Mathoscope

BAL BHARATI PUBLIC SCHOOL, NOIDA

COVER CREDITS : ADYASHA PRADHAN (7A)

From the Principal's Desk

Dear Parents,

In this issue, the Mathematics Department of the school has showcased the role of the teacher in promoting diversity within classrooms and a reflective planning while implementing online teaching tools during the pandemic session, 2020-21.

At Bal Bharati Public School, Noida the teaching of Mathematics during the pandemic led to re-designing the curriculum and supporting teachers in creating the requisite Online tools. These tools have proved to be invaluable resources needed to spark curiosity while delivering virtual classes by doling out activities that are contextual, visual & concrete. During the early months of the shutdown, the teachers were humanely focussing more on checking in on student's wellbeing rather than expecting them to show higher learning outcomes. With the passage of time, the new possibilities to support real time collaborative work in the digital environment were adopted. Usage of technologies such as Zoom, Microsoft platform, Google, Flipgrid for video based collaborative teaching along with other professional development resources changed the face of learning and enabled the teachers to rise to the challenges posed.

The readers will be amazed as they peruse through this digital issue, how teachers of the Mathematics department invested a good amount of time in brain storming and honing their skills in order to incorporate the 21st century requirement of critical thinking, collaborative and creative learning process in order to impart online lessons. Charting the learning curve of the students during these virtual classes was a revelation as these interesting and dynamic Maths problems and projects inspired the learners to think outside the box thus arousing greater love for the subject.

The saga of the struggles and the subsequent triumphs in a virtual classroom bears testimony to the keen fighting spirit of the teacher and the taught as the school paves the way to bring learning at the doorstep of each child....

Kudos to all their efforts.

Asha Prabhakar

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"Exploring pi is like exploring the universe" – David Chudnovsky

One of the most important numbers in our universe is the number π. Pi is the 16th letter of the Greek alphabet and is used to represent the most widely used mathematical constant. It's the ratio of the circumference of a circle to its diameter—a number just a little bit bigger than three.

The constant π helps us understand our universe with greater clarity. Its definition inspired a new notion of the measurement of angles, a new unit of measurement, and gave rise to many important insights into our physical world.

Exploring π

Let's have some FUN with π !

Pi Skylines

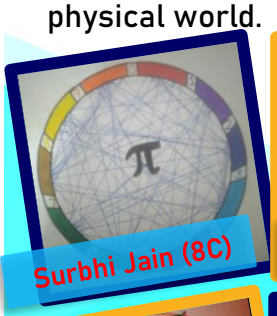
Students plotted the decimal expansion of pi on Bar graphs and thereby created beautiful skylines.

Derivation of Pi

Students discovered the relation between the circumference and diameter of a circle and hence derived the approximate value of pi.

Pi into artwork

Students created circular artwork by joining the decimal values of Pi written around the circle. They used threads, digital software, colors, and paper cutouts to create beautiful patterns inside the circle.


Surbhi Jain (8C)


Krishna Kant Panda(6C)


Avyukt Singh(6C)


Hemakshi Singh (6A)
Pari Rastogi (6A)
Rhythm Kakkar (6A)
Harshita Negi (6A)

Trivia

Do you know 'pi' inspired a national holiday in the USA thousands of years after its discovery? It all started with a physicist, tinkerer, and media specialist Larry Shaw.

On 14th of March 1988, he gathered at a retreat along with his staff in Monterey, California, to soul search and brainstorm. It was there that Shaw linked March 14 (3.14) with the digits of pi (3.14159...), seeing it as an extraordinary opportunity to bring staff together.

And that is how π Day was born. March 14, the annual celebration of a never-ending number is also celebrated as Albert Einstein's birthday.

Kunal Chauhan(11 A)


Arohan Prasad (8D)

