

THE QURIO

Mag

The Earth & Beyond



Volume 1 | 2022
PIS Aurangabad



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FROM THE PRINCIPAL'S DESK

At the outset, I express my gratitude to the parents 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 live up to your trust in us.

Today, the role of a school is not only to pursue academic excellence but also to motivate and empower the students to be lifelong learners, critical thinkers, and productive members of an everchanging global society. Converting every individual into a self-reliant and independent citizen, our school provides an amalgam of scholastic and co-scholastic activities.

We at Podar International School are happy 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 for their hard work and dedication to making this magazine. I am sure that the positive attitude, hard 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,
Principal

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CHRONICLES OF SPACE

Laika, a dog that was the first living creature to be launched into Earth orbit, on board the Soviet artificial satellite Sputnik 2, on November 3, 1957. It was always understood that Laika would not survive the mission, but her actual fate was misrepresented for decades.

Laika was a small (13 pounds [6 kg]), even-tempered, mixed-breed dog about two years of age. She was one of a number of stray dogs that were taken into the Soviet spaceflight program after being rescued from the streets. Only female dogs were used because they were considered to be anatomically better suited than males for close confinement.

Laika trained for life on board the satellite by learning to accept progressively smaller living spaces. She was spun in a centrifuge to accustom her to changes in gravitation, and she learned to accept food in jellied form that could be easily served in an environment of weightlessness. When the launch was announced, Laika became an international celebrity. The satellite and its passenger soon acquired the journalistic nickname of "Muttnik."

Contemporaneous Soviet accounts implied that the dog was kept alive for six or seven days into the mission and then euthanized with poisoned food before her oxygen supply could run out. The satellite was destroyed reentering Earth's atmosphere on April 14, 1958. Laika's sad fate aroused worldwide concern and sympathy.

In 2002, however, Russian scientist Dimitri Malashenkov revealed that the previous accounts of her death were false. Laika had actually survived only about five to seven hours after liftoff before dying of overheating and panic. It was belatedly made known that Laika's pulse rate, which had been measured with electrodes, tripled during takeoff and only came down somewhat during weightlessness. Apparently the Soviet scientists had insufficient time to perfect life-support systems because of intense political pressure to launch Sputnik 2 in time for the celebration of the 40th anniversary of the Bolshevik Revolution.

The name Laika is derived from the Russian-language word for "bark." Laika is also a breed name applied to certain Russian sled dogs, but they are unrelated to the space dog. In 2008 a small monument with a statue of Laika was unveiled in Moscow.



Dave was at a party and eating his candy bar quietly in a corner, sitting on the grass in the park, and clutching the candy bar softly but firmly in his left palm. Dave was a quiet child and he rarely talked to anyone. He does not like running like other kids and making noise.

A glowing UFO with a ring of lights around its rim hovers in a dark, cloudy night sky. A powerful, bright beam of light emanates from the underside of the craft, illuminating a body of water below and creating a shimmering reflection. The overall scene is mysterious and dramatic.

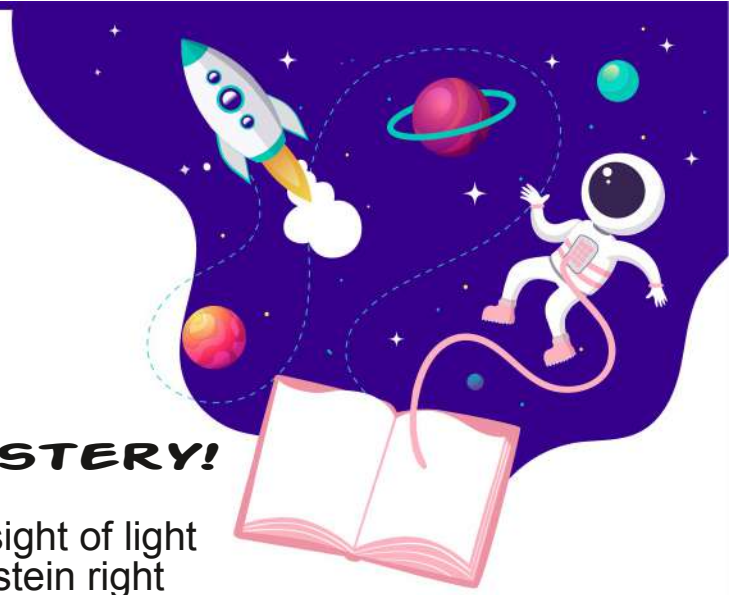
Someone from the landed UFO spoke to Dave in an unexpectedly friendly tone:

