

## A LETTER TO TEACHERS

Dear teachers,

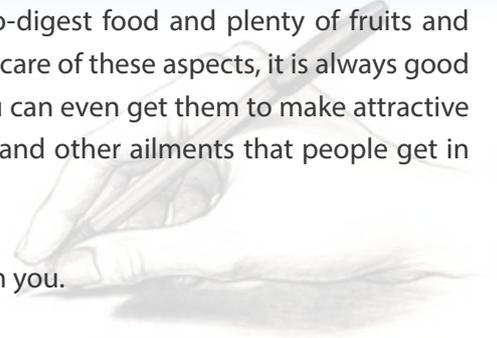
Greetings from Shriram Foundation!

The month of March marks the beginning of summer. It is important that students are aware of the need to take care of their health during this season. Wearing clean washed dresses, having a bath every day, washing their school socks every day are some of the most basic hygiene needs. Eating easy-to-digest food and plenty of fruits and drinking a lot of water are most important. While we expect parents to take care of these aspects, it is always good to re-inforce these at school. Talk to children about these in your classes. You can even get them to make attractive posters and stick them on the walls. Talk to them about the common skin and other ailments that people get in summer. Try to ensure that they understand and follow your messages.

Write to us at [m100.shriramfdn@gmail.com](mailto:m100.shriramfdn@gmail.com). We look forward to hearing from you.

Warm regards

Editor



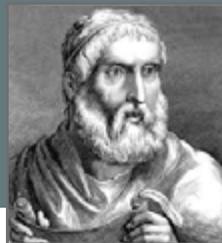
## WISE WORDS

*Here are some proverbs, sayings and quotations from all over the world to inspire you. You may write or display them on your blackboards or notice boards, explain and discuss them with your students.*

"ALWAYS DESIRE TO LEARN  
SOMETHING USEFUL."

- SOPHOCLES

(He was a Greek dramatist and is considered one of classical Athens' three great tragic playwrights.)



"CHAMPIONS KEEP PLAYING UNTIL  
THEY GET IT RIGHT."

- BILLIE JEAN KING

(She is an American former World No. 1 professional tennis player. King has won 39 Grand Slam titles.)



## FROM OUR SCHOOLS

Cleanliness and hygiene are important concepts to teach children while at school. They promote a healthy way of living.

Subhodaya School, Janardhanapuram, has taken the initiative to make it easier for their younger students to use the washing facilities in the school. Every day during the lunch break and intervals, two older students are assigned the task of helping the younger children wash their hands. They also monitor the water usage to prevent any wastage and they ensure that children don't gather in groups near the wash area.



Older children regulating water usage in Subhodaya.

## STORY OF THE MONTH

## The First Space Walk



A spacewalk is when an astronaut leaves his vehicle and floats in space. The first person to ever perform a Spacewalk was the Soviet cosmonaut (Russian astronaut) Aleksei Leonov on 18 March 1965. His spacewalk lasted 10 minutes. When his craft reached orbit and he looked out at the Earth from the opened external hatch, he could see Africa. To the people who were watching from the spacecraft it looked like the Earth was turning beneath them, which was due to the movement of the Earth spinning on its axis and the movement of the spacecraft. When Leonov stepped onto the rim of the exit, which had a camera that would record his first spacewalk, he looked down at the vast glory of our planet below him. "My feeling was that I was a grain of sand," he said when talking about his experience.



Leonov was attached to the spacecraft by a 5m-long tether that was called an "umbilical cord" and would keep him from getting lost in space. He launched himself off the side of the spacecraft into space, and started spinning, until the umbilical cord pulled him to a stop. He stayed outside in space for 10 minutes before being ordered to return, proving that the spacesuit he was wearing worked, and it was possible for a human to survive in space.