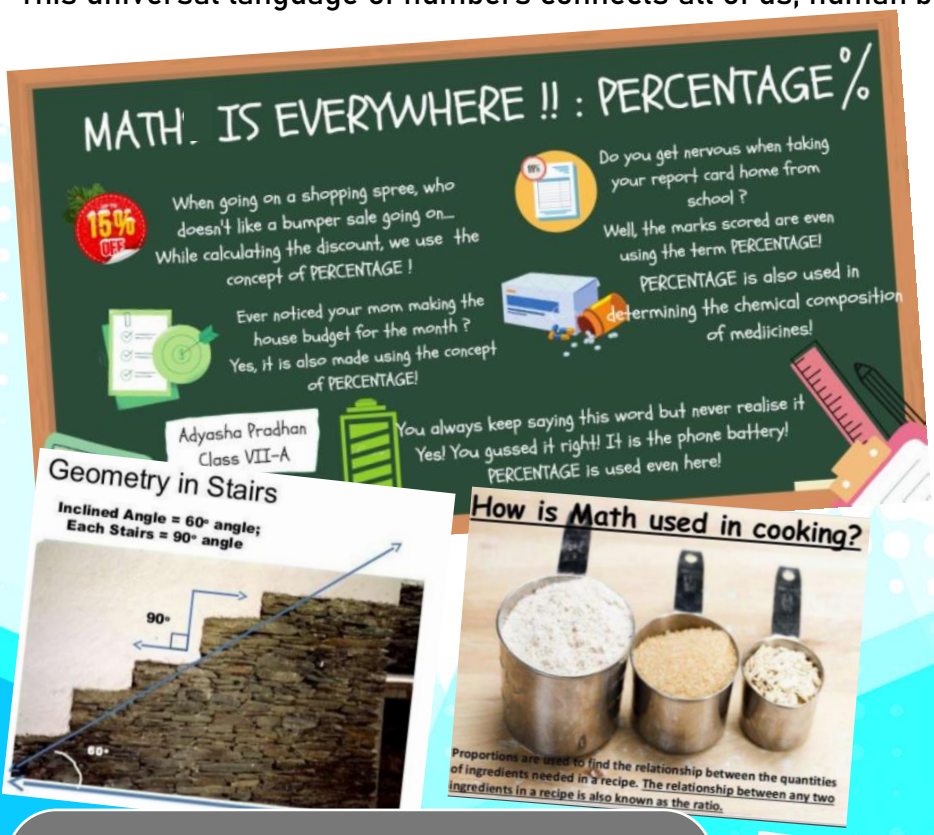

Kanishka (8D)

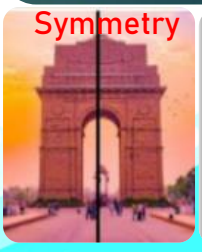

Sneha Prajapati (6B)

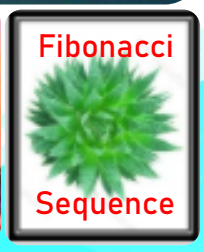

Prachee (6C)

Integrating Math to Daily Life

Across all cultures, we use the principles of mathematics to help us with everyday life. From playing games to baking cookies, we use the language of mathematics every day. This universal language of numbers connects all of us, human beings.

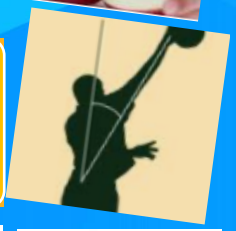


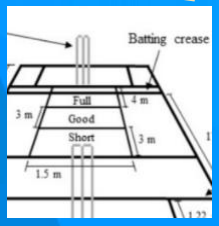




Sports is linked with algebra, geometry, arithmetic, decimal places and relativity. The teams have officials who collect data, take conditions into account and produce performance statistics which can be viewed to plan and optimize future training for the athlete.

Dancers need to form shapes, angles and lines with their arms and legs. For this, they need to understand geometry as the steps should be properly visible.





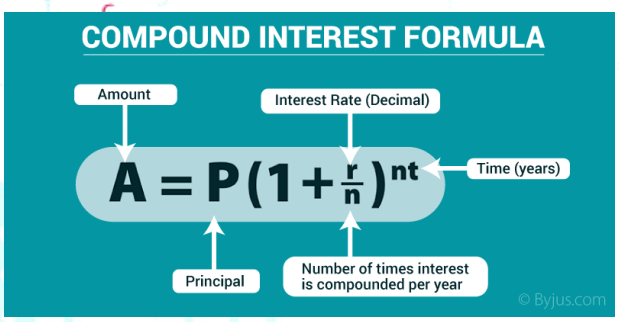
How many characters make a Tweet?

Earlier it was 140 but now it is 280!!!

Follow School Twitter Handle → *Click To Follow*

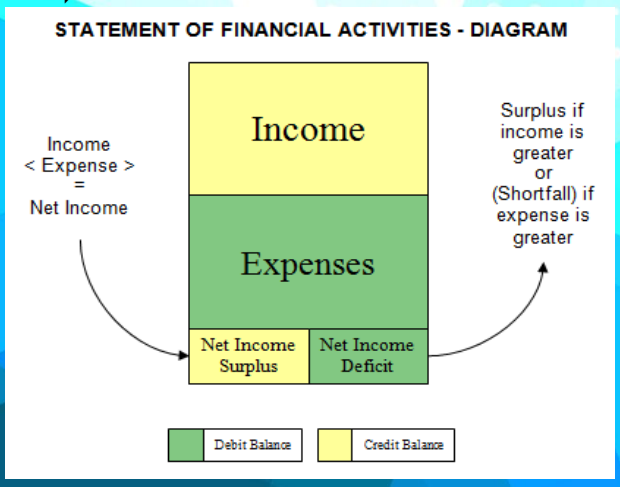
The Real World of Algebra

"An equation has no meaning for me unless it expresses a thought of God"
- Srinivasa Ramanujan

