

# **SKILLING UP FOR THE FUTURE:**

**"Empowering Young Minds: Innovative teaching methods  
Overcoming Mathematics Phobia in Children"**

**How Square Grid Notebook And Online Resources Are  
Transforming Teaching And Learning .**

Presenting By: Mallikarjun Bangargi M.Tech  
Gnyana Chiguru Seva Samsthe(R.) Kalaburgi

# Introduction :

Many students (around 60-70%) find math hard.

The way we teach math now isn't helping them learn. It just throws formulas and rules at them without explaining why they work. This makes things confusing and doesn't help students really understand math.

Solving long, complicated problems isn't a good way to learn either. It's just frustrating and doesn't make math enjoyable.

The way we're teaching math now isn't working. We need to change things up and make math more fun, clear, and connected to the real world

Many students lost required knowledge for higher education and lack of practices from previous classes **due to covid** for them made a book to recover .



# Multipurpose Tool Are :

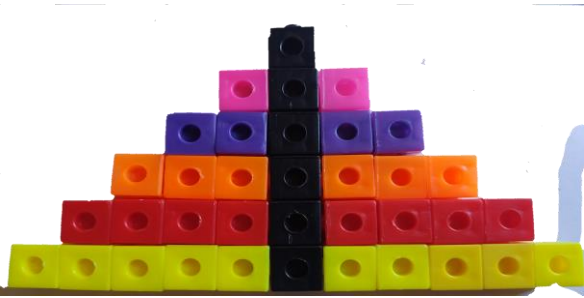
Creating a vision of how to use one tool for many concepts .

1. Square grid .
2. Cubes .
3. Parallel & comparison teaching .
4. Geoboard square & circle .

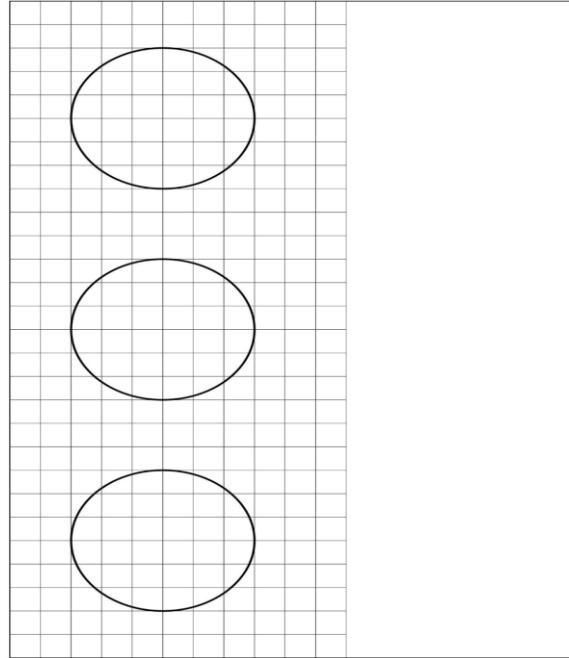
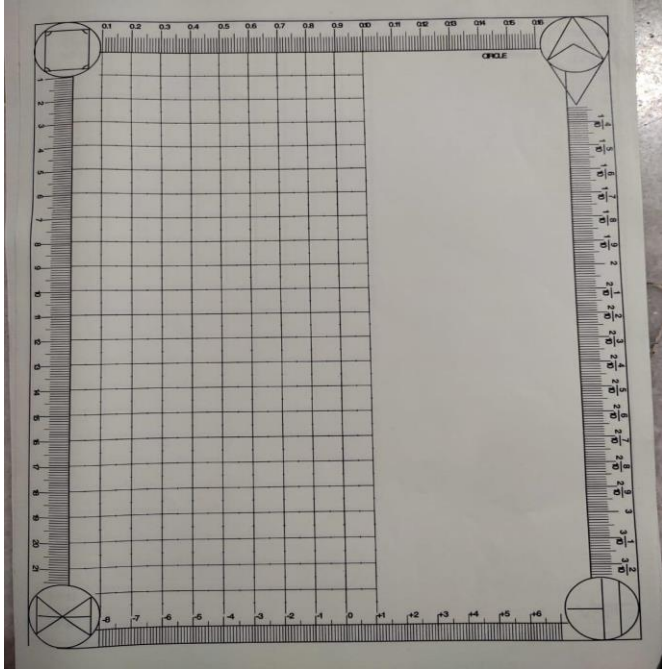
Need a proper vision and training to teach by taking one model

