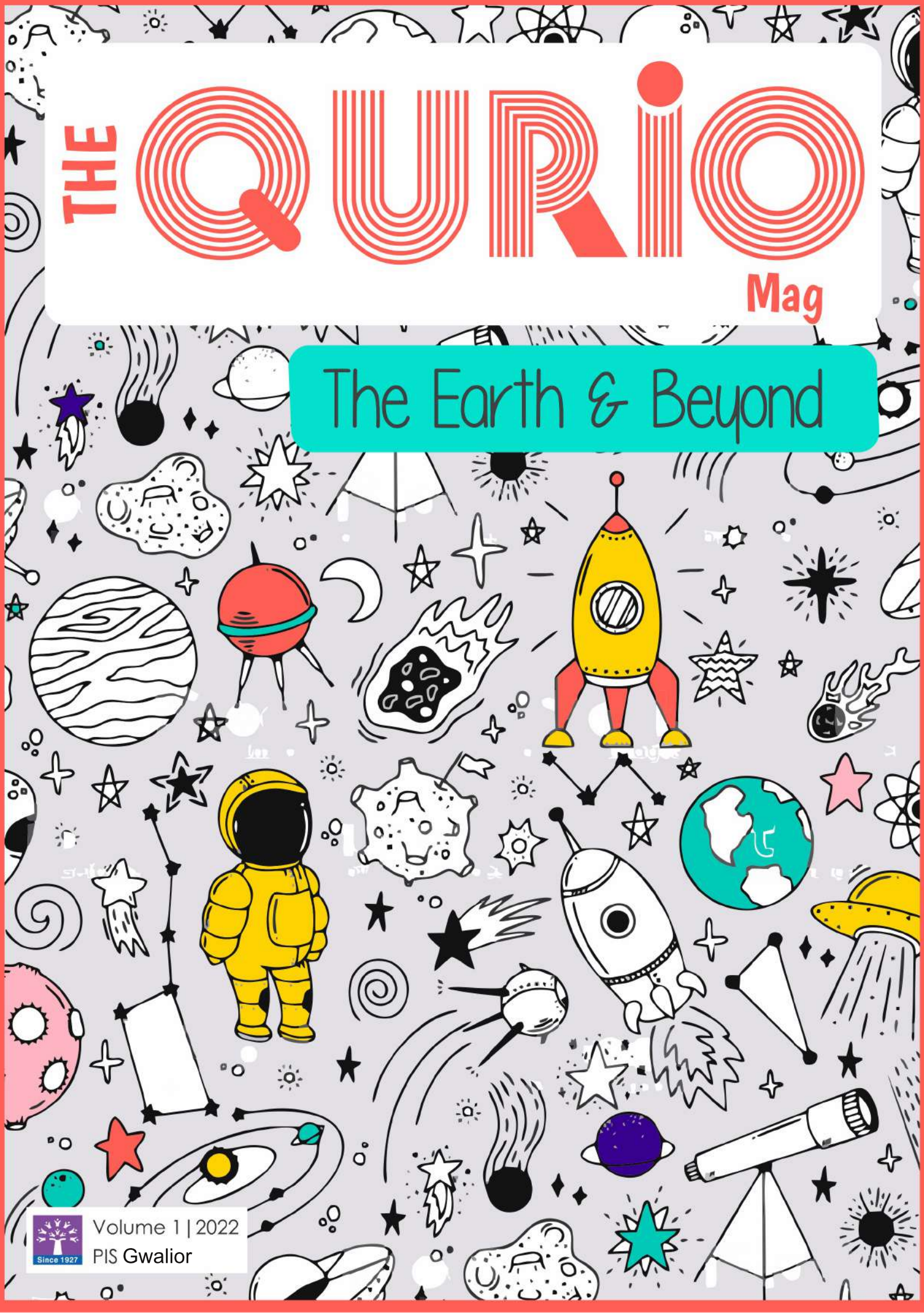
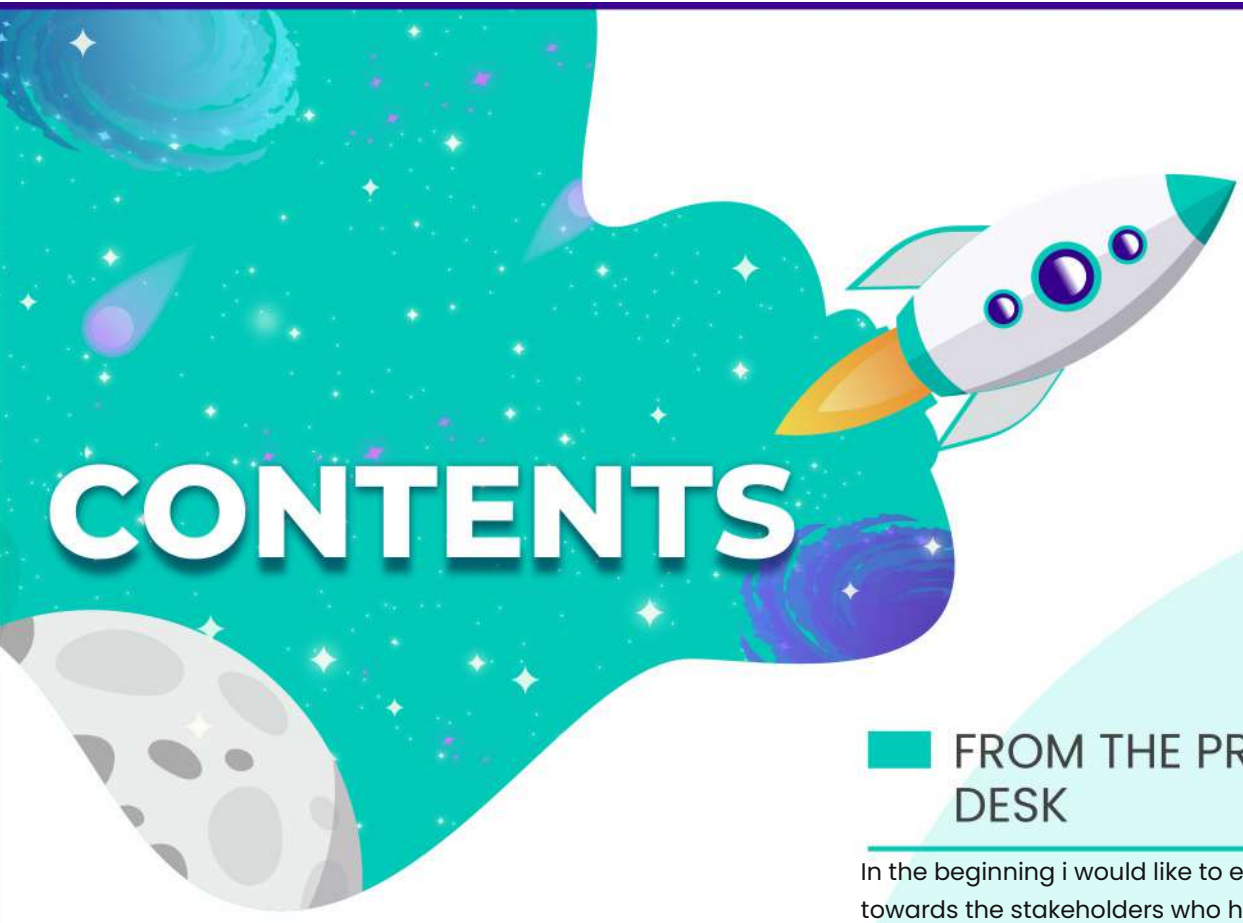
THE QURIO Mag

