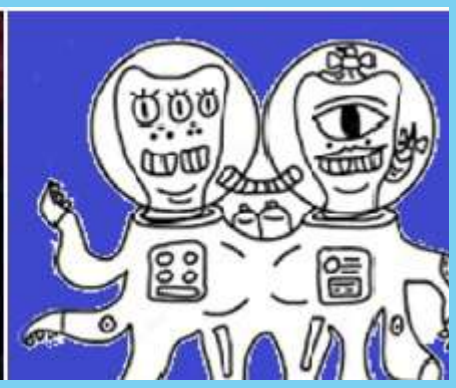
ISN'T SPACE A PLACE FULL OF MYSTERIES?

Mst.Pradyumna K Prasad
Grade 7A

CHRONICLES OF SPACE

MISSION SPACE

I was a part of the crew that was sent on a mission to the outer space. The mission was carried out successfully and I was on my way back to Earth with my friends. Suddenly, an unidentified flying object appeared and it somehow forced our spacecraft to land on another planet.



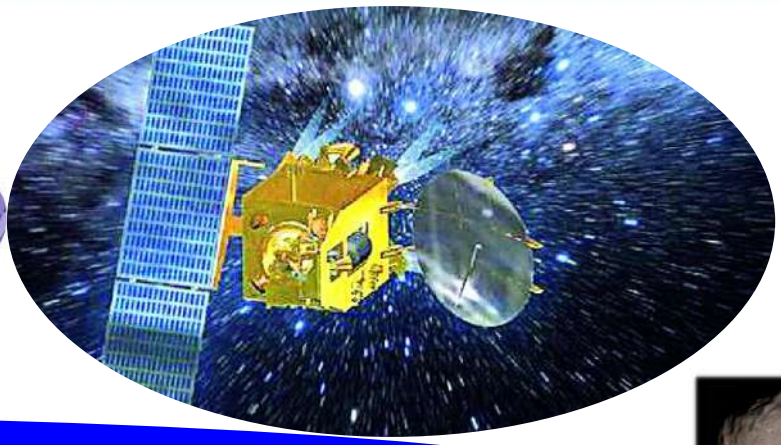
On that planet, a very strange looking creature met us. This creature took my crew and me to see its master. I saw another alien sitting on a very high throne. That must be their master. It wore a crown and looked like all the strange looking creatures in the room but its head was very much big. All the aliens had four eyes, two heads and eight legs. They had a red bodies with no hair. The strange unknown planet looked like a prison, on worst...a dungeon. There was a very high wall all around the planet. It had many buildings and everywhere you went, you could hear the wailing sounds coming from small cells. We were scared but they gave us some food, which smelt like rotten tomatoes. The smell was so strong that we had to hold our breath in order to be alive. No one dared to touch the food.

The next day, we were given a long list of things to do but they were in a language that we could not understand at all. They whipped us and put us in a small cell. After that, they conducted experiments on us. A few of us died but the rest of us who survived were put back into the cell.

One day, the aliens who brought us to our cell forgot to lock the door. Soon we boarded our own spaceship and flew back to earth. We had a horrifying experience but no one believed us! After this, I never dared to go into space ever again.

Ms Nitya Jain
Grade 9A

SPACE PROJECTS



MANGALYAAN

Phobos (the largest moon on Mars) photo captured by Mangalyaan

Mangalyaan was India's first interplanetary mission. The mission made India the first Asian country and the fourth in world after Roscosmos, NASA and the European Space Agency. On 5 November 2013, the Indian Space Research Organization (ISRO) launched its first space craft bound for Mars. India launched Mangalyaan to study the Red Planet (Mars) and test key technologies required for exploring the inner solar system. The mission was led by K. Radhakrishnan who was awarded by Padmbhushan and was one of the most distinguished scientists of India and also the chairman of ISRO at that time. Prime Minister 'Manmohan Singh approved the project on August 3, 2012. A dedicated team of 500 scientists and engineers of ISRO, who had worked day and night for 18 months and wrote a history on 24th September 2014 when Magalyaan was successfully put into orbit around Mars. India was the first country to launch its space craft to Mars in its first attempt. The Mangalyaan mission was also called Mars Orbiter Mission (MOM). MOM spacecraft weighed 1350 kg mass. After 298 transit to Mars the satellite was put into orbit on 24th September 2014.

On 15th July barely one hour before the schedule launch the mission was aborted because there was a leak in the pressure applying system. According to the planning, Mangalyaan had to stay in space for 6 months but it got extended for 7 years 10 months and 3 days.

India not only became the first Asian country to attain the feat of reaching Mars orbit but it also became the first country to do so on its first attempt. The Mangalyaan mission was also called for being the cheapest mission to Mars till date. Scientists contributed the Mangalyaan mission are K.Radhakrishnan, Ritu Kharidhal, Nandini Harinath, Anuradha T K, Moumita Dutta, Minal Rohit and Dr. Seetha Somasundaram. China referred to India's successful Mangalyaan as the "PRIDE OF ASIA". On September 28, 2014, MOM controllers published the spacecraft's first global view of Mars. The image was captured by the Mars Colour Camera (MCC). Over the years, MCC has captured over 980 images that were released to the public. On September 24 ,2022 MOM completed 4 years in its orbit around Mars although the designed mission life was only 6 months. ISRO now plans to develop and launch a follow- up mission called Mars Orbiter Mission 2 (MOM-2 or Mangalyaan-2) in 2024.

Mangalyaan will observe the environment of Mars and look for various elements like methane (marsh gas), which is a possible indicator of life. Mangalyaan mission is aimed at studying Martian atmosphere. Its objective is to explore Martian surface features, mineralogy, morphology and atmosphere using indigenous scientific instruments. An important conclusion of the Mangalyaan mission has been the finding that dust storms on the Martian can rise up to hundreds of kilometres. On 1 July 2020, Mangalyaan was able to capture a photo of the Mars satellite Phobos from 4200 km away. On 18 July 2021 Mars Colour Camera (MCC) captured full disc image of Mars from an altitude of about 75,000 km with spatial resolution about 3.7 km.

Ms Aashi Sharma
Grade 9A

MOON MINING

"First Served as Moon-mining Gains Legality" "2022 Space Missions: Moon Mining", " China allies with Russia and plans more moon mining missions after finding new lunar mineral" are a few recent highlights in the global news. The world is burgeoning in all spheres – Space technology too. The vast field has caused several controversies and conundrums including those on Moon Mining.

China said it discovered a new lunar mineral, via samples retrieved by its Chang'e-5 mission. Named Changesite-(Y), it was described by the state-run Xinhua news agency as a kind-of colourless transparent columnar crystal. It's said to contain helium-3, an isotype that's been speculated as a future energy source.

