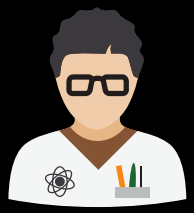
The Curious Atom

by the **The KK Times**

The Amazing World of Sounds

Did you know, sounds are actually vibrations. Want to know more? Read the Curious Atom.

Homi J. Bhabha



Indian nuclear physicist who established the Trombay Atomic Energy Establishment and Tata Institute of Fundamental Research. The development of nuclear weapons in India was made possible by both of these organizations.

ABOUT THE COVER

Children are playing all kinds of musical instruments. This shows the many different ways to make sounds.

The Qurious Atom | Issue 3 | 31 October | Monthly | Ghaziabad

Note from the Editor:

Hello dear readers, we are pleased to present the latest edition of the Qurious Atom to you. This edition is based on sound. We have an article, a comic and a science experiment on the theme. We also have other topics like the moon, Non-Newtonian fluid, World Animal Welfare Day and additional fun with I Wonder Why. We request you to send your submissions for Time Machine and Be A Scientist. This time we have activities like mazes, spot the difference and colour me. Also send your articles for the. November edition. Hope you enjoy reading Buh- bye!

Next Issue of The Qurious Atom:
30 November 2023
Theme : Sense Of Smell

Free e-Publication by Sark Promotions, Ghaziabad | Editor Miss Kanira Gupta | Published for the period Oct 31 - Nov 29, 2023
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The Amazing World of Sounds

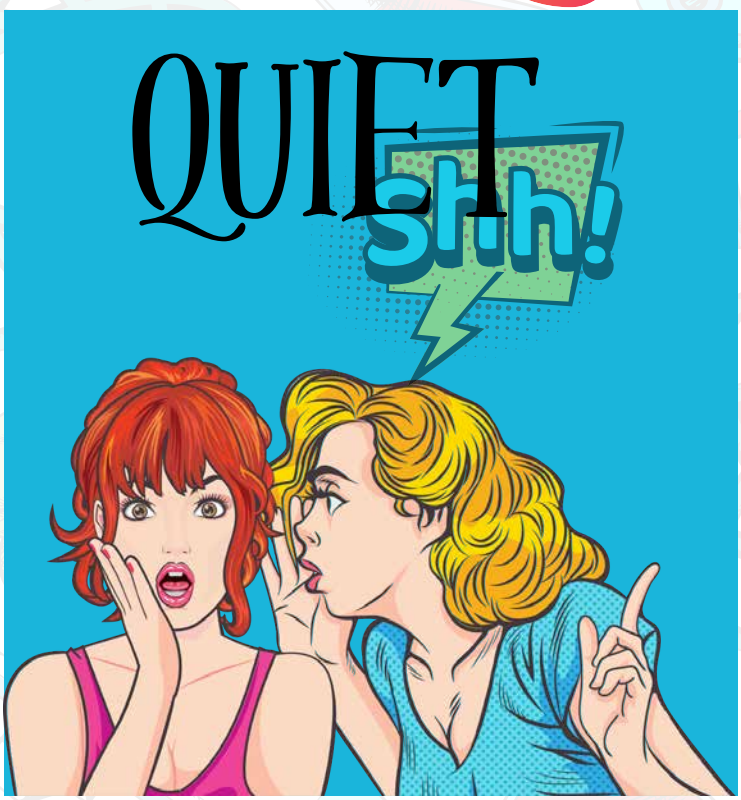
You must have heard the term sound, but do you know what is sound? Well guys today we're going to learn all about sound.

Meaning of Sound:

Sound is all the things we hear. But how do we hear?
When sound waves reach our ears, they vibrate. Our brain considers these vibrations as sound. In simple words, sound waves go zoom-zoom to our ears and give our eardrums a tickle. Our brain goes, "Oh, I know what's up!" and figures out where these tickles are coming from.
Animals, on the other hand, make all sorts of noises with their different body parts. Exciting, right?

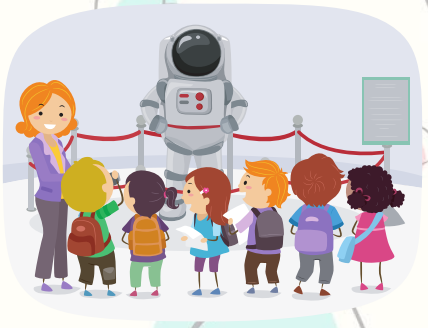
What are different types of sounds?