The Earth & Beyond



Volume 1 | 2022
PIS Gwalior



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CONTENTS

FROM THE PRINCIPAL'S DESK

In the beginning i would like to express my gratitude towards the stakeholders who have put their faith in us to educate their children. This brings with it tremendous responsibilities and I assure you that we are doing our best to sustain your trust in us.

Today, an educational body not only stands for the academic growth of the students but they are also obliged to develop crticial thinking leading towards innovation. Schools play a key role in building and nurturing the society. Hence, We at Podar International School are elated to launch a 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 theme for the 1st Volume is 'The Earth & Beyond' has given the students a chance to learn and explore 'Outer Space' in a fun and creative manner.

I congratulate the entire team who has strived hard with dedication to frame this magazine. I am sure that the positive attitude, creative work, sustained efforts and innovative ideas exhibited by our young children will surely stir the minds of the readers and take them to the fantastic world of sheer joy and pleasure.
"Education is a shared commitment between dedicated teachers, motivated students and enthusiastic parents with high expectations"

Regards,
Mr. Manish RK Jain
Principal, Podar International School, Gwalior

Editor-in-Chief: Mr. Vard Khan | Student Editor: Ms. Aradhya Varma Student Editor: Ms. Shrishti Nigam

Visual & Media In-charge: Ms. Ekta Saxena | Creative Designer: Mr. Krishna Kant Goyal

CHRONICLES OF SPACE

This article is based on the universe and its chronicles and contents. In this article, we will go to a universe safari, where you will get to know more about universe and its formation. So, tight your seat belts and let us began:

Firstly, What is Universe?