However, this was when things started to go wrong. The lack of atmospheric pressure in space had caused the suit to inflate like a balloon. He couldn't pull himself back with the cord and even if he did, he would not be able to fit inside the entrance of the craft. He decided to release the air in his suit through a valve in the lining of his suit, running the risk of losing oxygen. He let out the air, a little bit at a time, but started feeling sick through the process. He had to then haul himself back, which caused him to sweat and risk overheating himself. The sweat made it difficult to see, and he entered the craft the wrong way, head first instead of feet first, which meant that he had to right himself in the middle of a very cramped space in order to get the cord inside and to seal the exit. On that day, because of his actions, he lost 6kg in weight.



Leonov along with the other cosmonauts landed their spacecraft on Earth in the middle of the Siberian forest. The Siberian forest was filled with bears and wolves and was very dangerous. The cosmonauts sent a coded message, but it was only after seven hours that the monitoring station in West Germany reported that they heard it. The cosmonauts had to spend the night in the forest. They woke up to their rescue party and they came home as heroes.

**TEACHER TIP**

**First Aid**

Teaching children life-skills, apart from their academic work, is important. If a child is on his own, he should know the best way to deal with a cut, broken bone, bruise, head injury etc. Have an adult who knows first-aid, demonstrate these methods to the students, and explain to them how they can apply them to real-life situations. Conduct a work-shop if possible, where the students can practise. They should also, if need be, know how to call an ambulance and not be afraid to call an adult.

Teach the students how to stop a wound from bleeding. Applying direct pressure on the wound usually stops it. It is preferable to use a clean piece of cloth, or even use an article of clothing like a t-shirt.

Students, who are 10 years old and above, usually have enough strength and weight to perform CPR on a person. If an individual has stopped breathing, then a student should know when and how to perform CPR, especially since the adults around them may not know.

Students should know that to treat burns, they must first run it under cool, running water. You can encourage the children to share any home remedies that they might have for burns.

If a student is stung by a bee, they should know that the first thing to do is to remove the sting from their skin, since the sting has venom in it.

Students should also know how to deal with someone who is choking. The person choking should cough forcefully, if they can, to dislodge whatever object is making them choke. However, if they can't, there are a few methods the children can try in order to help them.

It is best if there are at least one or two teachers on the premises of the school who can perform all of these operations. Wherever possible, tape up first-aid instructions, with illustrations, to the walls, so, if in doubt, there will be guidelines to help.



Visit the following link to find posters and illustrated instructions. <https://brightside.me/inspiration-health/the-illustrated-essential-guide-to-providing-first-aid-156055/>

**ENGLISH GRAMMAR PRACTICE**

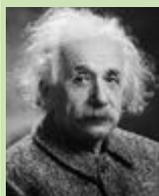
Here is a small English grammar exercise. Try it yourself. Then correct them with the answers given on the side.

**Choose the correct answer:**

1. Gita and her brother.....their room every Sunday.  
a. clean b. cleans c. cleaning
2. The chief guest should reach the venue.....6 o'clock.  
a. within b. from c. by
3. My son plays cricket with.....friends in the evening.  
a. his b. her c. their
4. This is the boy.....we met in Chennai last year.  
a. whom b. which c. where
5. ....up his bat, Satish ran to the park.  
a. Pick b. Picking c. Picked
6. Children.....play outdoors for an hour every day.  
a. should b. would c. shall

**Answers:**

1. Gita and her brother clean their room every Sunday.
2. The chief guest should reach the venue by 6 o'clock.
3. My son plays cricket with his friends in the evening.
4. This is the boy whom we met in Chennai last year.
5. Picking up his bat, Satish ran to the park.
6. Children should play outdoors for an hour every day.



"If I had an hour to solve a problem, I'd spend 55 minutes thinking about the problem and 5 minutes thinking about solutions" - Albert Einstien  
(He is a physicist who came up with the Theory of Relativity. He is considered one of the greatest scientists of all time.)

