

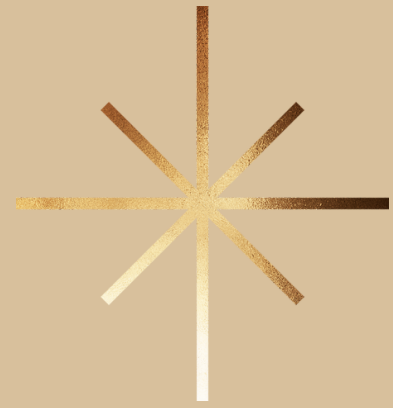
Murlidhar Shingri

M.Sc., B.Ed., M.Phill.

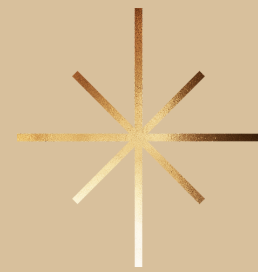


National ICT Awardee 2016
Assistant Science Teacher,
GHS Karkihalli Tq:Dist:Koppal
Karnataka





MY EDUCATION



B.ED.

In Biological and Physical Sciences
1998

M.SC.

Botany
(Medicinal plants as Specialization)
1997

M. PHILL.

in Botany
2008



Experience in teaching - 20+ years

Assistant Science Teachers job:

State
syllabus, from
academic
year 1999 -
2001

Biology Teacher in a National level school: .

affi. to CBSE
Board, From
01.07.2001 to
30.06.2002

Lecturer in Biology: Part- time Biology lecturer.

17th July
2005 till 30
June 2008

Assistant science teacher in Govt. High School, Karkihalli, Tq:D: Koppal

From 1st July
2008 till date



<https://www.youtube.com/watch?v=UZkCoU-Tso>

MY JOURNEY

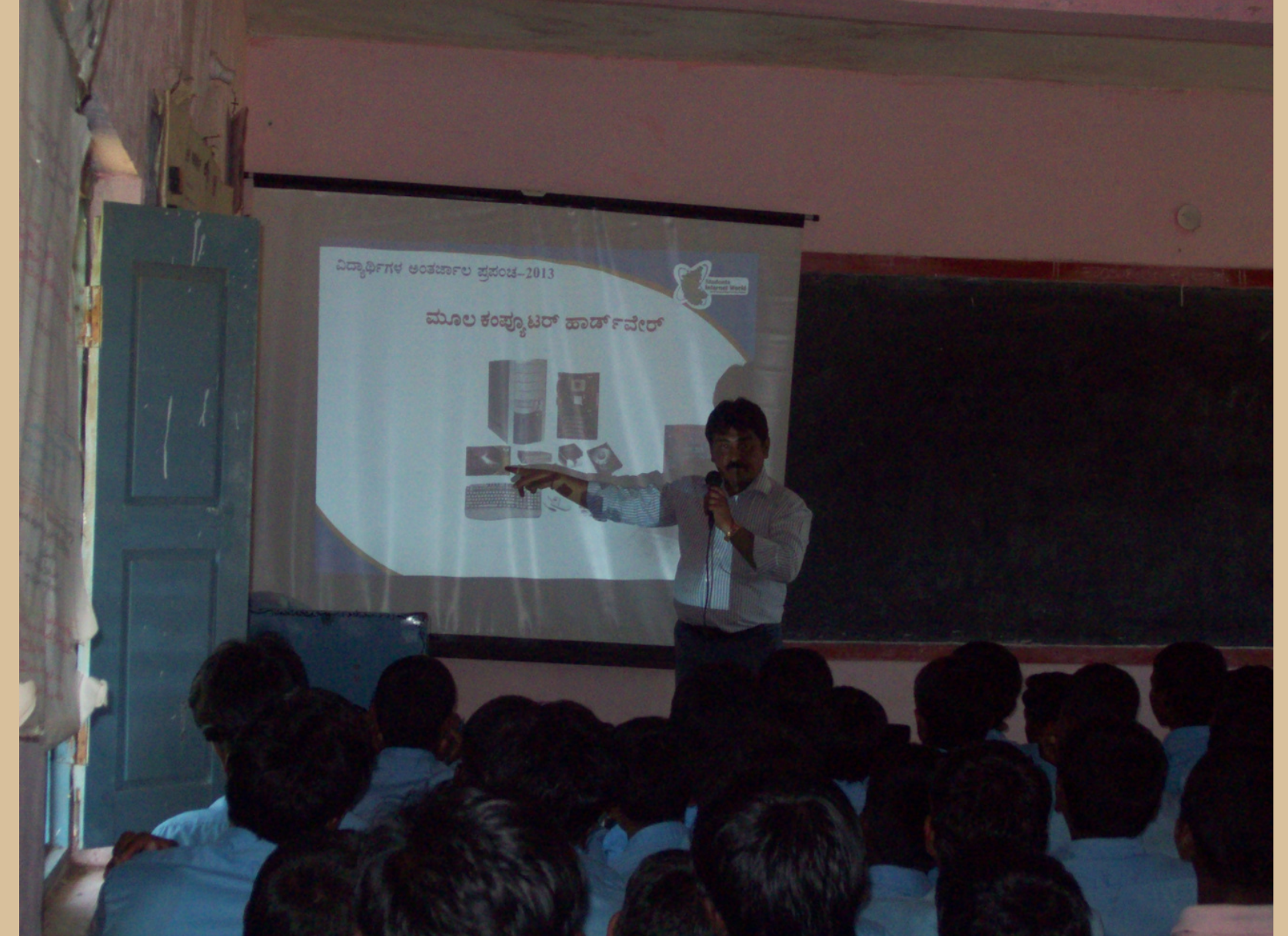


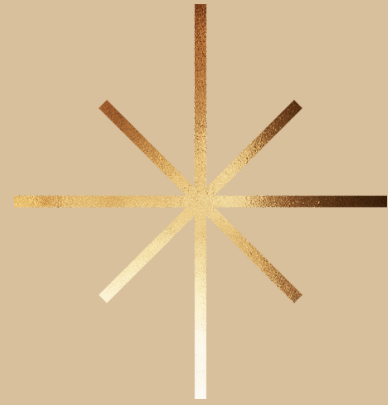
BEFORE MY
NATIONAL
ICT AWARD



AFTER MY
NATIONAL
ICT AWARD

Teaching basics of computers and internet on account of "children internet world program-2013"





Subject Teachers Forum (STF)

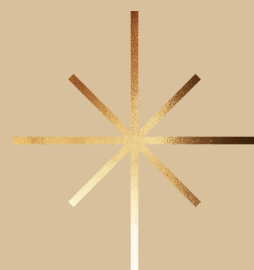
Edubuntu

In 2013 the introduction of Edubuntu (public software) in my life is simply a beginning of a new dawn in improving the teaching competencies in giving the best to our children in the classrooms.

Master and State Resource Person

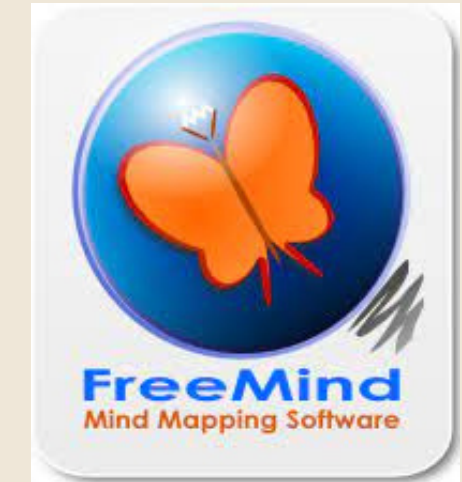
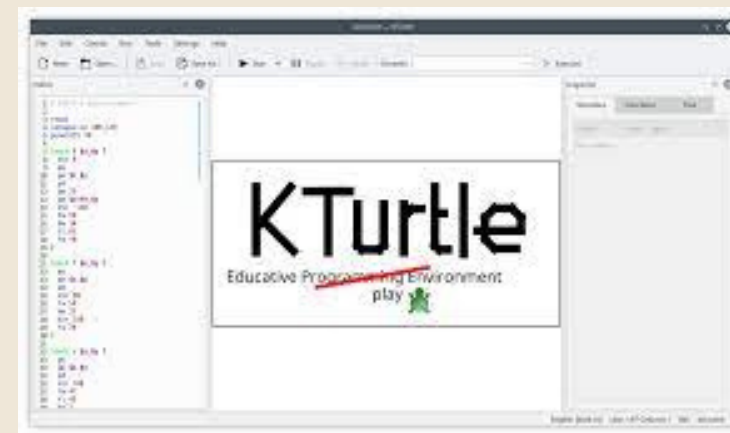
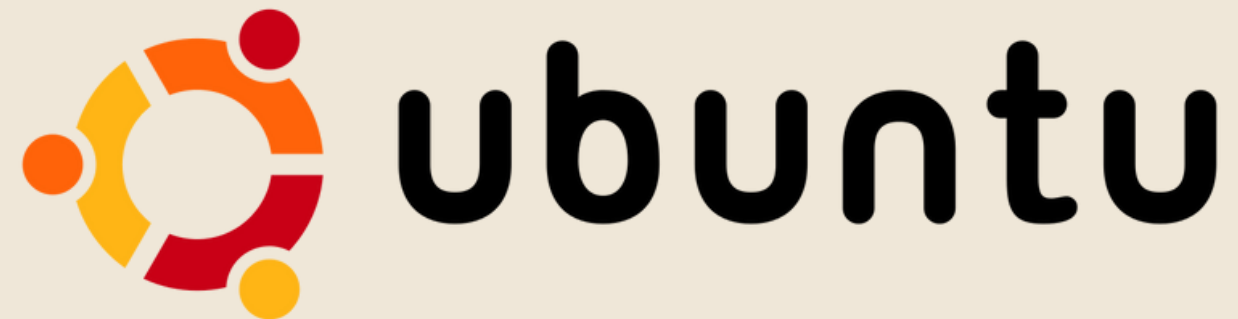
As a Master resource person and later State resource person for STF, I have really learned more than I have taught.

Finally the most important aspect of STF to bring together all the teachers on a digital platform through E-Mailing was not less than an experience of personally meeting every teacher.



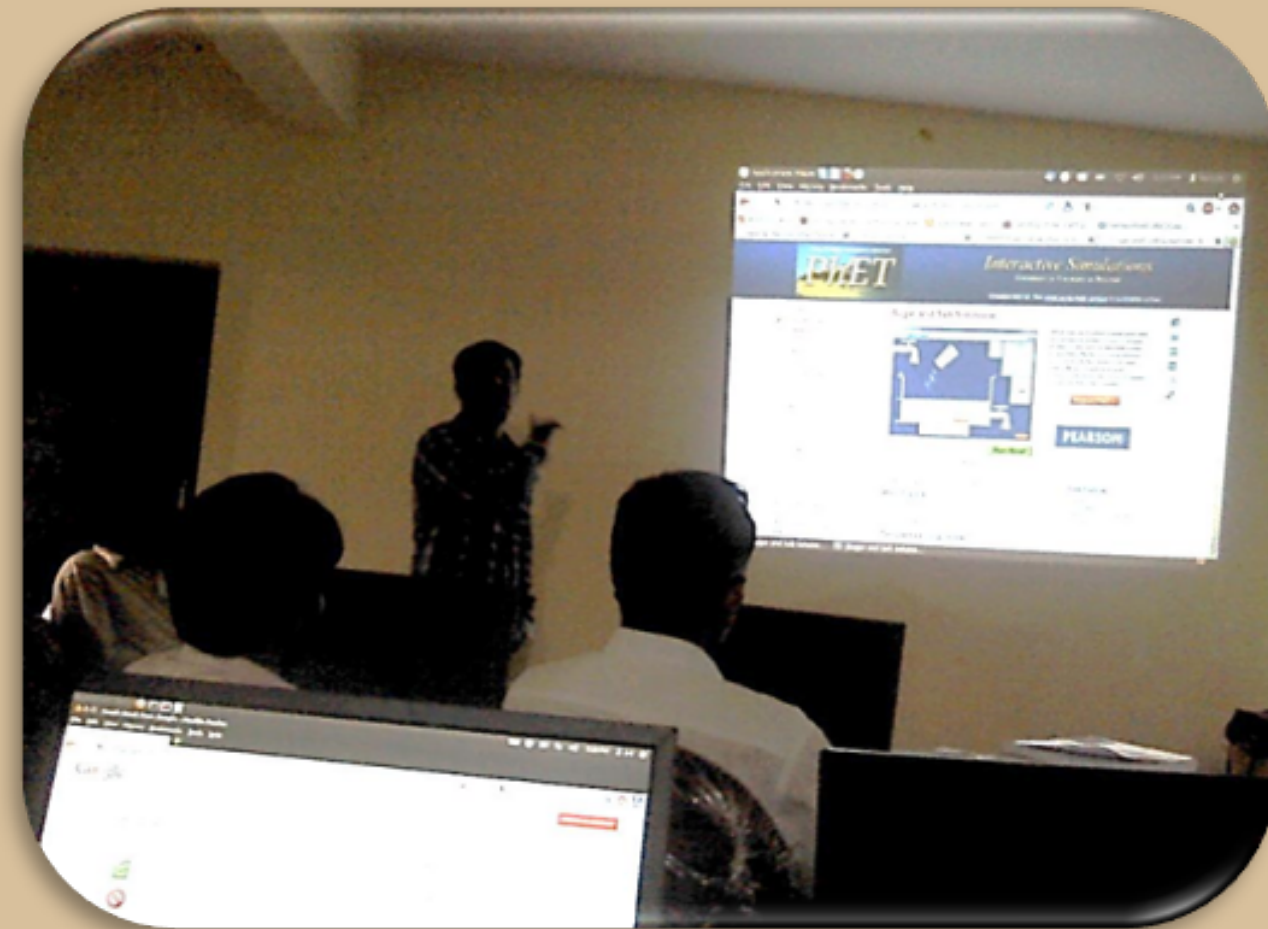
OPEN SOURCE TOOLS

During the trainings of STF, as SRP and MRP, I got a very unique opportunity to explore the best computer aided educational tools;





In Bangalore STF Training for MRP's

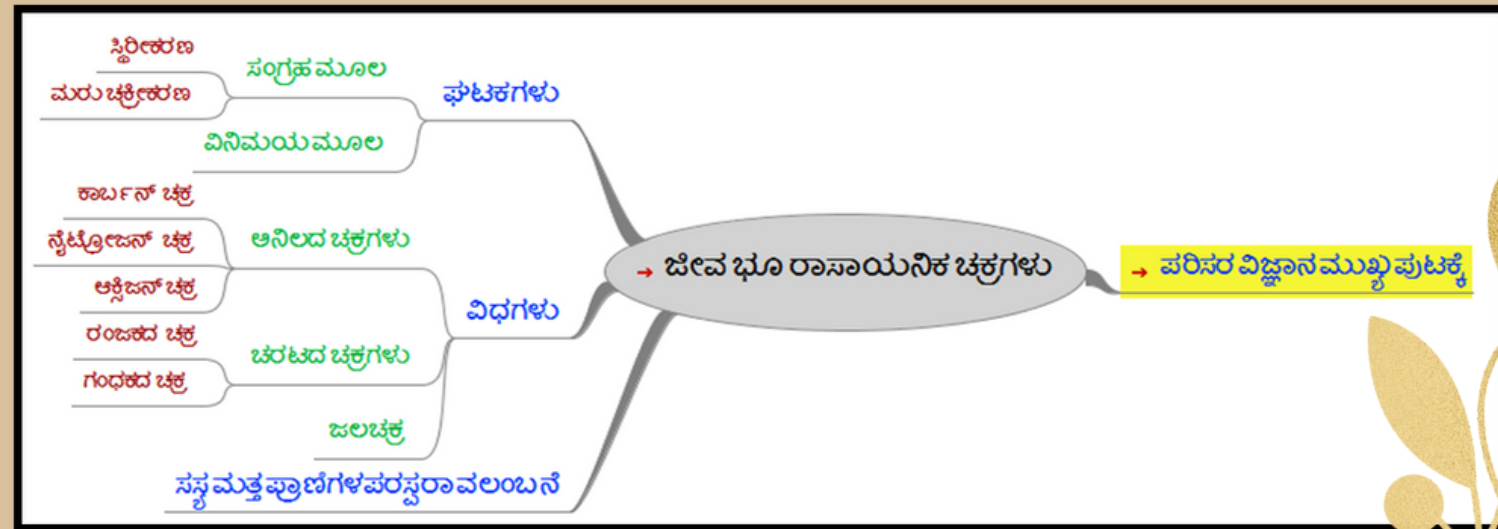
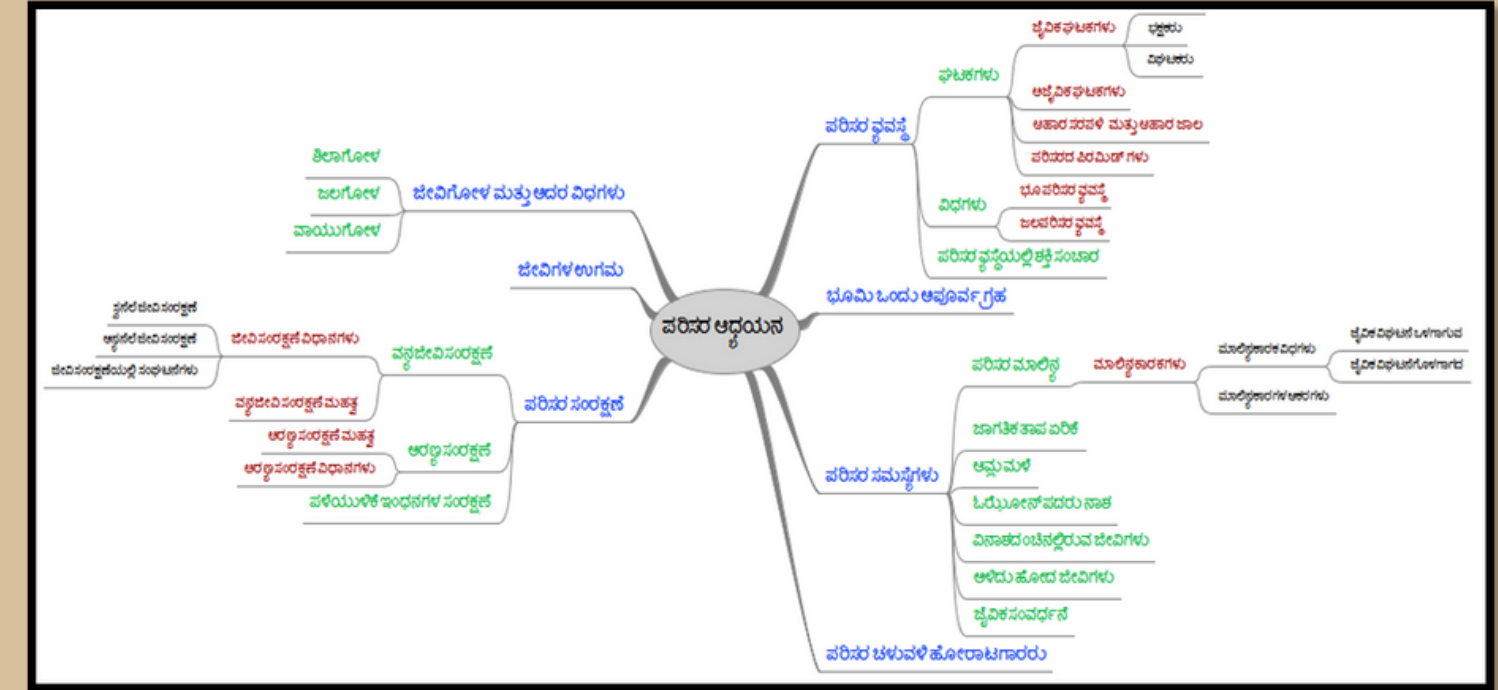
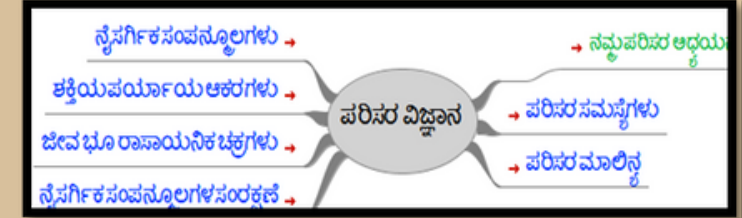
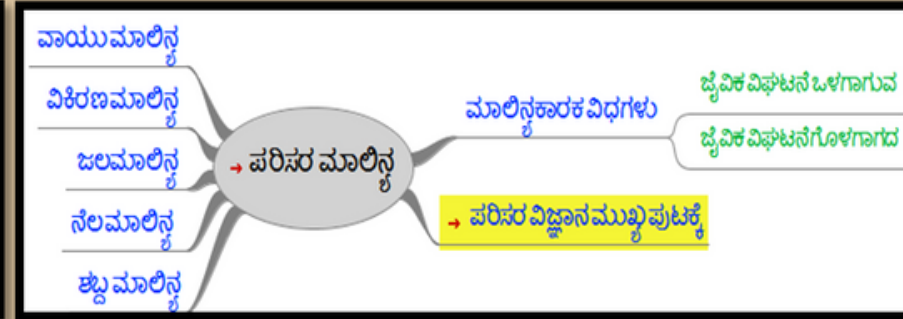