Moon mining sustainability is critical for the future of space exploration. Analysts state an observation on the possibility of exploitation of moon and its resources. China, US Are Racing to Make Billions From Mining the Moon's Minerals. The world's top superpowers aren't cooperating on rules of the road for extracting resources in outer space. The damages caused maybe huge and irreversible. The change depends on the children of today.

Ms.Nishitha Ragendran
Grade 10B

STM - SPACE TRAFFIC MANAGEMENT

The Universe is under no obligation to make sense to you. Space Traffic Management is the ability of international and national bodies to track and regulate space objects. NASA has developed a novel patent-pending technology known as STM which provides a robust framework for an on-orbit coordination of activities to enhance the safety, stability and sustainability of operations in the space environment.

The number of satellites and debris in space constantly increases due to new developments in reusable launchers, small satellites and more private initiatives in space. There are now more than 1 million debris items larger than 1cm orbiting around Earth and this number is growing as more than 2,000 additional satellites are expected to be launched in the next ten years. These pieces of "space junk" are orbiting the earth and are likely to create severe damages and potentially destruction to any satellite in the case of a collision. The first ever collision between 2 satellites occurred in February 2009 when an inactive Russian communication satellite (Cosmos 2251) collided with a satellite operated by US-based Iridium satellite LLC, causing more than 2,000 pieces of debris, much of which will remain in orbit for decades.

Such collisions can threaten the sustainable use of outer space in the long term.

Ms. Shirali
Grade 10B

WE WOULDN'T EXPLORE THE SPACE WITHOUT THESE INVENTIONS

Stars and planets have fascinated people since ancient times, but wasn't until 20th century. In recent decades there were dramatic changes and improvement in observation technologies. Today's scientists observe stars, planets, galaxies and other celestial objects by sending spacecrafts, rockets, orbiters and satellites carrying equipment that can capture the more elusive wavelengths such as gamma rays, x-rays ,and ultraviolet rays.

Rocket is a long, cylindrical tube, spacecraft, or missile which moves up the ground, exuding a large amount of energy and pressure in the form of gas. It is used to send space shuttles, astronauts, space crafts, satellites etc. in the space. Totally 5,038 rockets have been launched, mainly by the following countries: Russia, United States, China, Japan and India.

Top 5 Most Powerful Rockets In The World

1. SATURN V Rocket [1967]was launched by United States, its height is 363 feet and weigh 6.2 million pound (1,40,613 kg).
2. LONG MARCH [1934-35] was launched by Chinese space agency,its height is 338 feet and weigh(1,40,613 kg).
3. SPACE LAUNCH SYSTEM - SLS [2022] will be launched by United States, its height is 365 feet and weigh (1,31,541 kg).
4. SPACE X STARSHIP [2019-20] was launched by United States, its height is 394 feet and weighs 99,790 kg.
5. ENERGIA [1987] was launched by USSR ,its height is 365feet and it weighs 99,790 kgs.

A spacecraft is a vehicle or machine designed to fly in outer space. A type of artificial satellite, spacecrafts are used for a variety of purposes, including communications, Earth observation, meteorology, navigation, space colonization, planetary exploration, and transportation of humans and cargo.

Top 5 Best Spacecrafts In The World

1. VOYGER 2 [1977] launched from United States
2. VOSTOK 1[1961] launched from Baikonur Cosmodrome (Kazakhstan now).
3. APOLLO 11[1969] launched by United States
4. PIONEER 10[1972] launched by United States
5. CASSINI- HUYGENS SPACECRAFT [1997] launched by United States.

A space telescope is an astronomical telescope that operates in space by remote control, to avoid interference by the earth's atmosphere. Space telescopes avoid the filtering and distortion (scintillation) of which they observe and avoid light pollution which ground based observatories encounter.

Top 2 Best Space Telescopes in the world

1.The Hubble Space Telescope[1990]
This telescope can orbit 375 miles above Earth. It's huge mirrors, cameras, and spectrographs seek –and sometimes find distant glimmers from the Big Bang. Computer controlled adaptive optics help prevent distorations. Spectrographs taken from Hubble can also distinguish different gases by color. It is invented by Edwin Hubble and was launched in 1990.

2.The James Webb Space Telescope (JWST) [2021]
This is a space telescope designed primarily to conduct infrared astronomy. As the most powerful telescope ever launched into space, its greatly improved infrared resolution and sensitivity will allow it to view objects too old, distant for the Hubble Space Telescope. It has mass of 6161.4 kg. It is invented by the Northrop Grumman and Ball Aerospace.

Ms Payaswini
Grade 9A

THE UNIVERSE & ASTRONOMY

THE UNIVERSE TODAY

Space & Astronomy News

"A Person who can no longer wonder and stand rapt in awe looking at the universe, as good as dead," says Albert Einstein.

The Universe is all of space and time and their contents, including planets, stars, galaxies, and all other forms of matter and energy. Astronomers have determined that our universe is about 13.8 billion years old. One of the prevailing cosmological descriptions of the development of the universe is the Big Bang theory. The Big Bang states that the earliest state of the universe was extremely hot and dense, and the universe subsequently expanded and cooled. Discoveries in the early 20 century have suggested that the universe had a beginning and that space has been expanding since then. Hence, Universe has neither an edge nor a centre. The sun is one of the few hundred billion stars in the Milky Way, which is one of a few hundred billion galaxies in the universe. According to the general theory of relativity, far regions of space may never interact with ours even in the lifetime of the universe due to the finite speed of the light and the ongoing expansion of space. Space may expand faster than light can transverse it.

Astronomy is the study of everything in the universe beyond Earth's atmosphere. Astronomy is a natural science that studies celestial objects and phenomenon. Professional astronomy is split into observational and theoretical branches. Observational astronomy is focused on acquiring data from observations of astronomical objects. This data is then analysed using basic principles of physics. Theoretical astronomy is oriented toward the development of computer or analytical models to describe astronomical objects and phenomena. These two fields complement each other. Theoretical astronomy seeks to explain observational results and observations are used to confirm theoretical results.

Some unsolved problems in astronomy are:

Is there another life in the universe?

What will be the ultimate fate of the universe?

How did the first galaxies form?

What is the nature of dark matter and dark energy?

The universe is vast, with so much left to discover. The universe is filled with fascinations and phenomena and no words to describe this incredibly big universe.

