November 2020

Samvaad

Chandigarh's Monthly CCT Newsletter

LEADER SPEAKS

It's an honour to be part of an endeavour which is focusing on development of Creative and Critical Thinking among students by adapting, adopting and initiating many things in our education system, which are part of NEP-2020 too.
I deeply believe that teachers and educationists at every level and stage of their life can enrich and strengthen their teaching and have the power and capability to transform the society through their students. 'You never change your life until you step out of your comfort zone; change begins at the end of your comfort zone' and our teachers have truly come out of their comfort zones and have explored the innovative , creative and novel ways and means of teaching and deserve all the appreciation for that
I congratulate the team for working really hard in bringing together this newsletter month after month so beautifully and giving all stakeholders a platform to share and showcase their innovative and creative ideas with everyone.

Anjali Chhabra
Head, CBSE-Center of Excellence, Chandigarh

Poll of the month

Do you think comic books (such as Harshit, Cogito) help students understand concepts better?

Submit your response at https://forms.gle/kVxKxKJakEX8aEMb7

Initiatives by SCERT

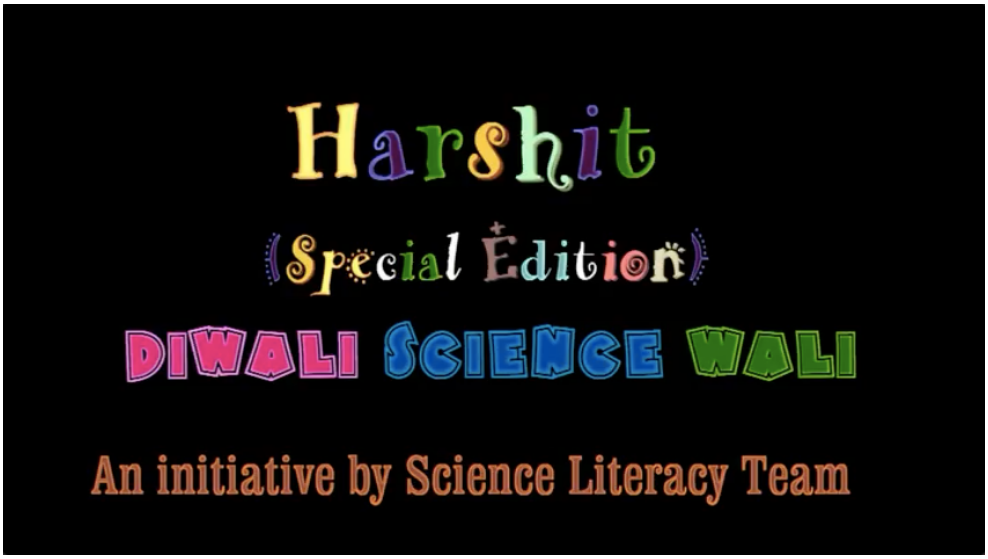
- **Science and Mathematics Videos**- Links of the series of videos on areas of Science and Mathematics created for students and teachers developed by IIT Gandhinagar under the leadership of Prof. Manish Jain sent by CBSE were shared with all the schools. Directions were given to schools to ensure that the PISA sample students view and engage with this content.
- **CCT Tracker** - Various stakeholders i.e. UT Chandigarh, KVS, NVS and CBSE have been putting lots of efforts in developing resource material to enhance Critical and Creative Thinking in students since last year. It was essential to bring all the resource material developed on one platform so that

these efforts reach every student and teacher for its effective use. Hence, to streamline the access of material developed, a Critical and Creative Thinking (CCT) Tracker has been launched by CBSE. This site can be accessed to view and download resource material for CCT developed by UT Chandigarh, KVS, NVS and CBSE. The credentials for the CCT Tracker have been shared with schools.

Spotlight

Diwali....Science Wali!