MRP presenting PhET simulation



KOER (Karnataka Open Educational Resources)

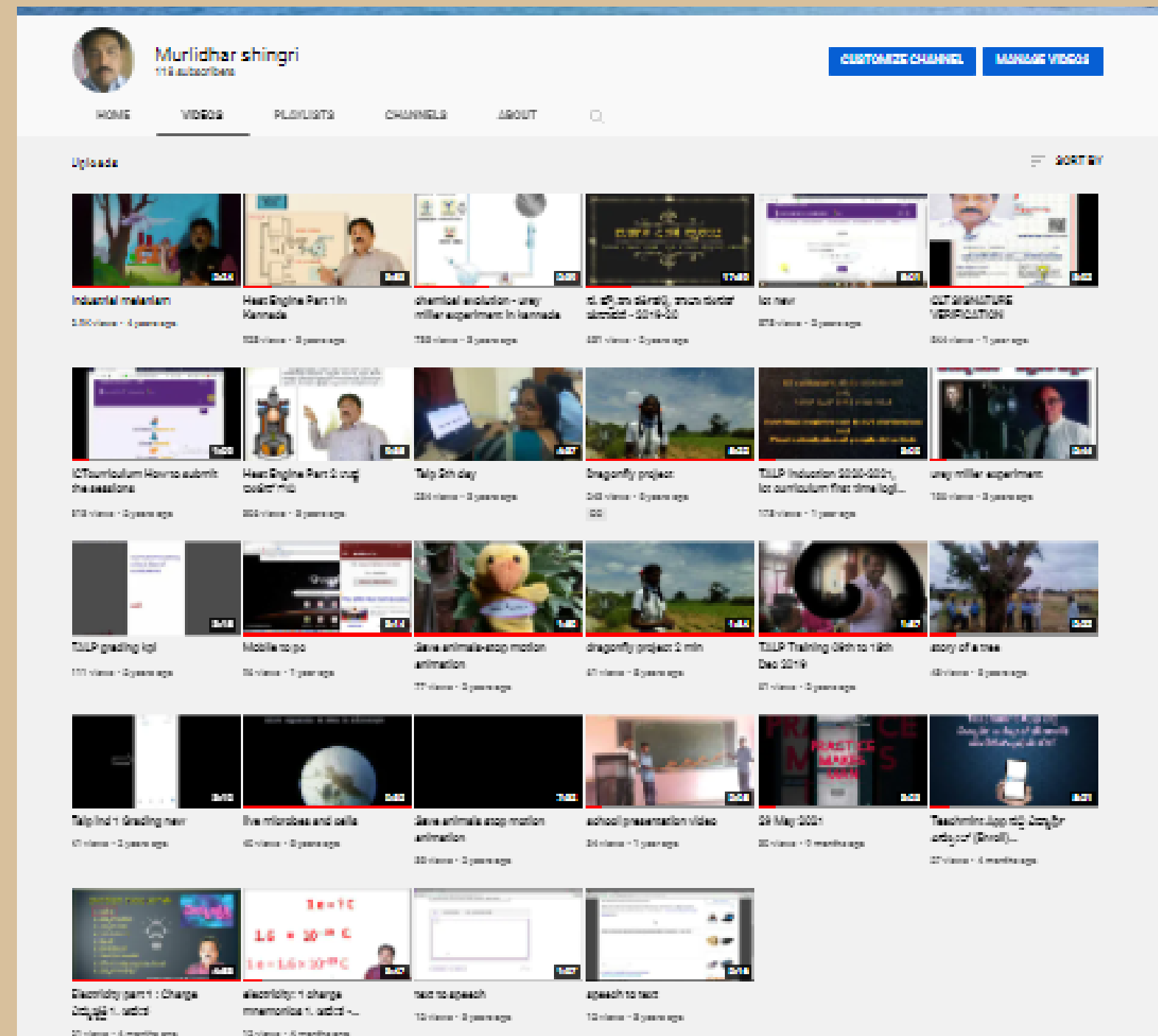
Digital resource Creation for 9th standard science for KOER (Karnataka Open Educational Resources)
<http://karnatakaeducation.org.in/KOER/index.php/> ಮುಖ್ಯ ಪುಟ



I created my first video on Urey- miller experiment and uploaded it on KOER: While working on this video I realized many parameters of the educational process.

Most of the videos are in English and student's studying in their regional languages find it difficult to understand, hence teacher made videos and resources play important role.

It gives immense pleasure to say that I could add web pages and create videos of my own in my regional language (Kannada) and, have even taught it to many teachers.





Date: June 2012

Certificate of Recognition for work in the Subject Teacher Forum

Awarded to : Muralidhar Shingri

Muralidhar has taken immense interest and initiative in the Subject Teacher Forum. He participated enthusiastically in the MRP training and is very committed to sharing his knowledge with other teachers. Muralidhar has taken a high level of ownership of the Koppal district cascade programme and also encourages other teachers to participate in the forum, despite the infrastructure challenges in the region. We wish him continued success in all his efforts and look forward to his participation.



IT
for
Change

Surendra
Gurumurthy Kasinathan
IT for Change



Google groups help 22k govt school teachers to learn, share, innovate

Merlin.Francis@timesgroup.com

Bengaluru: A science teacher in a remote Koppal village uses a software to impart astronomy lessons, sometimes even under the night sky. A maths teacher in Nelamangala taluk has devised methods to make complicated concepts fun. Google groups are transforming the learning experience of both educators and students in Karnataka.

The Subject Teacher Forum (STF) comprises Google groups for mathematics, science, social science, English, Hindi and Kannada high school teachers. Of the 37,000 government school teachers in the state, 22,000 are part of it.

When STF was initiated in 2011, its objective was three-fold, said Gurumurthy Kasinathan, director, IT for Change (ITfC) a not-for-profit training teachers to tap information technology. "Not only

TAPPING TECHNOLOGY

did we want to connect teachers via email and enable them to help one another but also train them to use various software applications to understand and teach their subjects better. These tools could then be used to create teaching materials," said Kasinathan, visiting faculty at Tata Institute of Social Sciences.

It began with workshops to train teachers in technology. A Google group was formed to connect the trainers and the teachers to continue the learning process and clarify doubts. The 22,000 teachers are now using free and open-source software such as Stellarium, Geogebra, Marble and Phet to comprehend topics and break them down to students.

What the initiative has also led to is the Karnataka Open Education Resources (KOER), said to be the only online repository of study materials prepared by and for teachers, available in Kannada and English. The STF-KOER programme was lauded as the best practice at a national confer-

STARGAZING ON A LAPTOP

Muralidhar Shingri, science teacher in Karkihalli government school in Koppal district, uses Stellarium to teach astronomy. His classes sometimes include a night out during which students identify stars. "If I am unable to locate a particular star, I can always count on the software. It converts my laptop into a planetarium," he said.

Considering that resource crunch is a major problem dogging government schools, STF is especially relevant, he said. "Earlier, the community of teachers we were in touch with was miniscule. Now, it is 22,000 and growing. Academic resources and teaching ideas are shared and then tweaked to suit a particular class or student," he said. Following the workshop, Shingri made videos to explain certain concepts and has uploaded them on the KOER web repository for the benefit of other teachers.



Professional and personal growth

A week after her STF training in 2011, Suchetha SS, a high school mathematics teacher at Thyamagondlu government PU College, Nelamangala, Bengaluru Rural district, bought her first laptop. "Earlier, I was dissatisfied with my teaching methods. I was unable to make the class interactive. Handling a large batch of students was tough, especially in the case of an often-dreaded subject like mathematics. But with STF, I am able to do both," she said. Suchetha used Geogebra, which combines geometry

and algebra, to explain concepts. "It helped me grow professionally. Once I was clear about the topics, I was able to pass on the knowledge. As my class became more receptive, my confidence grew. I began to make my own material using the software and shared it with the community," she said. STF has helped teachers like Suchetha understand the importance of Information and Communication Technology (ICT) in education. "A whole new world has opened up before us," she said.

ence for secondary school education quality in March.

Taking a cue from Karnataka, Telangana and Assam have begun a similar programme, while Andhra Pradesh and Tamil Nadu are mulling its implementation. "Earlier, a good teacher was restricted to the school he or she was teaching in. With the help of STF, the teacher community can share its experiences, best practices and teaching tools," Kasinathan pointed out.

The use of software tools

means teachers have moved ahead from explaining the 'what' of a concept to encouraging students to look at the 'why'. This has not only made classes more interesting but also taken the focus away from rote learning, he added.

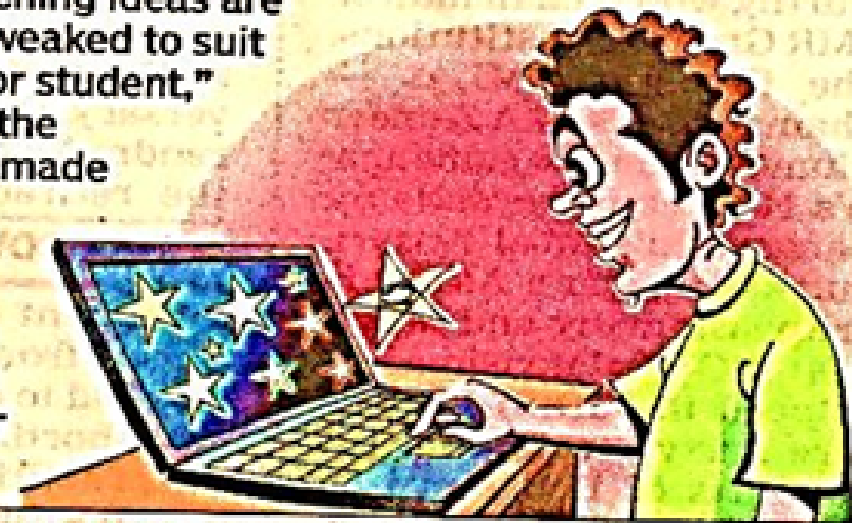
The project is funded by the Centre and implemented through the Rashtriya Madhyamik Shiksha Abhiyaan, Karnataka (RMSA), department of state educational research and training, Karnataka (DSERT).

An article in Times of India newspaper, dated 27th May 2016 about KOER and STF revolution in Karnataka, and my bit of work in it.

STARGAZING ON A LAPTOP

Muralidhar Shingri, science teacher in Karkihalli government school in Koppal district, uses Stellarium to teach astronomy. His classes sometimes include a night out during which students identify stars. "If I am unable to locate a particular star, I can always count on the software. It converts my laptop into a planetarium," he said.

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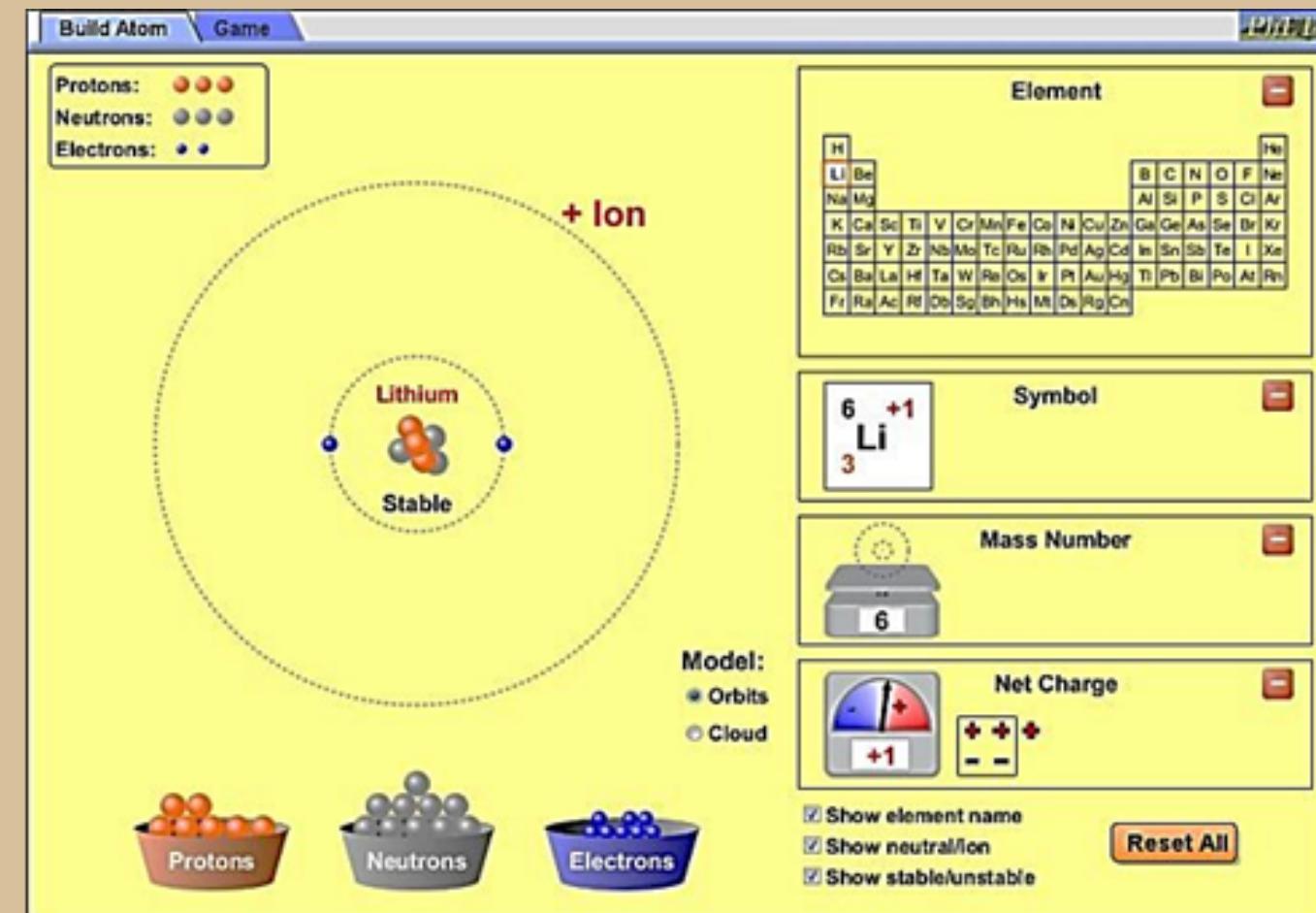
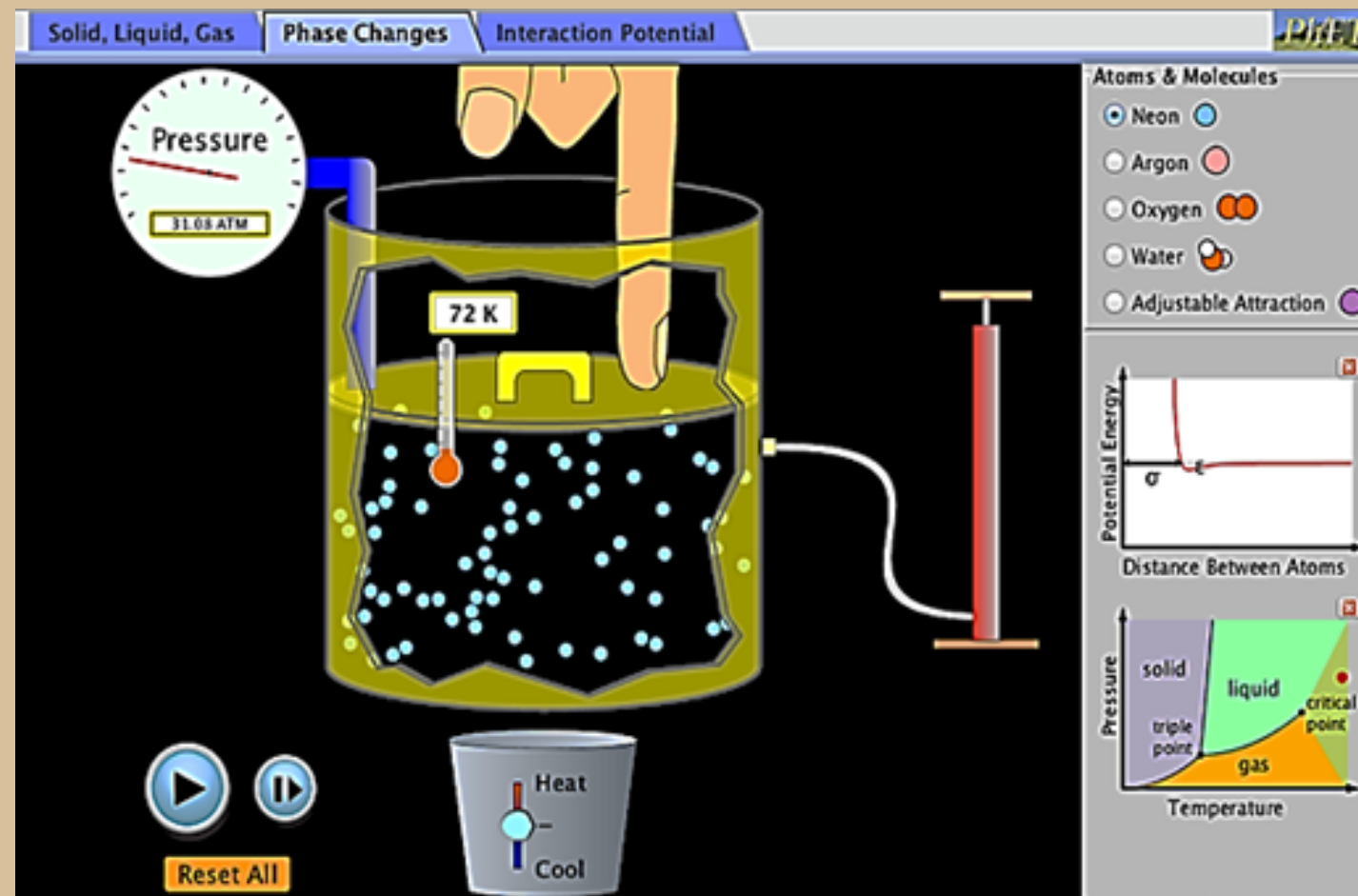