ntyears
d years.
arying



~Palak Gandhi
..... The Qurio Mag

CHRONICLES OF SPACE



BLACK HOLE - STILL A MYSTERY!

For the first time, astrophysicists have caught sight of light reflected from behind a black hole, proving Einstein right yet again.

You may have heard that nothing, not even light, can escape a black hole, but this isn't strictly true. Anything that crosses the event horizon is forever lost, but the hot disc of matter swirling around the black hole can emit dazzlingly powerful X-rays visible from Earth.

However, not all of this light escapes easily.

While watching X-rays streaming out from a supermassive black hole at the heart of a galaxy 800 million light-years away, Stanford University astrophysicist Dan Wilkins noticed something odd – extra flashes of X-rays. They were smaller, came later and had different wavelengths to the normal, more luminous emissions, as though they were echoes.

~Pratham Pagariya





SPACE PROJECTS

More than fifty years of human activity in space have produced societal benefits that improve the quality of life on Earth. The first satellites, designed to study the space environment and test initial capabilities in Earth orbit, contributed critical knowledge and capabilities for developing satellite telecommunications, global positioning, and advances in weather forecasting. Space exploration initiated the economic development of space that today, year after year, delivers high returns for invested funds in space¹. The challenges of space exploration have sparked new scientific and technological knowledge of inherent value to humankind, leading to better understanding of our Universe and the solar system in which we live. Knowledge, coupled with ingenuity, provides people around the globe with solutions as well as useful products and services. Knowledge acquired from space exploration has also introduced new perspectives on our individual and collective place in the

Innovation: There are numerous cases of societal benefits linked to new knowledge and technology from space exploration. Space exploration has contributed too many diverse aspects of everyday life, from solar panels to implantable heart monitors, from cancer therapy to light weight materials, and from water purification systems to improved computing systems and to a global search and rescue system. Achieving the ambitious future exploration goals as outlined above will further expand the economic relevance of space. Space exploration will continue to be an essential driver for opening up new domains in science and technology, triggering other sectors to partner with the space sector for joint research and development. This will return immediate benefits back to Earth in areas such as materials, power generation and energy storage, recycling and waste management, advanced robotics, health and medicine, transportation, engineering, computing and software. Furthermore, innovations required for space exploration, such as those related to miniaturization, will drive improvements in other space systems and services resulting in higher performance and lower cost. These will in turn result in better services on Earth and better return of investment in institutional and commercial space activities. In addition, the excitement generated by space exploration attracts young people to careers in science, technology, engineering and mathematics, helping to build global capacity for scientific and technological innovation.

Culture and Inspiration: Space exploration offers a unique and evolving perspective on humanity's place in the Universe, which is common to all. Every day, space exploration missions fulfill people's curiosity, producing fresh data about the solar system that brings us closer to answering profound questions that have been asked for millennia: What is the nature of the Universe? Is the destiny of humankind bound to Earth? Are we and our planet unique? Is there life elsewhere in the Universe?

