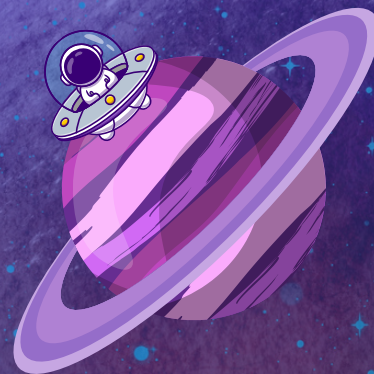
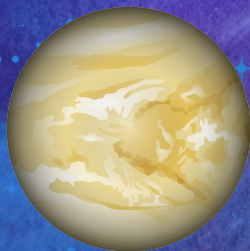
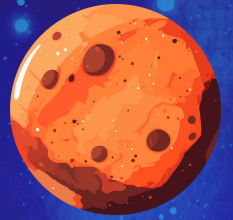


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At

by the **The KK Times**



**Dream,
Draw,
Design,
Discover.**

Space Odyssey

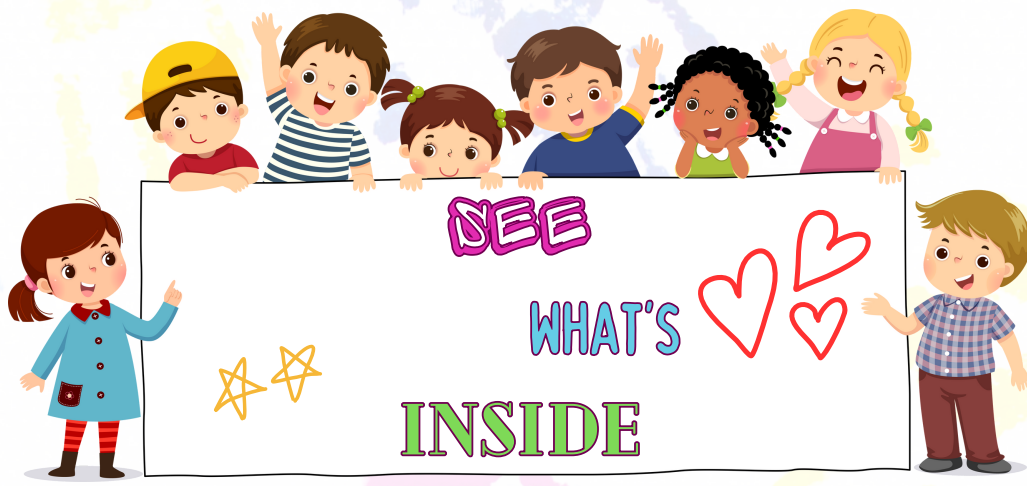
One day on
Venus is way
more than a
year on Earth.

ABOUT THE COVER

Explore the wonders within
cosmos as TQA takes you on a
journey through the universe,
depicted on our cover in a vibrant
tapestry of astronauts, planets,
and celestial wonders.

Pg 5 & 6





The Qurious Atom | Issue 8 | 31 March | Monthly | Ghaziabad

Note from the Editor:

Welcome, young explorers, to an exciting issue filled with the mysteries of space. This issue includes many articles that unravel celestial wonders as well as mighty volcanoes. Also learn about 3D printing and Alexander Graham Bell Day!

We appreciate your curiosity and love for science. This magazine takes you on a cosmic adventure, exploring the universe and its wonders. We'll also dive into the fiery depths of volcanoes and learn about their science. Plus, we celebrate Alexander Graham Bell, a remarkable inventor and scientist. Our goal is to fuel your passion for learning and discovery.

So, grab your telescope and explorer's hat, and let's embark on this thrilling journey together! Happy reading, young scientists!

With lots of love, Kanira
World's Youngest Chief Editor

Next Issue of The Qurious Atom:
30 April 2024
Theme : Healthy Planet, Healthy You.

Fascinating World of Space - Page 3

Facts vs Myth - Page 4

All about Volcanoes - Page 5 & 6

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Unlocking the Fascinating World of **SPACE**

Space, space, space... What is space? Space is a boundless, starry blanket with lots of planets, stars, galaxies, black holes and what else? Everything! Today we're going to explore space!

Space is one of the many topics in science that hasn't been fully explored. Well, let's start exploring it.