Efforts towards Integration of ICTs in Education

During past few years I have tried to achieve which I really aimed at when I wanted to become a teacher.
And I always had one statement ringing,

***“AM I TO MY STUDENTS WHAT THE BEST
TEACHER WAS TO ME”.***

With the advent of using tools and infrastructure in education, like using Computers, Laptops, Digital Cameras, LCD Projectors, Mobile Phones and Internet, Teaching has become more fun filled.



inspire 2015

5th National Level Exhibition & Project Competition
December 06-07, 2015, IIT Delhi







STUDENTS AS RESEARCHERS

ICT FOR DATA ANALYSIS AND REPRESENTATION

Every year a research project.



ಕೆಲವು ಸಾಧನಗಳ ಅಂಶ, ವಿಷಯ ಪ್ರಮಾಣ ಮತ್ತು ಎಚ್ಚರಿಕೆ ತಿಳುವಳಿಕೆ				
ಕ್ರ.ಸಂ	ವಿಂಗಡಣಾ ಪಂಗಡ	ಕೆಳ ಪ್ರಮಾಣದ ಬಣ್ಣ	ಎಚ್ಚರಿಕೆ ಸೂಚನೆ	ಎಚ್ಚರಿಕೆ ತಿಳುವಳಿಕೆ
1	ಭಾರಿ ಮಿಡಕಾರಿ	 ಕೆಂಪು	ತಲೆಬುರುಡೆ ಆಡ್ಡ ಮೂಳೆ "ಮಿಡ್"	ಮಕ್ಕಳಿಂದ ದೂರವಿರಿಸಿ ಸೇವಿಸಿದಲ್ಲಿ ವೈದ್ಯರಿಗೆ ತೋರಿಸಿ
2	ತುಂಬಾ ಮಿಡಕಾರಿ	 ಹಳದಿ	"ಮಿಡ್"	ಮಕ್ಕಳಿಂದ ದೂರವಿಡಿ
3	ಸಾಧಾರಣ ಮಿಡಕಾರಿ	 ನೀಲಿ	ಆಪಾಯು	ಮಕ್ಕಳಿಂದ ದೂರವಿಡಿ
4	ಆಲ್ಪ ಮಿಡಕಾರಿ	 ಹಸಿರು	ಎಚ್ಚರ	ಮಕ್ಕಳಿಂದ ದೂರವಿಡಿ

ರೇಕ್ಕೆ ಹುಳುವಿನ ಮಳೆ ಬರುವ ಮುನ್ಸೂಚನೆ				
Dragon Fly as Indicator of rain				
ದಿನ Day	ಸಂಖ್ಯೆ No. of D.Flies	ಎತ್ತರ Height D.Flies flew	ಮಳೆಯ ಮಾಹಿತಿ Information about rain	
Sept-16	30	6 feet	X	ಮಳೆ ಬರುವುದಿಲ್ಲ
Sept-22	38	8 feet	X	ಮಳೆ ಬರುವುದಿಲ್ಲ
Sept-26	50	3 feet	O	ಮಳೆ ಬಂದ ದಿನ - Sept-26
Sept-30	45	3 feet	O	ಮಳೆ ಬಂದ ದಿನ - Sept-30
Oct-04	15	8 feet	X	ಮಳೆ ಬರುವುದಿಲ್ಲ
Oct-12	20	9 feet	X	ಮಳೆ ಬರುವುದಿಲ್ಲ
Oct-19	40	2 feet	O	ಮಳೆ ಬಂದ ದಿನ - Oct-20
Nov-16	10	9 feet	X	ಮಳೆ ಬರುವುದಿಲ್ಲ
O - ಮಳೆ ಬರುವ ಸಂಭವ Rained			X - ಮಳೆ ಬರುವುದಿಲ್ಲ No Rain	

- Google quenched the Thirst of Knowledge in students.
- Life Cycle, Habitat, evolutionary aspects, Behavior patterns and varieties of animals and plants.
- Threat to these type of organisms and solution for it
- Different techniques to trap the metadata
- Concept Maps and Mind Maps helped to construct the whole concept.

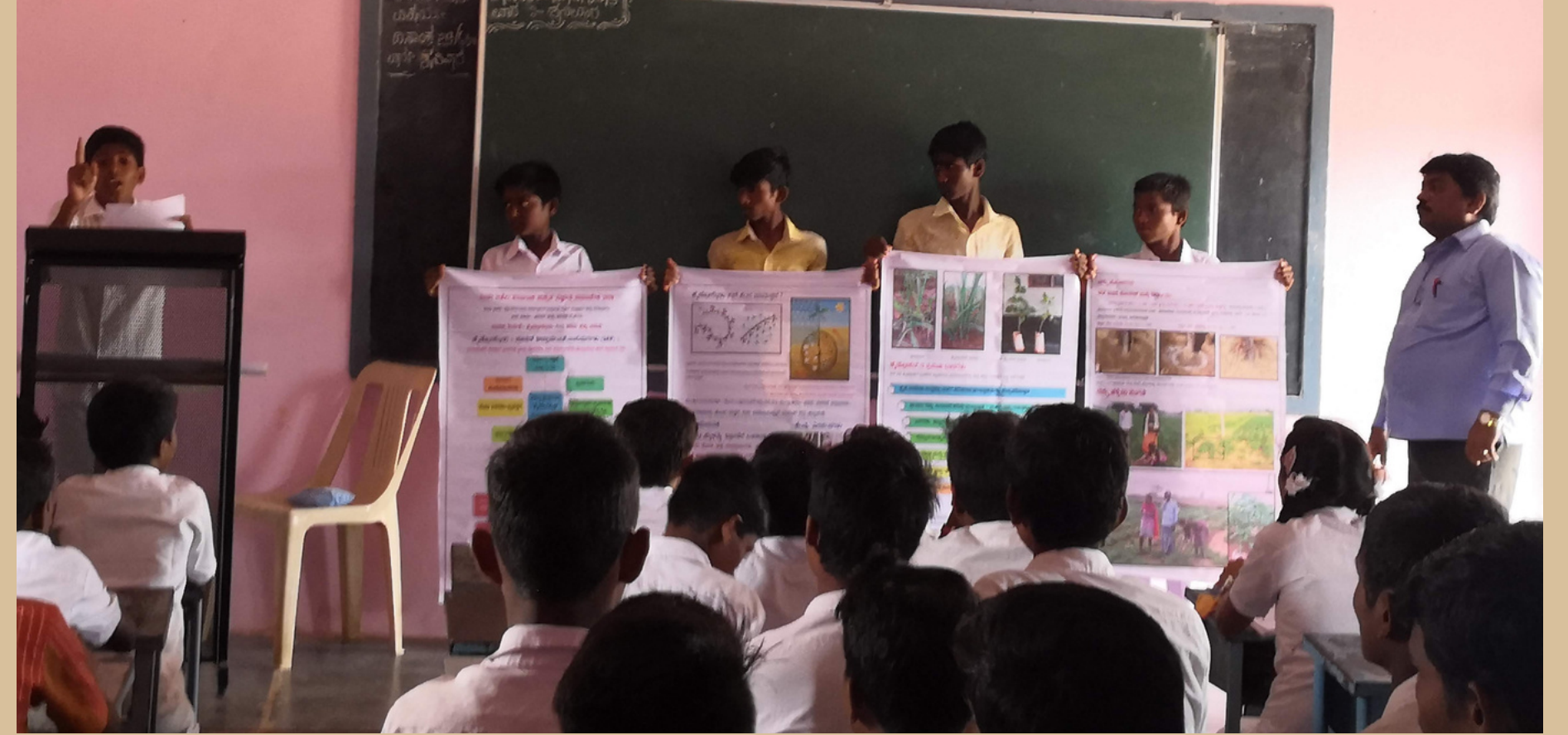


Some of the Best Research works of students:

- * Dragon fly as indicator of rain.**
- * E-SAP - Electronic Solutions for Agricultural Pests.**
- * HydroGels in Agriculture.**
- * Bunny plant a boon to soil.**



Research works of students:



Video submitted to Breakthrough juniors challenge contest for young scientists

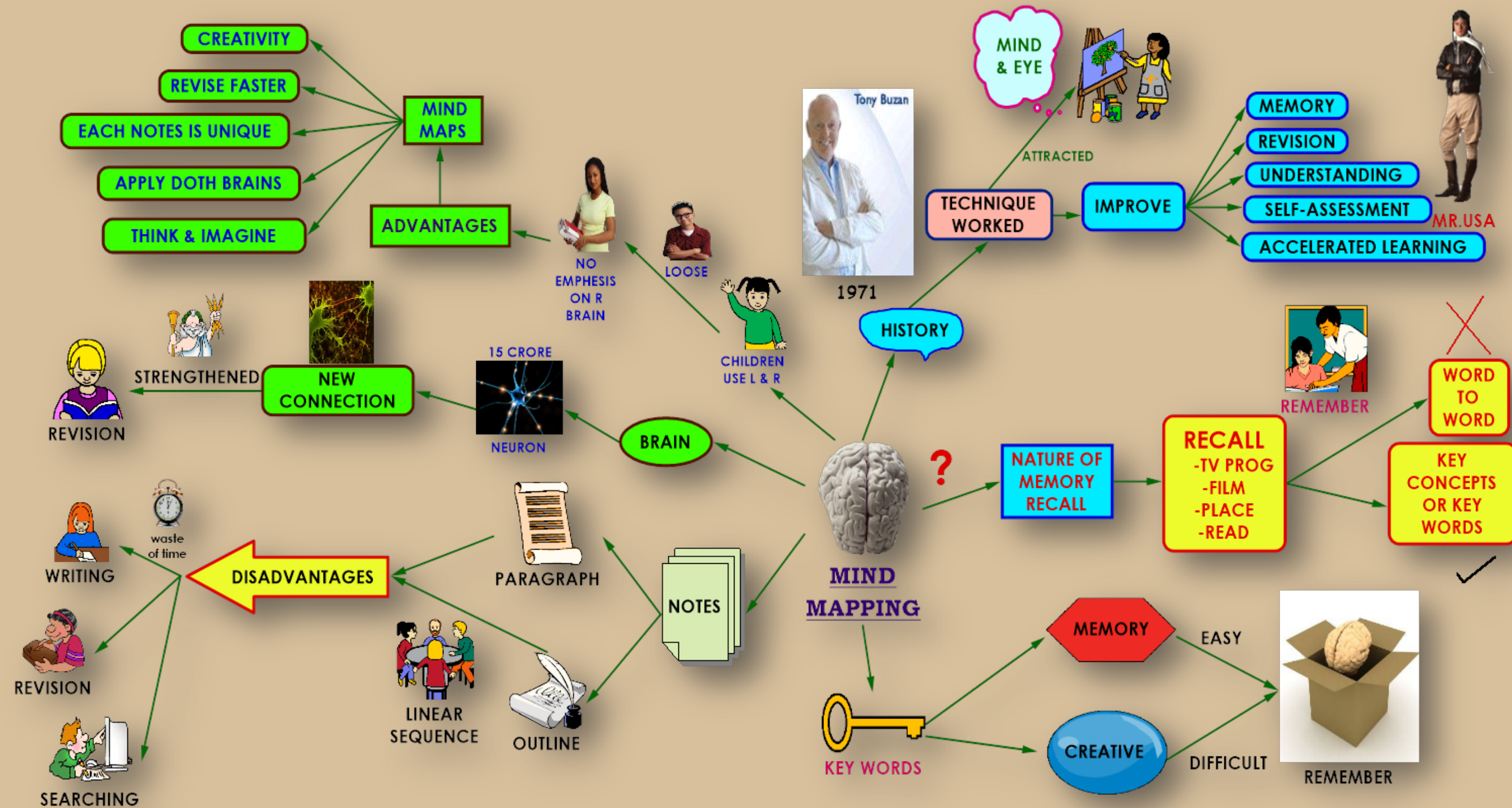


<https://www.youtube.com/watch?v=nscU5osbSHU>

Mapping our mind for better teaching and learning

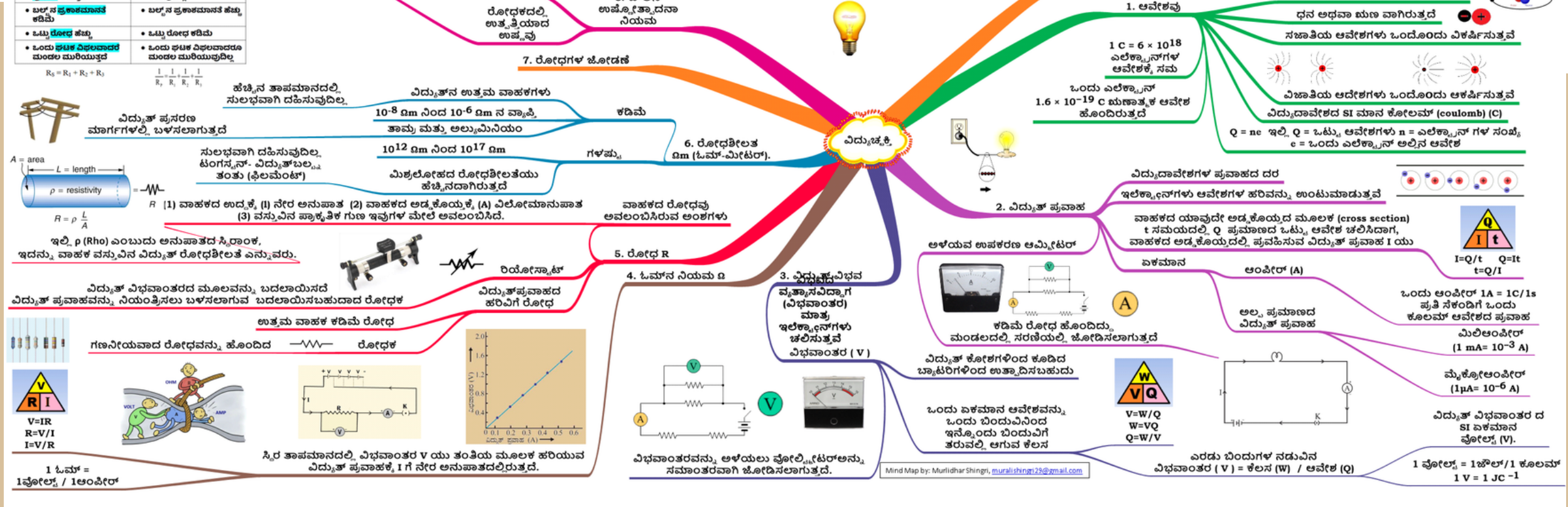
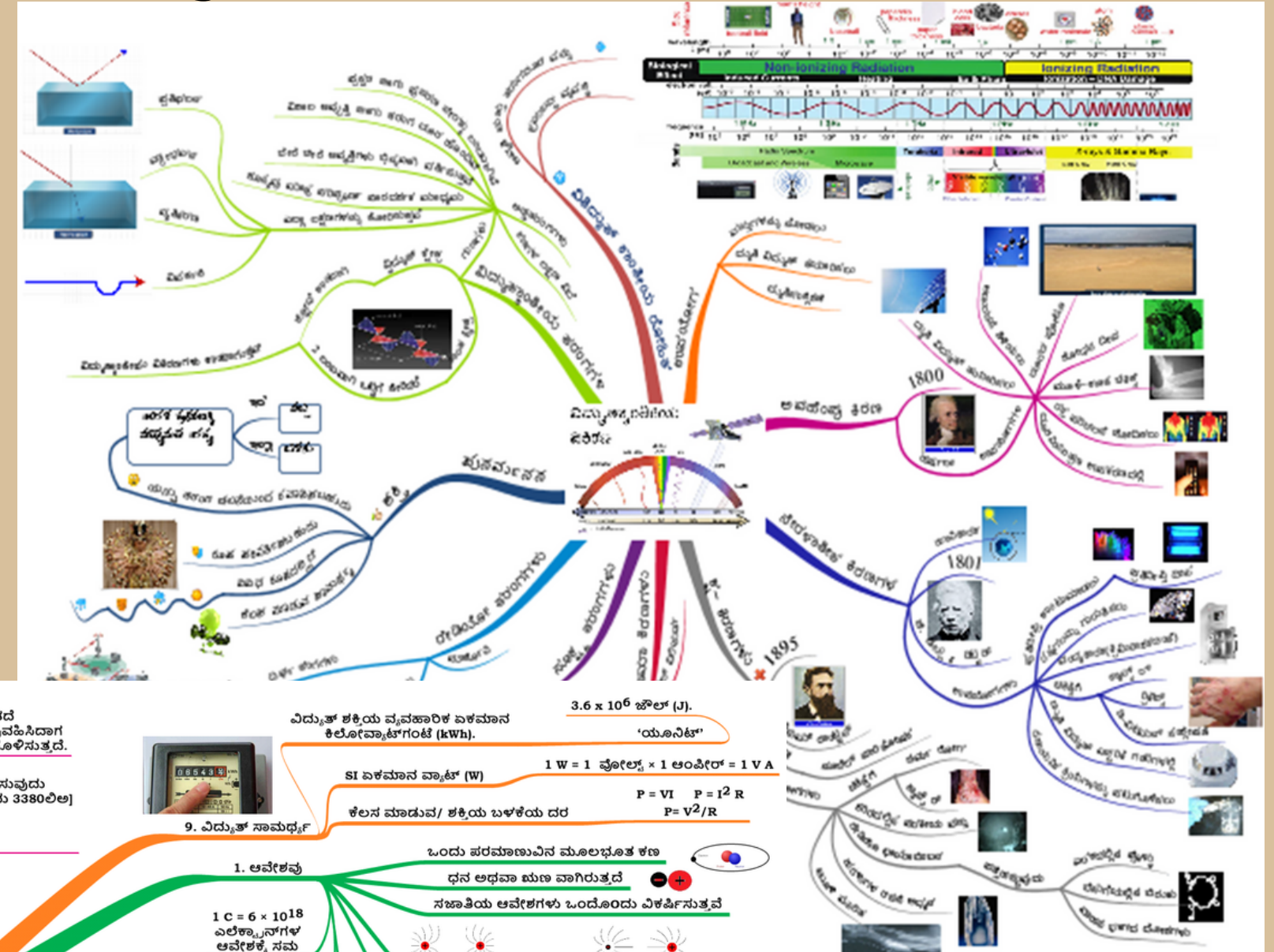
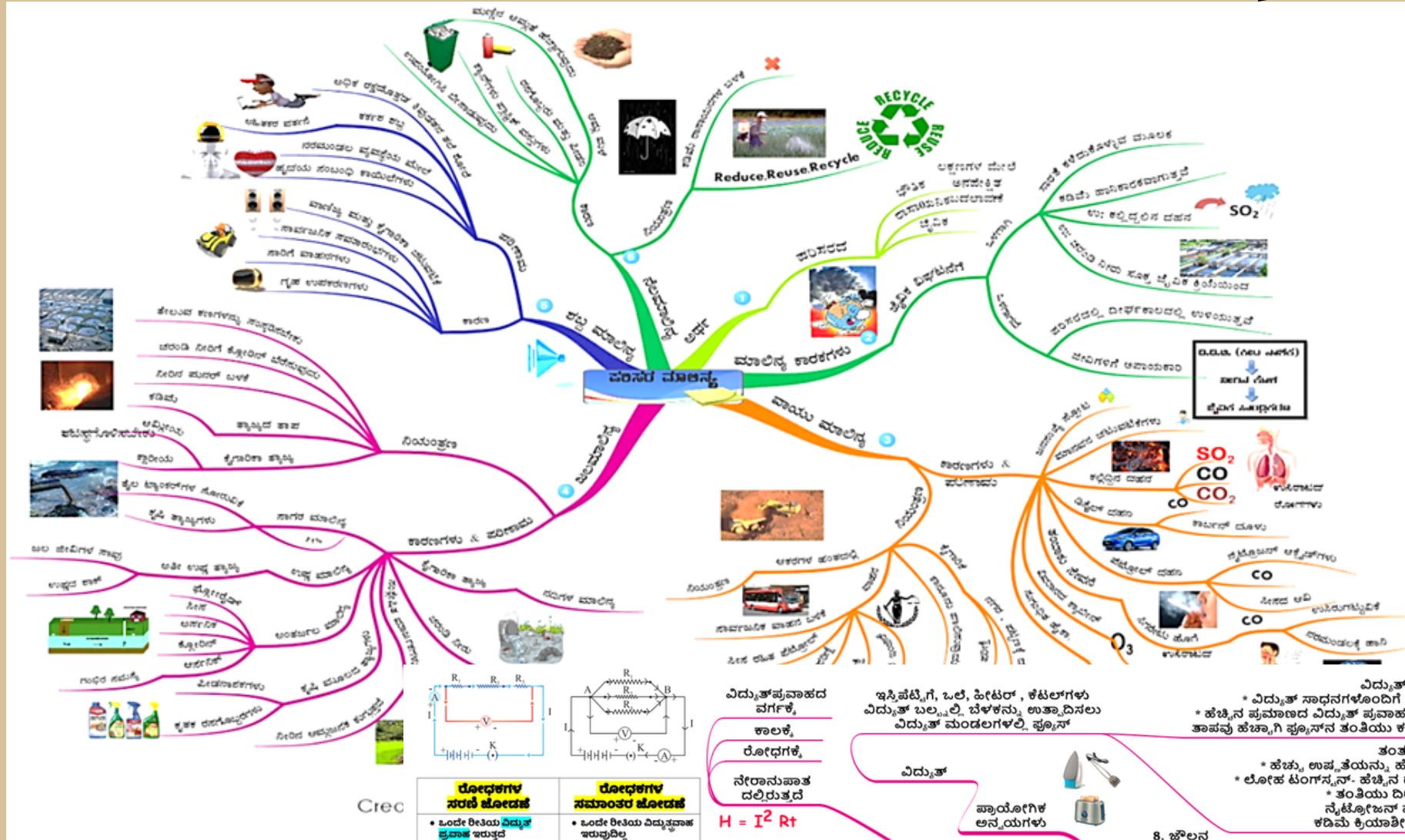
Using Mind Mapping experiences will help us figure out how to make learning come alive for our school students

Mind maps after collaborating with Computers are making wonders

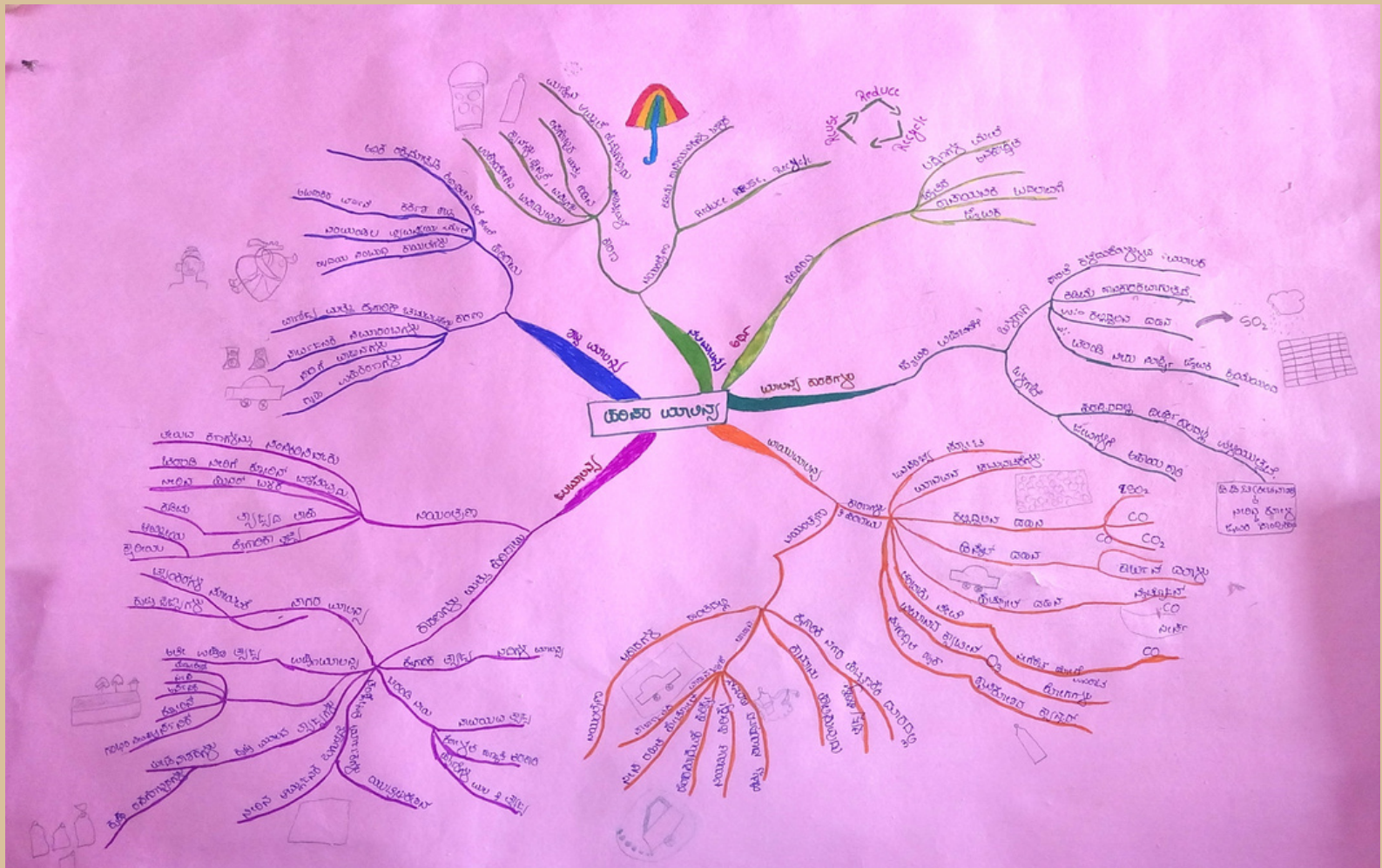
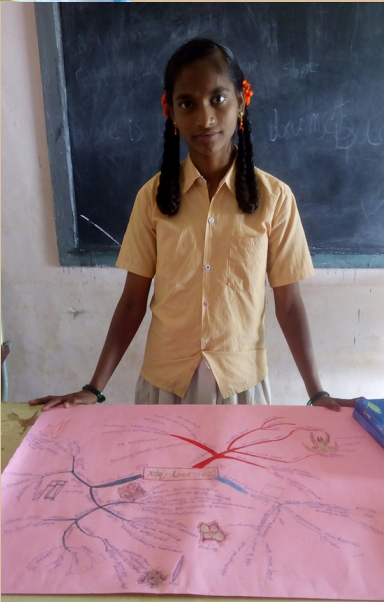
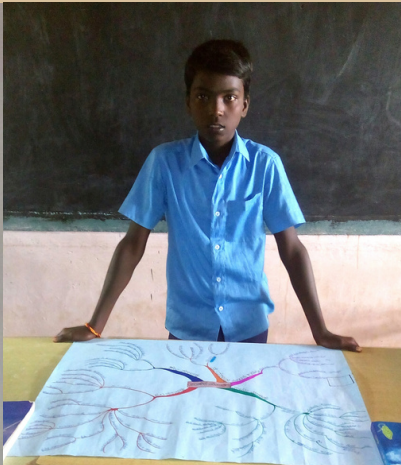
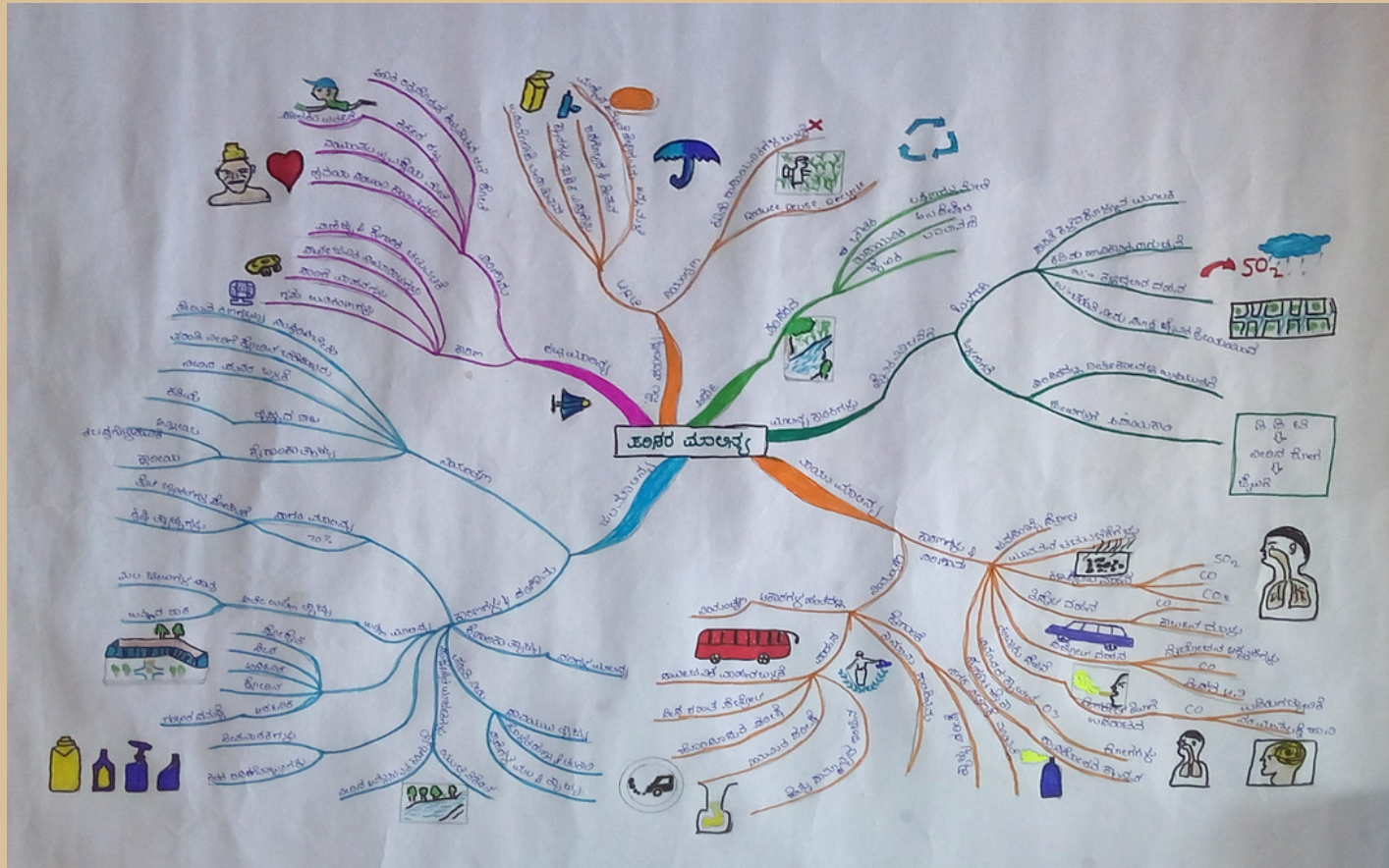
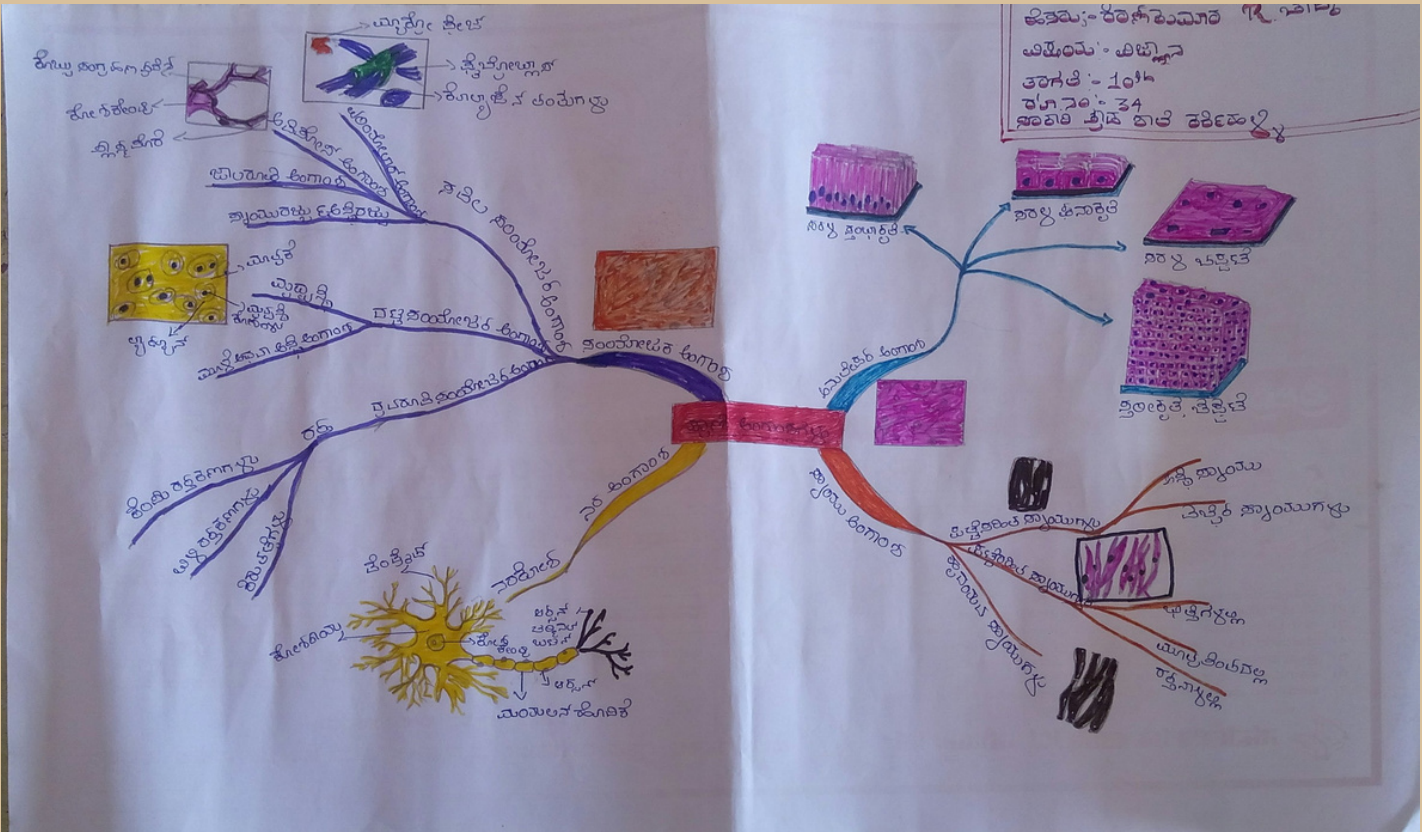