Mst.Omkar Pawan
Grade 9B

THE UNIVERSE TODAY

Space & Astronomy News

THE BIRTH OF AND THE PROGRESS OF SPACE-TIME & THE PROGRESS OF HUMAN SPACE FIGHT

"Mother Earth", "Unique Planet', 'Blue Planet' and many more phrases are to denote our planet earth. Earth, the only planet known to support life came into existence approximately 4.54 million years ago. The formation and evolution of the Solar System occurred along with the Sun. In theory, a solar nebula partitioned a volume of a molecular cloud due to gravitational collapse, which began to spin and flatten into a circumstellar disc, then the planets grew out of that along with the star.

Earth is the third nearest planet to the Sun, the average distance from the earth to the Sun is 93 million miles. The idea of humans in space refers to human spaceflight but is not limited to it. Over the past century, humans have made massive progress in various fields of science. As a result, we have not only been able to observe space but leave earth's atmosphere and enter space.

Over the past 50 years, hundreds of artificial satellites have been sent into space. Humans have also entered space to a previously unheard extent. However, the field of space exploration is still in its infancy.

Thinking of this, the waste materials that are left unused from rockets, satellites, and even astronaut suits pollute space! Humans have not only polluted earth but have also put space in danger. If we stop paying attention to it, the universe might face something enormous in the future that may change the world into something undisclosed. To decrease pollution we have to avoid the usage of such pollutants.

Ms Aadya Khare
Grade7B

MOVIES AND BOOKS RECOMMENDATIONS

Movies

1. Apollo 13 (1995)

NASA must devise a strategy to return Apollo 13 to Earth safely after the spacecraft undergoes massive internal damage putting the lives of the three astronauts on board in jeopardy.

2. The Martian (2015)

An astronaut becomes stranded on Mars after his team assumes him dead, and must rely on his ingenuity to find a way to signal to Earth that he is alive and can survive until a potential rescue.

3. Interstellar (2014)

A team of explorers travel through a wormhole in space in an attempt to ensure humanity's survival.

4. First Man (2019)

A look at the life of the astronaut, Neil Armstrong, and the legendary space mission that led him to become the first man to walk on the Moon on July 20, 1969.

5. Gravity (2013)

Two astronauts work together to survive after an accident leaves them stranded in space.

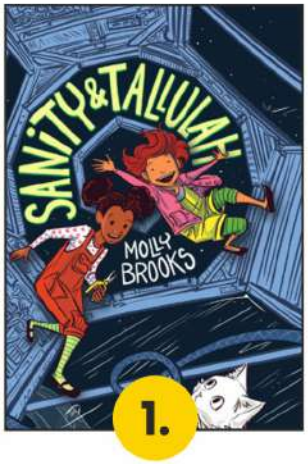
6. Fly Me To The Moon (2009)

Three young house flies stowaway aboard the Apollo 11 flight to the moon.

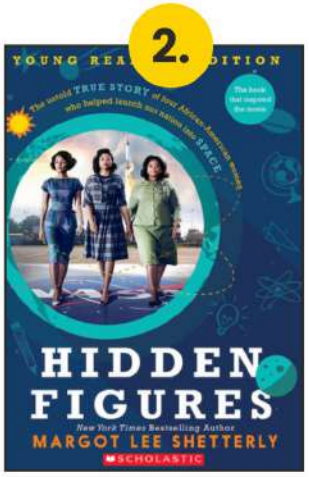
7. Mission Mangal (2019)

Based on true events of the Indian Space Research Organisation (ISRO) successfully launching the Mars Orbiter Mission (Mangalyaan), making it the least expensive mission to Mars.

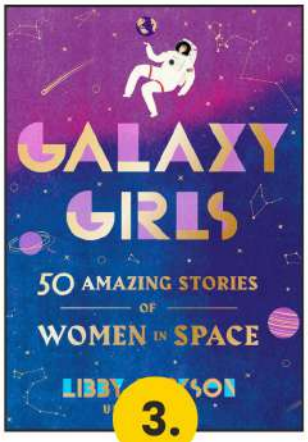
Books



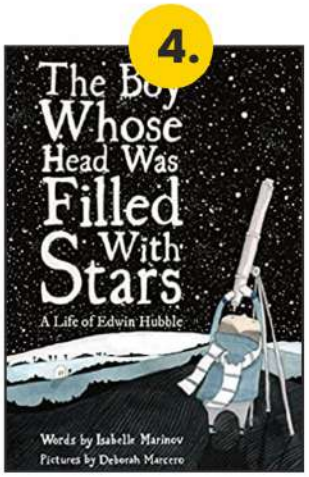
Sanity & Tallulah
Molly Brooks



Hidden Figures
Young Readers'
Margot Lee Shetterly

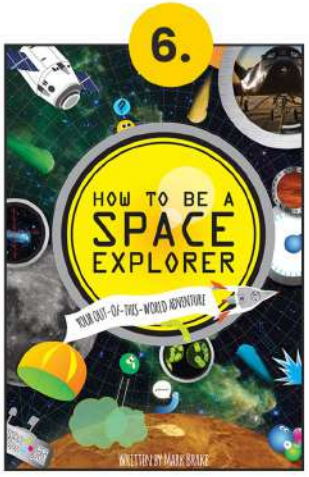


Galaxy Girls: 50 Amazing
Stories of Women
In Space
Libby Jackson



The Boy Whose Head
Was Filled with Stars:
A Life of Edwin Hubble

The Kid Who Came
From Space
- Ross Welford



How To Be A Spcae Explorer:
Your Out Of This World
Adventure By -
Lonely Planet Kids

Review
Movies & Books

Title of the Book/Movie:

MOVIE : OVER THE MOON

Movie/Book Summary:

A young girl, who has many beautiful memories of her mother, endeavours to build a rocket and take an arduous journey to meet a mythical moon goddess. The film is filled with wide imagination that just makes the film exciting to watch.

How many hearts do you give this movie?

(Draw a heart to rate - 1 heart means the movie was really bad.
5 hearts means it was great!)

❤❤❤❤❤

Movie/Book Reviewed By:

Ms.Zaara Shariff
Grade 7A

Title of the Book/Movie:

BOOK: BEYOND INFINITY

Movie/Book Summary:

In this book Eugenia Cheng takes us on a journey to the outer reaches of the mathematical universe to contemplate the slightly abstract concept that is infinity. In it she poses various questions about this number asking if 1 is larger than 1, are some infinities larger than other infinities, if you can fit infinite number of people in Hilhert's Hotel , when does a number start becoming irrational and many more interesting questions. This book has a lot of diagrams, it is detailed and simple.

How many hearts do you give this movie?

(Draw a heart to rate - 1 heart means the movie was really bad.
5 hearts means it was great!)