It is not an easy affair to define Universe.

Universe is all of space, time and their contents, including planets, stars, galaxies, and all other forms of matter and energy. It is limitless, endless and unmeasurable. It can be neither be made nor be destroyed. I Its contents can be destroyed, but it can't be. The main contents of universe include ordinary matter-4.9%, Dark matter-26.8%, Dark energy-68.3%. The mass of the ordinary matter is at least 10^53 kg. The average temperature is about 2.72548 K (-270.4°C or -458.4°F), and the average density is 9.9 × 10^-30 g/cm^3.

Now let us understand the concept of Space:

Outer space, commonly shortened to space, is the expanse that exists beyond Earth and its atmosphere and between celestial bodies. Outer space is not completely empty, it is a near perfect vacuum. In the outer space, the weight of a person or any object decreases, as the gravitational force of any planet does not work in space. As a result, we and objects fly in space. Also, the stamina or agility of a person increases in space and one can perform his/her work efficiently.

CHRONICLES OF SPACE

Let us now go back to the origin of space and Universe, that is, to the Big Bang Theory:

- The Big Bang Theory is the prevailing cosmological description of the development of the Universe. According to this theory, space and time emerged together 13.787 + 0.020 billion years ago, and the universe has been expanding ever since the Big Bang.

- After the Big Bang, the energy and matter present initially have become less dense as the universe expanded.

- After an initial accelerated expansion called the inflationary epoch at around 10^-32 seconds, and the seperation of the four known fundamental forces, namely, electromagnetism, strong nuclear force, weak nuclear force, gravity, the universe gradually cooled and continued to expand, allowing the first subatomic particles and simple atoms to form.

- Dark matter gradually gathered, forming a foam-like structure of filaments and voids under the influence of gravity.• Giant clouds of hydrogen and helium were gradually drawn to the places where dark matter was most dense, forming the first galaxies, stars, and everything else seen today.

- In 1920,Edwin Hubble, an American Astronomer, provided the evidence that the universe is expanding. His observations also stated that the distance between the galaxies is also found to be increasing, however, they do not support the expansion of galaxies.

- A Belgian catholic priest, mathematician, astronomer and professor of physics, George Lemaitre, further studied the Big Bang theory and first noted in 1927 that an expanding universe could be traced back in time to an originating single point, which he called the “primeval atom”.

Here, we have came to the end of our journey to the origin of universe. I hope that this article would have been interesting and informative.

By-Anurag Singh Jadon
Grade-IX

SPACE PROJECTS

Year – 1990 Launch of INSAT–1D(June 12th, 1990).

Year – 1992 First successful launch of ASLV, SROSS–C placed in orbit (May 20th, 1992).

Year – 1993 First developmental launch of PSLV with IRS–I E on board (September 20th, 1993).

Year – 1995 Launch of Indian Remote Sensing Satellite, IRS–I C (December 28th, 1995).

Year – 2001 Successful flight test of Geo–synchronous Satellite Launch Vehicle (GSLV), Experimental satellite GSAT–I placed in orbit (April 18th, 2001).

Year – 2003 Launch of INSAT–3A (April 10th, 2003). Launch of GSAT–2 by GSLV–D2 (May 8th, 2003). Launch of INSAT–3E (September 28th, 2003). Launch of RESOURCESAT–I by PSLV–C5 (October 17th, 2003).

Year – 2004 Launch of EDUSAT by GSLV–F0I (September 20th, 2004).

Year – 2005 Commissioning of Second Launch Pad and launch of CARTOSAT–I & HAMSAT by PSLV–C6 (May 5th, 2005).

Year – 2007 Launch of CARTOSAT–2 ALONG WITH SRE–I and two Satellites from abroad by PSLV–C7 (January 10th, 2007).

Year – 2008 Launch of CHANDRAYAAN–I by PSLV–CII (October 22nd, 2008).

Year – 2012 Launch of GSAT–10 by Ariane 5 VA–209 (September 29th, 2012).

Year – 2013 Launch of MARS ORBITER MISSION by PSLV–C25 (November 5th, 2013).

