Parijna Patrika

Holi 2021

Adesh Mohite – Std. 3

Vihan Garud – Std.1

Rudra Garud – Std 4

Arohi Kadam - Std 2

Vaishnavi Yewale – Std-5

Republic Day Celebrations

Aditya Chinnarathod Std 3

Shri Praveen Kadle Mam

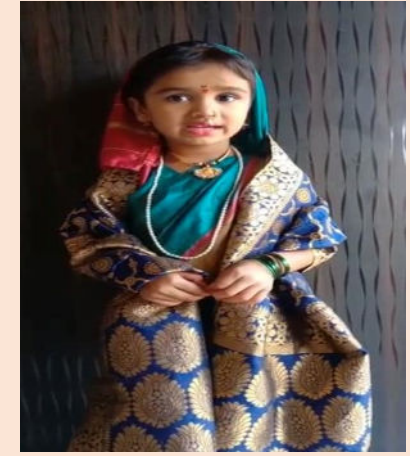Hoisting the Flag

Interaction with the teachers

Satyam Ambekar - Std 8

Road Safety Week

Makara Sankranti Celebrations

Swami Vivekanand Jayanti

Jijamata Jayanti

Shivaji Jayanti

जागतिक मराठी भाषा दिवस

National Science Day

FEBRUARY 28 CELEBRATED
AS #NATIONALSCIENCEDAY
TO COMMEMORATE
'RAMAN EFFECT'
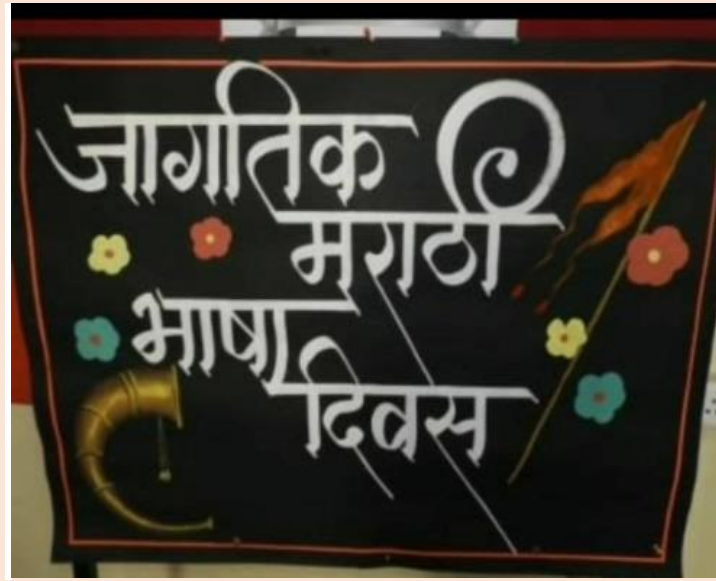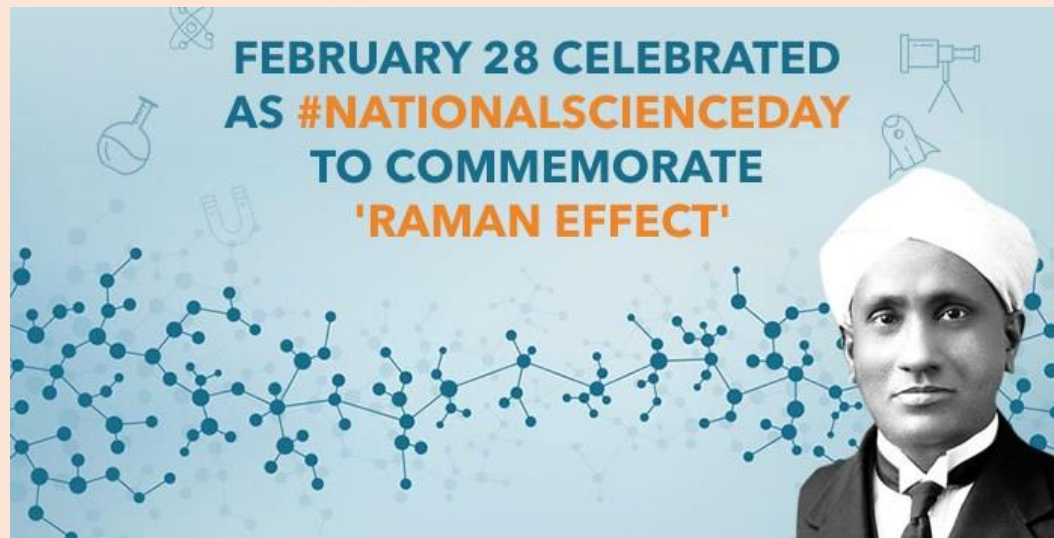
National
Constitution Day
26-11-2020

Children's Day Activity
14-11-2020

Laxmi Poojan
19-11-2020

Drithi

Deepavali
Activity
14-11-2020

HAPPY DIWALI

Karnataka Rajyotsava
1-11-2020

Mid-Day Meal Ration Distribution.

The Therapeutic Movement Workshop Series, organized by Lions Club Mangalore and Centre for Integrated Learning, was conducted at Nalanda English Medium School. The workshop was facilitated by Sachitha Nandagopal, Founder Anveshanam-Centre for Mindfulness and Emotional Well Being. Teachers from Nalanda, Parijnan Vidyalay and Ganapathy School participated in the Workshop.

26TH JANUARY
Republic Day of India

International Women's Day

Welcoming students after lockdown   **Seminar - Adult Education**   **Parents Meeting**

Concert Time

Debate Competition –

Conducted by Zilla Parishad, Karwar,

And Swachh Bharat Abhiyan.

First Prize: Aishwarya Nayak

II Prize: Harshita Nayak   **III Prize: Deepa Acharya**

Concert Time!

ಕವನ

'ಅಪ್ಪ–ಅಮ್ಮ' ಎಂದರೆ ಪದವಲ್ಲ

ಪದೇ ಪದೇ ಸಿಗುವ ವಸ್ತುವಲ್ಲ

ಅವರಿಗೆ ಬೆಲೆ ಕಟ್ಟಲು ಸಾಧ್ಯವಿಲ್ಲ

ದೇವರಿಗಿಂತ ಕಡಿಮೆ ಇಲ್ಲ

ಹುಡುಕಿದರೆ ಸಿಗುವುದಿಲ್ಲ

ಬಯಸಿದರೆ ಬರುವುದಿಲ್ಲ

ಇವರನ್ನು ಕಳೆದುಕೊಂಡರೆ ಜೀವನವೇ ಇಲ್ಲಾ . . . .