My first mind map in collaboration with ICT

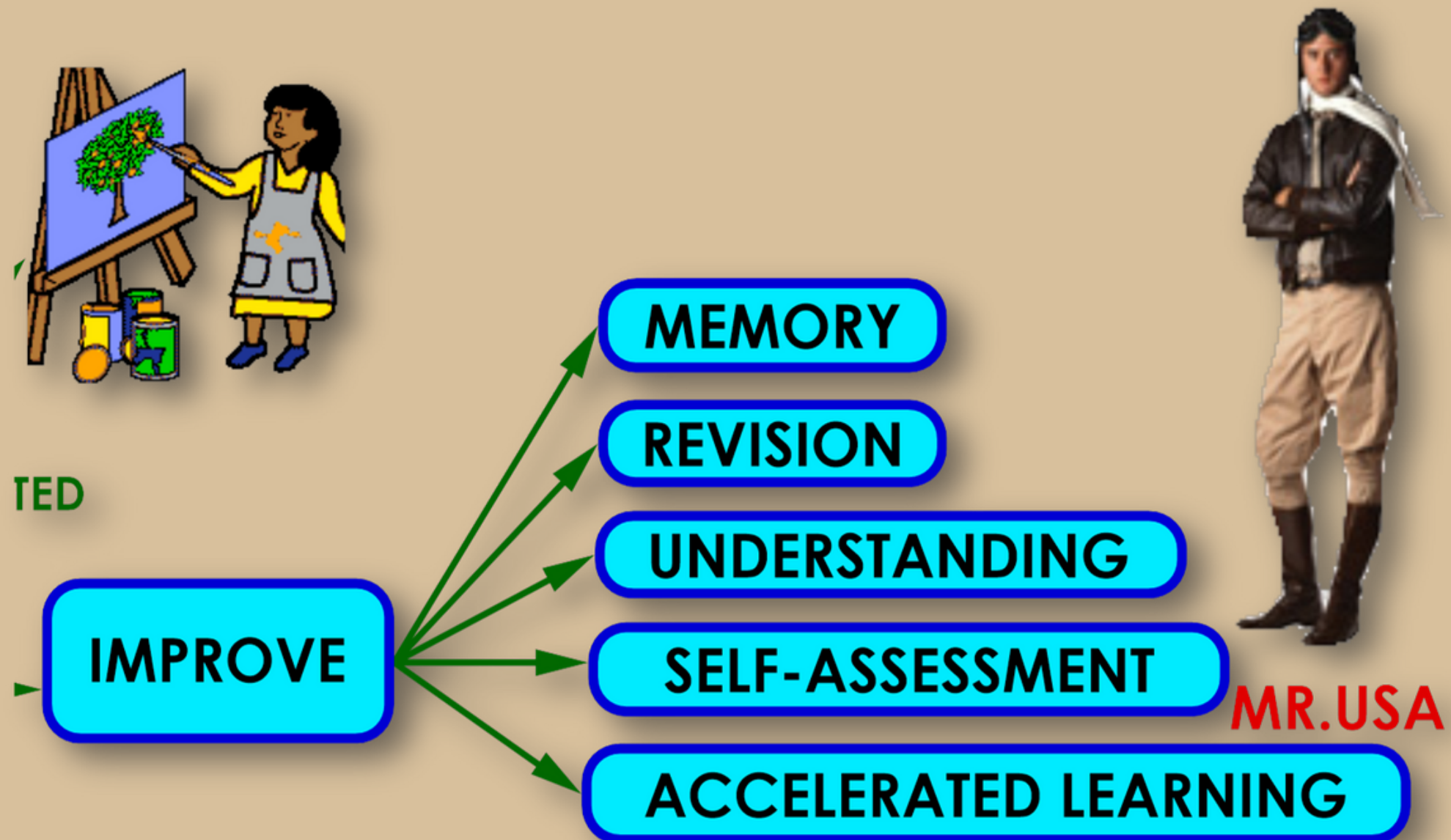
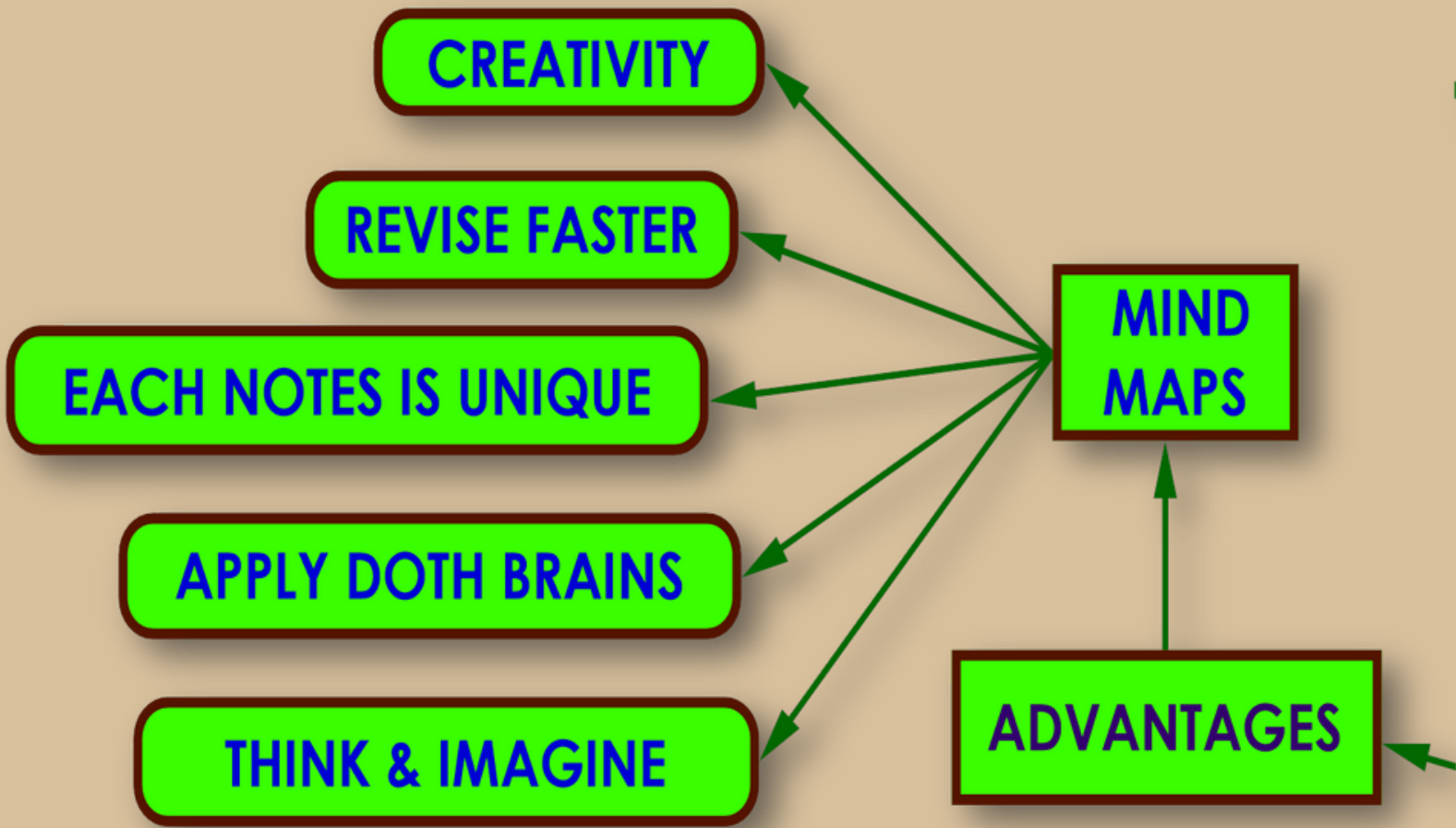
Mind Maps designed by me



Mind Maps designed by my students



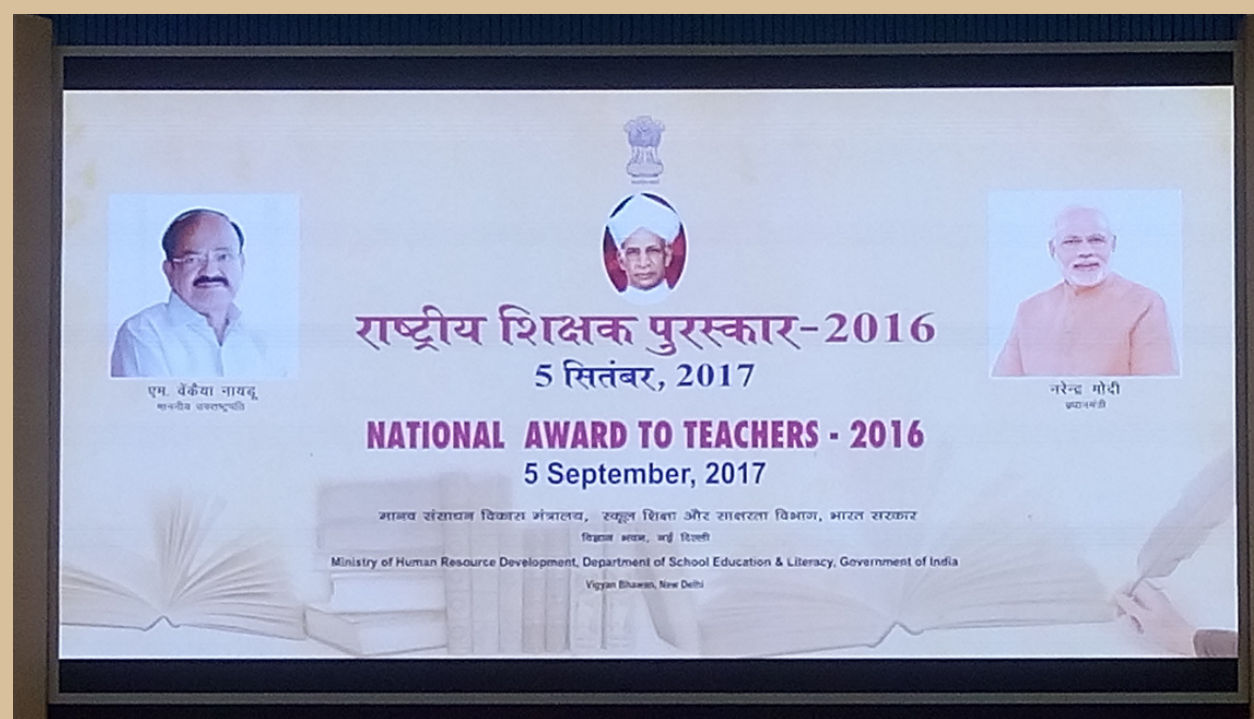
Mind map in collaboration with ICT and mnemonics and other teaching strategies can do wonders



National ICT Awardee Teacher-2016

Awarded by Shri M. Venkaiah Naidu, Honourable Vice President of India,
at Vijyan bhavan, NewDelhi on 05th of sept. 2017





Shri Ram Nath Kovind ji, Honourable Vice President of India. with awardees, in Ashok Hall at Rashtrapati bhavan



**Prof. Hrushikesh Senapaty, Director, NCERT,
Dr. Amarendra Behra, Joint Director, NCERT, New Delhi,
Giving away the ICT Awardee Gift package at
CIET, New Delhi. 07-09-2017**



ICT Awardee Gift package, medal and certificate





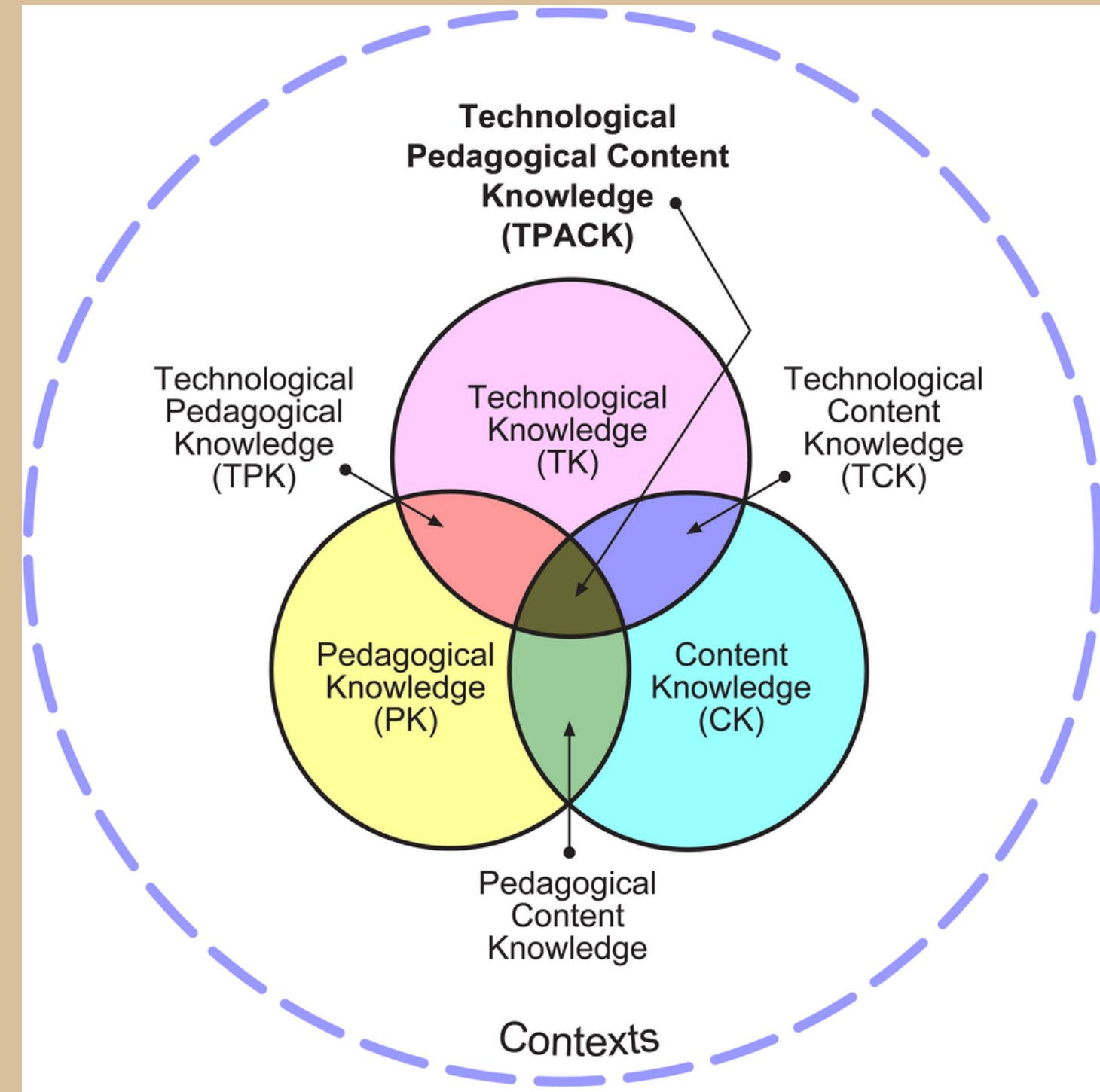
**ICT Training program for National ICT
awardees of Southern and Eastern
region for building the capacity of ICT
Awardees as mentors at National level
on the ICT pedagogy integration at
national level**

