

# Gyan Bharati School

## Quest....

*Monthly Science and Mathematics magazine*

edition 1/August 2018



Compiled by: Sanjay Bhardwaj and Sheetal Bisht

Logo designed by: Roshan Kumar Sahu S2 D

## Identify the scientist.....

- Birth 7- November 1888                      Death -21 November 1970 (aged 82)
- An exceptionally brilliant student who did M.Sc in Physics, qualified civil services and became Deputy accountant general of Calcutta but left the job to become a professor and carried out research
- On a sea voyage to Europe in 1921, He curiously noticed the blue color of the glaciers and the Mediterranean. He was passionate to discover the reason for the blue color. After returning India, he performed many experiments regarding the scattering of light from water and transparent blocks of ice and established the scientific explanation for the blue color of sea-water and sky.
- He won the noble prize in 1930 for his work on scattering of light and an effect was named after his name. He was the first Asian and first non-white to receive any Nobel Prize in the sciences. Before him Rabindranath Tagore received the Nobel Prize for Literature in 1913. He was conferred Bharat Ratna in 1954.



## What do these common acronyms stand for?

DVD = Digital Video Disk.  
LCD = Liquid Crystal Display.  
URL = Uniform Resource Locator  
CCTV- closed circuit television  
ISRO- Indian space research organisation  
IPL- Indian Physical laboratory  
IIT- Indian institute of technology



**First Indian...**

**First Indian man to go to space:**

Rakesh Sharma on 3 April 1984

**First Indian woman to go to space:**

Kalpana Chawla on November 19, 1997 (She was a naturalized United States citizen, and represented the US during the event.)



**First Indian satellite:** Aryabhata, launched on April 19, 1975.

**Maximum satellites in single flight:** The Indian Space Research Organization (ISRO) launched 104 satellites into orbit aboard the Polar Satellite Launch Vehicle on **Feb. 14, 2017**, setting a new record for the most satellites launched simultaneously on one rocket. The satellites included customer satellites from USA (96), The Netherlands (1), Switzerland (1), Israel (1), Kazakhstan (1) and UAE (1).

## ***The principle of x ray imaging:***

---

- A beam of high energy electrons crash into a metal target to produce x-rays.
- The intensity, quality and wavelength of the X-ray beams decides the penetrating power of these rays when passed through human body.
- When these rays are passed through our body ,the radiation passes through soft tissues but are blocked by higher density, parts such as bones.
- On the photographic 'plate' we see a 'negative image'. This means the waves of X-ray can penetrate through materials of light atoms, such as flesh that is why flesh is not seen during imaging with X-rays. Bones, which are heavier atoms than flesh (due to the calcium in them), absorb the X-rays. The absorbed X-rays by the bones then glow on the photographic film. Meaning the higher the density of the material the brighter it will be imaged on the photographic film.



**Take the help of Biology teacher to read the x ray shown in the picture**

## ***Amazing but true...***

---



The average moderately active person takes around 7,500 step/day. If you maintain that daily average and live until 80 years of age, you'll have walked about 216,262,500 steps in your lifetime. Doing the math; the average person with the average stride living until 80 will walk a distance of around 110,000 miles — which is the equivalent of walking about 5 times around the Earth, right on the equator

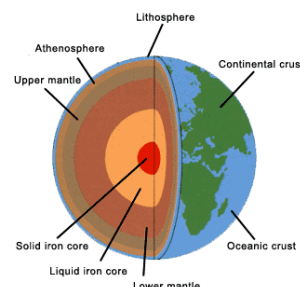
***It is fun to learn>>>>>>>>***



## Quiz time:

---

1. This picture shows an object in space that has an icy core with a tail of gas and dust that extends millions of miles. What is this?  
a. Star b. A comet c. An asteroid d. A moon
2. Which kind of waves is used to make and receive cell phone calls?  
a. Radio waves b. Visible light waves c. Sound waves d. Gravity waves
3. This picture shows three layers of the Earth. Which layer is the hottest?  
a. The outer layer, called the Earth's crust  
b. The middle layer, called the Earth's mantle  
c. The inner layer, called the Earth's core
4. What does a light-year measure?  
a. Brightness b. Time c. Distance d. Weight
5. For which planet one day is longer than one year?  
a. Venus b. Mars c. Jupiter d. Mercury



## Why does a corn pop?

---

Corn used for making popcorn has a kernel at the centre, surrounded by hard starchy substance and 10-15 per cent moisture. The moisture at the bottom heats up first, vaporises expands burst the hard substance and escapes downward. As a result the corn pops up i the air like a rocket, an example of Newton's third law at work.