❤❤❤❤❤

Movie/Book Reviewed By:

Mst Shishir B
Grade 8 A

Review
Movies & Books

Title of the Book/Movie:

Movie: A SPACE ODYSSEY

Movie/Book Summary:

An imposing black structure provides a connection between the past and the future in this enigmatic adaptation of a short story by revered sci-fi author Arthur C. Clarke. When Dr. Dave Bowman (Keir Dullea) and other astronauts are sent on a mysterious mission, their ship's computer system, HAL, begins to display increasingly strange behavior, leading up to a tense showdown between man and machine that results in a mind-bending trek through space and time. It is a intresting science fiction movie.

How many hearts do you give this movie?

(Draw a heart to rate - 1 heart means the movie was really bad.
5 hearts means it was great!)

♥ ♥ ♥ ♥ ♥

Movie/Book Reviewed By:

Mst.Karthik Chandra
Grade 7C

Title of the Book/Movie:

Book:GEORGE AND THE SECRET KEY TO THE UNIVERSE

Movie/Book Summary:

The amount of thought put into introducing scientific information to kids in a simpler way blows my mind. I guess this literal masterpiece is a result of a physicist and his children's – novelist-daughter working together. YOU'VE GOT TO CHECK IT OUT RIGHT NOW!!!

How many hearts do you give this movie?

(Draw a heart to rate - 1 heart means the movie was really bad.
5 hearts means it was great!)

♥♥♥♥♥

Movie/Book Reviewed By:

Mst.Ghanesh Venkatesh
Grade: 8A

BUZZING POETS

The Pompous Star

In the far away galaxies
Where time has ceased to mean
There lies a star
Glowing with the shadow of a sheen

This ball of fire
A titan once he had been
And now exhausted
His energy clean

Massive is his anger
Reminiscent of his days of power
Jealousy gained the upper hand
He wanted the universe to cower

Little does he know
Of his contributions many
For this vast cosmos
He helps keep bountiful and plenty

Thus he sat there streaming
Until he blasted apart with a bright light
This sent his valuable insides careening
While the blast, split the night

Ms Prerana Vikas
Grade- 7 C

Earth and Space

Space, what a beautiful place
We all think that it's a common place
But yet we don't emblace its grace
With stars and moons and planets too
And don't you dare forget those galaxies too!
The sun has just begun to rise the flowers
That bloom at sunrise it is such a beautiful prize!
Mercury are you from Germany?
Oh you're the closest to the sun.
Venus, have you seen us?
Beautiful and glorious, just like an angel!
Earth was worthy enough to have:
Oxygen, water and lots of lands!
If it didn't where would we live?
Mars has so many scars and eruptions and explosions
And so many more,
Jupiter jogged around the sun,
Striped with lines, oh so fun!
Saturn, you've got a pattern,
This turn, that turn, where do you go?
Uranus and Neptune, you're the coldest
Shivering blues with hues,
Far away from the sun,
Goodbye and see you again, soon!

Ms Ananya Bhajantri
Grade 5B

First time in Space

I can walk out in space
In this still and starry place
I can roll round and round
I can dance without a sound
I can dive, I can swoop
I can twist round in a loop
I can float, I can swirl
I can spin, I can twirl
I can rise, I can fall
I can bounce, like a ball
I can zoom back to bace
In my rocket out in space
This is how we human beings
Be at space!

Ms Niksha K
Grade -5A

Earth and Beyond

So blissful to see the twinkling stars above us,
The gases like helium and hydrogen makes the stars dazzle.
Are there many proportions of them?
The eight excellent planets spin and go around the sun leisurely,
As they have unique things bearing with them.

Ms Sahana S.R
Grade -5A

BUZZING POETS

Black infinity

Upon the heavens, a black barren infinity
A quiet, calm, still area of oneness existed.
There's a space,
Where everything is in it.
Started ahead of time
And spread beyond the time.
Having a ball of fire in the centre,
All the planets orbit it making it supreme.
Somewhere in between we find a blue crystal
On which the moon fills the night with its light.
The gown worn by the space,
It's filled with countless twinkling stars with grace.
It looks quite beautiful in the night sky,
Where one can enjoy its beauty in solitude.
Deep...deep...in the dark,
Are hidden ...the unspoken secrets,
The black magnets, the invisible moons,
Last but not the least, the birth of space.

Ms Nagalakshmi Neeraja
Grade-9A

Earth and Beyond

We have a place in space
In Milky Way with all the bundle of
Twinkling and bright stars
Here comes our Earth with its family
The only planet unique then others
It helps us to survive
It's like a ball
It's a great place to be
It is our planet Earth
There comes the big ball Sun
The bright and yellow hot ball
As Sun rise in east
And moon set on west
That belongs to the family of galaxy
Here come the other planets
Mercury, Venus, Mars, Jupiter, Saturn, Uranus and Neptune, they also look like sphere ball this all are nothing but the Solar System.
Last but not the least every fear, every hope
Every desire we shored
Become a star in our sky.

Ms Chaarvi. R
Grade -7A

About Space and Earth

I love space
Stars can't be trace
They're countless
So never think it's less
Blackholes are frightening beast
They'll eat us less than a feast
Sun is very very far
It is small compared to the other star
Meteos'll crash your head
If you also hide in your shed
If there is no ozone layer
You'll not be there to do prayer.

Mst. Anirudh Ragavendra
Grade -5A

The Vast Expanse of Black

Space full of emptiness, lighting in the darkness,
All silently, the glowing moon,
Is it all lifeless?
The tender stars of dreams?
Nah hero's armor gleams...
The red planet of mars
The cold light of stars...
The whizzing comet?
No, hard rock tossed
The hungry black hole in the space?
The little cloud that never flies
Oh!! Strange sighs, has it to free-
That still haunts me!
For my pure companions sleeved
And in the darkness, I must surely wind up

Mst.Shrest S
Grade - 8A

SPACE Exploration

What Is The James Webb Space Telescope?

The James Webb Space Telescope is the largest and most powerful space telescope ever built. It will allow scientists to glance at our universe's condition was like about 200 million years after the Big Bang. The telescope will be able to capture images of some of the first galaxies ever formed. It aids us to observe objects in our solar system from Mars outward, look inside dust clouds to see where new stars and planets are forming and examine the atmospheres of planets orbiting other stars.

Here are some fun facts about the James Webb Space Telescope.

It is very very big!!!

The Webb telescope is as tall as a 3-story building and as long as a tennis court! It is so big that it has to fold origami-style to fit inside the rocket to launch. The telescope unfolds sunshield first, once in space.

It can see through dust clouds.