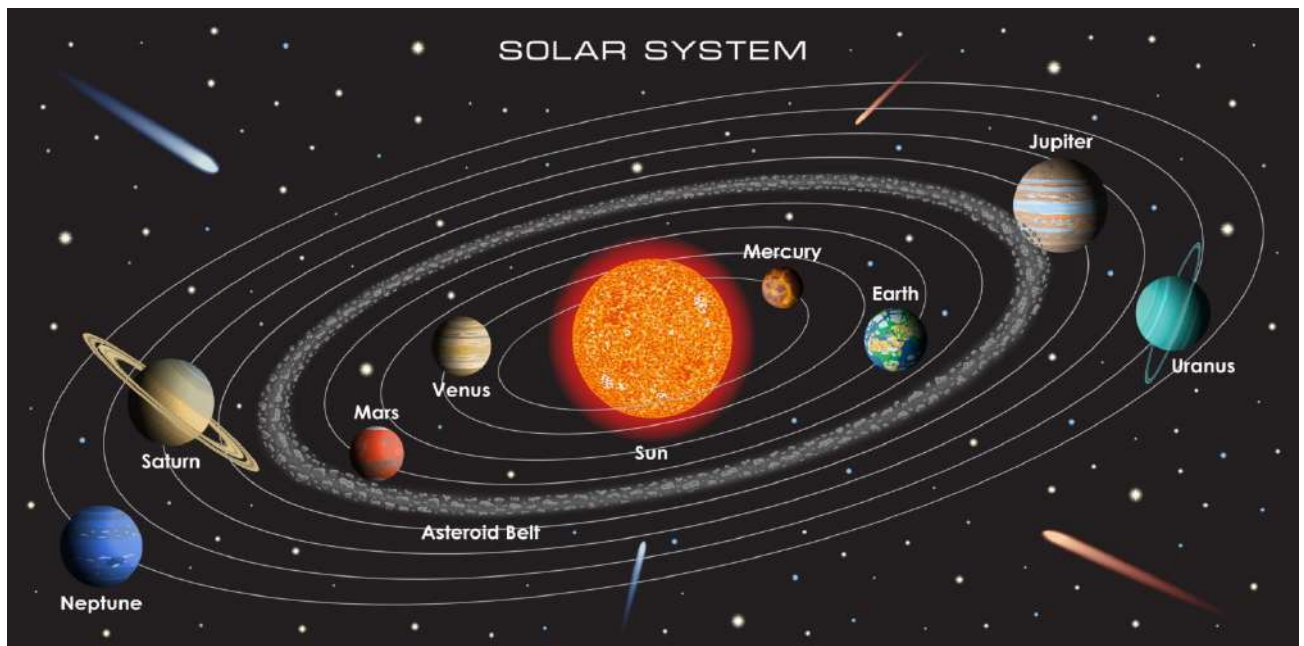
New Means to address Global Challenges: Partnerships and capabilities developed through space exploration create new opportunities for addressing global challenges. Space exploration is a global endeavor contributing to trust and diplomacy between nations. Enhanced global partnerships and exploration capabilities may help advance international preparedness for protecting the Earth from catastrophic events such as some asteroid strikes, advancing collaborative research on space weather and protecting spacecraft by developing new means for space debris removal. Knowledge derived from space exploration may also contribute to implementing policies for environmentally sustainable development.

In summary, space scientists and engineers who overcame past challenges could not have predicted all the ways in which their innovations are now being used on Earth.

SPACE PROJECTS

Though the precise nature of future benefits from space exploration is unpredictable, current trends suggest that significant benefits may be generated in areas such as new materials, health and medicine, transportation, and

New opportunities for job creation and economic growth are being created by private enterprises that are increasingly investing in space exploration and seeking ways to make space exploration more affordable and reliable, and thus, more sustainable and profitable. There is no activity on Earth that matches the unique challenges of space exploration. The first fifty years of space activity have generated benefits for people around the globe. This past record gives strong reason for confidence that renewed investments in space exploration



THE UNIVERSE TODAY

Space & Astronomy News



Playing Detectives

When we look out at the solar system, astronomers are essentially playing at being detectives. We look at all the objects out there — planets and moons, asteroids and comets. By studying them, we gather clues that tell us all about what the solar system was like when it was young. Everywhere we look in the solar system, we find evidence of what scientists call "giant collisions." What does that mean?