Galaxies

A galaxy is a gigantic collection of stars, dust particles and clouds of gas. There are billions of galaxies in the universe. We live in the Milky Way galaxy.

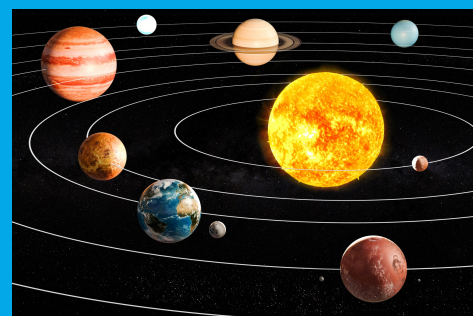
Solar System

Moving on, the solar system is composed of the Sun, along with all entities revolving or moving around it. Encompassing this system are the eight planets with their moons, dwarf planets, an immense number of asteroids, comets, and other minuscule, icy entities.

Well, wasn't that amazing. Read more about space in this edition of the Curious Atom.



Space

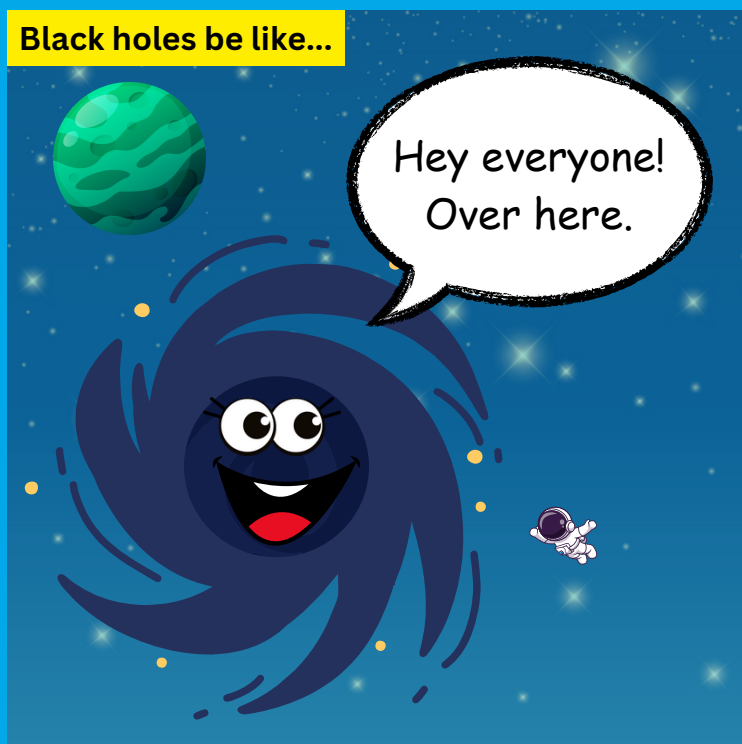


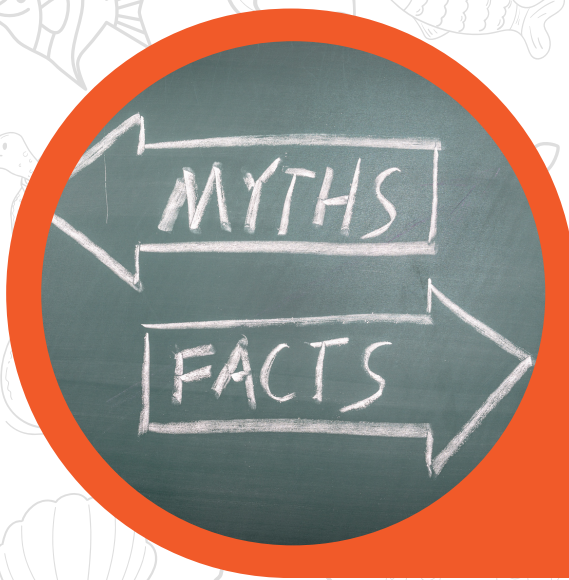
Solar System



Stars

Black holes be like...





SCIENCE OF SPACE

MYTH

- Black Holes suck everything
- The Sun is burning.
- Stars in a constellation are close together.
- The great wall of China is visible from space.