The James Webb Space Telescope sees the universe in light that is invisible to human eyes. This light is called infrared radiation and we can feel it as heat. Firefighters use infrared cameras to see and rescue people through the smoke during a fire. The James Webb Space Telescope uses its infrared cameras to see through dust present in our universe. Stars and planets form inside those dust clouds, so peeking inside could lead to exciting new discoveries! It will also be able to see objects (like the first galaxies) that are so far away that the expansion of the universe has made their light shift from visible to infrared!

It wears a "hat" to help block heat and light from the Sun.

The Webb telescope's cameras are sensitive to heat from the Sun. Just like you might wear a hat or a visor to block the Sun from your eyes, Webb has a sunshield to protect its instruments and mirrors. The telescope's sunshield is about the size of a tennis court. The temperature difference between the sun-facing and shaded sides of the telescope is more than 600 degrees Farenhiet!!.

It uses giant, gold-coated mirrors to see the universe.

Space telescopes "see" by using mirrors to collect and focus light from distant stars. The bigger the mirror, the more details the telescope can see. It's very difficult to launch a giant, heavy mirror into space. So, engineers gave the Webb telescope 18 smaller mirrors that fit together like a puzzle. The mirrors fold up inside the rocket, then unfold to form one large mirror in orbit.

One question which pops up in my mind is, 'why are the mirrors gold?' A thin layer of gold helps the mirrors reflect infrared light!

It will be hunting for signs of life on other planets.

Our solar system isn't the only home for planets! Scientists have discovered thousands of planets orbiting stars other than our Sun. These are called exoplanets. The James Webb Space Telescope will help to study the atmospheres of exoplanets. Could the atmospheres of some exoplanets hold the building blocks for life? We shall be finding it out !

Mst Akhil
Grade 9B

SPACE Exploration

The Earth and Beyond

EXOPLANETS

There are infinite planets beyond our solar system. These planets our known as Exoplanets. Exoplanets come in different shapes and sizes. Today we are going to look at a few of the strangest known Exoplanets

WASP-12 b (Looks like an egg)

Number 1 on our list is WASP-12 b. The reason, this planet looks like egg is because it orbits so close to its parent star, which it's eating it up.

This planet is gas giant that is almost 2 times larger than Jupiter (Wow! That is massive). WASP-12 b comes in a category of Exoplanets known as 'Hot Jupiter'.

Tres-2 b (Dark, Darker and Darkest)

It is the darkest Exoplanets, reflecting less than 1% of any light that hits. It orbits around the star GSC03549-02811. It is slightly larger than Jupiter with a radius of 90,938km.

J1407b (Has a lot of rings)

J1407b has a ring system 200 times larger than Saturn's. The planet is probably a brown dwarf with a ring system bigger than itself. Its orbits around the star V1400 Centauri.

Kepler-16 b (2* Sun)

Kepler-16 b has two parent stars both of which are smaller than sun. The primary star is Kepler-16A and the secondary star is Kepler-16B. The planet is a Saturn-mass planet consisting of half gas and half rock and ice. This is a Binary Star System.

My article ends here, but remember we only found a fraction of Exoplanets and there are infinite yet to be found.

Mst.Ritvik V.Pai
Grade 7A

SPACE Exploration

BEYOND SPACE EXPLORATION

One of the vast topics to be explored is Space. Space is an empty place in outerspace which is filled with dust, light, different space particles, cosmic rays,radiation, nucleic acids, gravity, and electric and magnetic fields. By exploring this space many scientists have explained that space is like a land in which they get lots of information and learn non-stop. For example, studying the solar system has brought us insights into phenomena like gravity, the magnetosphere, the atmosphere, fluid dynamics, and the geological evolution of other planets.

Space is a strange and wonderful universe whose age, size, and magnificence are appreciated by extraordinary imagination. A Few years ago, well known scientist, Bertrand Russell, in his speech on astronomy, spoke about how the earth orbits around the sun, that in turn orbits around the center of a vast collection of stars -The Galaxy. He also spoke about a light appearing in the night sky near the horizon at twilight called a planet. Every planet has its distinct features. He said Planet Mercury is unlike our planet; the surface reaches temperatures of over 400 degrees Celsius when the sun is out, then falls almost -200 degrees Celsius in the dead of night. We have witnessed how privileged we are living as an earthling.

One of the primary sources of space science is space exploration. Space exploration has allowed scientists to prove the greatest theories ever. Their urge and curiosity have led to massive discoveries and even contributed significantly to the evolution of the human man species. Space exploration is the use of astronomy and space technology to explore outer space. Astronomers use telescopes to explore space. Both robotic machines and human flight are used to explore it physically. We can use space exploration to validate or disapprove scientific theories that have been created on earth.

It is hard to imagine how far the planets and stars are. In everyday life, we have noexperience traveling such huge distances of space. The distance is so large that it cannot be measured in feet or kilometers or miles, unlike the normal way of us measuring stuff in everyday life. We instead use light years. A light year is a distance travelled by the light in a year. In one second, a beam of light will travel 1,86,000 miles. The nearest star other than the sun is Proxima Centauri, which is so far that even with the fastest spaceship on drawing boards today, a trip would take ten thousand years.

With this, space travel for the need for space exploration is developing in the world. This has helped us in proving theories, advancing our knowledge, and giving us information about outer space. As the population increases the requirements of people in finding new places to inhabit also increase to provide advancement in their livelihood. The thirst for human space exploration and beyond is never ending and will continue till their existence.

Ms B Gaana Akshaya
Grade 9A

SPACE CAREERS

Reaching for the Stars

If you're among those who dream of making their mark in the field of space, you're in luck. Space exploration and related careers is an ever-expanding area with great potential for numerous future career specializations. If your answer is yes there are many careers that you can opt to be a part of space such as:

- Astronauts
- Space Technology
- Engineering
- Space Researchers/ Scientists (Astrophysicists, Biologists, Biochemists, Biophysicist, Geoscientists, Astrobiologists)
- Space Law
- Space Tourism
- Space Architecture
- Space Medicine/Psychology

Which are the top Space Science colleges in India?

- Indian Institutes of Technology (IITs)
- Indian Institute of Science, Bangalore
- Indian Institute of Science Education and Research (IISER-TVM)
- Indian Institute of Space Science and Technology, Kerala
- Centre for Earth and Space Sciences, (University of Hyderabad)
- Aryabhatta Research Institute of Observational Sciences, Nainital
- Indian Institute of Astrophysics, Bangalore
- Inter-University Centre for Astronomy and Astrophysics, Pune
- National Centre for Radio Astronomy, Pune

What are the courses you can opt for in Space Science after 12th?