Well, it turns out that the final stages of planet formation were really violent. There were lots of things that was planet-size just floating around, and they kept smashing into each other. When two things the size of planets smashes into each other, the collision is really catastrophic — more than enough to tear a world into pieces. And that's exactly what we think happened to the planet Mercury. When Mercury formed, all the clues tell us it was probably about twice as big as it is today. But a long time ago, only a short time after Mercury formed, another Mercury-size object smashed into it in a collision that almost totally destroyed Mercury. That collision stripped away a large amount of Mercury, leaving behind a metal core, with just a thin layer of rubble over the top of it. A planet torn apart by a collision, with the scars still visible to us, 4 billion (that's 4,000,000,000) years later!

Earth also had a collision: The most famous example of a planet being torn apart is actually our own Earth. You see, astronomers think that when Earth formed, it was all on its own. But when we look at Earth today, it has a companion — the moon. So where did the moon come from? All the clues we've been able to gather tell a really dramatic story. Not long after Earth formed, all on its own, it ran into another planet. That planet, which astronomers have nicknamed "Theia," was about the size of Mars, and bumped into us relatively gently (as collisions between planets go). But a gentle collision between planets is still amazingly violent. The collision would have turned the entire Earth molten — killing any life that might have evolved at that point. It would have torn Earth apart, as well as destroying Theia. The material torn off Theia and Earth would have sprayed out into the space around our planet. Earth's gravity was so strong that it trapped most of debris, which gradually gathered together to form the moon. So whenever you look up at the moon in the sky, you can tell everyone it's a reminder of a giant collision when Earth was young. Because, once upon a time, Earth really was torn apart by a crash with another planet!



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)

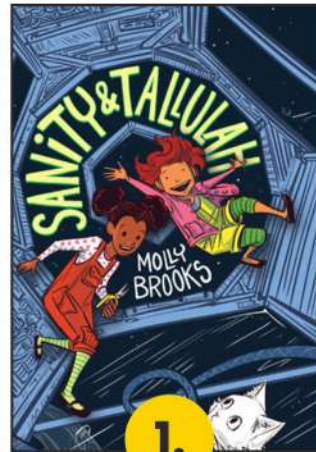
Three young house flies stowaway aboard the Apollo 11 flight to the moon.

7. Mission Mangal (2019)

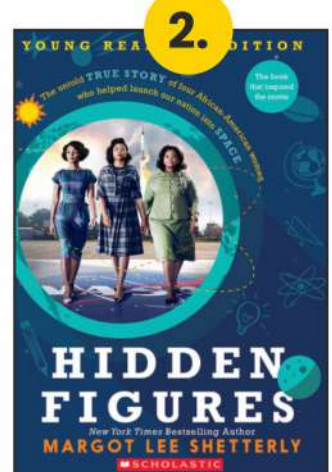
Based on true events of the Indian Space Research Organisation (ISRO) successfully launching the Mars Orbiter Mission (Mangalyaan), making it the least expensive mission to Mars.



Books



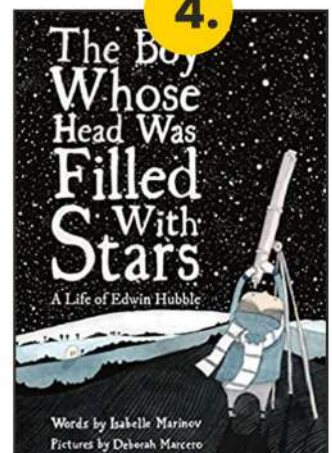
Sanity & Tallulah
Molly Brooks



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:

The Blue Marble

Movie/Book Summary:

How a Photograph Revealed Earth's Fragile Beauty, by Don Nardo, is just the latest in an excellent series of books from Capstone press that uses an iconic photo as the inspiration for a deep dive into history and culture. The namesake photo, showing a nearly full-phase Earth with Africa, Antarctica, and swirling clouds, was taken by one of the Apollo 17 astronauts, but which astronaut is still a matter of debate. Nardo looks at other space-based photos of Earth; explores the art and history of imagining

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:

Parnavi Supekar

Title of the Book/Movie:

Professor Astro Cat's Frontiers of Space

Movie/Book Summary:

This interesting book written by Dominic Walliman and illustrated by Ben Newman is a fact-filled book on space and how we explore it. Each two-page spread features detailed cartoons on a different topic in surprising depth. The pages on "going to the Moon" explain each stage in an Apollo mission, and the "Satellites" spread covers everything from Sputnik to GPS. The book does deliver on its cartoon promise with little jokes in the margins that keep my third-grader reading. My favorite part of the book is the last several pages on "Life in the Unknown" and "The Future of Space," where the stylized illustrations give the reader room to imagine what such unknown life and future spaceships may actually look like.