Dear Science Teachers,

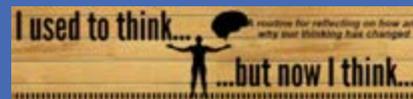
Welcome to the March edition of Science at School – the monthly magazine especially for you! In this edition, we bring to you a newly introduced Question Corner and much more!

## In the Classroom: Thinking Routines

Have you noticed the wonder and fascination in the eyes of children when they observe a science experiment? But how do you make sure that students are also understanding the science behind it?

Here are some interesting ways to make the students' thinking 'visible':

### *I used to think..Now I think :*



After the experiment or activity, ask students to write down what they used to think before and what they think now. Has there been a shift in their thinking and why?

For example, after a lesson on 'water scarcity' a child's response might be:

I used to think that there is enough water for everyone. Now I think we must use water carefully.

### *See-think-wonder :*

The mind of a child is filled with wonder about various living beings around him/her. The 'see-think-wonder' routine can work very well in your biology classroom. Here's an example on the concept of 'germination':

- See – I see the stem and leaves of the new plant growing and sprouting
- Think: I think they are going to be flowers
- Wonder: I wonder if it will be a shrub or grow into a big tree.

You can also create a 'Wonder wall' in your classroom !

### *Tug for truth:*



This routine is a great way to have debates and discussions in the Science class.

Examples of some topics could be:

- Do you think the temperature of the Earth is increasing?
- Do you think that all zoos should be banned?
- Do you think there is life on other planets?

Try these in your classroom and let us know your feedback!

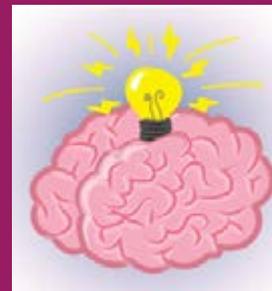


## Sci-fun : Amazing Science facts

Did you know that March 12-18, is the Brain Awareness week? It is celebrated globally to raise awareness about brain sciences among the students and the general public.

Why not celebrate it in your school too by sharing these fun facts with your students?

1. Even though the brain is only about three percent of a person's body weight, it receives about 30 percent of the blood being pumped by the heart.
2. The brain cannot feel pain. Often brain surgeries are performed when a person is awake !
3. Ever wondered why we yawn? Earlier it was thought to be because of reduced blood oxygen levels, but recently it has been shown that we yawn to cool down an 'overheated' brain !
4. It is not true that we use only 10% of our brain during our lifetime. The fact is that almost the entire brain is used all the time!



"If the human brain were so simple that we could understand it, we would be so simple that we couldn't."

- Emerson Pugh

(He is an American research engineer and scientist. He worked on magnetic and computer memory technologies.)



## Little Science Crossword: Space

Here's a little crossword on 'Space' that you can ask middle school children to try !

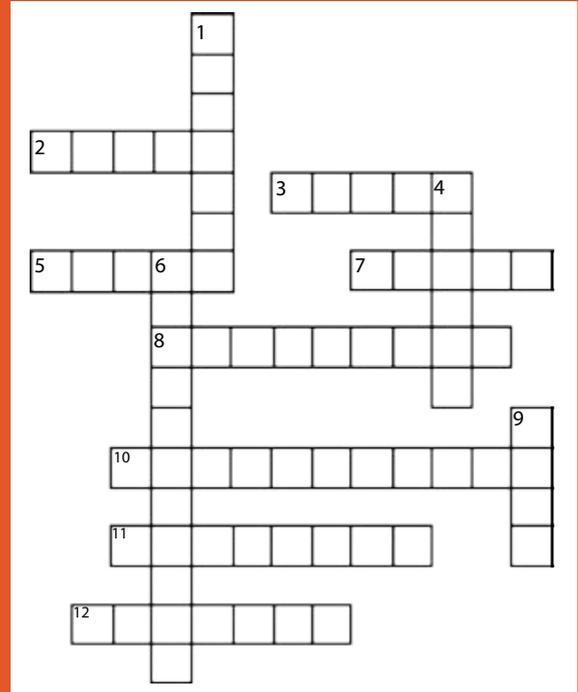
Across:

- 2. Number of minutes it takes for the sun's rays to reach the Earth
- 3. The hottest planet in the solar system
- 5. The colour of the sky as seen from outer space
- 7. The biggest known asteroid
- 8. Sea : Sailor : Space : .....