ಯಾರನ್ನು ಅತಿಯಾಗಿ ನಂಬಬೇಡ

ನಂಬಿ ಮೋಸ ಹೋಗಬೇಡ

ನೀನು ಕೂಡ ಯಾರನ್ನು ನಂಬಿಸಬೇಡ

ನಂಬಿಸಿ ಮೋಸಮಾಡಿ ಜೀವನದಲ್ಲಿ ಏನನ್ನೂ ಪಡೆದುಕೊಳ್ಳಬೇಡ

ಗೆದ್ದೆನೆಂದು ಹಿಗ್ಗಬೇಡ

ಸೋತೆನೆಂದು ಕುಗ್ಗಬೇಡ

ಸೋಲನ್ನೇ ಗೆಲುವಾಗಿ ತೆಗೆದುಕೊಂಡು ಪ್ರಯತ್ನ ಪಡಬೇಡ 'ಮಾನವ'

ಸೋಲದೆ ಗೆದ್ದರೆ ಮಂದಹಾಸ

ಸೋತು ಗೆದ್ದರೆ ಇತಿಹಾಸ

ಸ್ವರಚನೆ

ನಯನಾ. ಡಿ. ನಾಯ್ಕ

8ನೇ ತರಗತಿ. 'ಎ' ವಿಭಾಗ

Republic Day Celebrations

Drawing Competition

Purnesh Nayak and Harshita Mogher
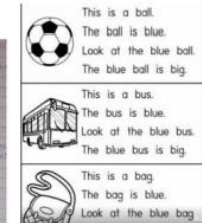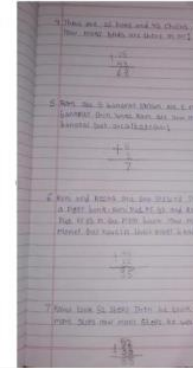
HEARING IMPAIRED STUDENT LIFE SKILLS ACTIVITES

CARE GROUP CLASS

Preprimary classes

NIOS class (Pratham A and B level)

VOCATION SECTION

Mahashivaratri

by Vaishali Heblekar

"Mamma! What is so special about Mahashivaratri? Is it about Lord Shiva's birthday?", asked little Vedant, as he ran into the room having overheard his grandmother talking to their neighbour about the next festival around the corner. His mother was busy with some work on her laptop but looked up. She could not postpone answering his question, as she did not want to dampen his spirits. She called him beside her and kept her laptop aside to answer all the questions that were running through his mind.

"Tell me, Vedant! What do you know about Lord Shiva?", asked his mother. "Lord Shiva is blue in colour because He had drunk poison, but nothing had happened to Him. He lives on Mount Kailasa and is Devi Parvati's husband as well as Karthikeya and Ganpati bappa's father. I also know that the river Ganga flows out from his knotted hair, and he wears a snake around his neck. He also wears many *rudraksha* malas around his arms and neck, and wears a tiger skin dress. He holds the *damaru* in his hand and his dance is called *Tandava*", went on Vedant. His mother smiled as he proceeded. "I miss going with Ajja (grandfather) to the Shiva temple every Monday, ever since the lockdown began. I used to love going there and seeing how the drops of milk used to fall on the *Shivalinga*. It was never-ending. I had counted almost 989 drops once!"

His mother responded, "Mahashivaratri is observed on the 14th day in the month of *Magha*. This occasion has people offering lots of *japa* and prayers along with a day-long fast, unlike Diwali and Janmashtami which are celebrated with great pomp and show. Devotees perform *Shiva-pujan* all through the night. The night is divided into four parts and each part is called a *yama*. Do you remember seeing Pujya Swamiji performing Shiva pujan in Hubli, with devotees chanting *stotra*-s and meditating throughout the night? You had seen it two years ago with Ajja and Annamma (grandparents) over the web telecast, right?" Vedant nodded his head and shared excitedly, "I was amazed at how the devotees chant the *stotra*-s all through the night. How come they don't feel sleepy?"

His mother continued, "Every devotee who participates in this night-long puja and chanting, feels more spiritually refreshed in the morning." She asked Vedant if he remembered the story of the *vyaadha* (hunter) and Shivaratri. He did not seem to remember clearly. It had been narrated to him by his Prarthana teachers quite some time ago. So, he pleaded with his mom to tell him the story again.

"Once, on Shivaratri day, there was a hunter who had not found any prey despite roaming around all day. He could not find anything to hunt or eat. He sought shelter on a tree at night while he waited for his prey to get caught in the net that was laid out under the tree. As he waited, in order to stop himself from falling asleep, he started plucking the leaves of the tree and dropping them down, one by one. He wasn't aware that at the base of the tree, was an old Shivalinga and the leaves were falling on the Shivalinga. These leaves , loved by Lord Shiva were of the '*bilva'* tree, so the hunter got special blessings from Lord Shiva for his night-long penance", concluded his mother.

Vedant looked very determined. He told his mother, "Mamma! I also want to get special blessings from Shiva, so I will also stay up the whole night this time on Shivaratri and chant His Name." She smiled at him and asked him, "What special blessings do you want from Him, dear?"

"He should come and take away the corona virus with him so that schools can start again and I can meet my friends and teachers. We can play with our friends without having to worry about anything", said Vedant. "May you get those special blessings, dear", said his mother and went back to her work, as Vedant ran into his grandparents' room to tell them the newest story he had just heard from his mother.

National News

by Jyothi Bharat Divgi

Rupjyoti Saikia Gogoi found a great way of dealing with the plastic waste thrown around Kaziranga National Park in Assam. She began weaving it into traditional handloom that is, today, helping hundreds of village women earn a livelihood.

Tourist destinations across the country have one thing in common — the generation of plastic waste. Kaziranga, a world heritage site in Assam, home to the rare one-horned rhinoceros was also a victim of plastic waste - bottles, bags, and food wrappers.