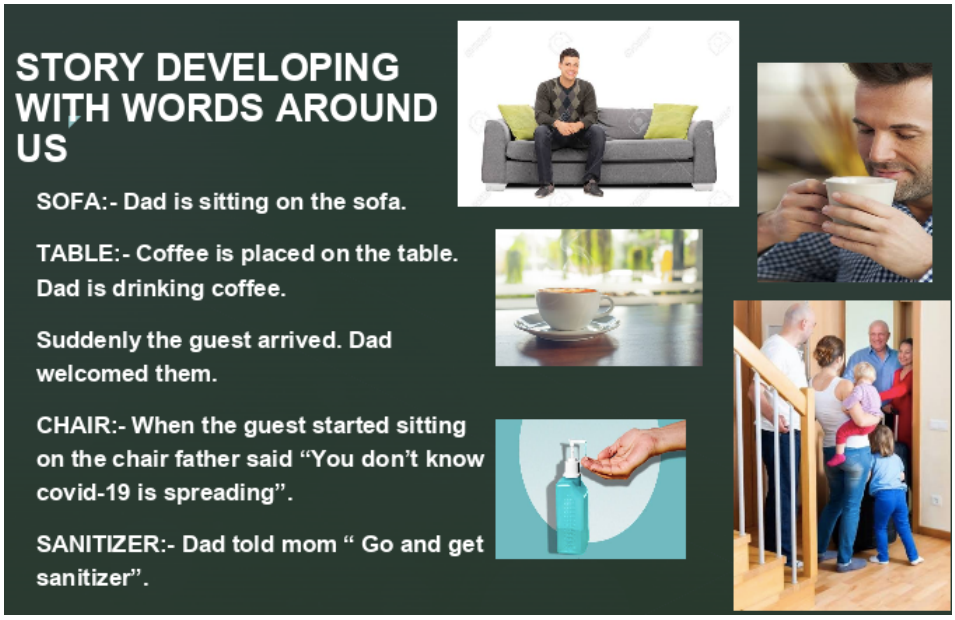
Diwali - the festival of lights is celebrated with great fervour and enthusiasm in our country every year. Due to the ongoing pandemic, many necessary restrictions were imposed. The Scientific Literacy team decided to celebrate Diwali with a difference. The team, along with students of Government Model Senior Secondary School 21 A, celebrated Diwali...Science Wali. Scientific basis for all aspects of the festival, such as rangoli, lighting of candles, diyas and incense sticks, relighting candles, floating candles and air lanterns was explained to students. The video below (click image to play) captures the entire celebration. Watch and enjoy!



CCT Torchbearers

Can we develop a story with words around us?

Writing is an important skill. Everyone around us must learn to express their emotions and experiences. Writing something on your own, taking a cue from the surroundings, is the most effective way to improve this skill. The students of Government Model Senior. Secondary School, Sector 28, Chandigarh were involved in an activity where each student took a word cue from the previous student and tried to construct a meaningful sentence to weave a story. This way they developed a context and re- arranged the content words to develop a story. Words such as sitting, sanitiser, soup, kitchen, daddy, mask etc were used by the students; a context was created for the same to develop a novel story. A plethora of stories were created in this manner. This activity cultivated the competencies of creative writing and critical thinking. This helped to develop the ability of students to use their vocabulary to act as an impetus to build stories and at the same time enhances their vocabulary too.



More details about this activity can be found at this link:
https://drive.google.com/file/d/16O43ibjFNJbLS5v6Vf1gbn7lziFVY5Dn/view?usp=sharing

How much can I breathe?

Constructing a model is an excellent way to explore science. When children design the model of an internal system they go beyond simply memorizing content, and understand the dynamic manner in which the systems that are not visible to us operate. The students of DAV Model School, Sector-15, Chandigarh learned to transfer the textbook knowledge to develop a model of lungs with the help of bottles, straws, thread and balloons. This enabled them to think beyond books. It helped students develop their scientific and mathematical competencies. They learned the process of breathing by understanding exhalation, inhalation, expansion of rib cage etc. This knowledge was used to calculate the vital capacity of lungs, knowing the difference in exhalation and inhalation, factors that improve the quality of breathing and those that affect it adversely. They correlated the same with the pandemic. They could explain how COVID-19 affects the breathing capacity of an individual. The students look forward to further transfer their knowledge to their daily lives.