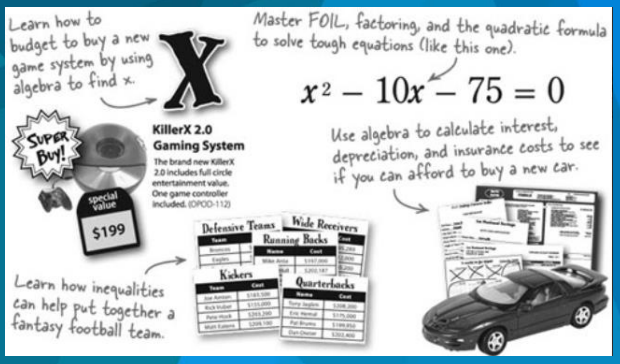


Profit, Cost, & Revenue	Amount and Simple Interest	Depreciation
$P = px - C$	$A = P(1 + rt)$	$D = \left(\frac{C - S}{n}\right)t$
$x = ?$	$t = ?$	$S = ?$

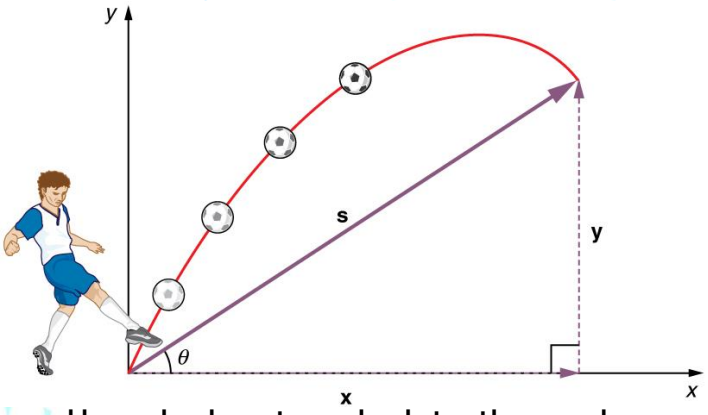
Algebra is used to calculate Interest, depreciation, and insurance costs to see, if we can afford a new car or not.



Want to purchase a new video game? Use algebra for budgeting and track your expense for making new purchases.

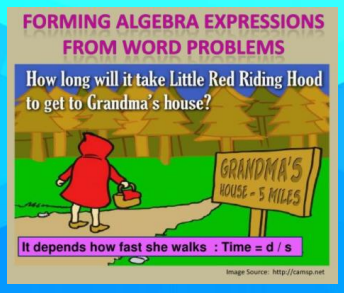


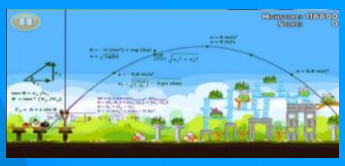
What about an LCD TV or a computer?



Use algebra to calculate the angles and net amount of force that needs to be applied and make a perfect goal.

Any innovations around us could not be possible without Algebra. If you decode the functioning of an LED TV and dig into its internal atmosphere, you will find that these TVs are making use of planes, angles, and axes as variables and apply algebraic concepts in the development of various types of screens.





Still don't think you'll use it??????

Let's say you go through life without ever needing to use algebra, then why learn it?
Algebra is a very different way of thinking. It requires:

- Problem-solving skills
- Decision making
- Reasoning
- Creative thinking

And much more.

Cryptography

Space Exploration

Game Programming

Electrical Networks

FUN With Math

Same Three Digit Number

STEP1: Think of any three-digit number in which each of the digits is the same. Examples include 333, 666, 777, and 999.

STEP2: Add up the digits.

STEP3: Divide the three-digit number by the answer in Step 2.

The answer is 37.

For Example, Number- 333

3+3+3=9

333/9= 37

The Answer Is 2

STEP1: Think of a number.

STEP2: Multiply it by 3. Add 6

STEP4: Divide this number by 3.

STEP5: Subtract the number in S1 from the answer in S4

The answer is 2.