Year – 2015 Launch of TeLEOS–I, VELOX–CI, VELOX–II, ATHENOXAT–I, KENT RIDGE–I, GALASSIA by PSLV-C29 (December 16th, 2015).

Year – 2016 Launch of RESOURCESAT–2A by PSLV–C36 (December 7th, 2016).

Year – 2017 Launch of a total of 104 satellites including India's Cartosat–2 Series Satellite as well as ISRO Nanosatellite–I and 2 along with 101 satellites from abroad by PSLV–C37 (February 15th, 2017). Launch of 3136kg GSAT–19 by GSLV MkIII–DI, the first developmental (Orbital) flight GSLV MkIII equipped with C25 Cryogenic Upper Stage (June 5th, 2017).

Year – 2018 Launch of Cartosat–2 Series Satellite along with 30 co–passenger satellites including India's INS–IC and Mircosat by PSLV–40 (January 12th, 2018).

Next mission of ISRO

As per ISRO Chairman Dr. S. Somanath, ISRO would have to perform Crew Escape system tests in 2022, followed by the first unmanned mission in mid-2023, followed by two more escape tests and another unmanned mission, before the manned flight (expected in 2024). The Latest project of ISRO

Missions Trending

Mars Orbiter Mission
LVM3-X (CARE)
Astro Sat

Latest Missions

GSLV-F10/EOS-03
PSLV-C51/Amazonia-1
PSLV-C50/CMs-01
PSLV-C49/EOS-01

By: Hitanshi Jain
Grade-VI

THE UNIVERSE TODAY

Space & Astronomy News

The universe is often defined as “the totality of existence”, or everything that exists, everything that has existed, and everything that will exist. The universe is all of space and time and their contents, including planets, stars, galaxies, and all other forms of matter and energy. The earliest cosmological models of the Universe were developed by ancient Greek and Indian philosophers and were geocentric, placing Earth at the center. Over the centuries, more precise astronomical observations led Nicholas Copernicus to develop the heliocentric model with the Sun at the center of the Solar system. In developing the law of universal gravitation. Isaac Newton built upon Copernicus’s work as well as Johannes Kepler’s laws of planetary motion and observations by Tycho Brahe. At the largest scale, galaxies are distributed uniformly and the same in all directions, meaning that the universe has neither an edge nor a centre. After an initial accelerated expansion called the inflationary epoch at around 10-32 seconds, and the separation of the four known fundamental forces, the universe gradually cooled and continued to expand, allowing the first subatomic particles and simple atoms to form. From studying the movement of galaxies, it has been discovered that the universe contains much more matter than is accounted for by visible objects; stars, galaxies, nebulas and interstellar gas. The unseen matter is known as dark matter (dark means that there is a wide range of strong indirect evidence that it exists, but we have not yet detected it directly).

BY: DIVYANSHI JADON
GRADE-VII

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.

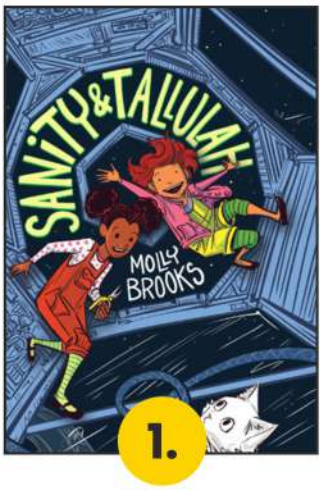
6. Fly Me To The Moon (2009)

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

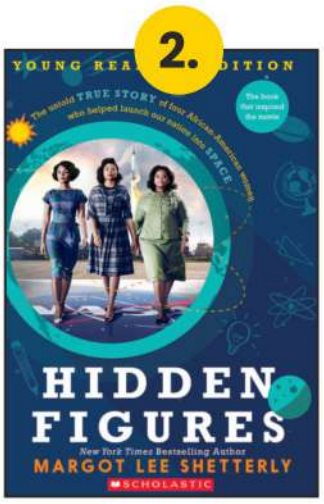
7. Mission Mangal (2019)

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.