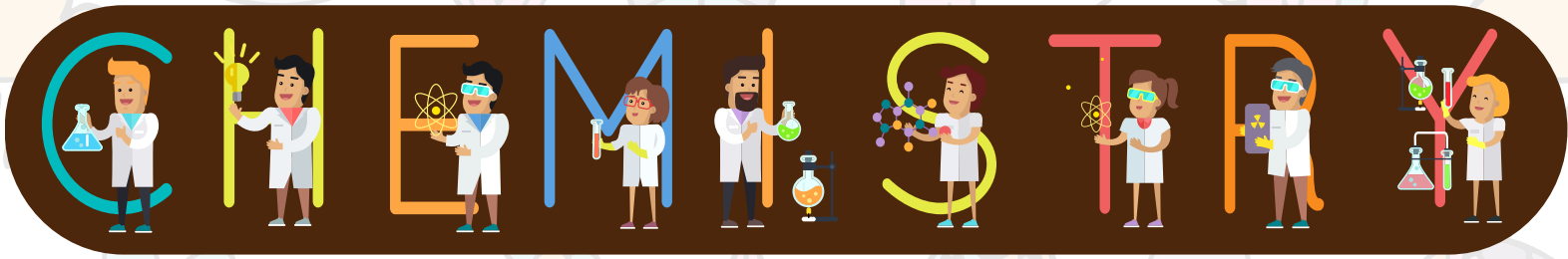
Some sounds are like music to our ears, while others well they're just silly noises. The sound of a baby's cry is very hard to ignore. Audible sounds have the frequencies between 20 Hz to 20 KHz.
So guys, have fun reading the Qurious Atom. Bye! Bzzz Bzzz 🐝.
Ugh that annoying bee.



MAZE

Solve the maze to reach the science museum at the end.





LAB

Non - Newtonian Fluid

Materials-

Corn Starch, Water, Measuring Cup, Newspaper, Spoon, Small Bowl, Food Colouring

What To Do-

Lay the newspaper on a flat surface and start the experiment. In a measuring cup measure 25 g of corn starch. Add it to the bowl. Now take 5 ml of water and add it to the bowl. Also add 2 drops of food colouring. Mix well until the consistency is as required. If the substance is too watery add more corn starch.

What Happens-

When you tilt the bowl, it flows like water. Yet when you hit the fluid with the spoon it makes a sound. This 'oobleck' is not a solid or a liquid; it is a Non - Newtonian Fluid.

THINGS TO DO

World Animal Welfare Day is celebrated on October 4 every year. Here is a list of things that we kids can do for the welfare of animals:

1. **Only buy products that are cruelty-free and were not tested on animals.**
2. **Volunteer at a local animal shelter.**
3. **Adopt a pet.**
4. **Don't buy products which are made out of animal skin, teeth, horns, etc.**
5. **Take the following pledge-**

I pledge to never buy products that have been tested on animals. Let us champion for the rights and welfare of animals.

Great or Small, Love Them All!

COLOUR ME

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!

The Curious Chronicles of Jungle Grove

Ch-2 Gravity‘s Jungle Adventure: Mandy, Emma and George‘s Playful Adventure

In the lush and lively Jungle Grove School, Mandy the Monkey, George the Giraffe, and Emma the Elephant were the best of friends. They were known for their endless curiosity and their knack for turning every lesson into an adventure.

One sunny afternoon, their teacher, Ms. Wendy Wolf, gathered the class under the shade of a giant banyan tree. She had a twinkle in her eye as she began, "Today, my dear students, we're going to dive into the magical world of gravity!"

The trio exchanged curious glances, and Mandy, being the most adventurous of them all, couldn't wait to see what gravity had in store.
Ms. Wendy Wolf continued, "Let me tell you about Sir Isaac Newton, a brilliant scientist who was born on 25th December."
Mandy, George, and Emma burst into giggles. "He was born on Christmas!" they exclaimed, amused by the thought of a scientist being born on such a festive day.

STORY

Ms. Wendy chuckled along with them and said, "Indeed, he was, but it was his discoveries that truly made him remarkable. Newton is famous for his laws of motion and his work on gravity."