Rupjyoti Saikia Gogoi, a native of the area, collects this waste and weaves it in traditional handlooms to make handbags, doormats, table mats, and other furnishing products. She has also trained women in upcycling the waste, which has helped them to have a regular income.
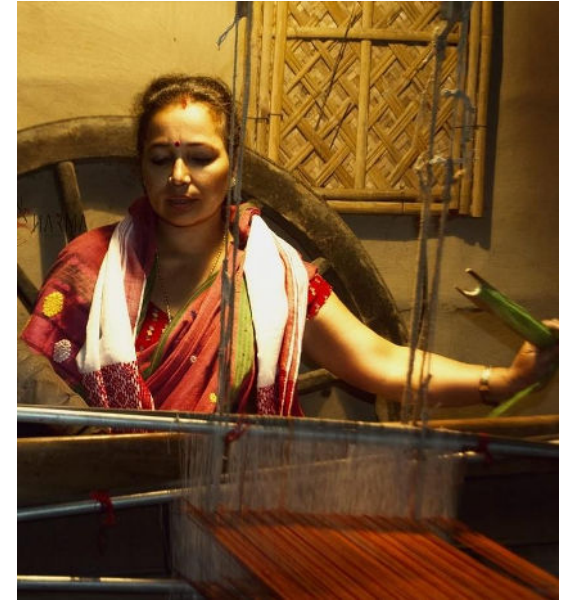
Rupjyoti, along with a few other women, started by collecting plastic covers thrown around the lanes surrounding their neighbourhood. Once they collected enough, the waste was washed and dried thoroughly. The bags were then cut into strips using a pair of scissors, and tied by hand from end-to-end to make one long thread. On a traditional hand-loom, the cotton thread is woven in the vertical direction, and horizontal weaves are made using the plastic thread, giving it a colourful look. They sell the products to tourists through a sales outlet named Kaziranga Haat.

Source: www.betterindia.com

International News

A 'Best Friend' for sure!

'The dog is a man's best friend' goes the old adage and here is one story that will make you realise how true this is!

Russell Jones had fractured his leg and was using crutches and limping around.

He soon found that his dog, Bill, too was limping. Russell was worried and took him to his veterinary doctor. He paid a huge amount for the medical tests. A battery of tests and X-rays revealed that there was nothing wrong with the dog – **Bill was limping to show sympathy to his owner!**

Yes! The dog was going on three legs only to show his love for his beloved caretaker!

Ice Balls Beach

When Risto Mattila and his wife went for a walk on a beach on Hailuoto Island in Finland, they witnessed a rare and a natural phenomenon - thousands of 'ice balls'!

According to weather experts, the balls are formed when pieces of ice are battered by wind and rough waters.

Such a beautiful and unusual scene, is it not?

Source: www.goodnewsnetwork.org

Fitness 2021

by Deepti Anil

One of the most potent wonder-foods that we have access to is *amla* —also known as the Indian gooseberry. *Amla or awla* as it is known, is widely consumed in India in one of its various forms as raw, dried, candied or pickled. This tangy berry is tasty as well as loaded with goodness. Let us take a sneak peek into the wonders of *amla*.

Biologically known as *Phyllanthus emblica*, Indian gooseberry has been used for its medicinal properties in ancient systems of medicine like *Unani, Ayurveda* and *Siddha*. It is a natural blood purifier and an immunity booster due to the presence of vitamin C, as well as a good source of fibre. This is why *amla* has been used for preventing as well as curing several ailments. A native to India, *amla* has a unique taste, which is a mix of various tastes like tangy, bitter, as well as sweet. *Amla* has gained a following throughout the world as a "superfruit." It's no surprise as — a 100-gram serving of fresh *amla* berries contains as much vitamin C as 20 oranges. What is more, according to the books of *Ayurveda, amla* is one such fruit that can naturally heal all the three types of *doshas* in our body, namely, *vata, pitta* and *kapha*. The antioxidants and vitamins found in *amla* b erries offer several health benefits like the following:

Blood Sugar Control in Diabetes:

The soluble fibre in *amla* berries dissolves quickly in the body, which helps to slow down the rate at which your body absorbs sugar. This can help reduce blood sugar spikes (highs) in diabetics.

Improved Digestive Health and Weight Management:

The fibre in *amla* berries helps the body regulate bowel movements and may help to relieve conditions like irritable bowel syndrome and constipation. High levels of vitamin C in *amla* berries help the body to absorb other nutrients like iron and other mineral supplements. According to health experts and nutritionists, consuming *amla* juice helps in improving digestion and builds a strong metabolism. Drinking a glass full of *amla* juice with a pinch of salt and pepper helps in improving digestion and keeps you satiated for a longer period of time, which helps in curbing appetite. Apart from that, consuming *amla* juice before meals helps in better absorption of nutrients and works as a natural laxative; this is due to the presence of fibre.

Healthier Eyes and Vision:

Amla berries are rich in vitamin A, which is key to improving eye health. The presence of carotene (Vitamin A) helps in improving eyesight. In fact, daily consumption of *amla* helps in reducing cataract issues as well as eye pressure. *Amla's* vitamin C content can help to protect your eyes from conjunctivitis (pink eye) and other infections by fighting bacteria.

Stronger Immune System:

One 100g serving of *amla* berries (about a half cup) provides 300mg of vitamin C—more than twice the daily recommended value for adults. *Amla* has antibacterial and anti-inflammatory properties. Packed with the goodness of Vitamin C, eating raw *amla* or *amla* powder with honey helps in combating cold, cough and several other seasonal ailments. You can also make a simple homemade *kadha* (decoction) with basil leaves, honey, ginger and raw *amla*; this remedy will not only help in strengthening the immune system but also help in treating seasonal cold and flu.

Memory and Brain Health

The phytonutrients and antioxidants in *amla* can benefit memory by fighting against free radicals that can attack and damage brain cells. *Amla's* high concentration of Vitamin C helps your body produce norepinephrine, a neurotransmitter believed to improve brain function in people with dementia. *Amla* berries also include several flavonoids, chemicals that have been linked to benefits like improved memory.