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:

Tejish Patel



Review

Movies & Books

Title of the Book/Movie:

Meteor

Movie/Book Summary:

Perspectives on Asteroid Strikes is an outstanding book that uses the Chelyabinsk impact event as a case study for how society responds to a disaster. Author Alex Woolf begins with facts about the event but quickly moves into how people responded to it from members of the public to emergency workers to elected representatives to the media to scientists to meteorite hunters to profiteers and more. The book invites readers to consider how they would respond in many of these roles, given the incomplete information available. Then it goes beyond Chelyabinsk to consider the threat of a larger impact. In this section, pull-quotes from experts show how those experts hold a wide range of opinions on the nature of the threat and how society should respond to it. The book is rich with both science and civics, and there's a lot for adults as well as teens to learn from it.

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:

Navaal Khan

Title of the Book/Movie:

Women in Space

Movie/Book Summary:

23 Stories of First Flights, Scientific Missions, and Gravity-Breaking Adventures is a thorough history by Karen Bush Gibson. It's well-written and well-researched, but the opening one-third of the book (covering the Mercury Thirteen, the four women cosmonauts, and the beginning of American women in space) are pretty depressing for their stories of barriers and blatant sexism. Happily, the final chapter in the cosmonaut section, titled "Ready and Waiting", on Yelena Serova, is now out of date, as Serova blasted into space on September 25. Of course the difficult experiences of early women in space have given way to, if not parity, at least representation, and the stories get more inspiring and less frustrating as the book goes on. As she profiles different astronauts, Gibson shows the diversity of personalities, jobs, and missions that make up the space program.

How many hearts do you give this movie?

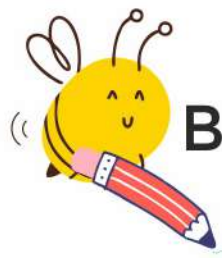
(Draw a heart to rate - 1 heart means the movie was really bad.

5 hearts means it was great!)



Movie/Book Reviewed By:

Shravni Pande



BUZZING
POETS

Arduous Journey

*Beautiful was she,
With her eyes gray ;
“Life is a test”
She would always say.*

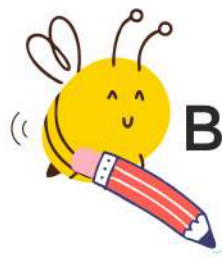
*Taunts and Jeers –
She would always receive ;
Books were her constant
companions,
God was her unbreakable belief .*

*Her future –
Was never unblur;
Adjacent doors –
Were closed for her.*

*Naught, was –
what she had in life;
Except for having –
The correct guide.*

*Her end was –
Between her invocation ;
Soon, Heaven was –
Her forever vacation.*

~ Zikra Siddiqui



**BUZZING
POETS**

I am ENOUGH

**I laugh out loud,
I stand out from the crowd
I follow my dreams,
I flow like an endless stream
I do what I love, I fly high like a Dove
I take my own decisions,
each with care and precision
I speak for myself, I love being my own
unique self
I am wild, at times I act like a child
I am fond of gazing at the stars,
I confidently flaunt my scars
I am perfectly imperfect,
positivity is all that I reflect
I love to care,
I sparkle like a diamond pure and rare
I have a desire to lead,
I am multi-coloured like an ornamental bead
All I can say is:
I 'm ENOUGH !**

~Ritika Deore

SPACE Exploration



How Apollo 11 inspired us (personally and technologically)

Saturday, July 20th 2019, 10:10 am - Saturday, July 20, 2019, marks the 50th anniversary of the Apollo 11 moonwalk

Half a century ago, Buzz Aldrin and Neil Armstrong became the first humans to walk on the surface of another planetary body in our solar system. Launching into space on July 16, 1969, Aldrin, Armstrong and Michael Collins took more than three days to travel from Earth to the Moon, with Aldrin and Armstrong setting down on the surface, to step out and walk on the Moon at 10:51 p.m. ET, on July 20, 1969.