With newfound excitement, the friends listened intently as Ms. Wendy explained how gravity is the force that pulls everything toward the center of the Earth, keeping us grounded. She even demonstrated by dropping an apple from a tree, just like Newton's famous story.

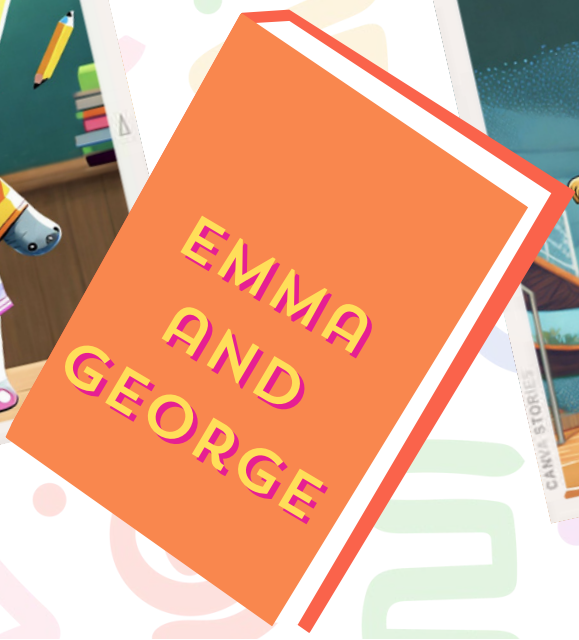
After school, the trio headed to the jungle playground. George, who loved basketball, started a friendly game with his friends. As they played, they couldn't help but notice something peculiar. Every time they threw the ball into the hoop, it would swoosh through the net but then bounce and hit the ground.

Mandy scratched her head. "Why does gravity pull things down. Why doesn't it keep the ball up there?"

Emma nodded in agreement, and George, while dribbling the ball, explained, "Well, that's because of Newton's laws. Even though the ball goes up, gravity pulls it back down as soon as it leaves our hands. It's like a magical dance between the Earth and the ball."

The friends burst into laughter, realizing that even the simplest games in the jungle were governed by the laws of gravity. They continued to play, now with a deeper appreciation for the invisible force that kept their world in harmony.

As the sun dipped below the horizon, Mandy, George, and Emma headed home, their hearts full of wonder and their heads buzzing with newfound knowledge. They knew that every day in Jungle Grove School was an adventure, and with Ms. Wendy Wolf as their guide, they were bound to discover even more mysteries of the natural world.

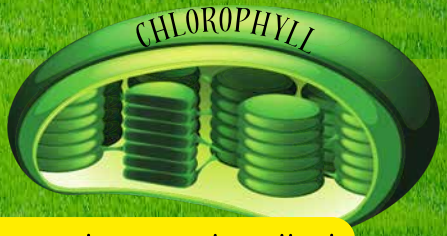


I WONDER WHY?

BALLOONS FLOAT

Most balloons are filled with helium. And helium is lighter than air, causing the balloons to float against the flow of gravity.

GRASS IS GREEN



Grass contains a chemical called chlorophyll that absorbs red and blue light from the sun while bouncing green light towards our eyes.

Magic of the Moon

The mystical moon still has many secrets to be unfolded. So future scientists, let me tell you more about the moon.

Features of the Moon:
The moon has five features- Mare, Crater, Terrae, Ray and Regolith.

Figures on the Moon:
Have you ever seen those black spots on the moon? They are mares and when you connect the dots have you ever seen shapes like a rabbit, and old lady or a smiley face.

Phases of the Moon:
1- New Moon 5- Full Moon
2- Waxing Crescent 6- Waning Gibbous
3- First Quarter 7- Last Quarter
4- Waxing Gibbous 8-Waning Crescent
A full cycle usually takes 29-30 days.

So next you see the moon be sure to observe everything you learned here.

Fun Fact- The last lunar eclipse of the year 2023 was on 28 October. It was a partial lunar eclipse.

Visualisation of Sound

HOW SOUND CAUSES VIBRATIONS IN THINGS AROUND US?

Sound is like a secret messenger that travels by making things around us vibrate. When you clap your hands, for example, the air around your hands vibrates. These tiny vibrations are like waves traveling to your ears. Inside your ears, you have a special part called the eardrum. It's like a super-sensitive drum that can feel those vibrations. When the eardrum feels the vibrations, it sends a message to your brain. Your brain then turns these messages into sounds, and that's how you hear things!