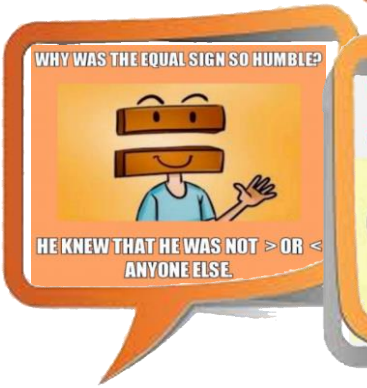
For Example, Number- 3

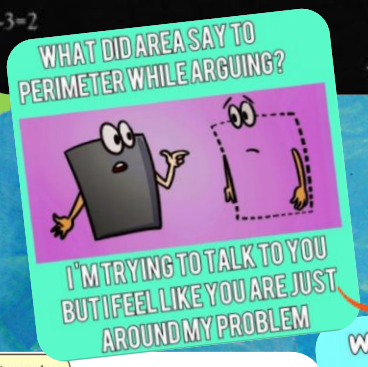
3*3=9; 9+6=15

15/3= 5

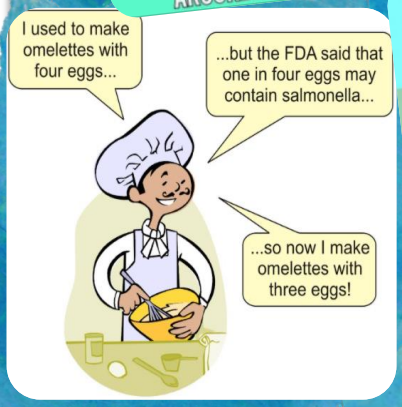
5-3=2

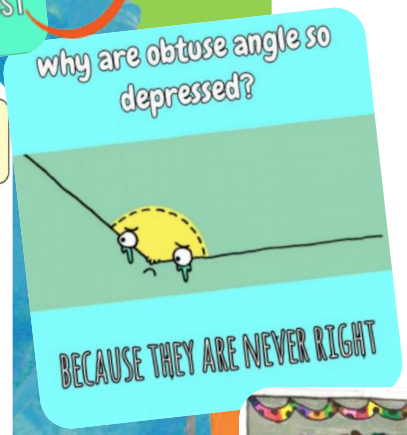
-Ananya Gupta (X-C





have fun





Magic Square

My birthday falls every year on 1st April. The year on which I was born was 2009.

1	4	20	09
10	19	1	4
2	3	11	18
21	8	2	3

If you add the diagonals, columns, rows. 2*2 squares or even the corners, you will always get 34!

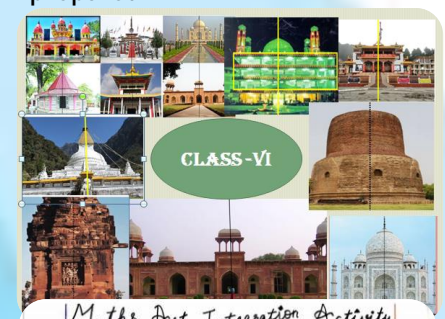
Krishna Kant Panda (6C)

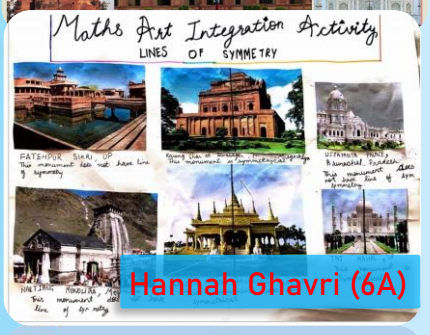
Math 'o' Art

Art - integrated education was firmly embedded in the classroom transactions not only for creating joyful classrooms, but also for imbibing the Indian ethos through integration of Indian Art and Culture in the teaching and learning process at every level. Art Integrated approach will eventually strengthen the linkages between Education and Culture in the long run.

Class VI

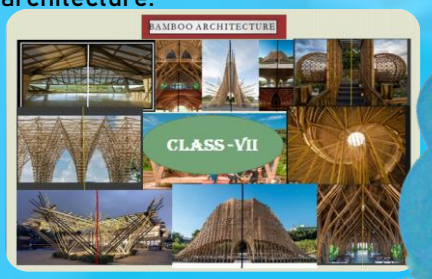
A Collage of famous architectures of Arunachal Pradesh, Meghalaya & Uttar Pradesh with the lines of symmetry of each monument was prepared.





Class VII

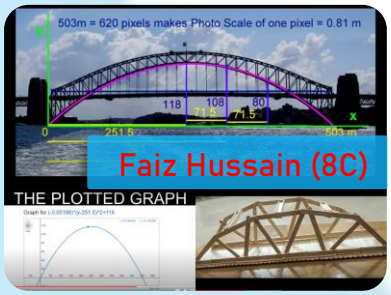
The students explored the beauty of symmetry in Bamboo Architecture of Arunachal Pradesh and Meghalaya. In those pictures, they identified mathematical shapes and lines of symmetry involved in architecture.