- B.Tech in Aerospace Engineering B.Tech in Avionics Engineering
- B.Tech+M.S./M.Tech (B.Tech. in Engineering Physics + M.S. in Solid State Physics, Astronomy, Earth System Science / M.Tech. in Optical Engineering)
- M.Tech in Electronics, Electrical, Mechanical and Computer Science
- PhD in relevant disciplines.

SCIENCE FUN

– @Home –

Let's make a Hovercraft

Materials:

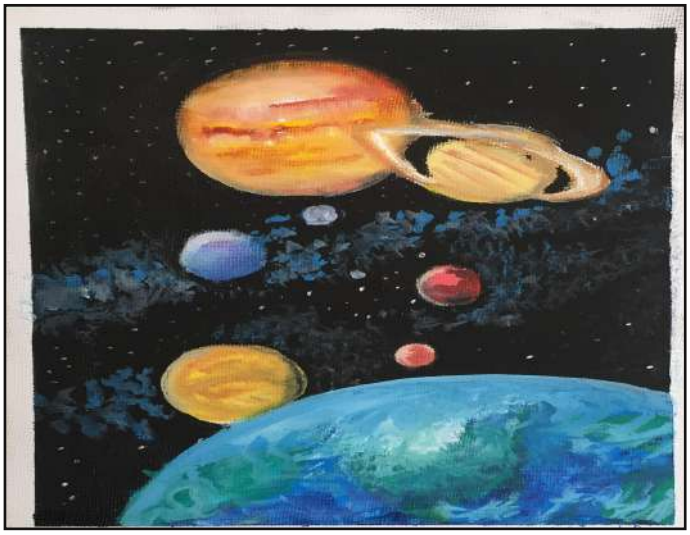
- An old CD
- HOT GLUE gun/fevikwik
- Thumbtack/ pin
- Bottle cap
- Balloon

Steps to make a Hovercraft :

- Make holes in the plastic bottle top.
- Use a hot glue gun/feviquick and fix the bottle top over the hole of the CD. *(Please Note: Students can take help of adults while handling the fevikwik and pins.)*
- Blow up the balloon.
- Twist the neck of the balloon to keep it inflated and pull the lip of the balloon over the edges of the bottle cap.
- Let it Go - Set on a flat surface like a counter top or floor. Release the balloon and watch it glide along without any effort just over the surface.

INTERSTELLER ART GALLERY

Ms.Avantika Gupta
Grade 10A



Mst.Lalit Prasad B
Grade 8B

Ms C G Bhavanika
Grade 8B

Ms. Impana S
Grade 7C

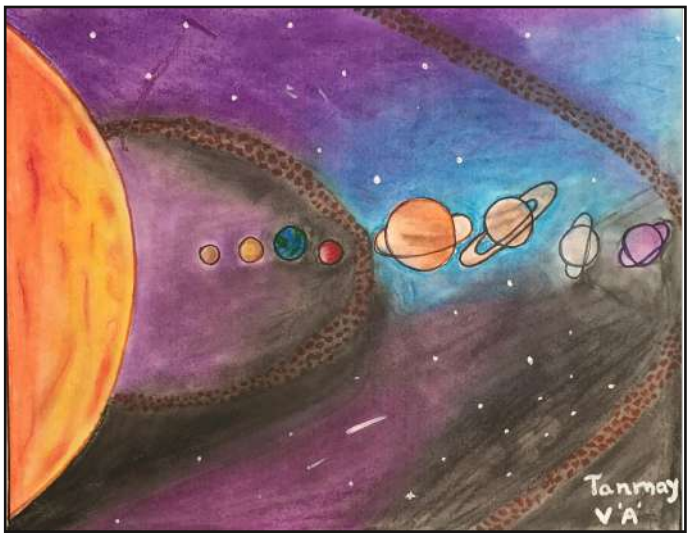
Ms.Jaya Sai Teja
Grade 5B

Ms.P.Keshika
Grade 6A

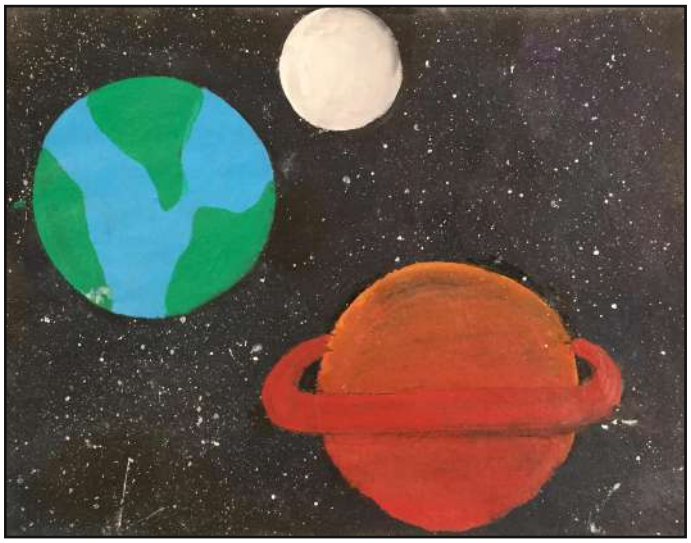
Ms Manyata M P
Grade 7C

Ms Megha Sunayana G
Grade 10A

Ms Prerana Vikas
Grade 7C



Mst Tanmay
Grade 5A



Ms Vaishnavi Kamath
Grade :8C

Ms Vasundhara
Grade 8A

SPOTLIGHT @ PIS MYSORE

Ms Liya Susan Joseph & Ms Pavana Kamath participated in Dr. V. Subrahmanyan Memorial Inter School English debate competition conducted by CFTRI Educational Society, Mysuru on 27 July 2022 and won 1st prize & were awarded a Rolling shield and Certificates. Ms Liya was selected as the best performer & secured a cash prize.

Ms. R Ashvitha of Grade 8A has made an attempt to enter her name in 'Golden Book of World Records for most Gandabedrunda and Edapadauthanasan Chakra yogasana performed alternately in one minute. This provisional certificate has been awarded to her on 15th of June 2022 by the officials from Golden Book of World Records, during the event 'Golden Book of World Record –official attempt' organized by 'Mysore Vivekananda Yoga Education & Research Institution'.

Ms. E Kanishka of Grade 6B participated in Malavalli National Level open Karate Championship-2022 organized by Zen Martial Arts Academy and secured 1st place in Induvidual Kata and 2nd place in Induvidual Kumite undrer 11 categary .

Mst. E Karthikeyan of Grade 6B participated in Malavalli National Level open Karate Championship-2022 organized by Zen Martial Arts Academy and secured 2nd place in Induvidual Kata and l Kumite undrer 11 categary .

