

**At-No-Extra-Cost to Edu. Dept and  
Parent's Pocket,  
Everyone can Do Maths Problem  
Solving using  
FOLK-CAP way**

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*... An Academic Civilian Patriot*

Maths Education in schooling years  
needs some changes to achieve  
“the Joy Problem solving”  
by **EVERY** student and there by  
achieve elimination of Maths Phobia  
in our country.

A solution to this crisis is presented  
here via FOLK-CAP way viz.  
..... *Making Maths Digestible to Billions*  
!

# Fig.1 Definition of FOLK-CAP

HOW TO SUCCEED IN MATHS?

follow

**“FOLK-CAP”**

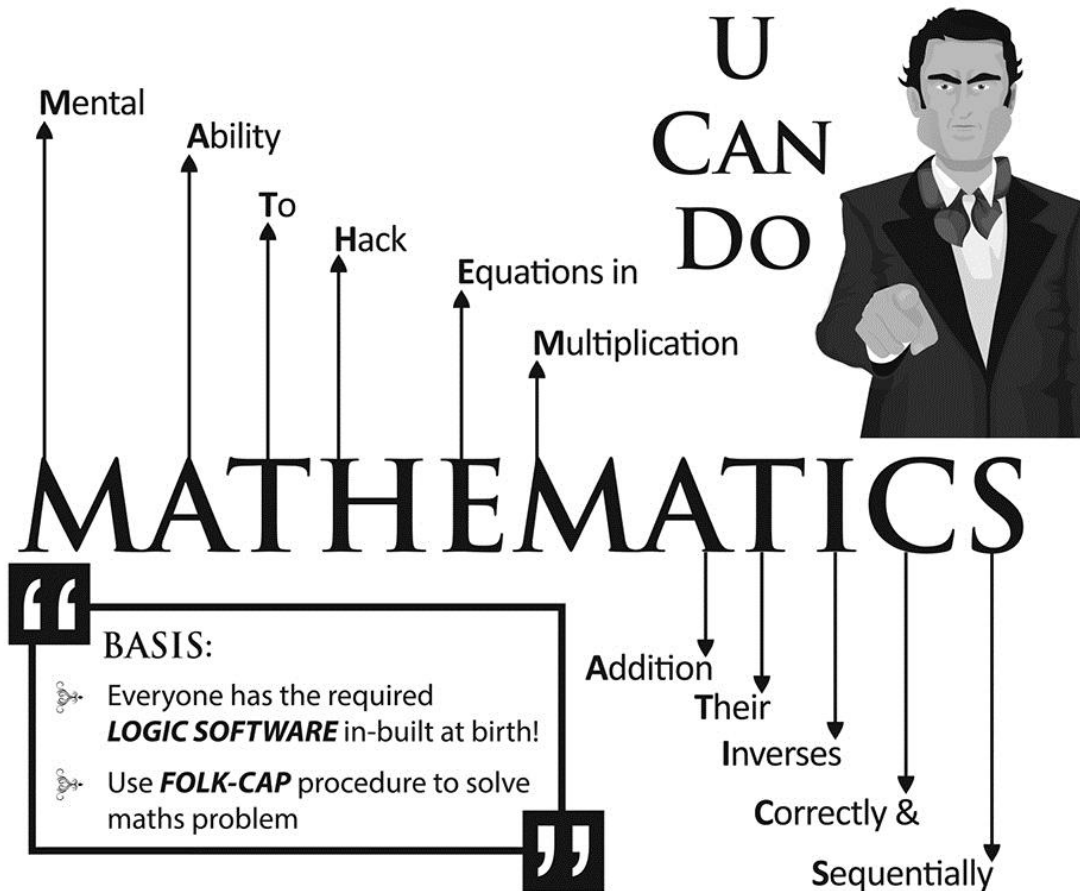
procedure to solve problems

**Figure Out the Logic with Knowledge**  
of  
**Current And Previous**  
years/chapters

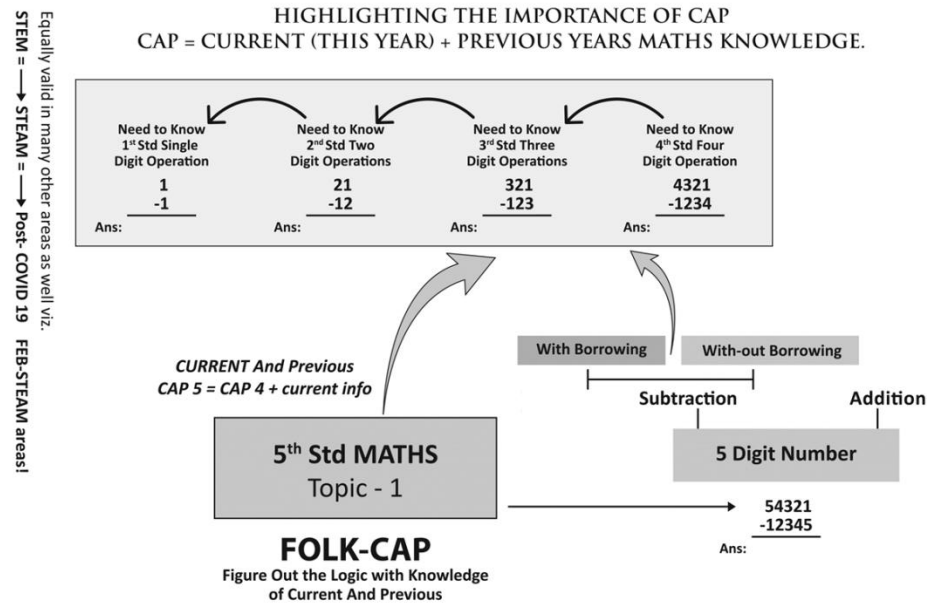
- Dr. B. S. Sudhindra, 1996



# Fig.2. Mathematics word as an “acronym” describing “full action”



# Fig.3. Meaning of CAP in FOLK-CAP



**S** .. Science, **T**.. Technology, **E**.. Engineering, **A**.. Art (Architecture), **M** Maths  
**F**.. Finance, **E**.. Economics, **B**.. Business

# Table -1: MATHS SIGHT WORDS & SIGHT PHRASES

Upto 4<sup>th</sup> Std. Only = Beginning of 5<sup>th</sup> Std •

| Standard-in           | Number of words at the beginning | New words learnt in this class | Total number of Sight Words (CAP) |
|-----------------------|----------------------------------|--------------------------------|-----------------------------------|
| 5 <sup>th</sup> Std.  | 112                              | 61                             | 173                               |
| 6 <sup>th</sup> Std.  | 173                              | 87                             | 260                               |