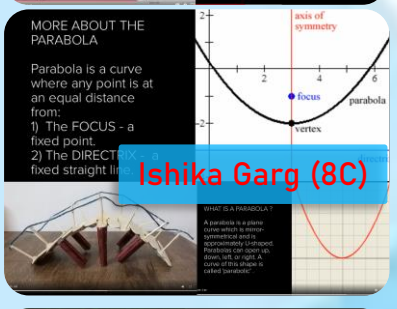


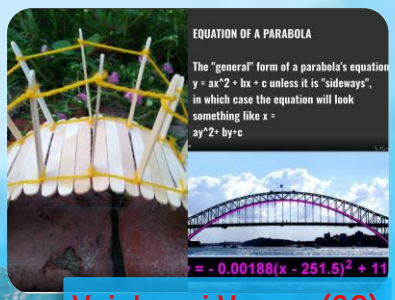
Class VIII

Bamboo Bridge: North East India has few of the most unique bridges in India, made of ropes, bamboos and living roots such as Hanging Bridge in Arunachal Pradesh, Bamboo Bridge in Mizoram and Living Root Bridge of Meghalaya.

The engineers that design the bridges, use a lot of math in order to find the dimensions and to make them.



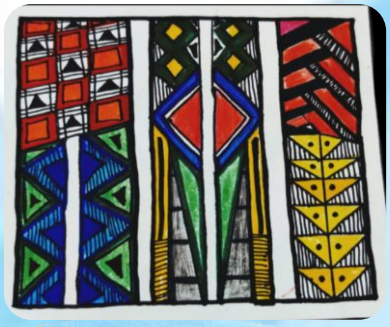




Click on the icon Below to follow us On Instagram!

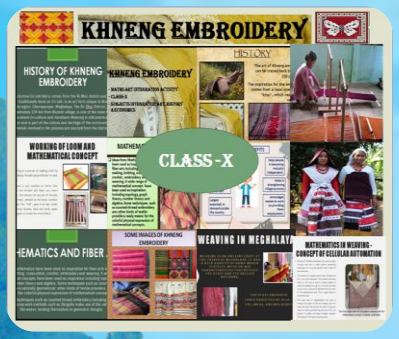
Class IX

Mathematics in Textiles: Students explored the shapes and artistic textile patterns of the tribes of Arunachal Pradesh and Meghalaya.



Class X

Khneng Embroidery: An ancient craft of Meghalaya. Students explored the weaving technology and identified the Mathematical concepts involved in the art form.



Joyful Learning

RUBIK'S CUBE

Rubik's Cube is an imitation of life itself- or even an improvement on life."-ERNO RUBIK

Recognised as a crucial aid to STEM education, we encourage students to become avid Rubik cube solvers from a young age. The overwhelming response is evident from a 5 year old solving the cube in 60 seconds and a 9 year old solving and finishing the complete cube in nearly 11 seconds. The sessions held in June saw more than 70 enthusiastic participants which gave us the fillip to start the club once more in September.

Watch Aditya of class IV cubing by clicking on the cube here

Atal activity

Theme: Magic of A4 sheet

Activity : Students made a beautiful garland using an A4 size sheet. They cut an A4 size sheet in a way that it easily passed through their body. They did this without using tape or glue. Students understood the concept of perimeter and area. They tried to convert most of the area of an A4 sheet into perimeter. They also made colorful garlands and enjoyed the activity.

Fun Activities at a Glance

Sensible Shopping-CLASS I

(BASED ON THE TOPIC-MONEY)

Students performed the activity of shopping at home with dummy currency. They used the dummy currency notes to buy different food items. The activity aimed to make them understand the use of money in their daily routine.

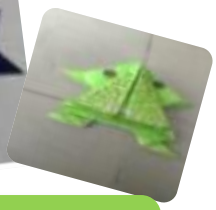
CLICK TO WATCH VIDEO

COMMUNITY HELPERS & Puppet Making CLASS 2

(BASED ON THE TOPIC-SHAPES)

Students were apprised about community helpers and were taught to prepare their hand puppets using the cut outs of basic shapes.

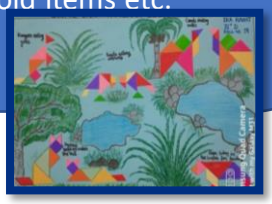
The concept of Symmetry and Patterns (integrated with Art) was introduced through Origami Activity wherein students created animal figures by paper folding .



TANGRAM - CLASS 3

(BASED ON THE TOPIC-SHAPES)

In this activity the students were required to make a beautiful composition of zoo with minimum three animals using tangram figures. The activity aimed to enhance students' concepts about different mathematical shapes. It helped them to learn how to rearrange shapes to form different figures representing animals, alphabets, trees ,household items etc.