Pain Relief

Amla is loaded with anti-inflammatory properties that help in healing ulcers, muscle pain and joint pain caused due to several reasons. Apart from that, drinking *amla* juice and honey with a pinch of turmeric helps in healing pain.

Natural blood purifier

The best way to reap the benefits of *amla* is by eating it raw. However, you can also consume *amla* juice or *amla* powder which is also effective. In fact, a glass of *amla* juice with 1 teaspoon jaggery powder helps in giving your body the much- needed dose of Vitamin C as well as iron, which helps in improving the haemoglobin level and also purifying the blood naturally. You can also take *amla* powder and honey, mix it well and eat it.

Apart from the above-mentioned benefits, consumption of *amla* is also very beneficial for hair growth as well as a good skin tone.

Yogasana

'Parvata' means mountain in Sanskrit. After the wonderful spinal back-bend *(Chakrasana)* we learnt last time, we shall now look to stretch our spine upwards, imagining our body to be as high and mighty as a mountain. In the final posture, the arms are raised high and the palms are joined together above the head, making our body appear as a mountain, hence the name.

Sequence:
Sit erect in *Padmasana*.
Join your palms in a *Namaskara* posture near the middle of your chest.
Now gently move your palms upwards along the mid-line of your body to the top of your body such that, in the final posture, your upper arms are near your ears, your elbows are straight and your palms are joined. Pull your spine gently upwards and enjoy the stretch in your trunk and shoulders. Hold the posture for 5-7 breaths. Release gently by bringing your hands back to *Namaskara* position near your chest. Now release your hands, come out of *Padmasana* and relax.

Contraindications:
If you have stiff knees, knee pain or arthritis, do not try this in *Padmasana*, but opt for a normal cross-legged position (*Sukhasana*). It can also be practiced by older people sitting on a chair.

Benefits:
Parvatasana pulls up all the abdominal, pelvic and side muscles, stretches the spine and ribs.
The stretch also expands the chest to its full extent and the lung capacity improves with regular practice of this asana. It helps to correct improper breath patterns and also strengthens the diaphragm muscles.

Gems of Ancient India - Sushruta

by Chandrima Kalbag

Sushruta means 'well known'. That was probably a title or *Upadhi* bestowed upon him, not his real name. This is all that is known about the author of the famous *Sushruta Samhita*, an ancient compendium of medicine. The *Sushruta Samhita* describes *Shalya-tantra* or surgical techniques, listing over 300 surgical procedures, 120 surgical instruments, 1,120 diseases, injuries, conditions, and their treatments, and over 700 medicinal herbs along with their application, taste and efficacy.

Though the practice of surgery was well-established long before his time, Sushruta developed innovative and novel surgical techniques. He used the head of an ant to sew sutures. His path-breaking invention of cosmetic surgery, especially rhinoplasty - the reconstruction of the nose is notable.

Wine was used as an anesthetic. and patients were encouraged to drink heavily to a point of insensibility, so that they became insensitive to the pain suffered during surgery. The patients were later laid down and tied to a low-lying wooden table to prevent movement and the operation would take place with the surgeon sitting on a stool with his tools nearby. This led to the development of anesthetics.

Sushruta studied and taught every aspect of medicine, including anatomy. Since dissection of corpses was allowed in India. Physicians could work on the dead in order to better understand, help and cure the living.

Sushruta studied the layers of the skin, musculature, arrangement of the internal organs and skeleton. He recognized that optimal health could only be achieved through harmony of mind and body. This state could be achieved and maintained through proper nutrition, exercise, and rational, uplifting thought.

Shalya-tantra embraces all processes aimed at the removal of factors responsible for producing pain or misery to the body or mind. The broken parts of arrows or similar pointed weapons were regarded as the most common and dangerous objects causing wounds and requiring surgical treatment.

Sushruta has described surgery under eight heads: *Chedya* (excision), *Lekhya* (scarification), *Vedhya* (puncturing), *Esya* (exploration), *Ahrya* (extraction), *Vsraya* (evacuation) and *Sivya* (Suturing). All the basic principles of plastic surgery like planning, precision, haemostasis (stopping blood flow, to prevent the patient from bleeding to death during surgery) and perfection have been elaborated by Sushruta. He describes various reconstructive methods for different types of defects, and a vast range of procedures, ranging from plastic surgery, reconstruction of the nose and cheek to hernia surgery, caesarian section birth, removal of the prostate, tooth extraction, cataract removal, treatment of wounds and internal bleeding, and many others. He further diagnosed and defined diseases of the eyes and ears, prescribed eye and ear drops, established the school of embryology and even developed prosthetic limbs.

Today, he is known as the Father of Plastic Surgery and he invented this science about 2000 years ago, centuries before Hippocrates, the Greek Father of Medicine was born.

Source: Ancient History Encyclopedia.

Sports
by Dilip Basrur

Sepak Takraw

Sepak takraw ("kick ball") is a uniquely Southeast Asian game (now played in other regions) that is similar to volleyball but is played with a woven rattan ball without using the hands. The sport is internationally competitive, and Malaysia has fronted winning teams.

Mallakhamb

Mallakhamb is a traditional sport, originating from the Indian sub-continent, in which a gymnast performs aerial yoga or gymnastic postures and wrestling grips in concert with a vertical stationary or hanging wooden pole, cane, or rope. The word Mallakhamb also refers to the pole used in the sport. The pole is usually made from *sheesham* (Indian rosewood) polished with castor oil. Three popular versions of Mallakhamb are practiced using a sheesham pole, cane, or rope.

The name Mallakhamb derives from the terms *malla*, meaning wrestler, and *khamb*, meaning pole. Literally meaning 'wrestling pole', the term refers to a traditional training implement used by wrestlers.

On April 9, 2013, the Indian state of Madhya Pradesh declared Mallakhamb the State sport. As of 2017, more than 20 other States in India have included it among others as a State sport.

The Hemchandra – Fibonacci sequence

By Dr. Gaurish Padukone

Some of the greatest mathematical minds of all ages, from Pythagoras and Euclid in ancient Greece, through to the medieval Italian mathematician Leonardo Da Vinci and the Renaissance astronomer Johannes Kepler, to present-day scientific figures such as Oxford physicist Roger Penrose and Princeton University's Prof. Manjul Bhargava, have spent countless hours over this simple ratio and its properties. But recently researchers and mathematicians have discovered that this phenomena of numbers attributed to an Italian mathematician Leonardo Fibonacci and referred to as the Fibonacci series or the 'Golden ratio' has, in fact, an Indian origin to it.