**RIE, Mysore from 28th December, 2017
to 6th January, 2018.**



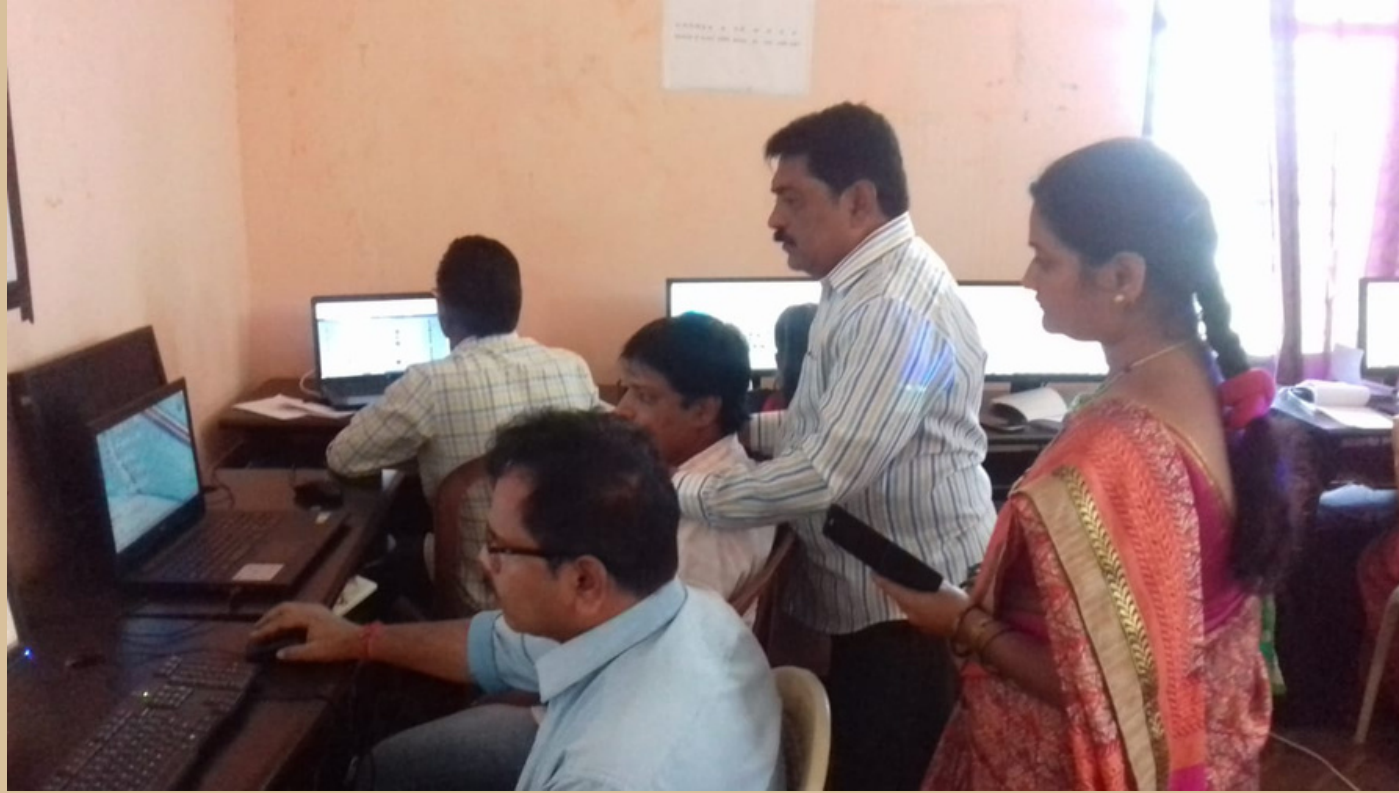
TPACK: Technological Pedagogical Content Knowledge Framework

TPACK framework, which focuses on Technological Knowledge (TK), Pedagogical Knowledge (PK), and Content Knowledge (CK),



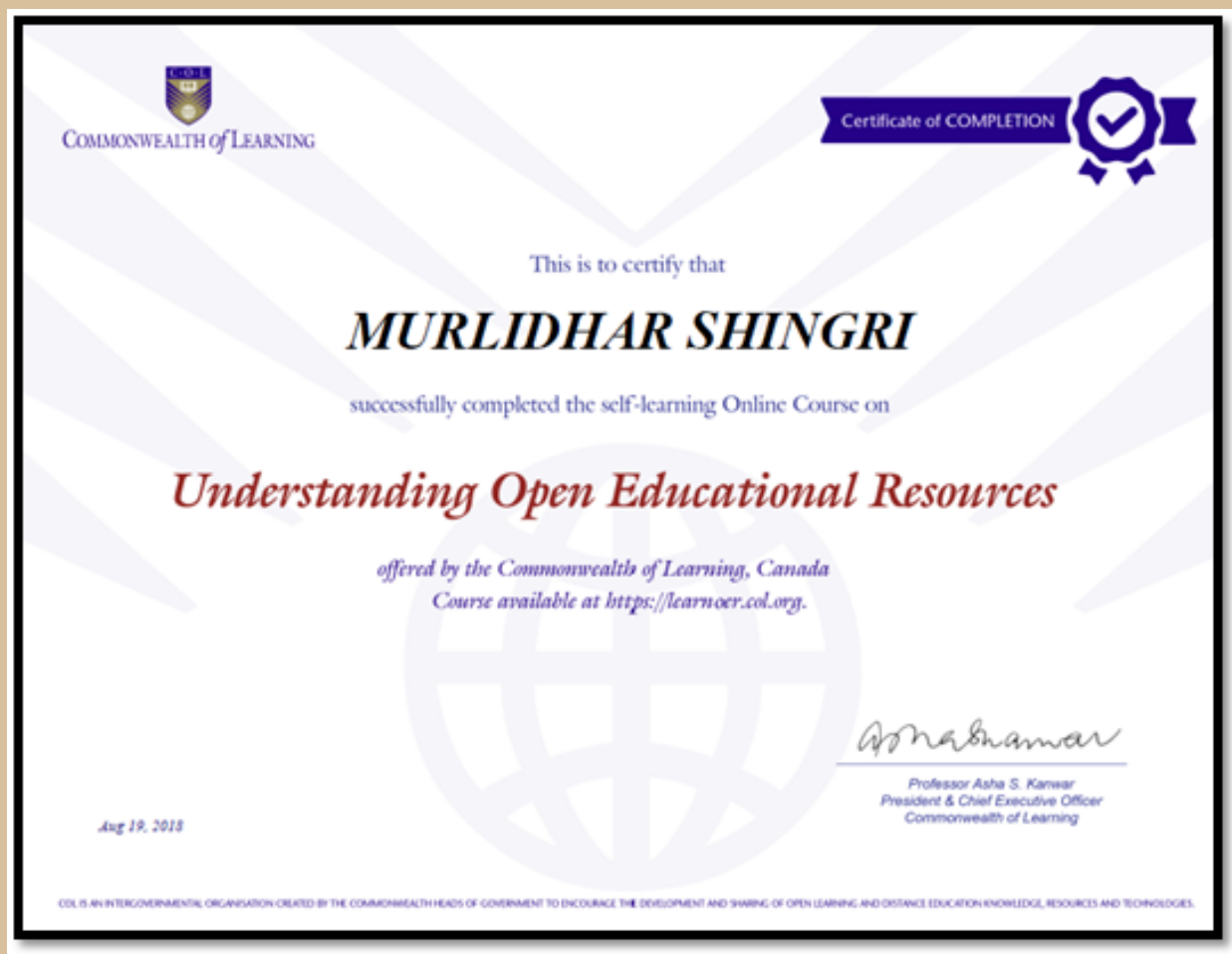
RIE, Mysore from 28th December, 2017 to 6th January, 2018.

State Resource Person and Master Resource Person for TALP (Technology Assisted Learning Program) : Trained and evaluated the work of 100s of teachers through DIET Munirabad, Koppal and DSERT , Bangalore and CIET, New Delhi.









TRANSCRIPT

accenture

Murlidhar Shingri

has completed the following course:

DIGITAL SKILLS: MOBILE
ACCENTURE

71%
AVERAGE TEST
SCORE

In 2016, mobile use overtook desktop use. This course explored the meaning of mobile technology and its growth and benefits. It provided an introduction to mobile design concepts and development approaches, and outlined the seven principles underpinning the design of an effective mobile application. The concept of the Internet of Things (IOT) was also explained, including the associated benefits and challenges.

• The Internet of Things

STUDY REQUIREMENT

2 weeks, 2 hours per week

LEARNING OUTCOMES

- Describe what mobility is in the context of digital
- Describe the growth of mobility and benefits associated with it
- Describe what mobile design is, including concepts such as wireframes
- Identify seven principles of good mobile app design and the importance of effective design
- Describe what the 'Internet of Things' is and some of the benefits associated with it
- Identify security risks related to the 'Internet of Things'

SYLLABUS

Week 1: The rise in mobile technology

- What is mobility?
- The benefits of mobility
- Mobile technology growth
- Wearable technology

Week 2: Mobility in practice

- Mobile design principles
- Building mobility - core development approaches

This transcript should be read alongside the accompanying Certificate of Achievement. For more information about transcripts visit futurelearn.com. Issued 11th June 2019. futurelearn.com/certificates/pyycslu

Future Learn

Future Learn

Certificate of Achievement

Murlidhar Shingri

has completed the following course:

DIGITAL SKILLS: MOBILE
ACCENTURE

This online course described the importance of mobile in an ever-evolving digital world. It provided an introduction to mobile design, development and creating mobile experiences, as well as bigger concepts related to mobile technology.

2 weeks, 2 hours per week

Michael R Hobbs

Michael Hobbs
Lead Educator
Accenture

accenture

The person named on this certificate has completed the activities in the attached transcript. For more information about Certificates of Achievement and the effort required to become eligible, visit futurelearn.com/proof-of-learning/certificate-of-achievement.

This learner has not verified their identity. The certificate and transcript do not imply the award of credit or the conferment of a qualification from Accenture.

Issued 11th June 2019. futurelearn.com/certificates/pyycslu

Karnataka State Eligibility Test Center (KSET)

ಕರ್ನಾಟಕ ರಾಜ್ಯ ಅರ್ಹತಾ ಪರೀಕ್ಷಾ ಕೇಂದ್ರ (ಕೆಎಸ್‌ಇಟಿ)



Moulya Bhavan, University of Mysore, Mysore - 570 006
ಮೌಲ್ಯ ಭವನ, ಮೈಸೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ, ಮೈಸೂರು - 570 006
(Accredited by UGC / ಯು.ಜಿ.ಸಿ ಯಿಂದ ಮಾನ್ಯತೆ ಪಡೆದಿದೆ)



STATE ELIGIBILITY TEST (SET) FOR LECTURER / ASSISTANT PROFESSORSHIP
2048 ರಾಜ್ಯ ಉಪನ್ಯಾಸಕರ ಹುದ್ದೆಗಳಿಗೆ ಅರ್ಹತಾ ಪರೀಕ್ಷೆ

Mr./Ms MURLIDHAR

Son / Daughter of Smt. SHAKUNTALA C SHINGRI (Mother) and
Sri CHANDANASA SHINGRI (Father) has qualified the
Karnataka State Eligibility Test (KSET) for Lecturer / Assistant Professorship
held on 11th December 2016

ಇವರು 11ನೇ ಡಿಸೆಂಬರ್, 2016 ರಂದು ಕರ್ನಾಟಕ ರಾಜ್ಯ ಉಪನ್ಯಾಸಕರ ಹುದ್ದೆಗಳಿಗೆ ನಡೆದ ಪರೀಕ್ಷೆಯಲ್ಲಿ
(ಕೆಎಸ್‌ಇಟಿ) ಅರ್ಹತೆ ಪಡೆದಿರುತ್ತಾರೆ

Subject in KSET Life Science
ಕೆಎಸ್‌ಇಟಿಯಲ್ಲಿ ಪಠ್ಯ ವಿಷಯ



This Certificate is valid for ever
ಈ ಪ್ರಮಾಣ ಪತ್ರವು ಸದಾ ಮಾನ್ಯತೆ ಪಡೆದಿರುತ್ತದೆ



Roll No : F6280234
ರೋಲ್ ನಂಬರ್ :

Date of issue : 03/04/2017
ವಿತರಿಸಿದ ದಿನಾಂಕ :



Prof. H. Rajashekar
Member Secretary, KSET Center
ಸದಸ್ಯ ಕಾರ್ಯದರ್ಶಿ, ಕೆಎಸ್‌ಇಟಿ ಕೇಂದ್ರ



Prof. Dayanand Mane
Chairman, KSET Center
ಅಧ್ಯಕ್ಷರು, ಕೆಎಸ್‌ಇಟಿ ಕೇಂದ್ರ

Note / ಸೂಚನೆ :

This Certificate comes into effect from the date of issue, the date on which the KSET results have been announced.
ಈ ಪ್ರಮಾಣ ಪತ್ರವು ವಿತರಿಸಿದ ದಿನಾಂಕದಿಂದ ಜಾರಿಗೆ ಬರುತ್ತದೆ, ಇದು ಕೆಎಸ್‌ಇಟಿ ಪರೀಕ್ಷೆಯ ಫಲಿತಾಂಶ ಪ್ರಕಟಿಸಿದ ದಿನಾಂಕವಾಗಿರುತ್ತದೆ.

Candidate who have not passed master degree must complete with required percentage of Marks within two years from the date of examination.
ಸುತ್ತಿಕೊಂಡಿರದ ಪರೀಕ್ಷೆಯಲ್ಲಿ ತೇರ್ಗಡೆಯಾಗದ ಅಭ್ಯರ್ಥಿಗಳು ಈ ಪರೀಕ್ಷೆಯ ನಡೆದ ದಿನಾಂಕದಿಂದ ಎರಡು ವರ್ಷಗಳಲ್ಲಿ ನಿಗದಿತ ಶೇಕಡಾ ಅಂಕಗಳೊಂದಿಗೆ ತೇರ್ಗಡೆಯಾಗಬೇಕು.

The recruitment Authority / Institution must verify the original records of the Candidate while considering for appointment and the KSET Center is not responsible for information provided by the candidates.
ಅಭ್ಯರ್ಥಿಯನ್ನು ನೇಮಕತೆ ಪ್ರಾರ್ಥಿಸುವ / ಸಂಸ್ಥೆಗಳು ನೇಮಕ ಮಾಡುವ ಸಂದರ್ಭದಲ್ಲಿ ಮೂಲ ದಾಖಲೆಗಳನ್ನು ಪರಿಶೀಲಿಸಬೇಕು. ಅಭ್ಯರ್ಥಿಗಳು ಸಲ್ಲಿಸಿದ ಮಾಹಿತಿಗೆ ಕೆಎಸ್‌ಇಟಿ ಕೇಂದ್ರವು ಜವಾಬ್ದಾರಿಯುಳ್ಳದ್ದಿಲ್ಲ.

Certificate of Completion

This is to certify that

Ms./ Mr. Muralidhar Shingri, ICT Awardee

has Successfully Completed online course 'Induction-1 ICT in Education - Basic' (120 hours)
of ICT in Education Curriculum Conducted by Central Institute of Educational Technology (CIET),
NCERT, New Delhi

He/she is now a 'Certified Key Resource Person (KRP)' for the course on ICT in
Education - Basic (Induction - I)

abehera

Prof. Amarendra Prasad Behera
Joint Director
CIET-NCERT

Angel

Dr. Angel Rathnabai
Asstt. Prof. & Programme Coordinator
CIET - NCERT

Indu Kumar

Prof. Indu Kumar
Head, DICT & TD
CIET - NCERT



CERTIFICATE

This is to certify that

Ms./ Mr./ Dr./ Prof. Muralidhar Shingri, National ICT Awardee, Assistant Teacher

of Government High School, Karkihalli, Taluq, Koppal, Karnataka

has contributed as resource person in the webinar Conducted by the Central Institute of Educational Technology (CIET) - NCERT, New Delhi, during COVID - 19

Title: Creating Digital Story using Olive

Date: August 30, 2020

Prof. Amarendra Prasad Behera
Joint Director
CIET - NCERT

Dr. Angel Rathnabai
Asstt. Prof. & Programme Coordinator
CIET - NCERT

Prof. Indu Kumar
Head, DICT & TD
CIET - NCERT



1st International Conference on Emerging Trends in ICT in Education

conducted virtually by
CIET-NCERT, New Delhi from March 24 - 26, 2021

CERTIFICATE OF PARTICIPATION

This is to certify that

Ms./ Mr./ Dr./ Prof.Murlidhar Shingri, Assistant Science Master

of Government High School, Karkihalli- Tq, Koppal has actively participated

in the conference.

Prof. Amarendra P. Behera
Joint Director
CIET - NCERT

Dr. Angel Rathnabai
Asstt. Prof. & Conference Coordinator
CIET - NCERT

Dr. Bharti
Head, DICT & TD
CIET - NCERT

Interacted with teachers online Universal Teachers Academy. during Covid pandemic



ICT helped our teacher community a lot
created videos of difficult lessons



ವಿದ್ಯಾಚಕ್ರಿ

ಪಾಠದಲ್ಲಿನ ಉಪಘಟಕಗಳು:

1. ಆವೇಶ
2. ವಿದ್ಯುತ್ ಪ್ರವಾಹ
3. ವಿದ್ಯುತ್ ವಿಭವ
4. ಓಮನ ನಿಯಮ
5. ರೋಧ
6. ರೋಧಶೀಲತೆ
7. ರೋಧಗಳ ಜೋಡಣೆ
8. ಜಾಲನ ಉಷ್ಣೋತ್ಪಾದನಾ ನಿಯಮ
9. ವಿದ್ಯುತ್ ಸಾಮರ್ಥ್ಯ

ವಿದ್ಯಾಚಕ್ರಿ

Murlihar Shingri E-Mail: muralishingri29@gmail.com

created pictographs of difficult lessons and shared with the students

[illegible][illegible]

ಧಾತುಗಳ ಅವರ್ತನೀಯ ವರ್ಗೀಕರಣ

ಮಾನವಿಕಲ್ಪವು ಗುಣಗಳ ಅಧಾರದ ಮೇಲೆ ವರ್ಗೀಕರಣ ಮಾಡುವ ರೀತಿ, ವಿಧವಾಗಿರುತ್ತದೆ. ಧಾತುಗಳನ್ನು ಗುಣಗಳಿಗನುಸಾರವಾಗಿ ವರ್ಗೀಕರಣ ಮಾಡುವ ಹಲವಾರು ಪ್ರಯತ್ನಗಳನ್ನು ಮಾಡಿವೆಂಬುದು- ಗೊಂದಲದಿಂದ ಕ್ಷಮಬದ್ಧ ಲೋಹತತ್ವದರ್ಶಿ - ಧಾತುಗಳ ವರ್ಗೀಕರಣ ಅರಾರಿದ ಕ್ಷಯತ್ವಗಳನ್ನು - ಲೋಹದೈವತಾ ಪ್ರವರ್ತಿಗಳು, ಸ್ವಲ್ಪಾಂಶವು ಅವರ್ತಗಳ ವಿರುದ್ಧ, ಮೇಲರೀತಾ ಮೂಲದಿಂದ ಅಕ್ಷರವೆ ಲೋಹವೆ

“ಲೋಹದೈವತಾ ಪ್ರವರ್ತಿ” 1817ರಲ್ಲಿ ಜರ್ಮನಿಯ ಕಡುವುಡೆ ಪಟ್ಟಣದ ಲೋಹದೈವತಾ ಪ್ರವರ್ತಿ, ಒಂದೇ ರೀತಿಯ ಗುಣಗಳನ್ನು ಹೊಂದಿರುವ ಹಲವು ಲೋಹ ಧಾತುಗಳಿರುವ ಕೆಲವು ಧಾತುಗಳ ಗುಂಪುಗಳನ್ನು ಗುರುತಿಸಿದರು.