More details about this activity can be found at this link
:https://drive.google.com/folderview?id=1V63hRJTOtKLPhVEzM01bjDqVsoUzPALh

Adaptation - An ability to survive

Darwin's theory advocates for the survival of the fittest. Adaptation is the panacea in all difficult situations. The students of Bhawan Vidyalaya, Sector 27 B, Chandigarh were given activities to role plays, create poems and stories, solve crossword puzzles and riddles to explore the adaptations in animals living in various habitats. The activities were creatively organized to cater to multiple intelligences among students. To make learning more interesting. The teachers also shared videos and online worksheets. To cultivate a scientific attitude among students they were asked to investigate Bergmann's rule by doing an activity. The students, during online teaching, performed experiments and recorded their observations and conclusions. This was followed by a CCT practice sheet based on Bergmann's rule. The whole process reflects that students develop the strength of analyzing things creatively and critically during experiential learning.

Then it came towards me at full speed and knocked me unconscious. When my eyes opened, I was in a rainforest and took off the coat as it was quite hot and humid. I found a beetle like thing climbing on my arm. I quickly shook my hand and the creature was on the ground. And suddenly it started to sing.

"I live in forests and derive my name from an extended neck, much like that of a giraffe. I am a male and the length of our neck is 2 to 3 times than that of females. Most of my body is black with distinctive red elytra covering the flying wings. My total body length is just under an inch- that is equal to your finger. My extended neck is an adaptation that assists in nest building and fighting. Now I have told you much about me. Can you tell who am I?"

Clues:-

- Clue no. 1 I am an insect
- Clue no. 2 My name has two words and it starts with G and the other word starts with 'W'.
- Clue no. 3 Picture of an insect

Then it went towards a tree and started climbing it and I went on my way out of the jungle and saw many animals on the way which I had never seen. After walking several miles, I ran across the main road and found a bus there. And went back home. How I reached the polar region and the rainforest still remains a mystery.

More details about this activity can be found at this link:
https://drive.google.com/file/d/1nUki6BsgX5WB0MlyUqzNr6E1C7qjyjUq/view?usp=sharing

Microorganisms, not always harmful

Eat curd; it has Lactobacillus (bacteria) to improve your gut. This may surprise many students but yes, it is true. The students of Government Model Senior Secondary School, Raipur Khurd, Chandigarh were encouraged to explore the usefulness and harmfulness of microorganisms in their immediate surroundings through a project to unearth the reality of the invisible world. Students prepared a list of microorganisms as friends and as foes.

The same were classified into various groups of microorganisms such as bacteria, fungi, protozoa, virus and algae. The students went around their kitchen, adjoining areas and lawns to look for samples. They explored the growth of fungus on bread, the use of yeast in making bread and the role of microorganisms in industries, health and life cycles.

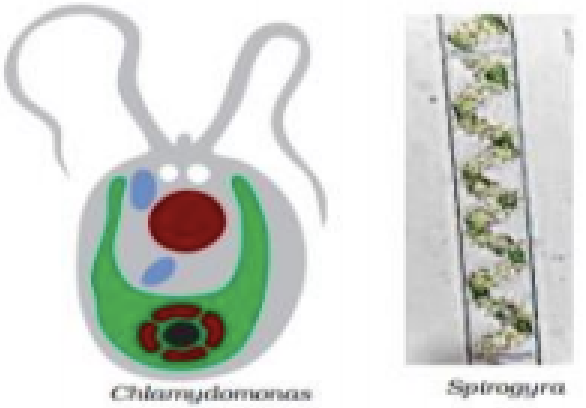


Fig. 2.2 : *Algae*

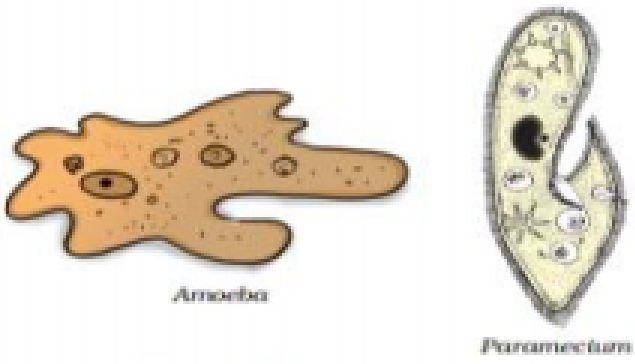


Fig. 2.3 : *Protozoa*

Their findings were discussed in classrooms. The school aims to integrate real-life with textbook knowledge as students are able to connect theories to knowledge when they are involved in experiential learning situations.