The Fibonacci Sequence is a special number found by dividing a line into two parts such that the longer part divided by the smaller part is also equal to the whole length divided by the longer part.

Fibonacci Sequence: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144......

Actually, the Fibonacci Series and its extension, the Pascal's Triangle, were already described by an Indian mathematician-saint Rishi Pingala 2500 years ago, as part of a treatise named *Chhanda Shastra*, with reference to *Matra-Meru*, and the concept has been used by Sanskrit poets for over 2000 years. What we call as *Chhanda Shastra*, was pioneered by a Rishi Pingala in the 2nd century BC.

In fact, not only did Rishi Pingala conceptualize the series (what we refer to as Fibonacci series today) as part of his *Chhanda Shastra*, but even extended it to the concept of a pyramid of stacked numbers which we refer to as 'Pascal's Triangle' today. However, during Pingala's era, since Mount Meru was commonly used as a reference to the centre of Hindu civilization, he had called his stack of numbers as 'Maatra Meru' which, he had claimed, converges towards the Golden Ratio.

But the fascination with the Golden Ratio is not confined just to mathematicians. Biologists, artists, musicians, historians, architects, psychologists, and even mystics have pondered and debated the basis of its universal appeal. It is probably fair to say that the Golden Ratio has inspired thinkers of all disciplines like no other number in the history of mathematics.

In the 5th century AD, the Indian Astronomer-Mathematician Varahamihira had used the same sequence in his works related to Binomial Coefficients. This is in fact well acknowledged by the international Mathematical community now and is nowadays being cited in their research works as well.

While Pingala and Varahamihira had used the number series for their respective fields like Sanskrit Prosody and Astronomy, one of the most comprehensive commentary on it applying it to various other fields, was later done by a Jain Scholar named Acharya

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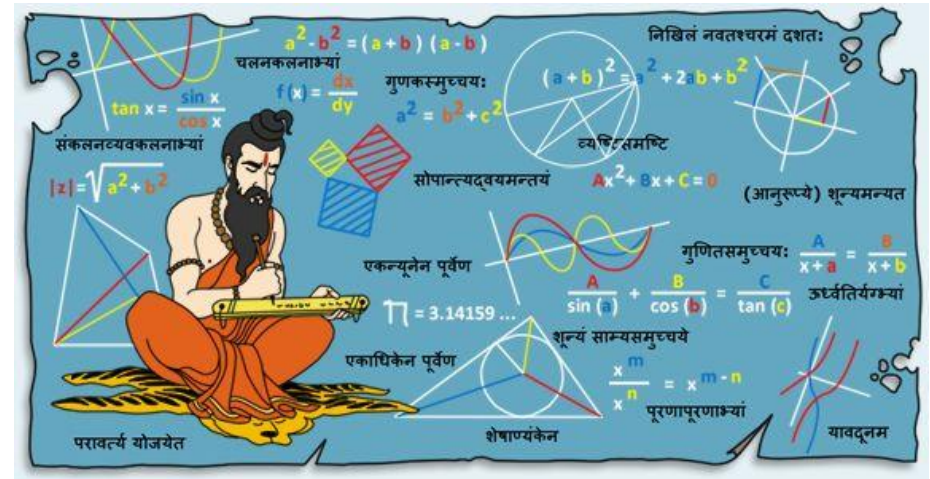
Hemachandra in the 12th century AD. Documentary evidences show that Acharya Hemachandra had compiled his treatise in 1150 AD, whereas Leonardo Fibonacci had presented his thesis only in 1202 AD, which looked identical to that of the commentary made by Acharya Hemachandra. Hence, this proves that even in the form of a treatise, the number series presented by the Indian Scholar Hemachandra, had preceded that of Leonardo Fibonacci by more than half a century!!

Thanks to the awareness spread by Indian scientists worldwide, almost all the mathematicians, and the scientific community in general, have started acknowledging this, and are giving credit where it is due, by referring to Fibonacci numbers as 'Hemachandra-Fibonacci numbers', which is the first step in the awareness process, with the hope that it will, some day in future, be referred to as 'Pingala-Hemachandra numbers'. *Va*

stu Shastra is an ancient Indian science of architecture and proportions that employs the Golden Ratio extensively for designing and building energetically and aesthetically optimal temples, chariots and dwellings — as well as deities which are worshipped in temples all over the world, especially in India.The 23rd of November is celebrated as 'Fibonacci day' because when the date is written in the mm/dd format (11/23), the digits in the date form a Fibonacci sequence: 1,1,2,3.

The 'golden ratio' is a unique mathematical relationship. Two numbers are in the golden ratio if the ratio of the sum of the numbers (a + b) divided by the larger number (a) is equal to the ratio of the larger number divided by the smaller number (a/b). The golden ratio is about 1.618 and is represented by the Greek letter 'phi'. The golden ratio is best approximated by the famous 'Fibonacci numbers'. Hemchandra-Fibonacci numbers are a never-ending sequence starting with 0 and 1, which is continued by adding the previous two numbers. The next numbers in the Hemchandra- Fibonacci sequence, for instance, are 1,2,3, and 5.

0

1

1 (0 +1)

2 (1 + 1)

3 (2 + 1)

5 (3 + 2)

The ratios of sequential Hemchandra-Fibonacci numbers (2/1, 3/2, 5/3, etc.) approach the golden ratio. In fact, the higher the Hemchandra - Fibonacci numbers, the closer their relationship is to 1.618.

2/1 = 2

3/2 = 1.5

5/3 = 1.66666666 . . .

The golden ratio is sometimes called the 'divine proportion', because of its frequency in the natural world. The number of petals on a flower, for instance, will often be a Hemchandra-Fibonacci number. The seeds of sunflowers and pine cones twist in opposing spirals of Hemchandra -Fibonacci numbers. Even the sides of an unpeeled banana will usually be a Fibonacci number—and the number of ridges on a peeled banana will usually be a larger Fibonacci number.