The landing and subsequent moonwalk, watched by millions of people around the world, inspired many. Talk to any astronaut these days, and it is likely they went into space as a direct result of watching the Apollo 11 landing.

Retired Canadian astronauts Dr Roberta Bondar, Marc Garneau, Julie Payette and Chris Hadfield all directly attribute their becoming astronauts to the Apollo 11 mission.

Technological inspirations:

Even as the Apollo mission inspired people - to become astronauts, to study science and space, or simply to strive towards bigger goals in their lives - it also inspired the development of new technologies that are still in use today.

We're not talking about Tang and Velcro here. While those are widely attributed to NASA and the space program, both were actually invented long before, and were only used during the Apollo missions.

Freeze – Dried – Foods:

NASA needed a way to ensure that the food the Apollo astronauts brought with them wouldn't spoil on the trip to the Moon and back. To this end, they turned to freeze-drying, a process that had been used on biological samples, blood and medicine but had not been used for food.

This also led to the creation of the HACCP (Hazard Analysis Critical Control Point) system, which greatly increased food safety, as the entire process of food production was controlled from beginning to end, reducing the risk of bacterial contamination.

Space blankets:

Those distinctive silvery blankets that are an integral part of even the most basic emergency kit? They were produced from Apollo technologies. As NASA says: "NASA found that by layering multiple metalized sheets of lightweight Mylar, it could create a reflective insulation far more effective both pound-for-pound and inch-for-inch than anything else available. NASA went on to master the technology, improving its strength, fabrication techniques and testing procedures, fine-tuning it for maximum performance.



SPACE

Exploration



Digital flight controls:

Prior to the Apollo missions, control systems for aircraft involved cables that directly connected the pilots controls (steering column and foot pedals) to the appropriate aircraft control system (the wing flaps and tail flap).

To improve accuracy and safety, NASA had a new system of digital controls developed, one where electronic signals were transferred between the controls and the control systems by wires. This earned the system the nickname "fly by wire".

According to NASA, "The Apollo Primary Guidance, Navigation and Control System converted pilots' inputs into electrical signals and fed them to the Apollo Guidance Computer, along with information from various sensors. The computer then decided how to adjust control firings to achieve the desired outcome. Being digital, rather than analog, the computer could make use of complex software and store large amounts of data."

The Apollo Guidance Computer was one of the first computers to use the integrated circuit, which is still in use today, in our home computers and mobile devices, in aircraft, and even in the cars and trucks that we drive around every day.





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



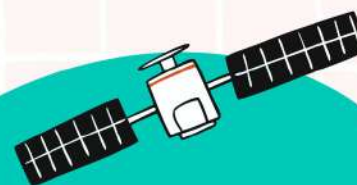
Which are the top Space Science colleges in India?

- 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)
- Aryabhata 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.