-----



## GOOGLE IS ALL ABOUT MATHEMATICS

The lifeline of today's time, Google **search** engine is a term which is derived from word "googol" which is a mathematical term for the number 1 followed by 100 zeros which reflect infinite amount of search on the internet.

## Time to work.....

---

Ask any of your science teachers to move out of the class with you and explore.....

- Is Gyan Bharati School campus rainwater harvested? If yes, find out the amount of water that can be stored and how is it used? If not, discuss the possibility of taking steps in this direction, prepare a proposal and submit it to the Principal.
- Do we have solar systems to produce energy in our school? How much energy is produced and how is it advantageous to us?
- Try to find the meaning of the cartoon on the front page.
- Could you identify the scientist? Sir Chandrasekhara Venkata Raman



Zero is a strange number and one of the greatest paradoxes of human thought. It is both a number and the numerical digit used to represent that numbers in numerals. It fulfils a central role in mathematics as the additive identity of the integers, real numbers and many other algebraic structures. Without the invention of **0, the binary system and computer are not possible**. It is a greatest invention on which every calculation depends.

**Who invented Zero?**

---

### Identify the Mathematician....

She is an Indian mathematician, more commonly known as the human computer because of her incredible talent to solve calculations without using any calculator.

In Dallas she even competed with a computer to give the cube root of 188138517 faster and she won. She went ahead to compete with UNIVAC the world's fastest computer to solve the 23<sup>rd</sup> root of a 201 digit number and she won that too.



---

### THE CRAZY MULTIPLICATION IN MATHEMATICS

*Few interesting things about math is how crazy it gets with its function.*

- $111,111,111 \times 111,111,111 = 12,345,678,987,654,321$  (The numbers seem like going in the same way over and over again.)
- $12,345,679 \times 9 = 111,111,111$
- $12,345,679 \times 18 = 222,222,222$
- $12,345,679 \times 27 = 333,333,333$
- $12,345,679 \times 36 = 444,444,444$
- $12,345,679 \times 45 = 555,555,555$
- $12,345,679 \times 54 = 666,666,666$
- $12,345,679 \times 63 = 777,777,777$
- $12,345,679 \times 72 = 888,888,888$
- $12,345,679 \times 81 = 999,999,999$

*Try to find such more patterns of numbers with your maths teacher.....*

## MENTAL MATHS ..... Sudoku and hanjie

			6	7			4	
	4	6	5	8			3	2
		5		2				
8		4	3				9	7
5		2					1	8
1	7					8	4	5
				9			7	
4		8		1	6	9	2	
	1			3	2			

	2	1	1	1	3	1	1	1	1	1	1
	1	1	4	1	5	4	5	1	4	7	2
		2	3	5	1	1		1	7	2	
		1	2	1			1				
		1	1								
		1	1	1	1	2	1				
		3	1	1							
		1	1	2	1	1					
		2	1	1	2						
		2	2	2							
		2	5								
		1	5								
		6									
		2	5								
		7	2								

Do you know how to solve Sudoku and hanjie?

Discuss with your teachers to learn and enjoy solving these puzzles.....

Paste them in your Mathematics activity note book.

### GBS news;

A group of four students comprising Gautam Jha SS1, Skanda SS1, Parinita and Naman of S2 represented the school at “BHASKARA MATHS competition “at Blue Bells International, East of Kailash. These students presented investigation report on “Postage Stamps”. They were awarded 2<sup>nd</sup> prize along with the runners up rolling trophy.

You may contribute articles, cartoons, ideas or any other relevant material to make this magazine more interesting and relevant. Discuss with your Science teachers.