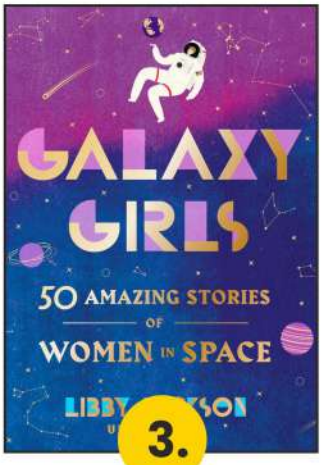
Books



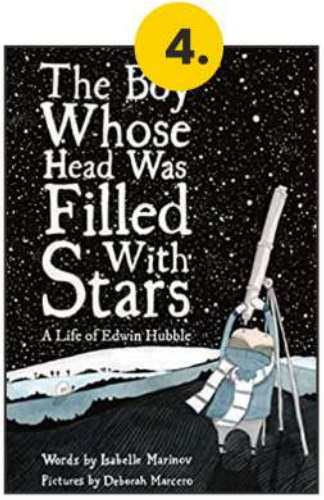
Sanity & Tallulah
Molly Brooks



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: **First Man**

Movie/Book Summary:

First Man is a perfectly crafted masterpiece that offers the ultimate cinematic experience. The film does an excellent job at portraying the perils and exhilaration of spaceflight. The moon landing scene was one of the best directed scene I have witnessed and that haunting background music. Ryan Gosling is great as Neil Armstrong. The storyline is well written and is crafted to provide a view into the pieces and details of the story that we don't know. We can call this movie one big climax because it's so high in excitement and suspense throughout the story.

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: **By: Ansh Saraswat**
Grade-VIII

Title of the Book/Movie: **The Kid Who Came From Space**

Movie/Book Summary:

This is a remarkable story of family, friendship and interstellar adventure. A small village is keep rocked by the disapperanace of Tamara (tammy) Tait,12. Only her twin brother, Ethan she is safe and the extraordinary truth of where she is. It is a secret he must keep, or risk never seeing her again.

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: **By: Ansh Saraswat**
Grade-VIII

Review
Movies & Books

Title of the Book/Movie:
Mission Mangal

Movie/Book Summary:
The story picks up in 2010, when a team at ISRO is led by Rakesh (Akshay Kumar) as they launch a rocket into outer space. But that launch mission ends up in unexpected failure when a technical error forces the rocket to veer towards earth. Rakesh and the industrious Tara decide to fight the odds and put India on the space map, again. Dealing with minuscule budgets, scrutiny from their peers and pressure from all quarters Rakesh and Tara, make a team of junior scientists from ISRO with the intention of putting the Mars Mission into space within 24 months.

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: **By: Poorvanshi Singh Jadon**
Grade-VIII

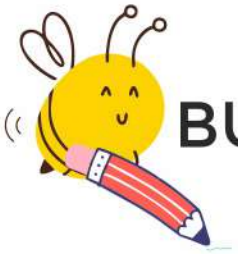
Title of the Book/Movie: **Galaxy girls**

Movie/Book Summary:

by Libby Jackson has beautiful colourillustrations including blue, Black and purple. Its about various important space inventions. Very knowledgeable

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: **By: Aaradhya Verma**
Grade-VIII



BUZZING POETS

There are nine planet's
That orbit the sun
But people and animals
Just live on one.

Mercury is closest to sun
And burning so high.
Venus is a hostile place
And it's very dry.

Earth is the blue plant
We must take care of the
Air, land and water
That all people share.

The sun keeps us warm
And wherever we are the light
Comes from this big star.

By: Vedansh Yadav
Grade-VIII

BUZZING POETS

Mystery of space

The silvery moon, here it lies !
The shining sun here it shines,
The nebula looks so divine!
The asteroid looks small and fine.
The space is filled with dark matter,
The solar storms produce a clatter,
The black hole appears like a platter,
The sun is falling in its latter.
The planets move round and round,
They can't do whatever! As they are bound,
But we know, Saggitarius A is crowned,
As the king of the galaxy,
on top of the mound.
The satellites roam around in space,
Just to capture it's beautiful phase,
They try to find, they try to trace,
The mysteries of the space.

By: AradhyaVerma
Class VIII

SPACE Exploration

Black Hole

A black hole is a place in space where gravity is so strong because matter has been squeezed into tiny space. This can happen when a star is dying, because no light can get out, people can't see black holes.

Albert Einstein first predicated the existence of black holes in 1916, with his general theory of relativity. The term "Black Hole" was coined many years later in 1967 by American astronomer John Wheeler. After decades of black holes being only as the theoretical objects.