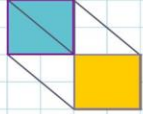


# Cubes Few Example :



# Square Grid:





### Cube Volume Formula

Cube side=2cm  
volume=  $a^3 = 2^3 = 8\text{cm}^3$

### Cube Total Surface Area Formula

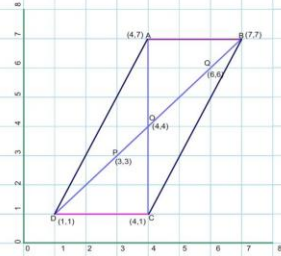
TSA=  $6 \times a^2 = 6 \times 2^2$   
 $= 6 \times 4 = 24\text{cm}^2$

### Cube Lateral Surface Area Formula

LAS=  $4 \times a^2 =$   
 $4 \times 2^2 = 4 \times 4 = 16\text{cm}^2$

2

## Co-Ordinate Geometry



### Distance Formula

Distance between two points

$(x_1, y_1)$  and  $(x_2, y_2)$  is

$$D = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

Distance between AC is =

$$\sqrt{[(4-6)^2 + (1-7)^2]} = 6 \text{ CM}$$

### Mid Point Formula

O is the mid point of AC & BD

$$= \frac{4+6}{2}, \frac{1+7}{2} = (4, 4)$$

### Section Formula

Point P (3,3) & Q(6,6) divides  
line BD 1:2 & 5:1 ratio

### Area of Triangle Formula

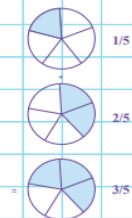
Area of Triangle DOC =  $\frac{1}{2}$

$$(x_1(y_2 - y_3) + x_2(y_3 - y_1) + x_3(y_1 - y_2))$$

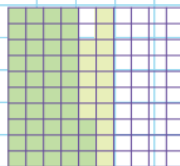
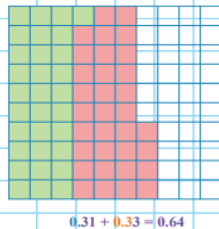
$$= 4.5 \text{ Sq. Cm}$$

1

### Like Fraction Addition



### Like Decimal Addition

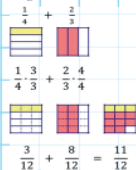


Use the tens and ones blocks to solve the problem.

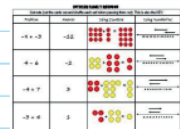
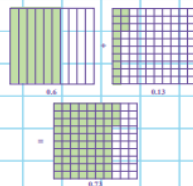
Example

### Unlike Fraction Addition

#### Adding Fractions



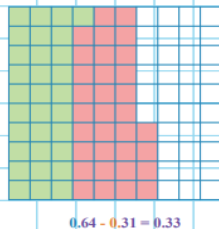
### Unlike Decimal Addition



### Unlike Fraction Subtraction



### Like Decimal Subtractions

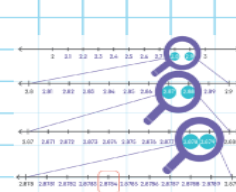


## NUMBER SYSTEM :

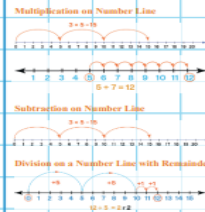
### FRACTION



### DECIMAL



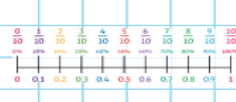
### Whole number and INTEGER



### Equivalent Fractions on Number Line



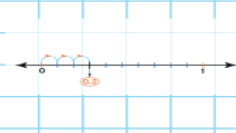
### Integers on a Number Line



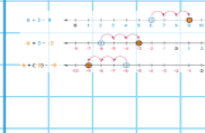
### Plotting Fractions on Number Line



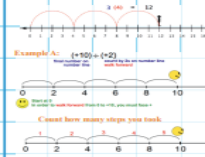
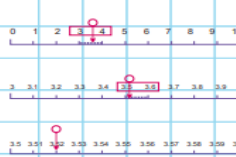
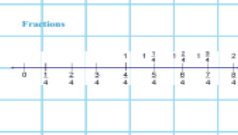
### Decimal Representation On Number Line