FACT

- Black holes behave like any celestial body, but they just have extremely high gravitational pull. thus the velocity required to escape its gravity is very high. So objects moving fast enough can escape the pull of black holes.
- Burning needs Fuel, Heat and Oxygen, but Sun does not have any oxygen. the heat it produces is due to Thermo-nuclear fusion and not burning.
- The stars in a constellation are separated by several 100 light years deeper into space, however we see them close after ignoring the depth aspect (or the third dimension).
- In 2013 International Space Station made it clear that the Great Wall is not visible to naked eye nor with some telescopes.

Hot, Hot, Hot!! All About Volcanoes!

Hi there, friends! Today, we're going to learn about something fascinating and powerful found in our Earth's crust: volcanoes. These natural wonders have been captivating people for centuries, and they play a crucial role in shaping our planet. So, let's dive into the world of volcanoes



WHAT ARE VOLCANOES?

Volcanoes are essentially openings or cracks in the Earth's surface. They act as pathways for molten rock, ash, and hot gases to escape from deep within the planet. This molten rock is called magma, and when it reaches the surface, it's called lava.

TYPES OF VOLCANOES

There are different types of volcanoes, and they can be categorized based on their shape and how they erupt. The main types are:

- **Shield Volcanoes:** These are broad, gently sloping volcanoes that resemble a warrior's shield. They usually erupt slowly and release a lot of lava, creating wide bases. Hawaii's Mauna Loa is an example of a shield volcano.
- **Stratovolcanoes:** Also known as composite volcanoes, these are steep-sided and often conical in shape.

They erupt violently, producing both lava and ash. Mount Fuji in Japan and Mount St. Helens in the United States are examples of stratovolcanoes.

- **Cinder Cone Volcanoes:** These are small, steep-sided volcanoes formed from the buildup of solid volcanic fragments called cinders or scoria.

They erupt explosively and are usually found around shield or stratovolcanoes. Parícutin in Mexico is an example of a cinder cone volcano.

HOW DO VOLCANOES FORM?

Volcanoes form primarily due to the movement of tectonic plates. These plates make up the Earth's outer layer and constantly move, interacting with each other. When two plates collide, one may dive beneath the other in a process called subduction. As the subducting plate moves deeper into the Earth's mantle, it heats up and partially melts, forming magma.

DID YOU KNOW?

This magma rises back towards the surface, creating volcanoes along the boundaries of the tectonic plates.

VOLCANIC ERUPTIONS

Eruptions occur when pressure builds up inside the volcano, forcing magma, ash, and gases to escape. Eruptions can vary in intensity and style, depending on the type of volcano and the composition of the magma. Some eruptions are gentle and release lava flows, while others can be explosive, sending ash and gas high into the atmosphere.

WHY DO VOLCANOES MATTER?

Volcanoes play a vital role in shaping our planet. They create new landmasses, reshape existing landscapes, and contribute to the formation of mountains. Additionally, volcanic eruptions release gases like carbon dioxide and sulfur dioxide, which can have a significant impact on the Earth.

So you see, volcanoes are amazing and also help the earth. Bye!

The volcano eruption in Iceland on March 16th 2024 was the fourth volcano eruption since December.



The Curious Chronicles of Jungle Grove

Ch-7 "To the Space Kids Centre: An Amazing School Trip"

In the heart of Jungle Grove School, excitement soared to new heights as Mandy the Monkey, George the Giraffe, Emma the Elephant, and their classmates embarked on a cosmic adventure to the Space Kids Centre. Joined by Jackie the Jackal, Tony the Tiger, Yana the Yak, and their teacher, Ms. Wendy Wolf, the group was eager to explore the mysteries of the universe.

At the Space Kids Centre, they marvelled at the vastness of space through a powerful telescope.

She eagerly participated in every activity, her eyes sparkling with wonder at the cosmic wonders surrounding her.

As the day came to a close, each student received a certificate of participation, including Mandy. She proudly held her certificate, cherishing the memories of their stellar adventure.

However, just as they were about to leave, a sudden power outage plunged the Space Kids Center into darkness. The students exchanged worried glances, unsure of what to do.

They gazed in awe at distant galaxies, sparkling stars, and even caught a glimpse of the majestic rings of Saturn.