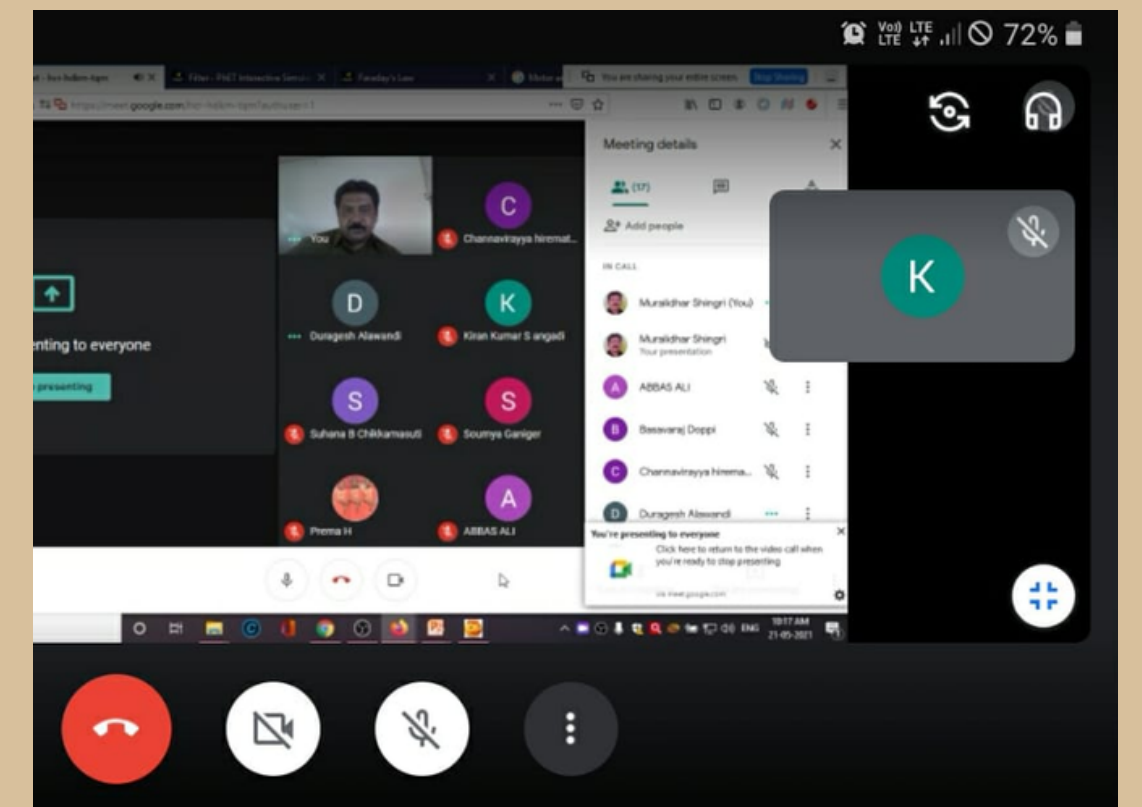
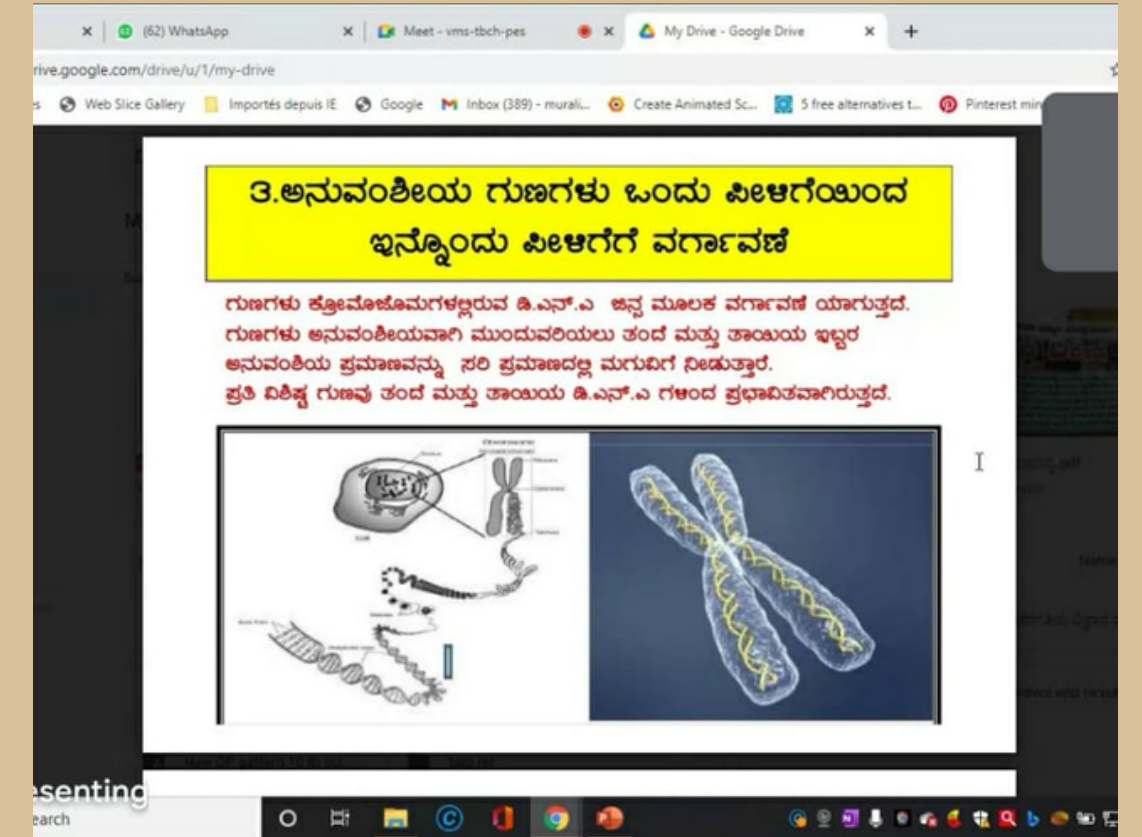
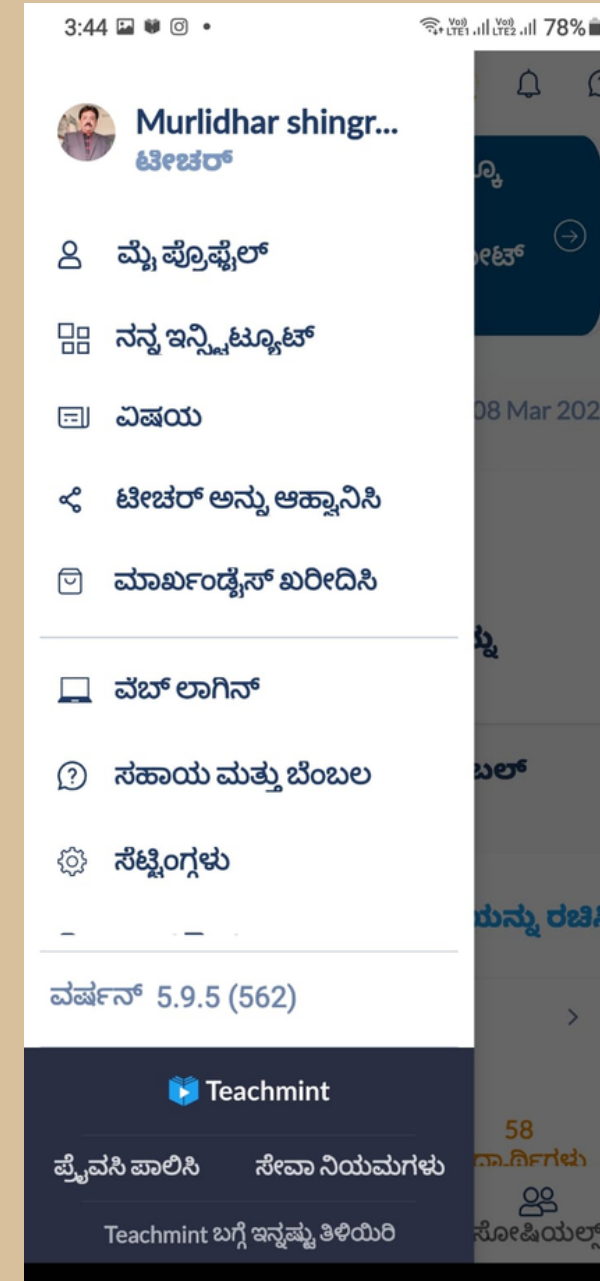
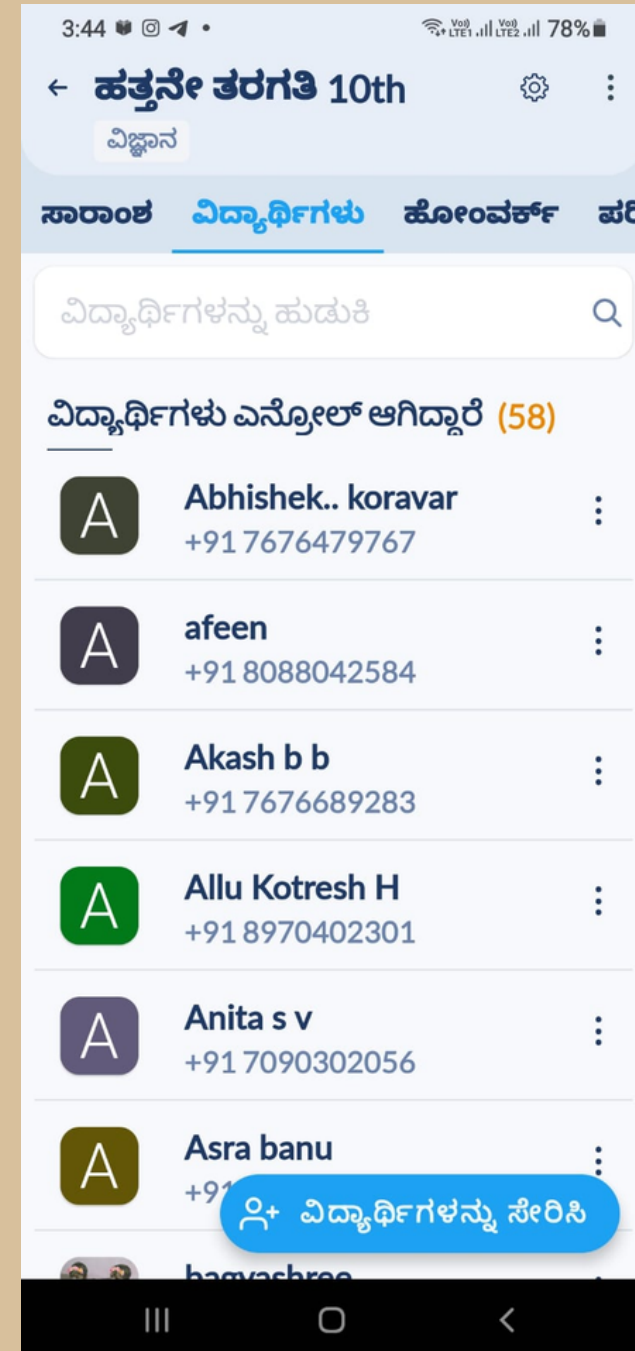
$$\frac{A+C}{2} = B$$

	ಧಾತುಗಳು	ವ.ರಾಶಿ	ಧಾತುಗಳು	ವ.ರಾಶಿ	ಧಾತುಗಳು	ವ.ರಾಶಿ
A	ಲಿಥಿಯಂ (Li)	6.9	ಕ್ಯಾಲ್ಸಿಯಂ (Ca)	20.0	ಸ್ಟ್ರಾಂಟಿಯಂ (Sr)	87.6
B	ಸೋಡಿಯಂ (Na)	22.9	ಬ್ಯಾರಿಯಂ (Ba)	137.3	ರೇಡಿಯಂ (Ra)	226
C	ಪೊಟ್ಯಾಸಿಯಂ (K)	39.0	ಸೆಸಿಯಿಯಂ (Cs)	132.9	ಫ್ರಾನ್ಸಿಯಂ (Fr)	223