### Addition Rules for Integers



### Number Line Model



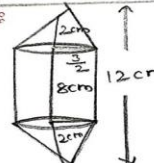
## Benefits of working squared book , cube and writing way :

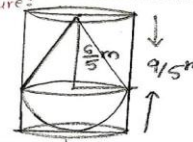
1. Easy to understand the concept.
2. Easy to find mistakes.
3. Easy to write and use.
4. Easy to measure, direct measure, different scale.
5. Easy to draw the figure.
6. The joy of knowing the value of a problem.
7. Recall and remember easily.
8. Increase interest and focus towards learning .



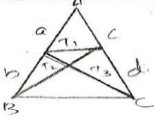
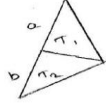
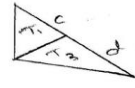


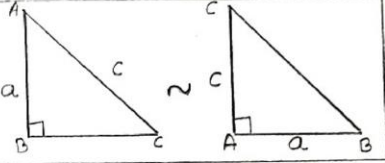
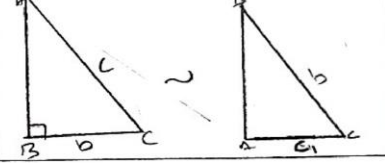
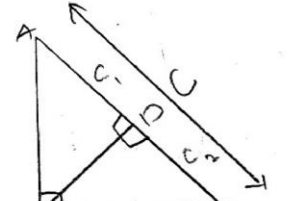
# Writing Skills :

Given : Direct Value	Indirect Value
<p>ಕಂಪೆಯನ ಎತ್ತರ = <math>h_1 = 2\text{cm}</math>  ಕಂಪೆಯನ ಕ್ರಿಜ್ಯ = <math>3\text{cm}</math>  ನೀಲಂಡರನ ಎತ್ತರ = <math>h_2 = 12 - 4 = 8\text{cm}</math>  ನೀಲಂಡರ ಲಘು = <math>3\text{cm}</math></p>	<p>ನೀಲಂಡರ ಕ್ರಿಜ್ಯ = <math>\frac{3}{2}\text{cm}</math></p>
<p>Figure:</p> 	<p>Logic:</p> <p>2x ಕಂಪೆಯನ ಘನೀಕೃತ + ನೆಲೆ</p> $\Rightarrow 2 \times \frac{1}{3} \pi r^2 h_1 + \pi r^2 h_2$ $\Rightarrow \pi r^2 \left[ \frac{2}{3} h_1 + h_2 \right]$
<p>S(1) <math>\pi r^2 \left[ \frac{2}{3} h_1 + h_2 \right]</math></p> $\Rightarrow \frac{22}{7} \times \frac{3}{2} \times \frac{3}{2} \left[ \frac{2}{3} \times 2 + 8 \right]$ $\Rightarrow \frac{22}{7} \times \frac{3}{2} \times \frac{3}{2} \left[ \frac{4}{3} + 8 \right]$ $\Rightarrow \frac{22}{7} \times \frac{3}{2} \times \frac{3}{2} \left[ \frac{4+24}{3} \right]$ $\Rightarrow \frac{22}{7} \times \frac{3}{2} \times \frac{3}{2} \left[ \frac{28}{3} \right]$	<p>S(1)</p> $\Rightarrow \frac{22}{7} \times \frac{3}{2} \times \frac{3}{2} \times \frac{28}{3}$ $\Rightarrow 22 \times 3$ $\Rightarrow 66\text{cm}^2$
Ans: $66\text{cm}^2$	