ASTRO SNACKS

FRUIT ROCKETS

All you need to make these easy-to-assemble Fruit Rockets are:

- watermelon
- banana
- kiwi
- strawberries
- cantaloupe
- skewers

FUN FACT

Some foods like bread, fruits and nuts stay the same in space. Other foods have to be vacuum packed to keep their shape and save space.

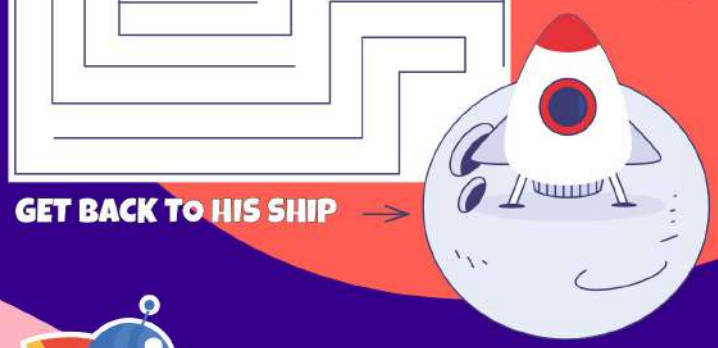
MARTIAN SNACKERS

All you need to make these easy-to-assemble Martian snackers are:

- Monaco biscuits
- Cherry tomatoes
- Cucumber
- Cheese
- Mayonnaise or Tomato sauce

BRAIN PLAY

HELP THE ASTRONAUT



GET BACK TO HIS SHIP

SPACE PUZZLE

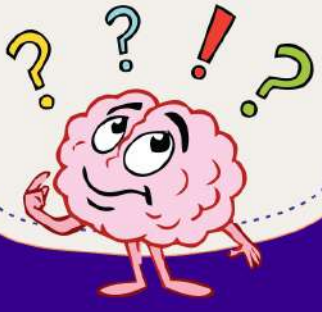
Complete the word search

Y	W	A	Z	X	H	D	G	U	F	O
X	E	G	S	T	A	R	J	Z	W	Y
A	A	Y	T	A	G	M	A	B	R	Y
S	R	H	Y	P	Y	G	Y	S	U	N
T	T	B	U	L	P	K	M	L	G	Z
R	H	D	Y	A	L	I	E	N	X	R
O	M	O	O	N	H	B	V	U	T	O
N	X	U	V	E	W	N	Z	P	J	C
A	R	H	J	T	X	R	G	X	J	K
U	N	T	E	L	E	S	C	O	P	E
T	O	G	T	W	X	Y	E	H	D	T

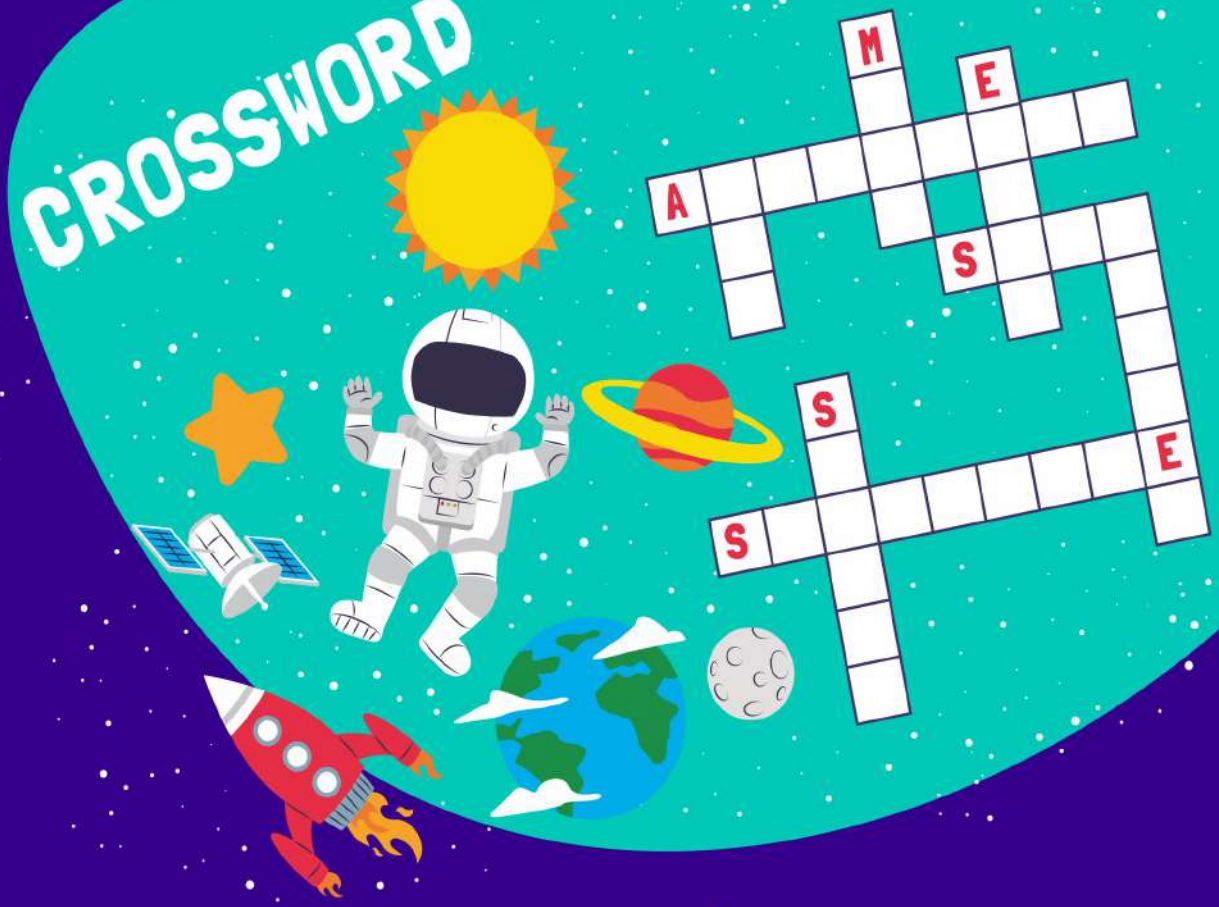
STAR SUN ALIEN ASTRONAUT MOON
UFO ROCKET PLANET TELESCOPE EARTH

What Am I?