- 10. One of the two satellite launch centers in India
- 11. The main element the Sun is made up of
- 12. The force that holds us on Earth

Down:

- 1. The first satellite sent into space
- 4. The brightest star in the night sky
- 6. India's moon mission
- 9. You weigh two-thirds less than your weight on this planet



## Special Feature: Curious questions, Simple answers

Why can't we taste food when we have a cold?

Remember the last time when you had a blocked nose and all food seemed tasteless? Remember how the smell of your favourite food makes your mouth water?

It turns out that our sense of taste is closely linked to the sense of smell. The tongue detects various tastes like sweet, salty, bitter and sour. The nose on the other hand, detects the odorants or smell of the food. Both the messages converge in the brain and give us the exact flavour of the food.

When we have a cold, our nasal passage is clogged with mucus, so the brain doesn't receive signals about the smell of the food. Hence all food seems to taste the same.

Here's a simple experiment or activity you can do to demonstrate the same.

Materials required: A piece of peeled apple and a piece of peeled potato cut in the same shape.

Steps:

- 1. Call a child to be a volunteer and blindfold the child.
- 2. Let the child taste the apple and the potato holding her nose.
- 3. Ask the child to guess which was the potato and which was the apple.

Could the child guess correctly? How easy or difficult was the task for the child?



Why not start a question corner in your own class and send us your students' questions? Mail it to us at [m100.shriramfdn@gmail.com](mailto:m100.shriramfdn@gmail.com). We will feature your question and the answer in the next edition of Chalkboard.

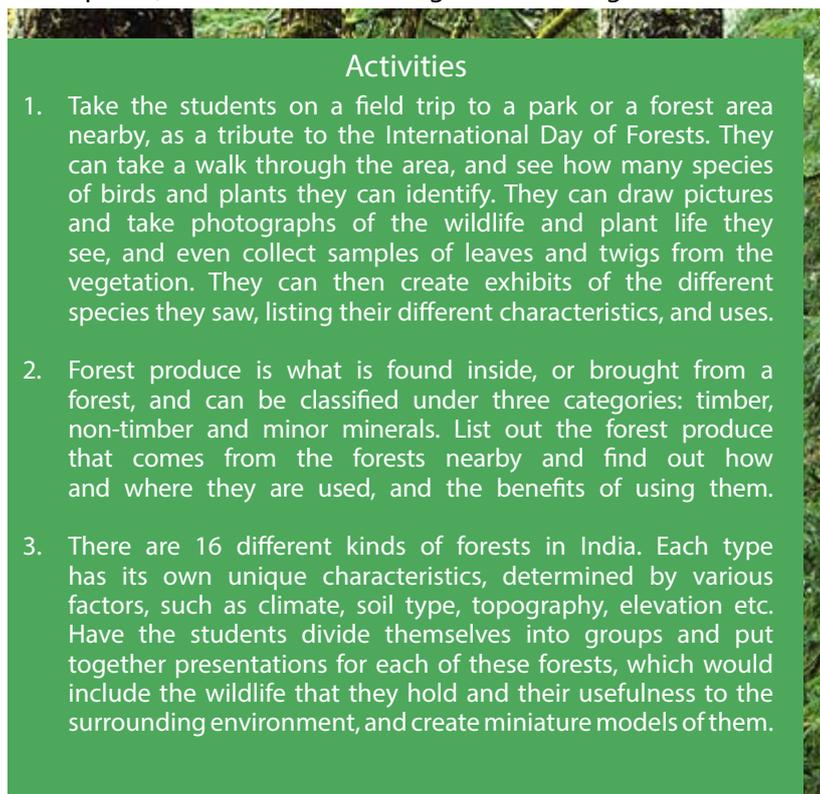
**THEME FOR THE MONTH**

**International Day of Forests**

*We need forests to regulate the climate, keep the Earth healthy, and provide a home for many of the animals we share this planet with. The International Day of Forests falls on 21<sup>st</sup> March.*