| 7 <sup>th</sup> Std.  | 260                              | 78                             | 338                               |
| 8 <sup>th</sup> Std.  | 338                              | 66                             | 404                               |
| 9 <sup>th</sup> Std.  | 404                              | 103                            | 507                               |
| 10 <sup>th</sup> Std. | 507                              | 133                            | 640                               |



# ARE YOU READY?

Cultivate the Joy of  
Solving Math Problems!

*Problem Solving involves the following steps in general*

- Doing Maths involves use of knowledge that are taught in today- and Previous time [classes, years] . The steps used to arrive at the final answer can in stages.!
- **Step-1:**  
First everyone has to **READ** THE MATHS Questions carefully!
- **Step-2:**  
**Recognize** what is to be done? This requires one to be familiar with SIGHT words and Sight phrases used in Maths and Figuring out the **Logics involved**.
- **Step-3:**  
DECOMPOSE/Hack the Questions into various sub-parts to answer based on FOLK-CAP
- **Step-4:**  
Then write – **build / Re-Construct** from parts the Answer / Solve the problem.

# 432 = Answer Writing for a Maths Q

writing a complete answer to a maths question\*

Frame # 25

**STRETCH/STRAIN YOUR MIND AND IMAGINATION TO ARRIVE AT THE SOLUTION IN STAGES**

*(i.e. First reason then, step leading to result.)*

### **Logical deductions**

Logic: Reason-1

We know that .....

Intermediate Result-1 [ $m_1$ ]

Logic: Reason-2

We know that...