You can even see the magic of sound with a simple science project! Imagine having a big balloon or a cling wrap over a glass kitchen bowl, with a bluetooth speaker inside.

On the balloon, we stick a tiny mirror. Then, we shine a laser at the mirror, so that the reflections of the light falls on a white wall or ceiling. Try this setup in a dark room. Now, when the speaker plays sounds, like music or your voice, it makes the mirror wiggle.

This wiggling mirror reflects the laser beam onto the wall or ceiling, creating amazing patterns. These patterns are like pictures of the sounds! So, you can actually see how sound travels and dances in the air. It's like making sound visible and turning it into a beautiful light show.

This cool project helps us understand how sounds move and make things shake, and it's like watching a sound dance party with lasers and mirrors!

Do try this amazing experiment and share the pictures of the images formed with us. Those with an eye for patterns or a very qurious mind will have a lot of fun with this project. Happy exploring!

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SCIENCE SONG

ORIGINAL POEM BY
KANIRA GUPTA

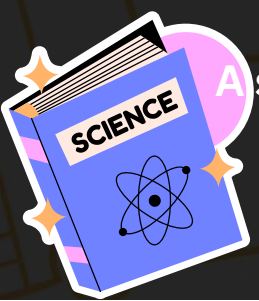
Science

Science and magic,
all the same.
Science is like,
A scientist's game.

Physics, chemistry,
And biology.
Math, tech and,
Even ecology.

It teaches us how to,
Make rockets fly.
And that there are,
Endless stars in the sky.

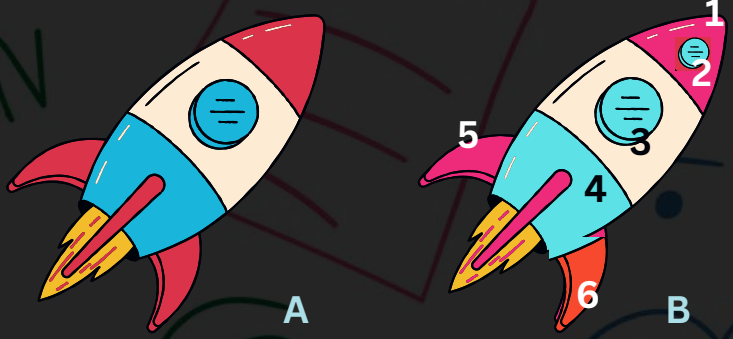
Science is also,
A subject in school.
Don't you see,
It is so cool?



SPOT THE DIFFERENCE

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

Spot The Difference
Answer of September Issue



SCIENCE VOCABULARY

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R H I B M P Q V Z H L E I C C M G
A K O R I J T R J A L D B V N U Z
U B D T P J P P H E N O M E N O N
T B Y I O E U S G O W C A O Y W F
I C Y F G S T M Y Y M W T S C E E
Q K D F I I Y C E X U B I U X H V
T P B J P J L N R D A S P B D R K
K E F S F L Q H T Z E R X U I B P
Y M C Y D S Q I A H F Q R L K P I
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Hypothesis
Technician
Astronomy
Chemistry
Phenomenon
Photosynthesis

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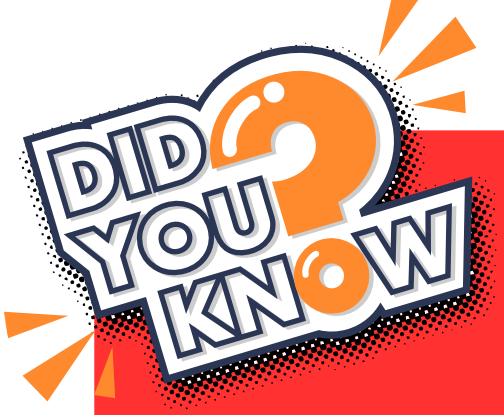

1. **Humans have inherited genes from other species.**
2. **Bananas are radioactive.**
3. **The majority of Earth's oxygen comes from the oceans.**
4. **There is enough DNA in the average person's body to stretch from the sun to Pluto and back — 17 times.**

The KK Times

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