But the real fun began when they participated in interactive activities. They made craters on simulated lunar surfaces, learned about the phases of the moon, and even experienced what it felt like to walk on the moon's surface using special gravity simulators.

Amidst the excitement, Mandy stood out with her enthusiasm and curiosity.

Thinking quickly, Ms. Wendy suggested they use their knowledge from the day's activities to navigate through the



darkened center. Armed with their newfound understanding of space and celestial bodies, they worked together to find their way out. Using the phases of the moon as a guide and recalling the positions of stars they had seen through the telescope, the students navigated through the dark corridors of the center with confidence. Their teamwork and resourcefulness proved invaluable as they safely made their way back to the entrance.

Emerging from the Space Kids Center, the students felt a sense of pride and accomplishment. Despite the unexpected twist, they had turned a potential challenge into a learning opportunity, showcasing the power of knowledge and collaboration in the face of uncertainty.

As they bid farewell to the center and returned to Jungle Grove School, Mandy and her friends knew that their cosmic adventure had not only deepened their understanding of the universe but also strengthened their bonds of friendship and resilience.

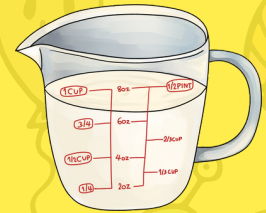
Draw a photo related to the story. You can make their school bus, the Space Kids Centre, Mandy's certificate an image of space or anything else. Colour it nicely and send it to us. The two best drawings will be featured in the next edition.



Physics LAB



Oobleck/ Non Newtonian Fluid



What To Do-

1. Measure 3/4 cup of water in a measuring cup and pour it into the bowl.
2. Add 1 cup of cornstarch in a plastic bowl.
3. You can add food colouring if you have any.
4. Mix, mix, mix until you get the right consistency. You may need to add more cornstarch or water.
5. Get your spoon and hit the oobleck/non-newtonian fluid. Now put the spoon into your oobleck gently.

Materials-

Water, measuring cup, cornstarch, plastic bowl, spoon, cornstarch, food colouring (optional)

Observation-

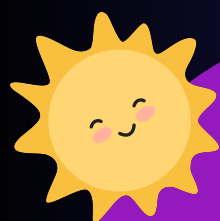
You will notice that when you hit the oobleck it acts as a solid but when you put the spoon in gently it acts like a liquid. Oobleck is a fluid which does not follow Newton's law of viscosity thus it is a non newtonian fluid.



PHYSICS



WONDER WHY?



**THE SUN
IS HOT**



Imagine the sun as a giant ball of hot gas. Inside this ball, there's a special area called the core. The core has an incredibly strong squeezing force, similar to when you try to press your hands together very hard. In the sun's core, this force is strong enough to change tiny hydrogen atoms into helium atoms. This change releases a lot of energy in the form of heat, which makes the sun shine brightly and warm our planet.

Mars has a reddish color because its surface is covered with a lot of iron dust. In Mars's atmosphere, which mainly consists of carbon dioxide, this iron dust gets rusty, giving the planet its red appearance.



**MARS IS
RED?**



The Magic of 3D Printing

11

HAVE YOU EVER WONDERED HOW A SIMPLE IDEA CAN BE TRANSFORMED INTO A REAL, TOUCHABLE OBJECT? THAT'S WHERE 3D PRINTING COMES IN - A REVOLUTIONARY TECHNOLOGY THAT ALLOWS US TO CREATE THREE-DIMENSIONAL OBJECTS FROM DIGITAL MODELS. IT'S LIKE MAGIC, BUT IT'S REAL, AND IT'S HERE TO STAY.

The history of 3D printing dates back to the 1980s when a man named Chuck Hull invented a process called stereolithography.

Since then, the technology has evolved dramatically, and today, we have a variety of 3D printing techniques and materials to choose from.

How Does it Work?

3D Printing

So, how does this magical process work? First, you need a 3D model of your desired object. You can create this model using specialized software or find one online.

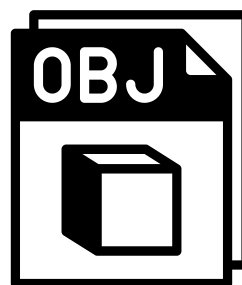
Once you have your digital design, you save it as a specific file type, such as STL or OBJ. This file is then fed into the 3D printer, which interprets the data and starts building your object layer by layer. It's like watching a mini construction site, where the printer deposits material, one tiny bit at a time, until your object is complete.