As, because, for

Intermediate Result-2 [ $m_2$ ]

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Therefore.... Final result = Answer ! [ $m_f$ ]

$m = m_1 + m_2 + \dots m_f$

[ $m_1$  marks for each step.]

= total marks for the problem.

You have a to write repeatedly at each steps in words / sentences.... why you do so, 'to make your reader (Teacher or Evaluator) to recognize that you know the subject.

**Note:**

Skipping steps must be AVOIDED in the early stages of writing solutions.

*BSS, 15 Nov, 2016*

\* Maths Q = Maths problem; Complete answer = Solving  
..... just different language usages.

Old way;

Result...  
because

[may be Arabic  
Influence ? ]

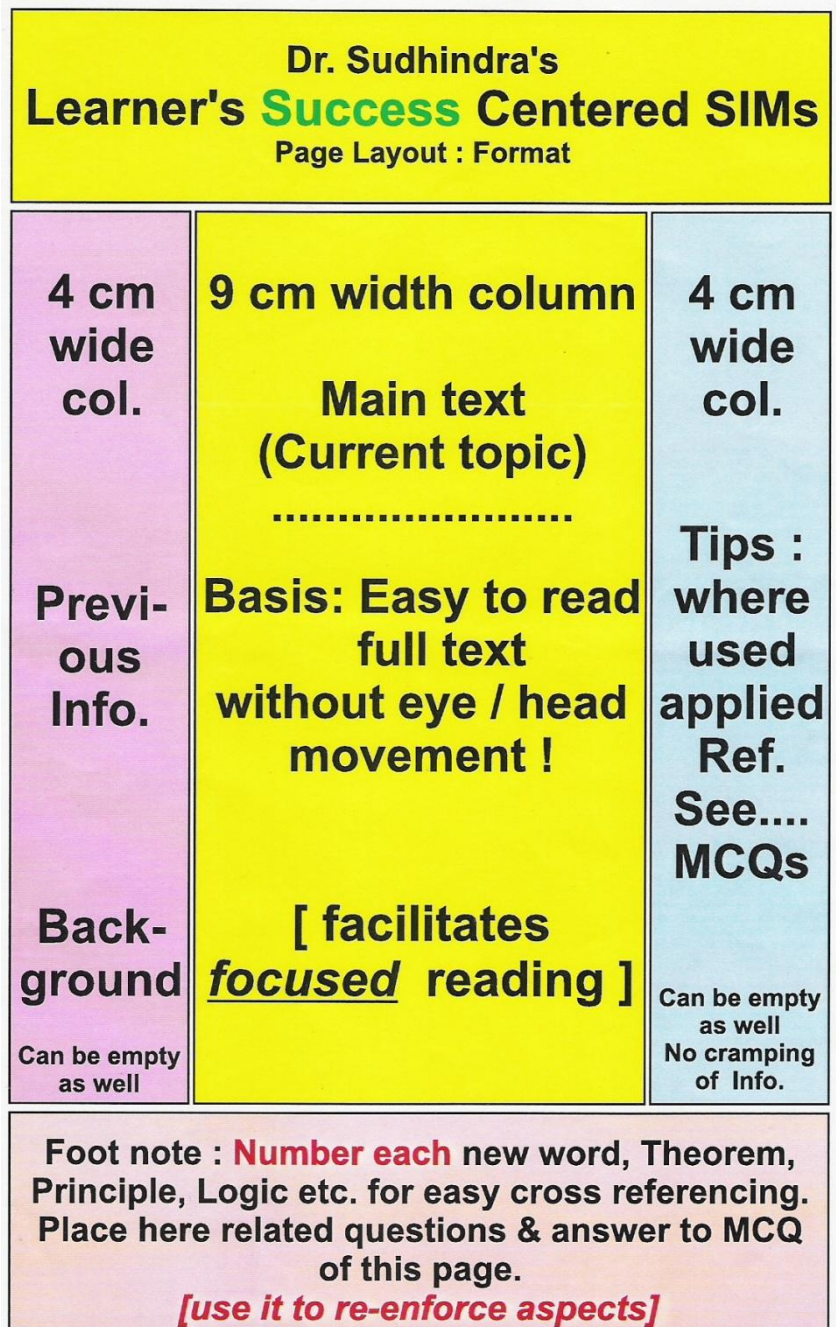
140 x

India is RH drive

Old:/Arabic  
.. LH drive ?