The first hole ever discovered was Cygnus X-I, located within the Milky Way in the constellation of Cygnus, the swan. Astronomer saw the first signs of the black hole in 1964 when a sounding rocket detected celestial sources of X-ray according to NASA.
The closest black hole to earth is dubbed "the Unicorn "and is situated approximately 1,500 light years away. There are four types of black holes:

1. Stellar
2. Intermediate
3. Super massive
4.Miniature

The most commonly known way a black hole forms is by stellar death. As stars reach the ends of their lives, most will inflate, lose mass and then cool to form white dwarfs. But the largest of these free bodies, those at least 10 to 20 times as massive as our own sun, are destined to become either super dense neutron stars or so called stellar mass black holes.

In their final stages, enormous stars go out with a bang in massive explosions known as supernova while the stars was alive, nuclear fusion created a constant outward push that balanced the inward pull of gravity from the stars own mass. If its mass collapses into an infinitely small point, a black hole is born.

References:

1. www.nationalgeographic.com
2. www.space.com
3. Children Encylopedia

Submitted By:
Shreeya Jain
Grade-VI

SPACE CAREERS

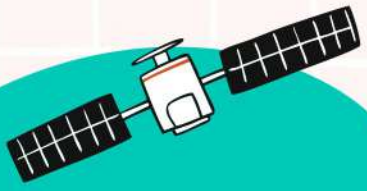
Reaching for the Stars

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.

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.