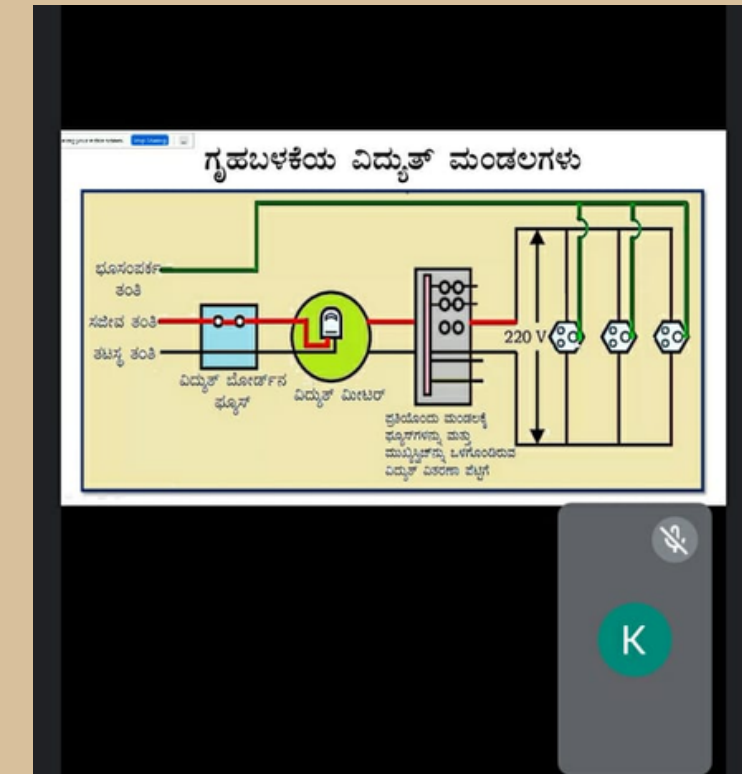
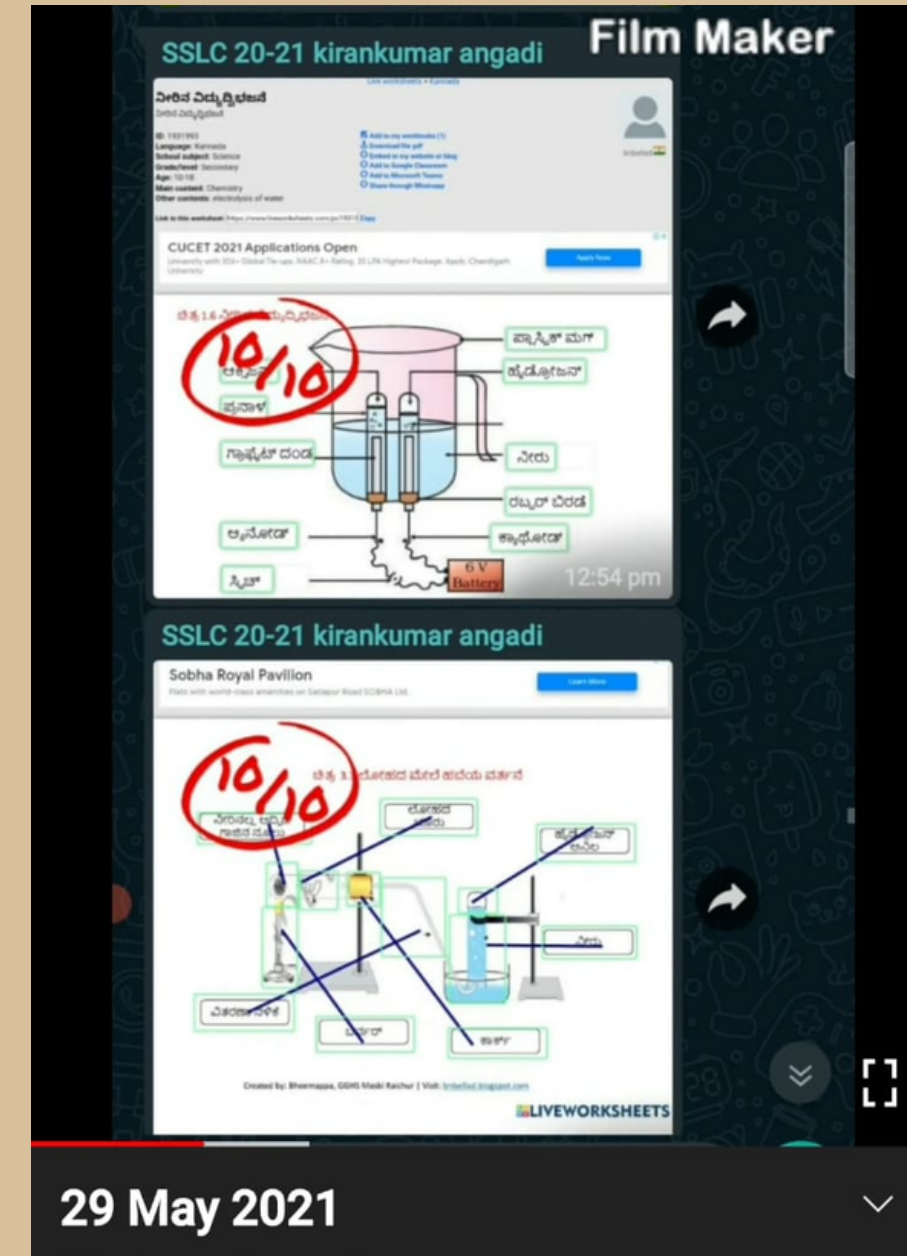
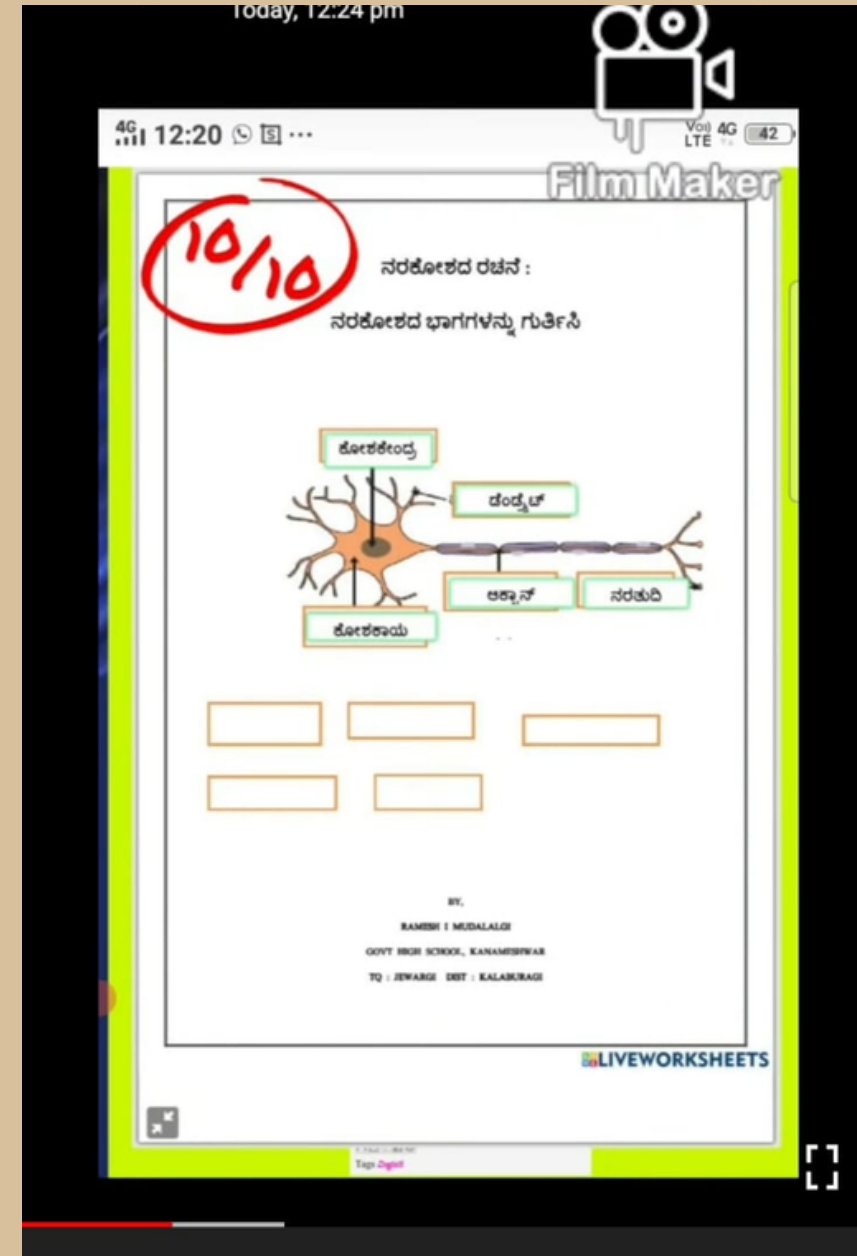
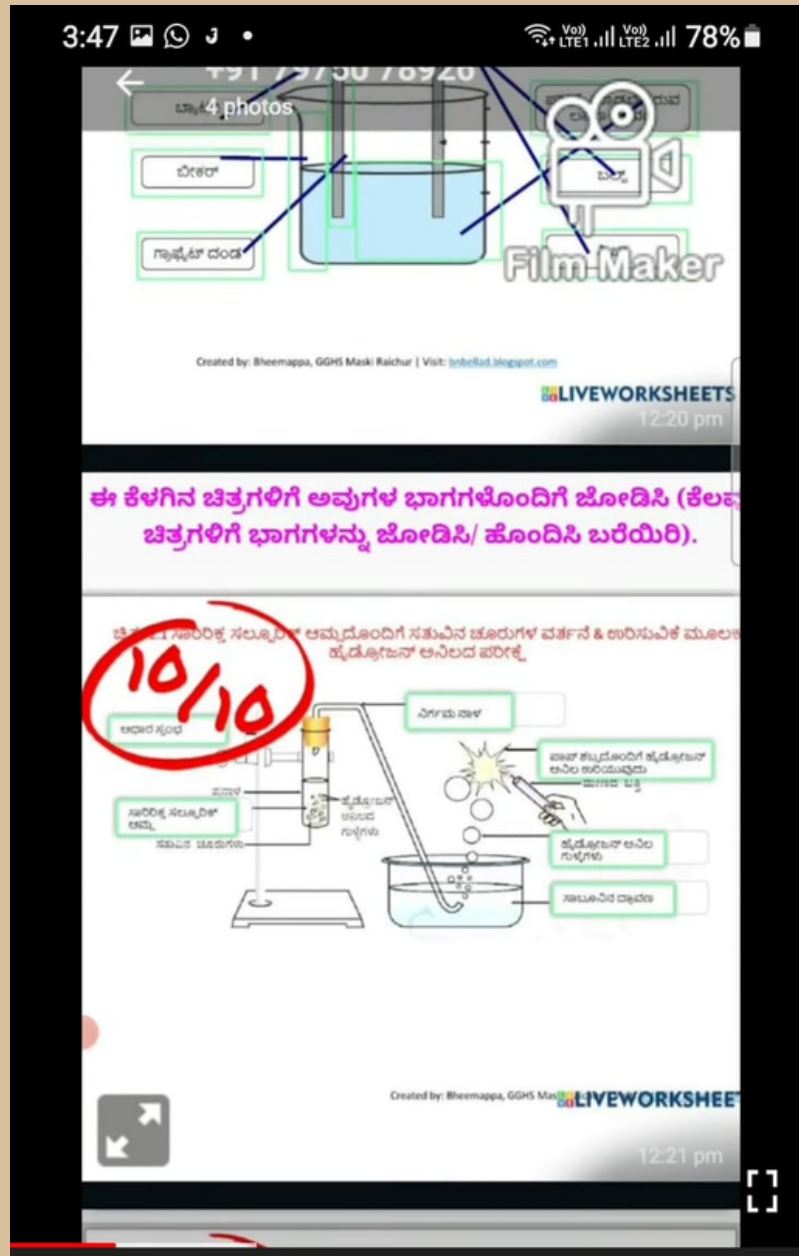
ಈ ಪ್ರವರ್ತಿಗಳಿಗೆ ಮಧ್ಯಮ ಧಾತುವಿನ ಪರಮಾಣು ರಾಶಿಯ ಉತ್ತರಿಸಿದ ಧಾತುಗಳ ಪರಮಾಣು ರಾಶಿಗಳ ಸರಾಸರಿಗೆ ಸಮಾನವಾಗಿರುತ್ತದೆ.

ಇ ಹಲವರಲ್ಲಿ ತಿಳಿದಿದ್ದ ಧಾತುಗಳಲ್ಲಿ ಈಗಲು ಮೂರು ಪ್ರವರ್ತಿಗಳನ್ನು ಮಾತ್ರ ಗುರುತಿಸಲು ಲೋಹದೈವತಾಪ್ರವರ್ತಿಗೆ ಪಾತ್ರವಾಯಿತು. ಇದುದರಿಂದ ಧಾತುಗಳನ್ನು ಪ್ರವರ್ತಿಗಳಾಗಿ ವರ್ಗೀಕರಿಸುವ ಮಧ್ಯೆ ಅನವಶ್ಯಕವೆನಿಸಿರುತ್ತದೆ.

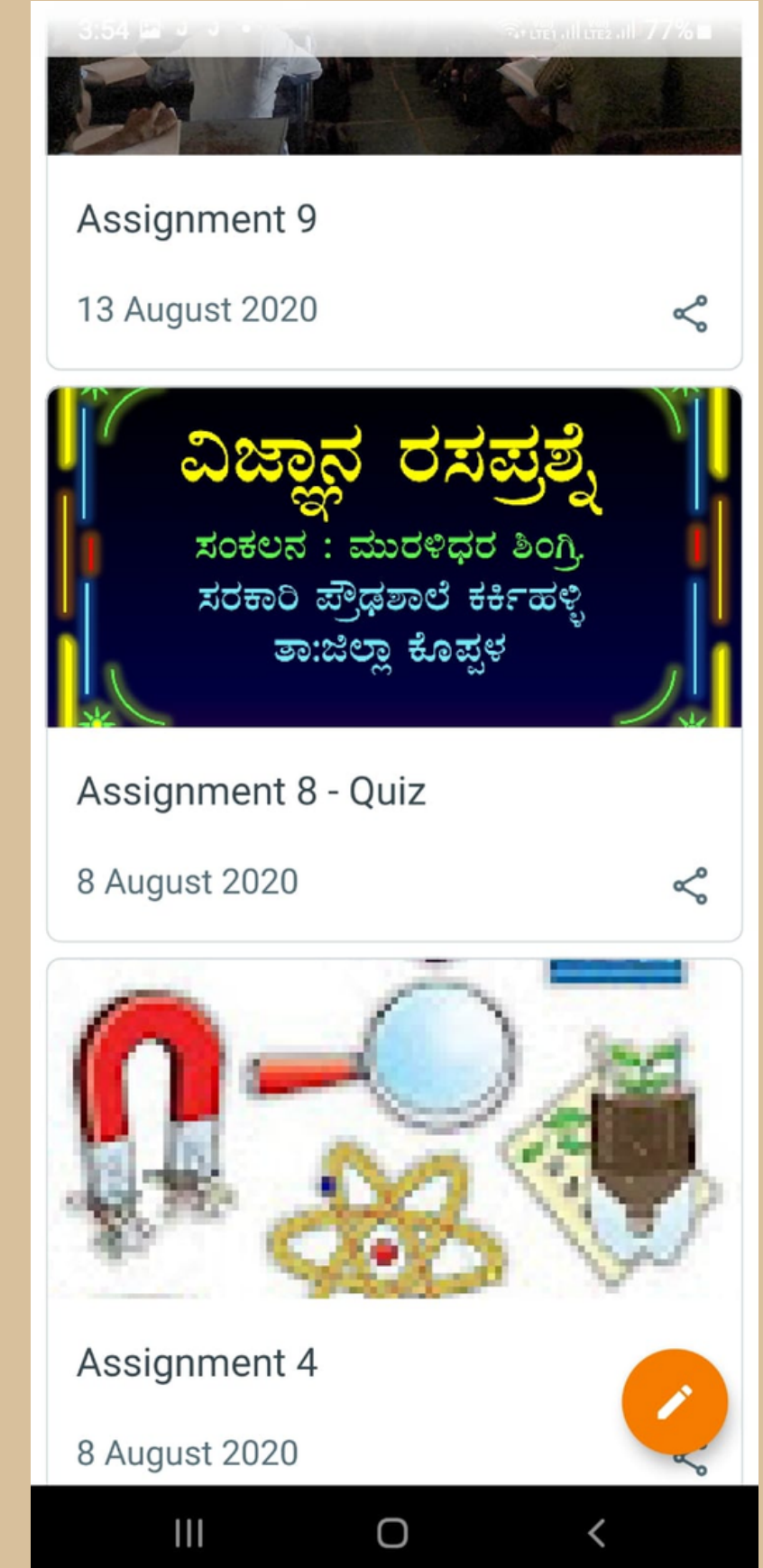
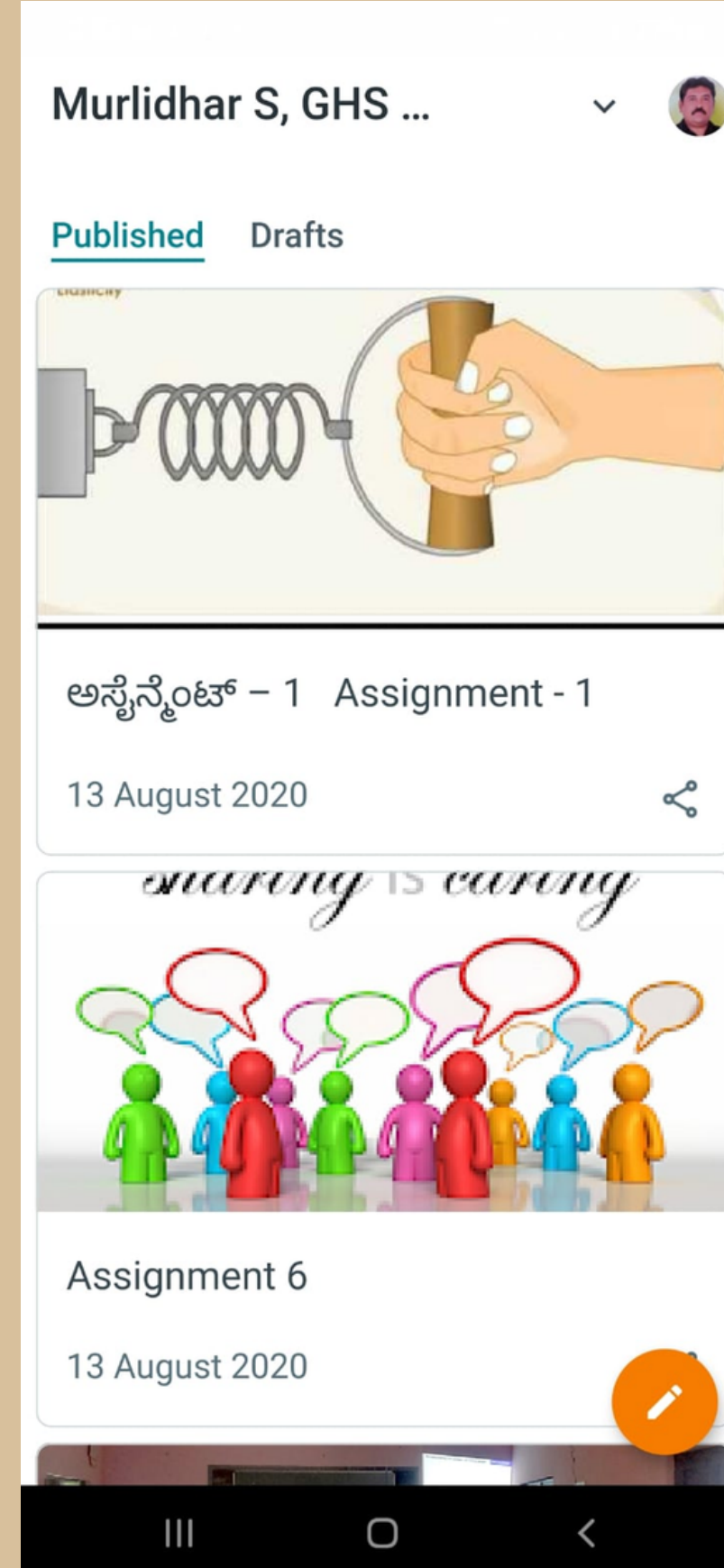
online interaction with children on various platforms



online interaction with live work sheets



created quizzes and blogs to interact with children



At Present i am working as:

District Technical person for Diksha (Nishtha 2.0)

MRP for ILP (India Literacy Project) specially cascading the experimental kit

**Resource person for Jnana jyoti program designed for holistic
development of schools in our Koppal district
and workbook program called chiguru**

along with my routine duties as a Science Teacher

Teacher tools

Every profession has its tools, what about the tools of the teacher/ teaching profession?

We must have our own tools like farmers who have their own tools needed for agriculture, if not they improvise the tools or barrow them.

ICT has become an excellent tool in education

We teachers must gain our own professional growth. (NCF 2016)

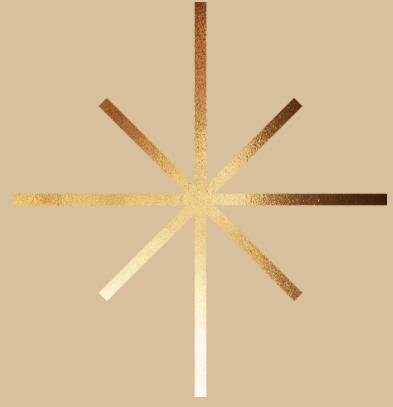
Teacher must become good facilitators and help the students to construct their own ideas.

If we teach
today's students

as we taught
yesterday's,

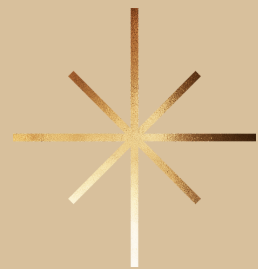
we rob them of
tomorrow.

John Dewey



**What we need isn't better
technology, but better
teachers to manage
students in the
classroom.**

***Nobody knows teaching like
teachers***





THANKS ALL

FOR YOUR PATIENCE—FULL LISTENING