Joyful Learning

With an aim to develop students' logical reasoning skills and cultivate their interest in math, BRICSMATH competition hosted by the educational platform DRAGONLEARN is an online maths competition for classes 1-12. All our children got registered for the same and the preparations are on full swing.

The children are finding it quite interesting and working their doubts and challenges with the mentors on a daily basis.

INTER SCHOOL ACHIEVEMENTS

FASHION FIESTA
CLASS V
2ND POSITION
AT BBPS DWARKA
TEACHER INCHARGE
MS ANITA V

CLICK TO WATCH VIDEO

SKILL MATHEMATICS
CLASS V
1ST POSITION
AT BBPS PITAMPURA
TEACHER INCHARGE
MS RUCHIKA K

CLICK TO WATCH VIDEO

WEAVE A TANGRAM TALE
CLASS V
1ST POSITION
AT MAYOOR SCHOOL,NOIDA
TEACHER INCHARGE
MS RUCHIKA K

CLICK TO WATCH VIDEO

Fun Activities at a Glance

Measurement of Capacity

The concept of capacity was taught through an activity in which learners found out the capacity of a bottle with the help of a measuring jar of 200ml. The activity aimed to make learners understand that different vessels have different capacities.

Lets shape the zoo class 4

The ability to accurately identify shapes is a foundational mathematical skill. The activity aimed at understanding shapes and enable students to be more in tune to the world around them and see the connections between objects. Students enthusiastically participated in discovering many shapes in various animal structures and made a variety of animals in a zoo by redefining their body using shapes

GEOMETRICAL ORIGAMI-class 5

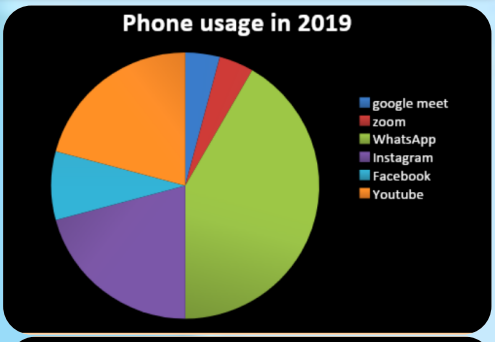
(BASED ON THE TOPIC-POLYGON)

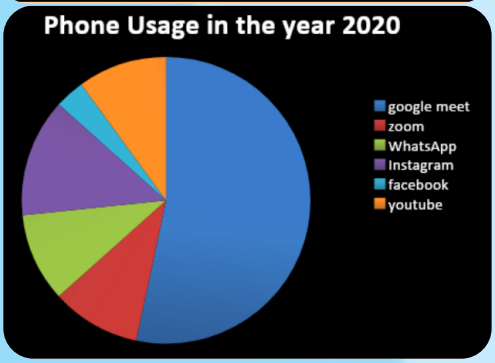
The activity triggered their imagination and enhanced their creative skills.Origami provided our little ones with wonderful "schematic learning through repeatable actions". As the teachers demonstrated, children watched closely and performed to the specific instructions with originality, neatness and accuracy.

Mathematics for Sustainability

"God used beautiful Mathematics in creating the world - Paul A.M. Dirac"

The COVID-19 has brought a huge amount of change in our normal day to day routine. All of our habits and normal practices have been changed significantly. Our students tried to use Mathematics to assess the impact COVID -19 had on the usage of technology and social media in their daily lives.





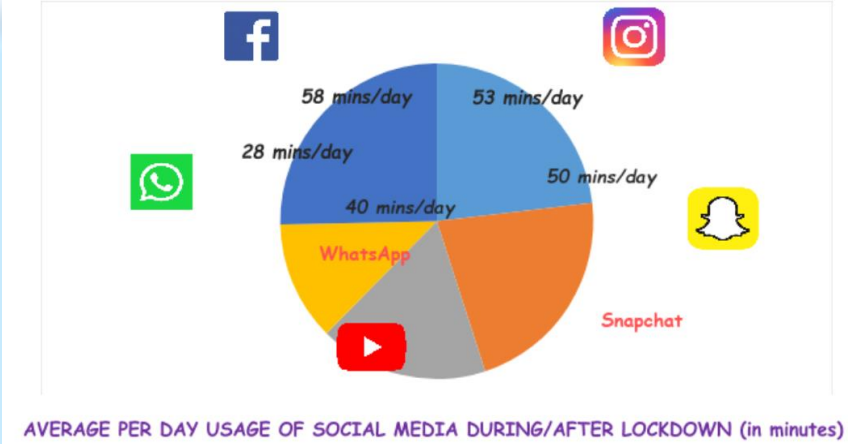
Students used bar graphs and pie charts to compare their usage of different apps in 2019 and 2020 and found interesting observations.