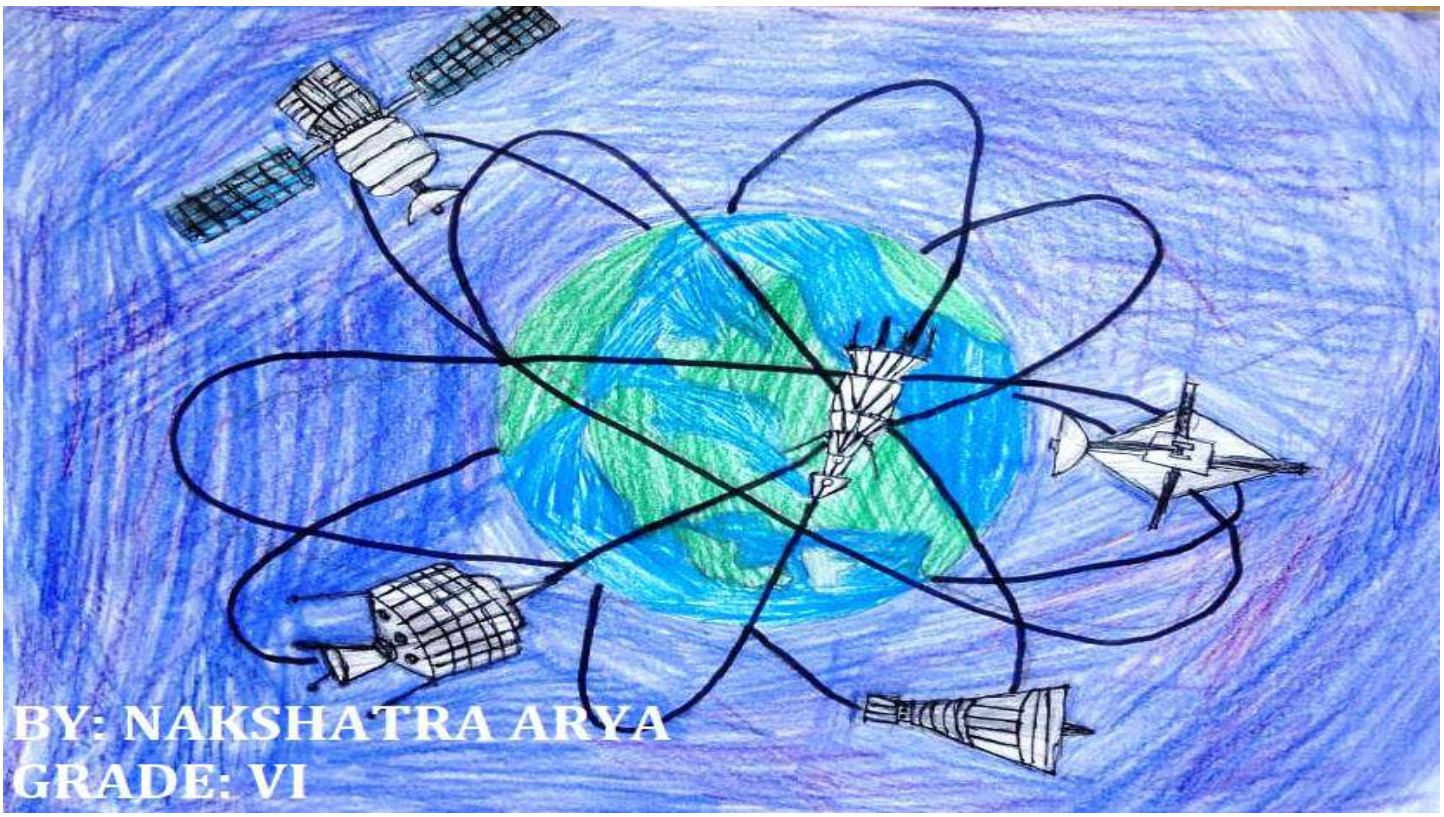
MARTIAN SNACKERS

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

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

INTERSTELLER ART GALLERY

BY: OM RAJPALI
GRADE: VII



BY: NAKSHATRA ARYA
GRADE: VI

BY: SAMAYARA BANSAL GRADE-VII

BY: SWECHHA RAJAWAT GRADE-X

SPOTLIGHT @ PIS

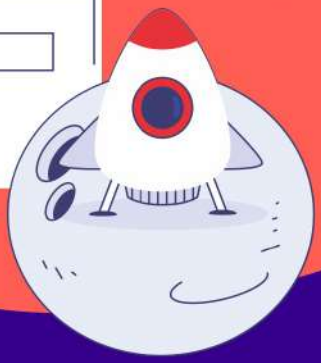

HAPPY


Hearty Welcome
ON
THE AUSPICIOUS OCCASION
OF

BRAIN PLAY

HELP THE ASTRONAUT

GET BACK TO HIS SHIP



SPACE PUZZLE

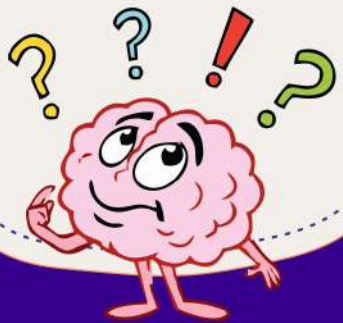
Complete the word search