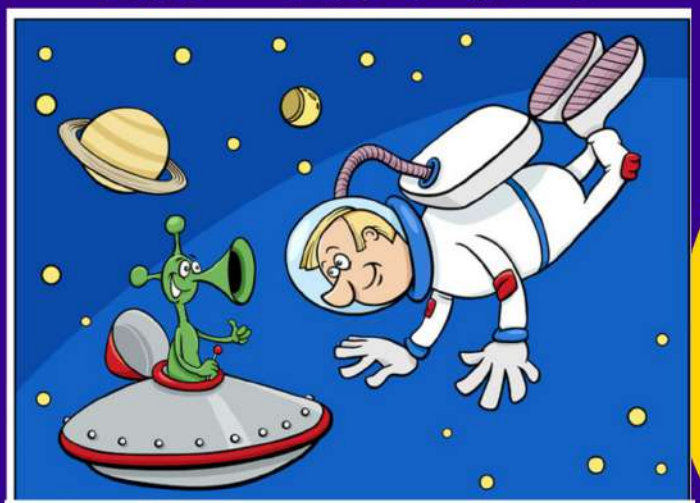
I can be looked through but
I'm not a window,
I have your eye pressed to me
but I'm not a door peephole,
I'm often placed on a tripod
but I'm not a camera,
I help you see things that are
far away but I'm not a pair of
binoculars,
I'm often pointed at the sky
but I'm not a satellite dish!

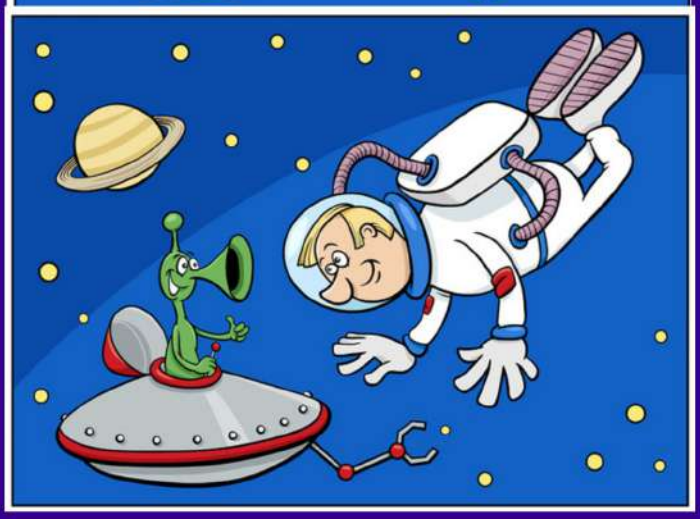


CROSSWORD



Find 6 differences





Using just the letters in the word below, can you make atleast 12 new words?

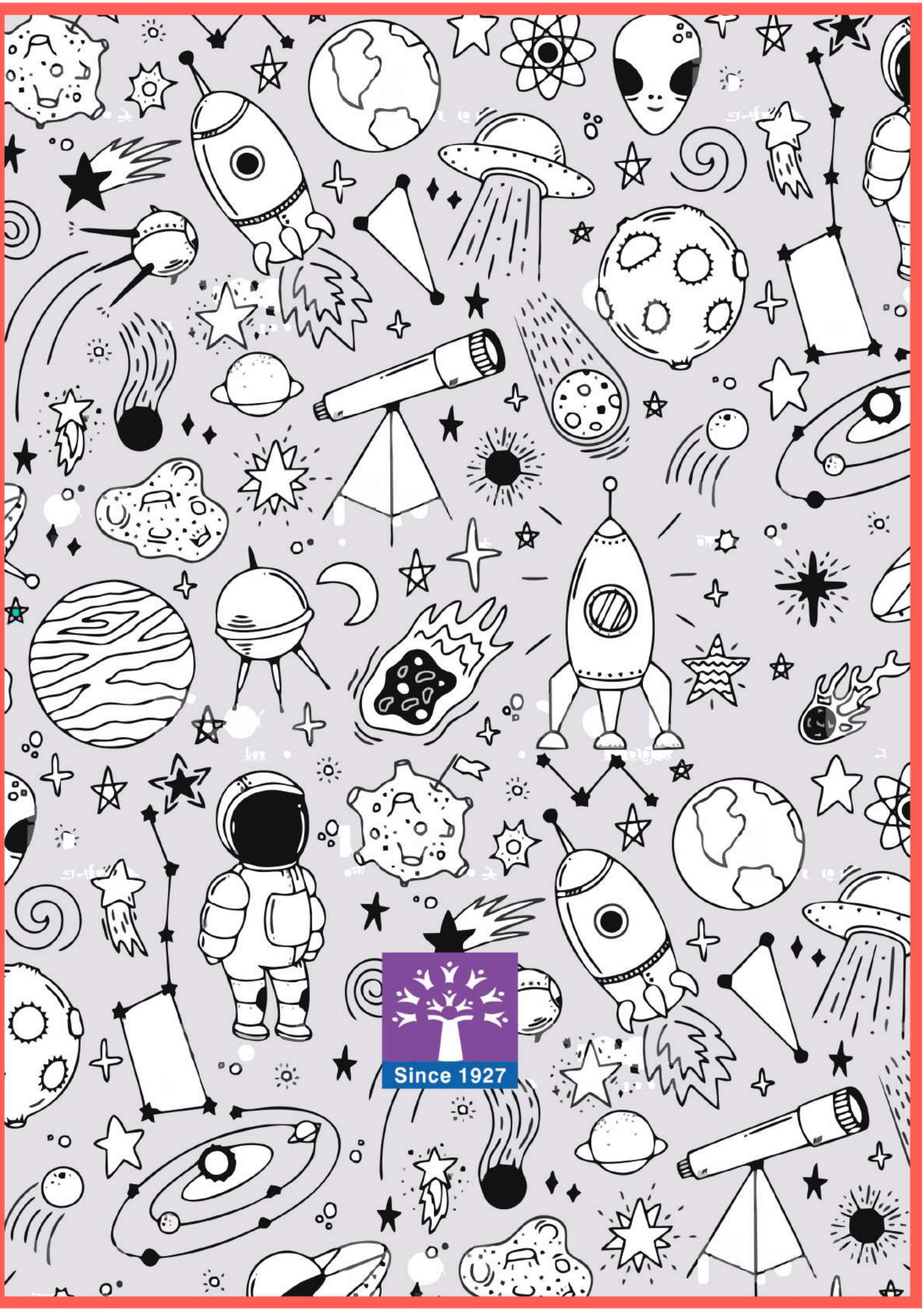
RULES: You may only use a letter as many times as it is shown in the key word. Each word must be atleast 4 letters long.

GOOD LUCK!

ASTEROID

Riddle

I am bigger than Venus
but smaller than Uranus.
I am a living rock.
What am I??


Since 1927