The pandemic has turned over the whole education system upside down and nevertheless we are taught to change with demands of the society. The online classes, assignments, and webinars have increased screen time considerably. But all of us have learnt a lot as students even during this difficult time.

Ankita Agarwal, Mukul Garg XI

Apart from a virtual connection, social media platforms provide the users with an option to express their views, opinions, ideas and thoughts regarding any issue of any nature or field. During COVID period, the use of social media has gained momentum as the people were forced to remain in isolation for a longer duration. The excessive usage of these platforms has brought in certain advantages as well as disadvantages.

Anoushka Tandon, Shreya Gupta XI



HOD Speak

"The calamitous month of March'2020 saw the school closing down for three days; it was 18th March to be precise. Little did we realize at that juncture that this three-day closure would stretch on for many months and perforce we would have to resort to virtual classes. We, as teachers were least prepared for the challenges that COVID – 19 threw at us.

But as the saying goes, 'When times are tough, true mettle shines through'. With unstinted support extended by the able I.T. Department of the school, who provided tutorials on initiating Google Meet, sharing of screens to display PPTs or videos, uploading assignments on Google Classrooms, preparing online tests using various platforms, etc. we were able to sail through it. They introduced us to a whole new world of tech-tools to facilitate the smooth conduct of online classes. Our children at home & students pitched in to teach new tricks of the trade, thus making us stay relevant in a classroom that looks nothing like a physical class while the learning objectives stay the same.

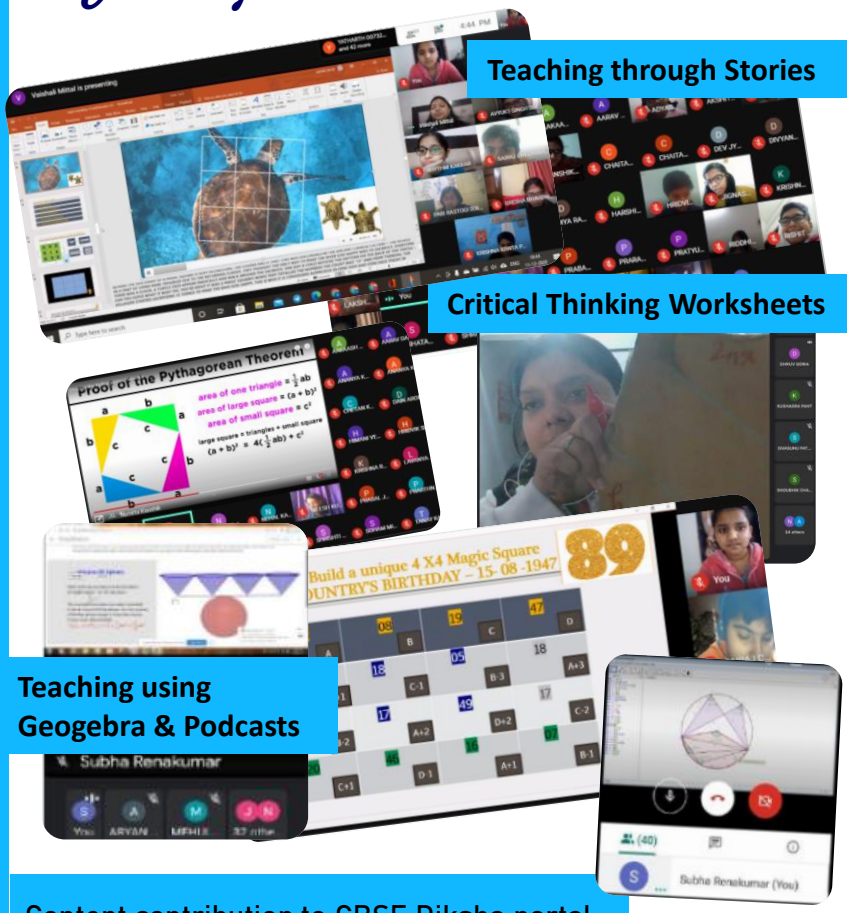
The usage of several technological tools like the Whiteboard, Jam board, Padlet, GeoGebra, Pen tablet, etc. helped us overcome insurmountable challenges.

Monitoring students while delivering online instructions is yet another challenge that teachers have faced. The best remedy has been to encourage collaborative learning methodology through case studies & projects and troubleshooting the issues faced by them through regular counseling.