Given : Direct Value:	Indirect Value:
<p>ನೀಲಂಡರನ ಕ್ರಿಜ್ಯ = <math>r = 60\text{cm}</math>  ಎತ್ತರ = <math>h = 180\text{cm} = h_1</math>  ಕಂಪೆಯನ ಕ್ರಿಜ್ಯ = <math>r = 60\text{cm}</math>  ಕಂಪೆಯ ಎತ್ತರ = <math>(20\text{cm}) = h_2</math>  ಅಧೀನೀಕೃತ ಕ್ರಿಜ್ಯ = <math>60\text{cm}</math></p>	<p><math>60\text{cm} = \frac{60}{100} = \frac{6}{10} = \frac{3}{5}\text{m}</math>  <math>180\text{cm} = \frac{180}{100} = \frac{18}{10} = \frac{9}{5}\text{m}</math>  <math>20\text{cm} = \frac{20}{100} = \frac{2}{10} = \frac{1}{5}\text{m}</math></p>
<p>Figure:</p> 	<p>Logic:</p> <p>ನೆಲೆ - [ಕಂಪೆಯ + ಅಂಶ]</p> $\pi r^2 h - \left[ \frac{1}{3} \pi r^2 h + \frac{2}{3} \pi r^3 \right]$ $\pi r^2 h - \left[ \frac{1}{3} \pi r^2 (h + 2r) \right]$ $\pi r^2 \left[ h - \frac{h+2r}{3} \right]$ $\pi r^2 \left[ h - \frac{1}{3} (2r + h) \right]$
<p>S(1)</p> $\Rightarrow \frac{22}{7} \times \frac{3}{5} \times \frac{3}{5} \left[ \frac{9}{5} - \frac{1}{3} \left( \frac{6}{5} + \frac{6}{5} \right) \right]$ $\Rightarrow \frac{22}{7} \times \frac{3}{5} \times \frac{3}{5} \left[ \frac{9}{5} - \frac{1}{3} \left( \frac{12}{5} \right) \right]$ $\Rightarrow \frac{22}{7} \times \frac{3}{5} \times \frac{3}{5} \left[ \frac{9}{5} - \frac{12}{15} \right]$ $\Rightarrow \frac{22}{7} \times \frac{3}{5} \times \frac{3}{5} \left[ \frac{9-4}{5} \right]$ $\Rightarrow \frac{22}{7} \times \frac{3}{5} \times \frac{3}{5} \left( \frac{5}{5} \right)$ $\Rightarrow \frac{198}{175} \times 1$ $\Rightarrow \frac{198}{175}$	<p>S(1)</p> $\Rightarrow \frac{198}{175}$ $\Rightarrow 1.13\text{m}^3$
Ans: $1.13\text{m}^3$	

# Short Way :

ಛೇದನ ಪ್ರಮಾಣ	ಚಿತ್ರ
ಉತ್ತರ $AT_2 = AT_3$	
$\frac{AT_1}{AT_2} = \frac{\frac{1}{2} \times a \times h}{\frac{1}{2} \times b \times h}$ $\frac{AT_1}{AT_2} = \frac{a}{b} \rightarrow ①$	
$\frac{AT_1}{AT_2} = \frac{\frac{1}{2} \times a \times h}{\frac{1}{2} \times d \times h}$ $\frac{AT_1}{AT_2} = \frac{c}{d} \rightarrow ②$	
Compare ①, ② & ③ $\frac{AT_1}{AT_2} = \frac{a}{b}$ $\frac{AT_1}{AT_3} = \frac{c}{d}$ $\therefore \frac{a}{b} = \frac{c}{d}$	

ಛೇದನ ಪ್ರಮಾಣ	ಚಿತ್ರ
ಉತ್ತರ $\frac{a_1}{c_1} = \frac{c}{a}$ (ಉ.ಎ.ಖ.ಸಿ 1) $a^2 = cc_1$ — ①	10th D 
base :- $\frac{b}{c_2} = \frac{c}{b}$ (ಉ.ಎ.ಖ.ಸಿ 2) $b^2 = cc_2$ — ②	
add ① + ② $a^2 + b^2 = cc_1 + cc_2$ $a^2 + b^2 = c[c_1 + c_2]$ $a^2 + b^2 = c \times c$	

# Our Products And Services Are:

No.	Services
	Bridges Course Book
2.	Squared Grid Notebook.
3.	All In One Book Math With Practical Approach (Recovery Of Lost Knowledge )
4.	Activity Book
5.	SSLC Exam Preparation Chapterwise.
6.	Teachers Training Using Square Grid & Activity Based Learning.
7.	Online resource collection For teachers &. students

## Reached out:

No. of School	No. of students	No. teachers
15 in bidar district	2000	100
20 in Kalaburgi	1000	40
35 school	3000	150

## Future Goals :

Improve learning ability and gaining interest in maths subjects.