There are many plants that grow in conformity with the concept of the Hemchandra – Fibonacci concept. A plant that grows very much like this is the 'sneezewort' Achillea mellifolium (*Bhut kesi* in Marathi, *Puthkanda* in Hindi). In many plants, the number of petals is a Fibonacci number: buttercups have 5 petals; lilies and iris have 3 petals; some delphiniums have 8; marigolds have 13 petals; some asters have 21, whereas daisies can be found with 34 or 55 and sunflowers with 89 to 144 petals

Fibonacci numbers can also be seen in the arrangement of seeds on flower heads. The reason seems to be that this arrangement forms an optimal packing of the seeds such that, no matter how large the seed head, they are uniformly packed at any stage, with all the seeds being the same size - no crowding in the centre and not too sparse at the edges.
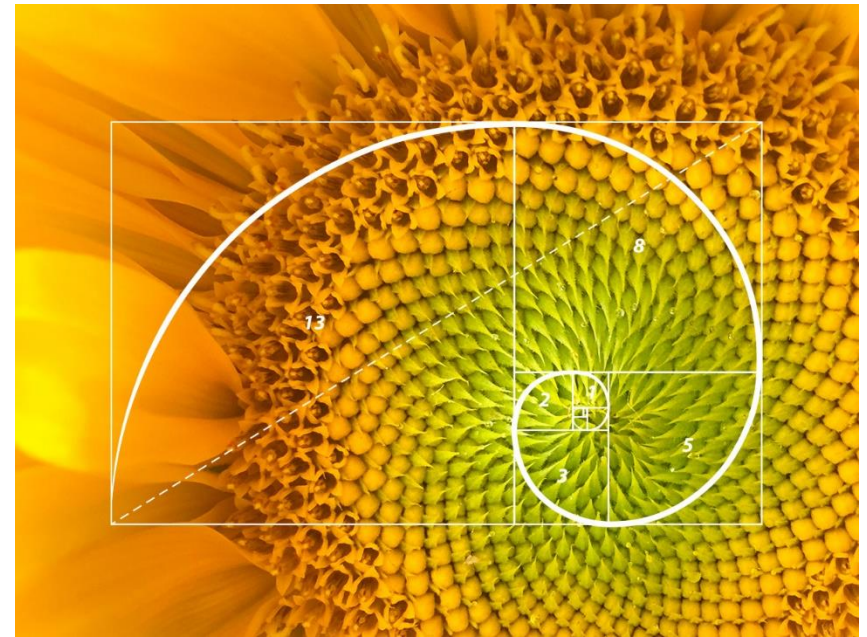
Cones of the Casuarina tree show the Fibonacci Spirals clearly. Number of leaflets on a palm frond also follow the Hemchandra –Fibonacci sequence.

Also, many plants show the Fibonacci numbers in the arrangements of the leaves around their stems. If we view a plant from the top, the leaves are often arranged such that leaves above do not hide leaves below. This means that each leaf gets a good share of the sunlight and catches the most rain to channel down to the roots as it runs down the leaf to the stem.

One estimate is that 90 percent of all plants exhibit this pattern of leaves involving the Hemchandra-Fibonacci numbers.

Take a look at a cauliflower the next time you're preparing a curry with one:

First look at it:

Count the number of florets in the spirals on the cauliflower. The number in one direction and in the other will be Hemchandra-Fibonacci numbers, as we have seen here.

Take a closer look at a single floret (break one off near the base of your cauliflower). It is a mini cauliflower with its own little florets all arranged in spirals around a centre.

If you can, count the spirals in both directions. How many are there?

Then, when cutting off the florets, try this: start at the bottom and take off the largest floret, cutting it off parallel to the main "stem".

Find the next one up the stem. It will be about 0·618 of a turn round (in one direction). Cut it off in the same way.

Repeat, as far as you like and… Now, look at the stem. You will see that the florets were arranged in spirals up the stem. Counting them again will reveal the Hemchandra- Fibonacci numbers.

Look for the Hemchandra- Fibonacci numbers in fruits.

What about a banana? Count how many 'flat' surfaces it is made of - is it 3 or perhaps 5? When you have peeled it, cut it in half (as if breaking it in half, not lengthwise) and look again. Surprise! There's a Hemchandra-Fibonacci number.

You have ... 2 hands, each of which has ... 5 fingers, each of which has ...3 parts separated by ...2 knuckles

Is this just a coincidence???

Can you find any ratios in the lengths of the fingers that look like Phi? ---or does it look as if it could be any other similar ratio also?

The *Vedas* imparted knowledge of the Hemchandra-Fibonacci numbers long before Fibonacci was even born. There are several proofs that Veda Vyasa and other sages had extensive knowledge of this sequence.

The Great Pyramid of Giza in Egypt exhibits the golden ratio concept in their architectural details, art, and even the everyday objects found in tombs.

The current headquarters for the United Nations was constructed on an 18-acre piece of land in the East side of Manhattan. Following World War II, the United Nations was established to help intervene in future global conflicts such as aggression, in the hope that it would avoid another world war.

The organization was established, and the headquarters were built under the supervision of lead architect Wallace K. Harrison from the United States. Although Harrison is not typically known to use the golden ratio in his designs, a French architect Charles E. Jeanneret was on a team of assisting architects. Charles E. Jeanneret was known to frequently use the golden ratio in his architectural designs.
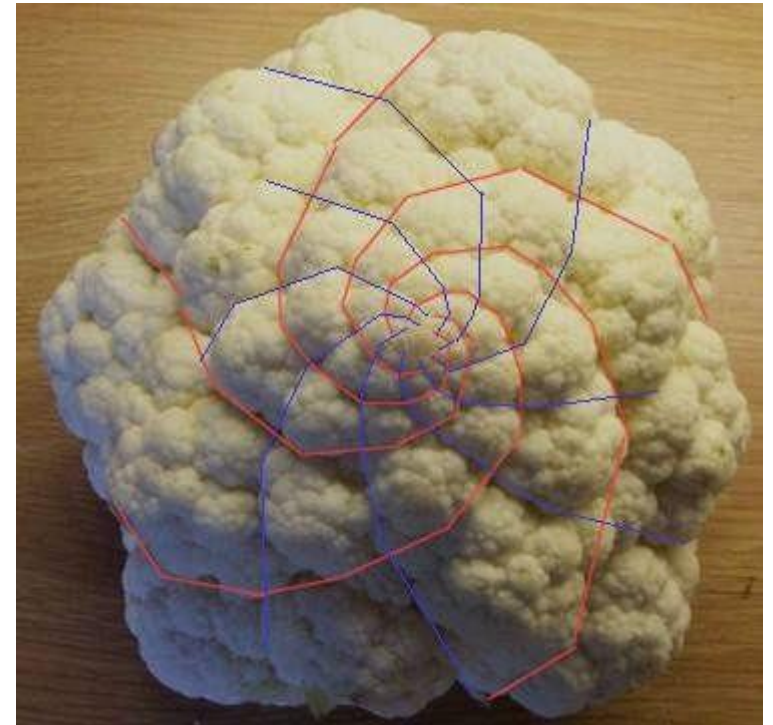
When constructing the United Nations headquarters, the team of architects decided to use this ratio in a couple of different ways. When looking closely at the building, we observe that many of the windows, in fact, have the golden ratio when comparing their width and height. The more obvious application of the golden ratio to the United Nations headquarters is found when comparing the width of the entire building to the height of every ten floors.