Ms Anjali Sharma,
PGT(Mathematics)

Teaching Mathematics during Pandemic

Evolving to suit the new normal



Teaching through Stories

Critical Thinking Worksheets

Teaching using Geogebra & Podcasts

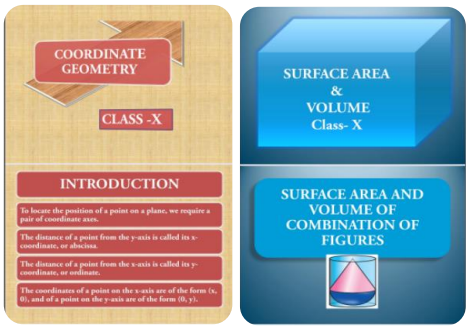
Content contribution to CBSE Diksha portal

Vidya Daan 2.0 is a project initiated by CBSE to contribute e-learning content for school education to ensure continuity of quality learning. As part of this project, CBSE has invited learning content for various classes from subject experts.

The following e-learning contents for Class- X Mathematics as reading material are approved by CBSE project team and the same was published in the Diksha Portal.

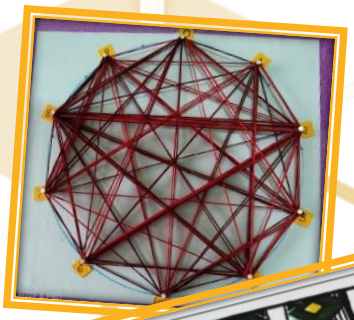
The link to view the above mentioned content created by Ms Subha Renakumar, TGT Math in Diksha portal are :

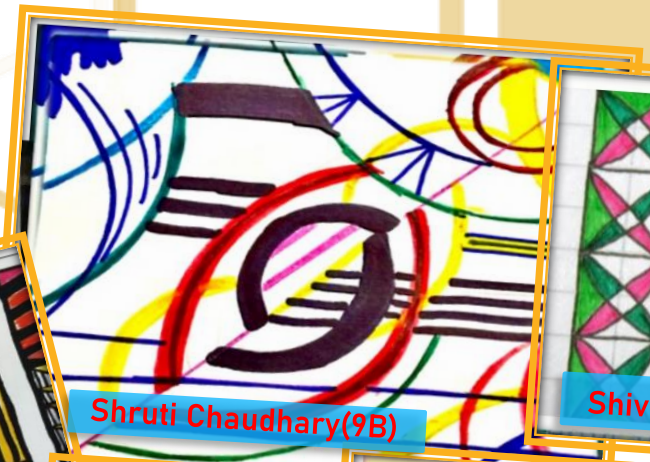
1. Coordinate Geometry - Class-X Mathematics
2. Surface area and volume- Class-X Mathematics



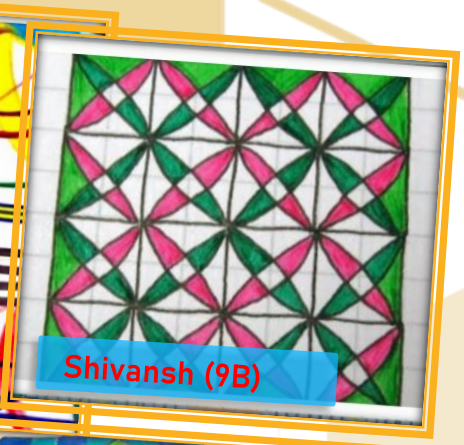
Padlet Anchor Fm

Click on these icons to view the content





Shruti Chaudhary(9B)



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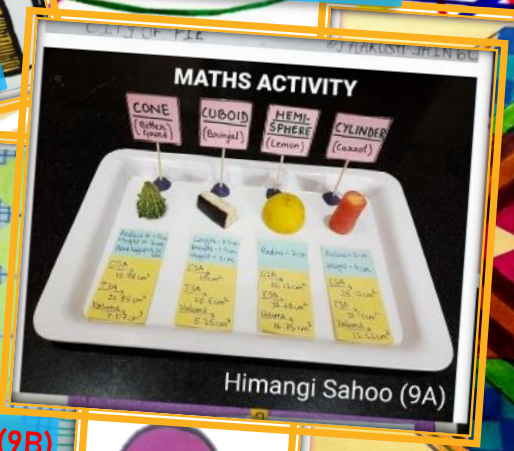

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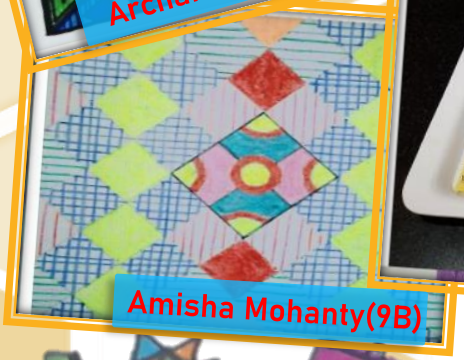

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