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

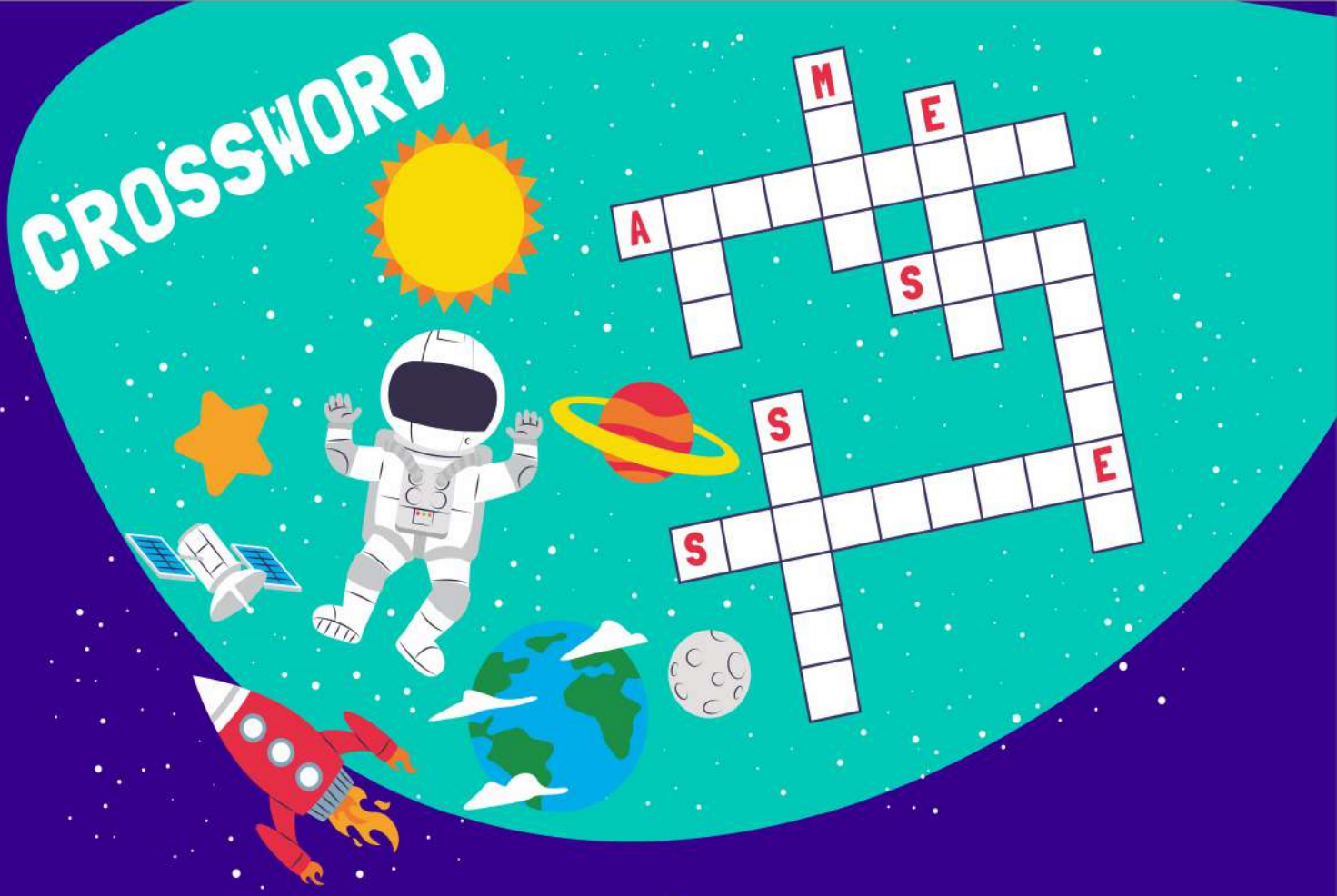
STAR SUN ALIEN ASTRONAUT MOON
UFO ROCKET PLANET TELESCOPE EARTH

What Am I?

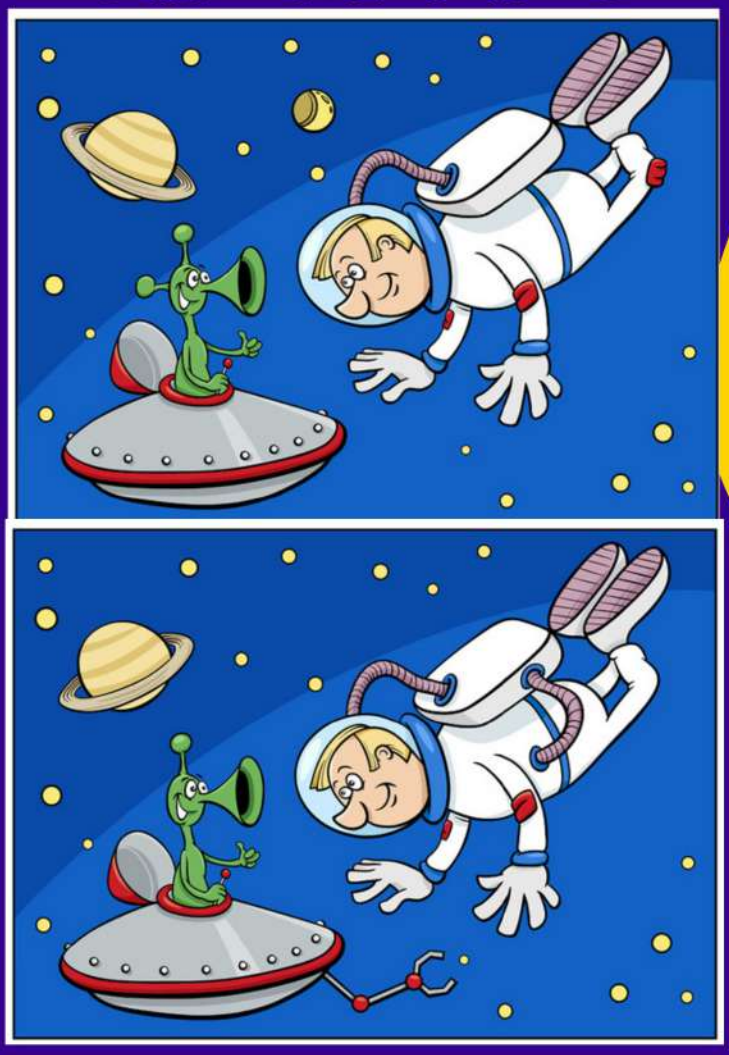
I can be looked through but
I'm not a window,
I have your eye pressed to me
but I'm not a door peephole,
I'm often placed on a tripod
but I'm not a camera,
I help you see things that are
far away but I'm not a pair of
binoculars,
I'm often pointed at the sky
but I'm not a satellite dish!



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