1. Spreading innovative teaching of math in our area .
2. Conducting teachers training & students at school level.
3. Conducting math exhibition taluk level for teachers & students to show all in one platform.



## CHANDRAKANT PATIL PUBLIC SCHOOL

Recognised by Govt. of Karnataka

Tilak Nagar, Kusnoor Road, Kalaburagi - 585 105 - Karnataka  
Ph. 08472 - 245934 - E-mail : principalcpss@gmail.com

To,  
The Commissioner,  
Department of Education  
Kalaburagi.

Date: 18/01/2020

Subject:- Attempt to get rid of Math Phobia – Reg.

Respected sir,

Mr. Mallikarjun Bangargi conducted a Mathematics workshop for nearly 100 plus slow learners of our three schools, namely :

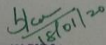
- Chandrakant Patil Public School, Tilak Nagar, Kusnoor Road.
- Amit Patil Central School, Kapnoor Industrial Area.
- Chandrakant Patil Central School, Karuneshwar Nagar.

It was found that, his approach of teaching Mathematics concepts was much more easier and innovative which created interest among the children in learning the concepts in a joy full way.

The note books which were used helped the pupils to understand the topic with strong basic skill involved in it.

The 3 Principals and 20 Teachers also attended the workshop and expressed their opinion that Mr. Mallikarjun's ideology of teaching Mathematics in play way method was extremely appreciable.

His ambition of removing Math Phobia from the minds of the budding students of "Kalyana Karnataka" is praise worthy. Wishing him all the very best to achieve his ambition,

  
Principal  
Chandrakant Patil Public School  
Tilak Nagar, Kusnoor road,  
KALABURAGI.



Estd. : 2010 (Day - Residential School)  
Affiliated to CBSE (Aff. No. : 830397)  
Sharan Nagar, KALABURAGI - 585 103  
Karnataka - India



Shambasveshwar Vidya Vardhak Sangha's

**APPA**  
**PUBLIC SCHOOL**



Phone : 08472 - 230255 - 244555  
E-mail : principal\_appapublicschool@yahoo.com  
apskalaburagi2010@gmail.com  
Website : www.appacbsglb.org

To Whomsoever Concerned

### Letter of Appreciation


This is to certify that the Workshop on Math was conducted by Mr. Mallikarjun Bangargi, (M.Tech.) of Chiguru - Helping Hands Organization, Kalaburagi on 28-01-2020 for 30 students of Class VIII and 4 staff at our institution.

The workshop provided insights into the basic concepts of Math, which was more helpful to the slow-learners, especially, the concept of square grid visualization that makes it easily intelligible to students. It reinforced the basic concepts of Math, which are quite essential towards the consolidation of the subject from the application perspective.

We appreciate the pain-staking effort of the Resource person Mr. Mallikarjun, who conducted the workshop with a missionary zeal.

Place: Kalaburagi  
Date: 04-02-2020



  
Principal  
**APPA PUBLIC SCHOOL**  
Affiliated to CBSE, New Delhi No. 830397)  
Sharan Nagar, KALABURAGI - 03.

# Online Free Resource Are:

Creating Playlist And Collecting Free Resource From Best Creator

1. Youtube Collecting And Share Publicly.
2. All Social Media Like Facebook, Pinterest.
3. Google App And Its Uses (Collection, Site, Bard )
4. Chatgpt (Digital Contents Share Publicly)
5. Geogebra (Creating Book Share Publicly)
6. Collecting Useful Website.



# Conclusion

One significant concern that we have identified is the prevalent mathematics phobia among budding children. **Recognizing the importance of mathematics in academic and cognitive development, we propose a collaborative initiative with the Department of Public Education to address and alleviate this phobia.**

Our proposal includes **organizing workshops, interactive sessions, and resource development to make mathematics more engaging and accessible for students.** We believe that by fostering a positive learning environment and employing innovative teaching methods, we can significantly reduce anxiety related to mathematics.

Our aim is to **work together** to ensure that every child in Kalaburgi can approach mathematics with confidence and enthusiasm.

Thank you for considering our proposal. We look forward to the possibility of making a positive impact on the education landscape in our community.