The Golden Ratio is known as *Kanakamuri* in traditional Indian architecture and is an important concept of architectural building and design.

Vastu Shastra has applied this ratio in the building of beautiful Hindu Temples such as the Sun Temple at Konark, and many other structures, All of these were carefully designed and built using the Golden Ratio. Many of these outstanding structures are still standing and many are still in use.

The mathematical sequence is considered to be a beautiful and interesting proportion, a gift of Brahma, and is also referred to as His 'breath' or 'fingerprint'. It has also been studied by mathematicians and other scientists through the ages.

The Golden Ratio is very useful in other fields of science such as biology and zoology. This ratio is also seen in our DNA, the chambers of our hearts, and some other anatomical proportions of human and animals, and much more… even in music!! In the Universe, spiral galaxies clearly show the nucleus and spiral arms. In the atmosphere, this numerical sequence is found in hurricanes and the development of cyclones.

The auspicious *Shri Gayatri Mantra* too has some secrets related to these Hemchandra-Fibonacci numbers. *Gayatri mantra* has a rhythm or meter of 24 digits. The sum of these digits is 108. Is it not surprising that the sum of the first 24 numbers of the Hemchandra-Fibonacci Sequence also adds up to 108.

Yes, the Golden Ratio appears often. There is a good reason for that – it is an optimal measure of solidity. Which brings us to the question: did the Great Architect use that Golden Ratio in His planning, or do things naturally develop that way, of their own accord, because that is the optimal balance? I will let you decide. Both views have a point… 1.618 can be transcendent, or immanent, you decide.

Shantigrama

by Sadhana Kaikini

Shantigrama is a village around 13 km from Hassan in Karnataka. An 800-year-old, dilapidated temple called Vardha Yoga Bhoga Narasimha temple is here. 'Bhoga' in the name represents the belief that if one's prayers are answered, one has to distribute food to all those who visit the temple on any one day. 'Yoga' represents the feeling of oneness with the Lord that this *jaagrut* shrine bestows upon the devotee.

Some carvings here are exclusive and therefore attract scores of worshippers from far and wide. Here is a lovely story associated with Adi Shankaracharya...

Adi Shankara was a great devotee of Lord Narasimha. His legendary story is interesting. Once, Shankara entered a forest, which was a prohibited area because of Kapalika, who used to sacrifice human beings to Goddess Kali. Shankara sat under a tree and did penance for many days. Alas! Instead of the Lord, Kapalika appeared before Him and told Him to offer His body as a human sacrifice to Kali. Shankara readily agreed. But His followers were shocked to hear this and pleaded with Shankara to change His mind. Shankara refused to do so saying that it was an honour for him to give up his body to please Mother Kali. Kapalika arranged a fire for the sacrifice and Shankara was made to sit in front of it. Shankara was reciting a Sri Narasimha Stotram (hymn) silently at that moment. The moment Kapalika lifted his axe to sever the head of Shankara, immediately Lord Narasimha entered the body of Padmapada, a follower of Shankara and slayed Kapalika.

Thus, Shankara freed the forest from Kapalika, by the Grace of Lord Narasimha. Shankara composed the powerful *Lakshminarasimha Karavalambam*, which is very popularly adopted in performing puja of Lord Narasimha even today.

Space –What is it?

by Dr. Khurshid Bharucha

From time immemorial, people have looked up at the skies - the sun, moon and stars and wondered what really lies there, what happens there?

Many of these questions have been answered by astronomers. However, many, many more still remain a mystery and need to be answered.

What is the Universe made up of?

The Universe includes living things, planets, stars, galaxies, dust clouds, light… and even time! The Universe contains billions of galaxies, each containing millions or billions of stars. The area between the stars and galaxies seems to be empty and is called Space.

This is the picture taken by the Hubble Space Telescope showing thousands of galaxies. Even the tiny dots are whole galaxies. The universe is a very big place, indeed!

What is a Galaxy?

A galaxy is a huge collection of gas, dust, and billions of stars and their planetary systems, all held together by gravity. Our Earth is a part of one such planetary system, which in turn is a part of the Milky Way Galaxy.
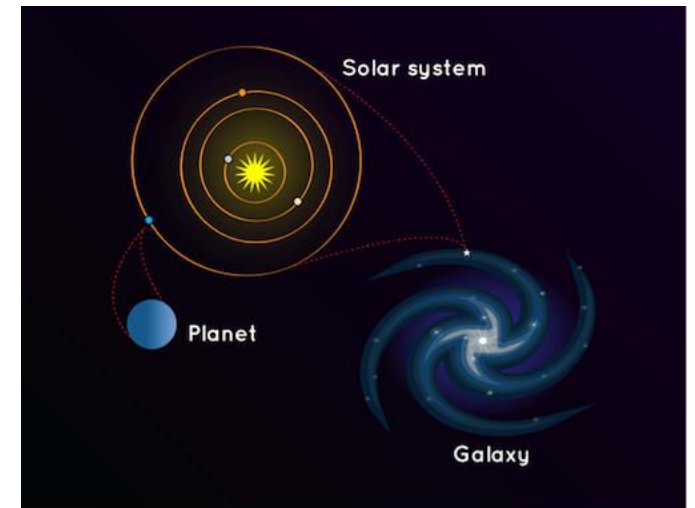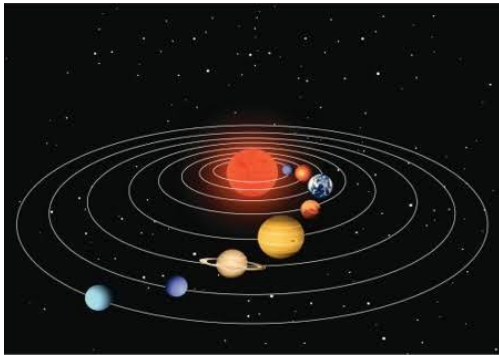
What is a Planetary System?