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

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

MARTIAN SNACKERS



INTERSTELLER ART GALLERY

Art Gallery - Pencil Sketch







SPOTLIGHT @ PIS

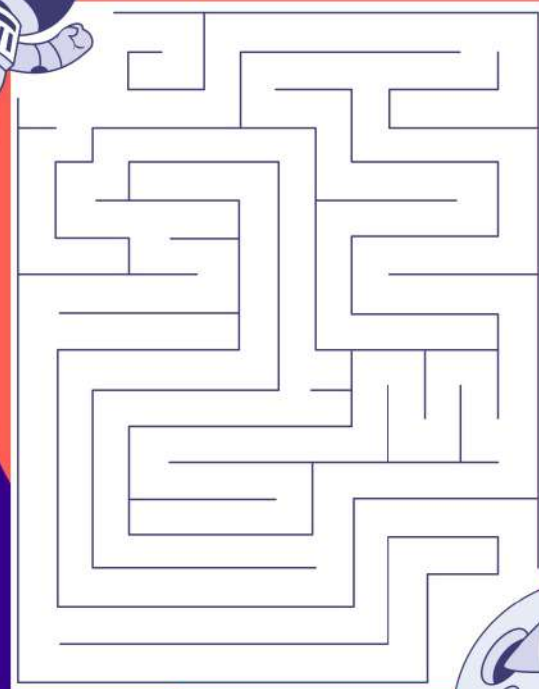




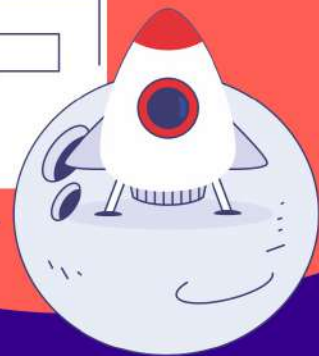


BRAIN PLAY

HELP THE ASTRONAUT



GET BACK TO HIS SHIP



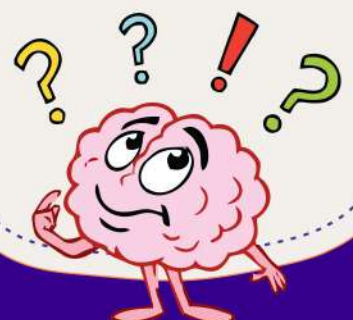
SPACE PUZZLE

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

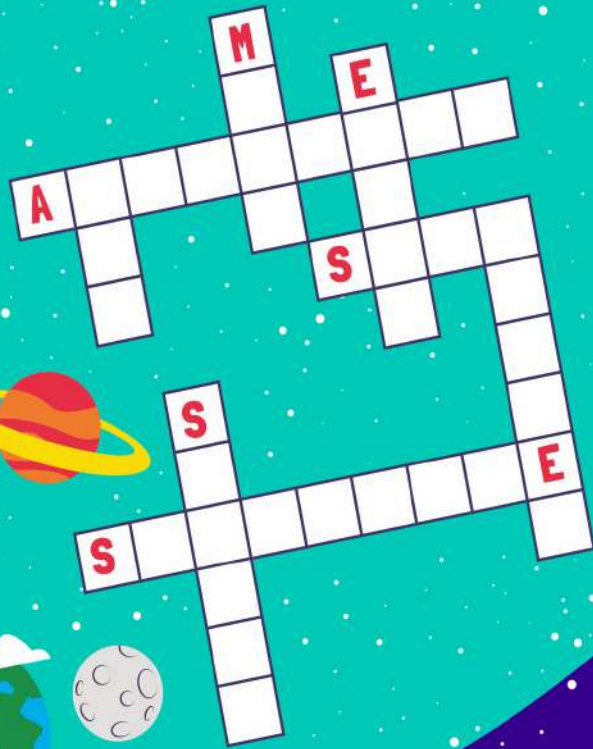
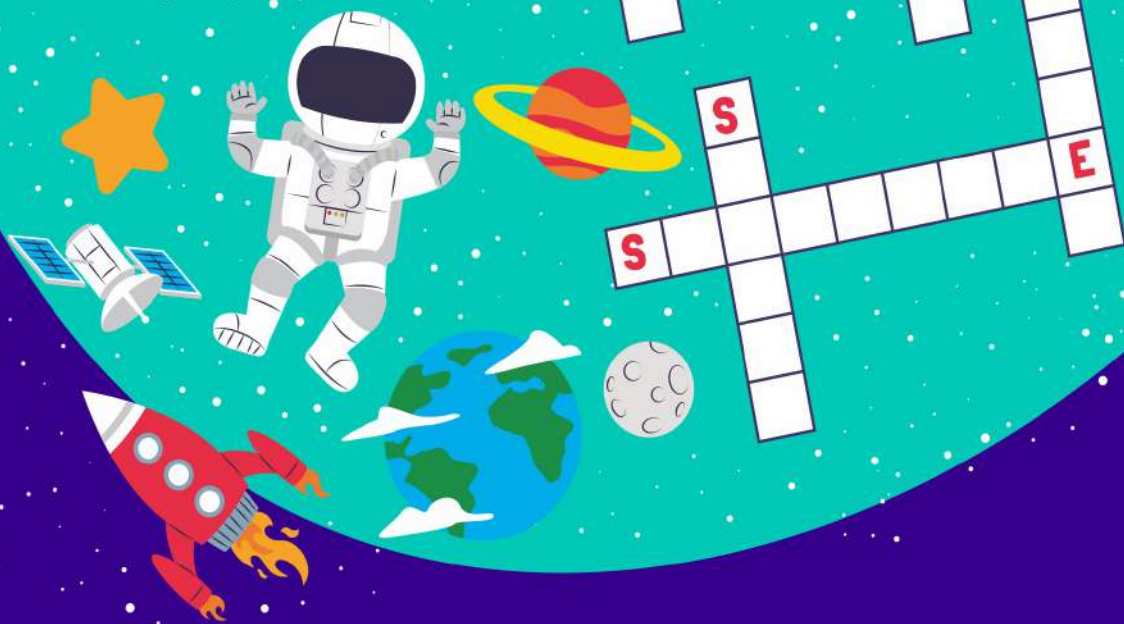
What Am I?