Forests produce oxygen that we breathe, prevent soil erosion, keep our water bodies clean, provide resources and livelihoods for many people, are a home for millions of birds, animals and insects, and help us combat climate change. However, despite their importance, forests are very often cut down for a number of reasons such as urbanization, industrialization, logging, mining, building of dams and agriculture.

Loss of forest cover has important long-term consequences. For example, the land becomes less fertile, as the topsoil gets washed away by rain, with no trees to act as a buffer against flooding, or to hold the soil with their roots. The loss of forests also results in the death and extinction of many species of wildlife and plants, and poses a danger to the survival of indigenous groups. The loss of trees also results in the increase of carbon dioxide in the atmosphere, which contributes to global warming.



### Activities

1. Take the students on a field trip to a park or a forest area nearby, as a tribute to the International Day of Forests. They can take a walk through the area, and see how many species of birds and plants they can identify. They can draw pictures and take photographs of the wildlife and plant life they see, and even collect samples of leaves and twigs from the vegetation. They can then create exhibits of the different species they saw, listing their different characteristics, and uses.
2. Forest produce is what is found inside, or brought from a forest, and can be classified under three categories: timber, non-timber and minor minerals. List out the forest produce that comes from the forests nearby and find out how and where they are used, and the benefits of using them.
3. There are 16 different kinds of forests in India. Each type has its own unique characteristics, determined by various factors, such as climate, soil type, topography, elevation etc. Have the students divide themselves into groups and put together presentations for each of these forests, which would include the wildlife that they hold and their usefulness to the surrounding environment, and create miniature models of them.




4. If possible, reach out to a Forest Officer, or a member of a tribe that uses resources from the forest, and ask them to talk to the students about their experiences in the forest, the stories that they have heard, and what the forest means to them uniquely.
5. Forests have always played an important role in our history and culture, as well as in our present. Have the students collect as many folk stories and songs relating to the forest as they can. Have them narrate or sing these in class and have a discussion on the different perspectives and feelings that people have regarding the forests that they reflect.
6. Another way the students can pay tribute is to contribute in some way to nature. You can contact a local organisation or NGO that is dedicated to planting and maintaining trees. The children could join them in carrying water, digging, planting saplings and other activities. It could even become a regular after-school or weekend event for some classes.

**DID YOU KNOW**

**Indian Women Scientists**

In honour of Women's day celebrated on the 8<sup>th</sup> of March, here are brief biographies of Indian women scientists whom we should be proud of.

**ANANDIBAI JOSHEE**  
(1865 - 1887)



Dr. Joshee was one of the first Indian women doctors to practise western medicine. She had to undergo many difficult times all through her life. Her newborn son had died due to insufficient medical care which inspired her to study medicine abroad in the world's first women's medical program. After she returned to India she was appointed as the physician-in-charge of the female ward in a local hospital in Kolhapur.

Janaki Ammal, unlike other girls of that time, decided to pursue Botany and later did scientific research in cytogenetics (inheritance related to structure and function of chromosomes) and phytogeography (geographical distribution of plants). After working in the UK for some time, she returned to India in 1951 to re-organise the Botanical Survey of India (BSI) in which she served as Director-General. She also did work on medically important and economically valuable plants.



**JANAKI AMMAL**  
(1897-1984)

**KAMALA SOHONIE**  
(1912-1998)



Dr. Sohonie was the first Indian woman to get a Ph.D in a scientific discipline. Due to exceptional performance in a research fellowship at the Indian Institute of Science, her Professor, Dr. C V Raman gave her permission to pursue further research. She found that the enzyme 'Cytochrome C oxidase', present in all plant cells helped in oxidation. The subjects of her research were often food items consumed by the poorest people. She also did pioneering work on the nutritional value of Neera.