A group of planets and other bodies circling a star is a planetary system. Earth is a part of the Planetary System called the 'Solar System'. Our planetary system is named the 'solar' system because our Sun is named 'Sol'. Our solar system consists of our star - the Sun, and everything bound to it by gravity: the planets Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune, dwarf planets such as Pluto, dozens of moons and millions of asteroids, comets and meteoroids.

What is Outer Space?

Outer space is the expanse that exists beyond Earth and between celestial bodies. 'Outer space' begins at about 100 km above the Earth. 100km above Earth, there is no air! Air is needed to scatter sunlight and produce a blue sky. Since there is no air to scatter the sunlight, space appears black. Since there is no air in space – it is a vacuum. Sound waves cannot travel through a vacuum; hence you cannot hear sounds in space.

Space is usually regarded as being completely empty. However, this is not true. Gas, dust and other bits of matter float around in space. Planets, stars and galaxies are also present in space. Space is also filled with many forms of radiation that are dangerous to astronauts.

We do not yet know exactly how big space is. We measure long distances in space in 'light-years'. Light years is the distance light can travel in one year (roughly 9.3 trillion kilometers).

We humans have always been curious and fascinated with the Universe and Outer Space. 'Space Exploration' stirs our imagination and we are driven to explore the unknown.

Art and Craft - Dancing Peacock
by Smita Nagarkatte

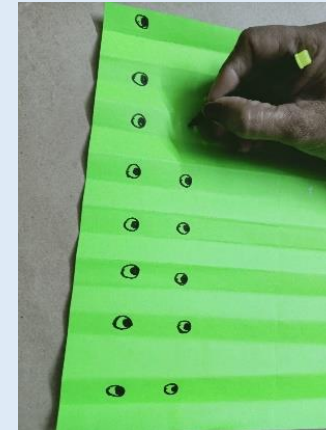1. Materials required: Coloured paper (blue, green, orange), black sketch pen, scissors, glue and an ice-cream stick.

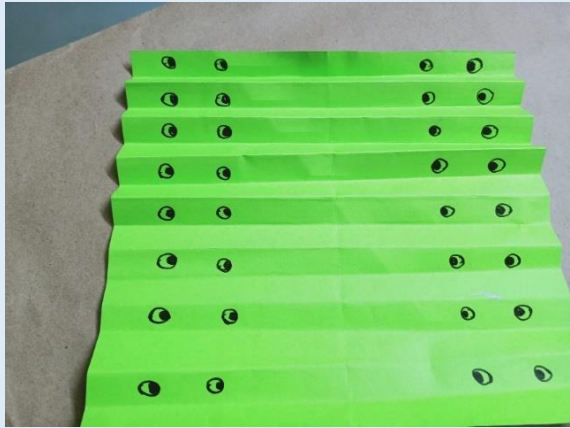2. Draw and make cut-outs of the various parts of the peacock as shown in the picture.

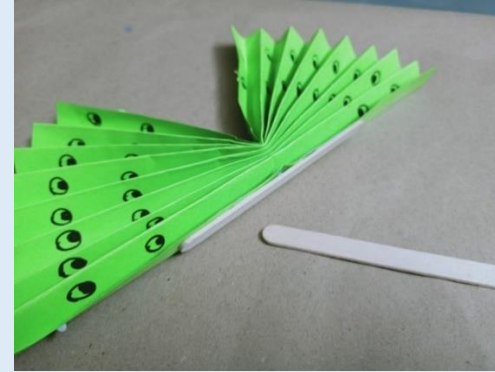3. Fold the green paper by making fan-like folds of ½ inch width as shown in the picture.

4. Open the folded paper and draw 2 rows of circles (eyespots) with a black sketch pen.
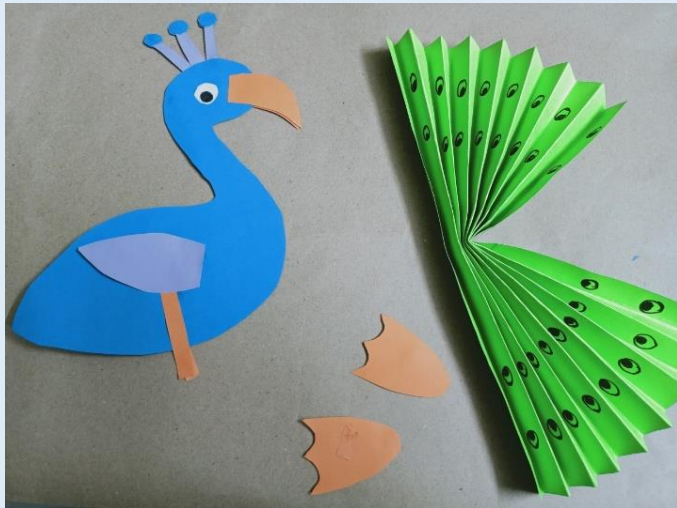
5. Draw the two rows of eyespots on both the sides of the paper.	6. Fold the fan folds in half and crease properly. Paste an ice cream stick on the lower side of to the folded paper as support for the peacock to stand.
7. Assemble all the parts of the peacock and paste them together as shown in the picture. Apply glue on the V-shaped inner surface of the folded fan..	8. Now fix the rear-end of the peacock between the glued surfaces of the feathers in such a way that the peacock stands. Stick the feet of the peacock too. Your peacock is now ready to show off his feathers!

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