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!

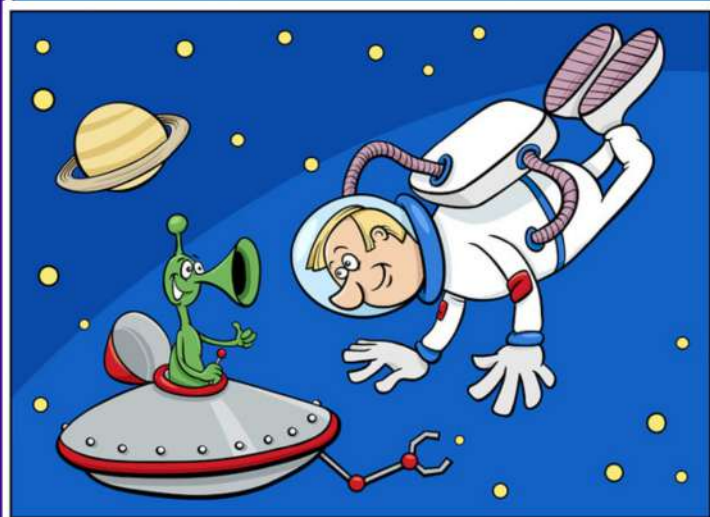
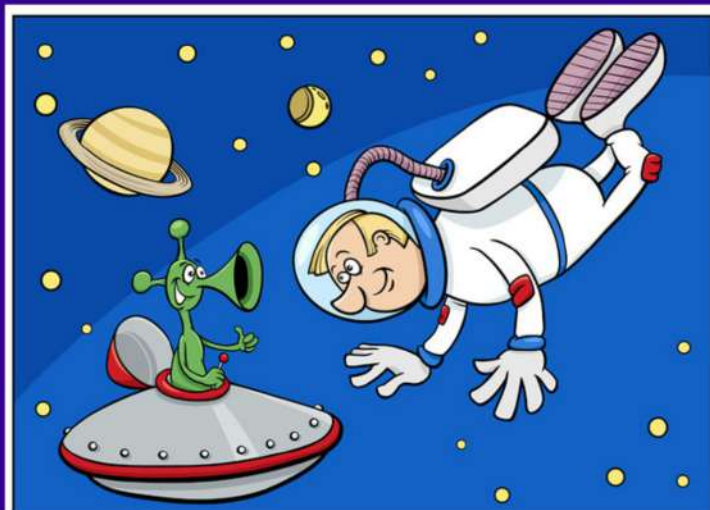


STAR UFO SUN ROCKET ALIEN PLANET ASTRONAUT TELESCOPE MOON EARTH

CROSSWORD



Find 6 differences



Using just the letters in the word below, can you make at least 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 at least 4 letters long.

GOOD LUCK!

ASTEROID

Riddle

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