In order to bring these strategies in Textbooks, it is necessary to RE-FORMAT them into **Learner's Success Centered format** as follows:

- Learner's Success Centered Format: *Brings a good Teacher's effects in every Textbook Page!*  
...
- All these can be done
- **AT-No-Extra-Cost to Edu. Dept or Parents pocket,**
- as new Textbooks are being printed,
- ***IF done in above format from the beginning itself !***
- ... a challenge to Writers, but
- .. Big help to Learners.



# SITUATIONAL MATHS cases

- Example -1 : Bicycle Provides cases to KG2PG levels! to solve problems



# Situational Maths : Example-2

## Have Golden ratio Plots / Extensions

### Current “ traffic problems”

- i. 20x30 sites road of 20 ft wide
- ii. 30x40 04 30x50 sites have 30 ft roads
- iii. 40x60 sites road wisth 40ft
- iv. 60x80.. 80x120 etc 80 ft width roads
- v. 100 x150++ etc have 100ft width roads

### Remedy-1: Simplest [At-No-Extra Cost ]

- ] change sites [Rotate by 90 deg]
- have/Change to 30x20 sites with 30 feet width roads
- have/Change to 40x30 sites with 40 ft width roads
- have/Change to 60 x40 sites with 60ft width roada
- have/Change to 80x60 sites with 80ft width roads
- have/Change to 150x100 sites with 150 ft wide roads

Instead USE GOLDEN RATIO sites  $L \times 1.62L$  sizes. With 1.62 L width roads, You will see beautiful buildings like ... UN bldg. at New York, magnificent Parthenon in Athens Built in your city!

# Situational Maths :Example - 3.

## Post-COVID 19: LEAD A HEALTHY LIFE

- To Ensure these simple looking “Elements” Proper Judicious Use of MATHS can solve these “Requirements”
- **Rule-1:** No two buildings SHADOW falls on each other... no blocking of sunlight
- **Rule-2:** Good cross ventilation means NO two bldgs. Or flats can come close or common walls!
- **Rule-3:** In-between buildings space, can be termed as “lung space: be used for parks,
  - Only ground floor parking/daily utility shops etc.
  - Of course these requirements need hard work from Planners and Engineers. Again a good knowledge of Maths from Schooling years & FOLK-CAP way helps

# Situational Maths :

## Example-3 : Healthy Bldgs

- Post-COVID 19: LEAD A HEALTHY LIFE with good cross ventilated Rooms, With good SUN LIGHT
- To Ensure these simple looking “Elements” Proper Judicious Use of MATHS can solve these “Requirements”
- **Rule-1:** No two buildings SHADOW falls on each other... no blocking of sunlight
- **Rule-2:** Good cross ventilation means NO two bldgs. Or flats can come close or common walls!
- **Rule-3:** In-between buildings space, can be termed as “lung space: be used for parks,
- Only ground floor parking/daily utility shops etc.
- Of course these requirements need hard work from Planners and Engineers. Again a good knowledge of Maths from Schooling years
- FOLK-CAP way helps.

# SITUATIONAL MATHS :

## Example-4 Flying Maths

- All Example-4. children and even families like Kite flying or have seen Aero-planes flying. It should interest to analyze maths behind flying.... ***Aero-foil*** theory and its recent developments. [Regism(2020) ]
- Sci. Am.Feb.2020 issue.

# Points to ponder

- Delete 1-, 2- marks Qs
- Have Negative marking for MCQs
- More Situational Maths problems
- 4 to 8 marks !

## ADD

- Digital Maths
- Maths used in Big Data, AI
- Photonic Computing
- Business Analytics
  
- 8 credits [6 + 2credits lab]
- Per semester
- All through Schooling Years
  
- Scout examples from FEB-STEAM areas.

FOLK-CAP way helps to understand these areas as well, easily.