NOW, LET'S TALK ABOUT STL AND OBJ. STL STANDS FOR STEREOLITHOGRAPHY, AND IT'S A FILE FORMAT COMMONLY USED FOR 3D PRINTING. THESE FILES STORE THE SURFACE INFORMATION OF A 3D MODEL AS A MESH OF TRIANGLES, WHICH THE 3D PRINTER USES TO CREATE THE OBJECT. OBJ, ON THE OTHER HAND, IS A MORE VERSATILE FILE FORMAT THAT CAN STORE MORE COMPLEX GEOMETRIES AND TEXTURES. BOTH STL AND OBJ FILES ARE ESSENTIAL FOR 3D PRINTING, AS THEY REPRESENT THE DIGITAL BLUEPRINT OF YOUR FUTURE CREATION.

But that's not all! 3D printing has opened up a world of possibilities in various fields. In medicine, it's helping create custom prosthetics and even human organs for transplant.

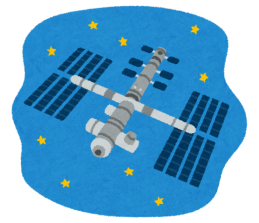
In architecture, it allows architects to create life-sized models of their designs. In space exploration, NASA is using 3D printing to manufacture tools and spare parts in space, reducing the need for frequent resupply missions.

Now, imagine the potential for creativity and innovation when you have the power to design and produce your own products. 3D printing is not just a tool; it's a catalyst for change, inspiring a new generation of inventors, engineers, and artists. So, let's dive into the fascinating world of 3D printing, uncover its mysteries, and explore how it can shape our future.



A 3D Printed Pen Stand at my home.

Let's Find Out



What is JAXA?

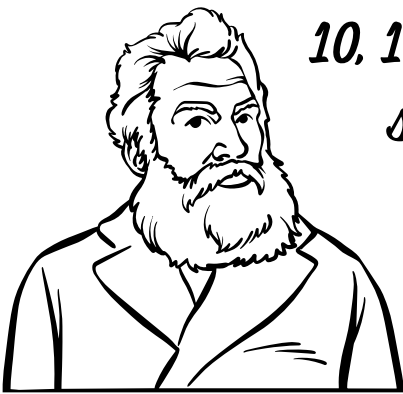
JAXA stands for the Japan Aerospace Exploration Agency. It's basically Japan's version of NASA! Their job is to explore space, develop rockets and satellites, and learn more about the universe. JAXA plays a vital role in helping us understand the universe and develop new technologies. They're constantly pushing the boundaries of what's possible in space exploration!



In simple language, JAXA sends rockets to space, missions to other planets, develop new technology just like our very own ISRO.

Alexander Graham Bell Day

Alexander Graham Bell was a famous scientist and inventor. He was born on 3 March 1847. He invented the first telephone. 7th March is celebrated as Alexander Graham Bell Day because he was granted a patent on this day. The first ever phone call was made on March 10, 1876 by him. Even though he invented something amazing, Graham Bell never actually won a Nobel Prize for his invention.



Have you ever looked up at the night sky and been amazed by all the twinkling stars? Stars seem to go on forever, but just like us, they actually have a life cycle! That means they are born, grow up, change a lot, and eventually...well, we'll get to that later.

Imagine a giant cloud of dust and gas floating in space. This cloud is chilly and dark, but deep inside, something amazing is happening. Tiny particles are bumping into each other really, really fast, which makes them super hot! This hot gas starts to glow, and whoosh! A baby star is born!

The baby star spends a long time just playing and shining brightly. It's kind of like a giant ball of fire, using up all its energy by burning a special kind of fuel called hydrogen.

As the star gets older, it starts to act a little different. It gets bigger and puffier, kind of like a giant beach ball! This stage is called a red giant, because the star looks a little reddish-orange.

Here comes the cool part: sometimes, when a red giant blows off some of its outer layers, it creates beautiful clouds of gas and dust that float around in space. These colorful clouds can look like anything from a swirling nebula to a majestic butterfly!