Anna Mani was an Indian physicist and meteorologist who worked under Professor Dr. CV Raman. She retired as the Deputy Director General of the Indian Meteorological Department (IMD). She published several research papers and made significant contributions in the field of meteorological instrumentation.



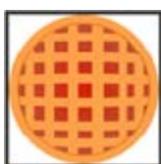
**ANNA MANI**  
(1918-2001)

**MATH PUZZLE**

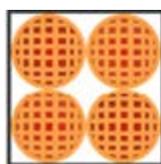
**Pi Day**

'Pi Day' is celebrated annually on March 14 to commemorate 'Pi', the widely used constant in Mathematics. Here is a puzzle that you can share with your high school students on the logic of  $\pi$ .

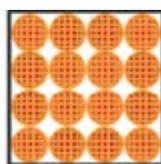
1. There are three identical boxes packed with biscuits. Assuming that all biscuits in each box are exactly the same thickness; can you tell which box contains the most biscuit?
2. Did you know that the world's biggest pizza was made in Norwood, South Africa, in 1990? The diameter of the pizza was 37.3 meters. Can you find out the area of the pizza?
3. Suneetha was helping decorate the field behind her school for the Annual Day. She drew a big circle with a diameter of 28m on the ground and put sticks around the circle to hold the rope decorated with colour papers. How much rope will she need to go all the way around the circle once, if she needs 2m of rope to tie a knot at the end?



**A**



**B**



**C**

**CREATIVE CORNER**

**Quilling**

World Forestry Day or International Day of Forests is celebrated worldwide every year on 21<sup>st</sup> of March to raise awareness on the importance of all types of trees and trees outside forests, that help in the existence of current and future generations. Teach your children to create beautiful and elegant posters along with the art of quilling.

**Things needed:** Green coloured paper (You can also colour white sheets green), Glue, Scissors, Comb



1. Cut thin strips of green paper. Slowly roll one end of it between your thumb and index finger so as to get a small loop. Add a drop of glue to make it firm as shown.



2. After it dries, insert that loop into the first tooth of a comb. Now continue to loop around the teeth of the comb as shown in the picture.



3. Glue the end part of strip and remove the formed structure from the comb. Pinch one end and bend it slightly to give it a proper leaf shape.



4. Make as many leaves as you want, in different shades of green. Finally, stick it on a cardboard and write your message! You may also try different types of leaves on your own.

**ANSWERS**

**Math Puzzle: Pi Day**

1. The area of a circle is  $\pi \times (\text{radius})^2$ , or  $\pi r^2$ . Let the radius of the smallest biscuits (in box C) be  $r$ , which means the radius of the medium biscuits (in box B) is  $2r$  and the radius of the big biscuit is  $4r$ . Then the area of biscuits in A is  $\pi(4r)^2 = 16\pi r^2$ , the area of biscuits in box B is  $4 \times \pi(2r)^2 = 16\pi r^2$ , and the area of biscuit in box C is  $16 \pi (r)^2 = 16\pi r^2$ . Thus, the amount of biscuit is the same in each box.
2. Diameter of the pizza = 37.3m.  
Therefore, radius of the pizza =  $37.3/2 = 18.65\text{m}$ .  
Area of the pizza =  $\pi \times 18.65 \times 18.65 = 1092.16\text{m}^2$ .
3. Diameter of the circle = 28m  
Since the question says going around the circle, it means the circumference of the circle i.e.  $\pi d$ .  
Therefore, circumference of the circle =  $22/7 \times 28 = 88\text{m}$ . Additionally, she needs 2m to tie the knot.  
Totally, she needs  $(88+2) = 90\text{m}$ .

**Little Science Crossword: Space**