Now for the grand finale! Remember how the star was burning fuel? Eventually, it runs out! Without fuel, the star can't hold itself together anymore, and it goes BOOM! This giant explosion is called a supernova, and it can be so bright that it outshines all the other stars in the sky!

But wait, there's more! After the supernova, there can be leftover stuff from the star. Sometimes, this leftover material can clump together and become a new star, or even a super strong and mysterious object called a black hole!

So next time you look up at the stars, remember that they are like us - always changing and growing. The night sky is a giant storybook, filled with baby stars, red giants, and even space explosions!



Be A Scientist



1. Research about anything in science, write and send it to us.
2. Draw or design your own machine, colour it, and send.
3. Write a few paragraphs about anything that you would like to do in science.

OR

Do it all to see a full page dedicated to your Kreations.

CREATE!

SCIENCE SONG

Moon



The moon is a,
Glowing ball.
It works so hard,
To tire us all.
From the sun,
It reflects light.
It makes us sleep,
During the night.
On it's surface are,
Craters and rocks.
Makes us sleep like a baby,
Which's crib it rocks.
It has no gravity,
So we jump so high.
It's like a bright glowing rock,
In the sky.

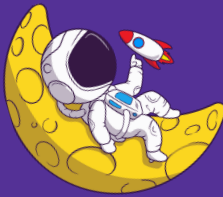


BY KAMIRA GUPTA, CHIEF EDITOR



FACT

1. The average sized star **SUN**, can accommodate 1 million Earths in itself.
2. Jupiter, Saturn, Uranus and Neptune have no surface, so you can not walk there.
3. If a plane can fly to Pluto, the journey would be 800 years long.
4. The sunset on Mars appears blue.
5. Space junk is any human-made object orbiting Earth that no longer serves a useful purpose.



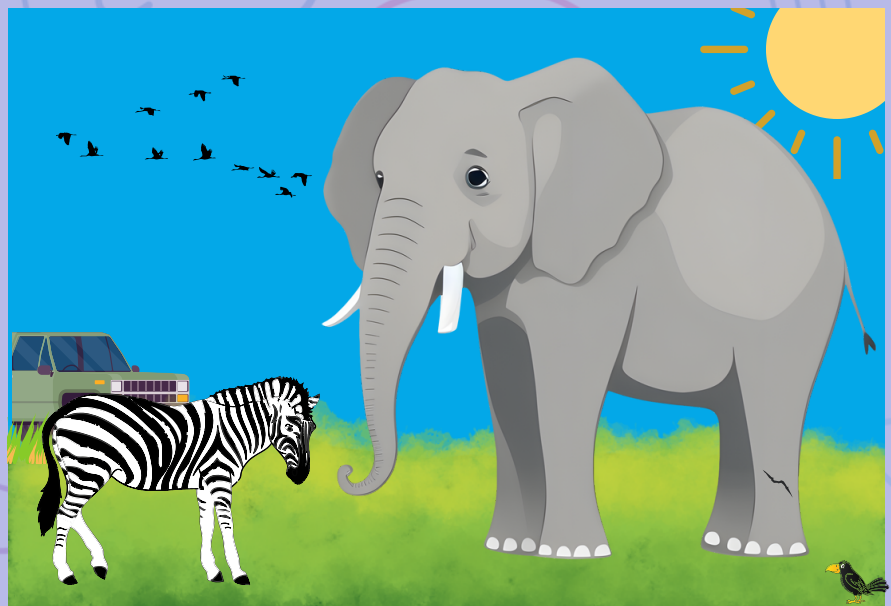
There's a giant cloud of alcohol in space that smells like rum, raspberries, and other boozy delights!

This interstellar cloud, located near the center of our galaxy, is made up of mostly ethyl formate, a chemical compound with a sweet, fruity aroma similar to rum.

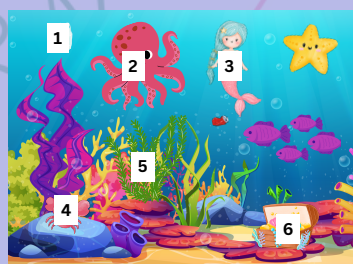


SPOT THE DIFFERENCE

Spot the differences between the two scenes.
Answers in the next edition.



Spot The Difference.
Answer of December Issue



A



B

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for more engaging content.