More details about this activity can be found at this link:
https://drive.google.com/file/d/12sd7WrmHdZI7SSPEYD200TqyQATtB-zb/view?usp=drivesdk

Sale! Sale! Sale!

When we buy something from the market it is always exciting to get discounts. In which deal would you be benefitted more, when you get 50% plus 50% discount on an item or an offer to buy one and get three items free? Well, the discount in both cases is the same! The students of Government High School, Indira Colony, Manimajra, Chandigarh were given some such experiences of consumer mathematics and quite a few life lessons through various activities like dialogues writing, stories writing, role plays etc. The objective of the activities was to develop the analytical skills of the students. Teaching Mathematics through real-life situations not only helps to develop computational skills but also fosters abstract thinking and communication skills.

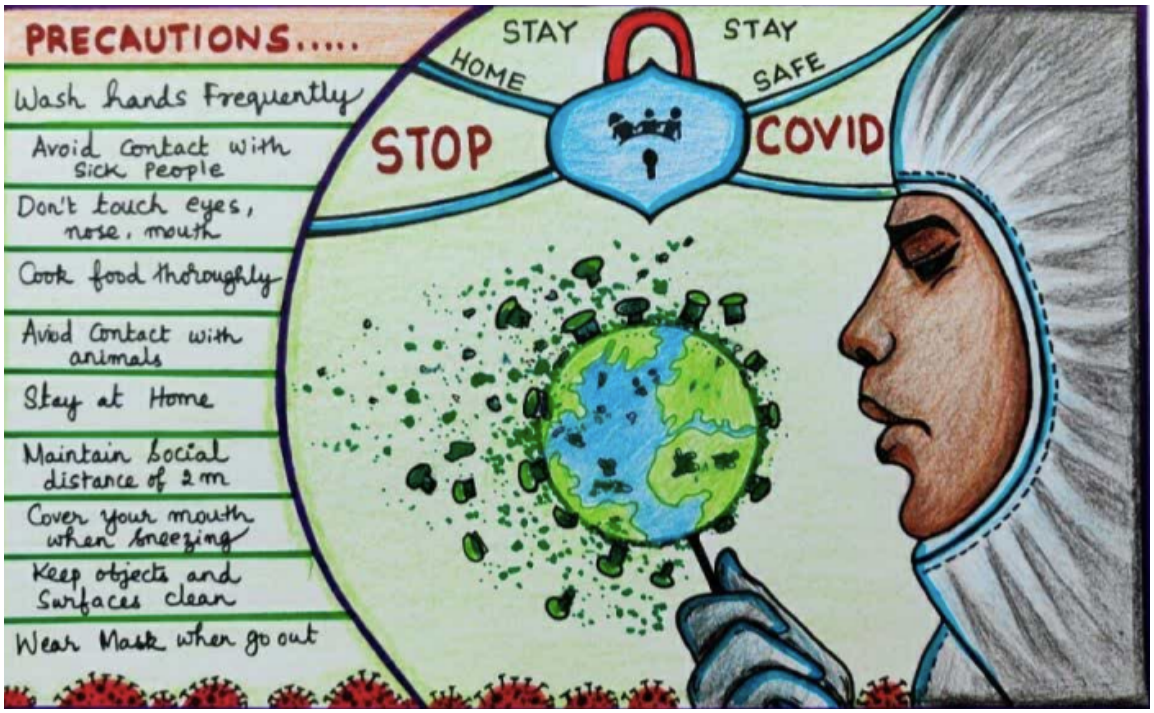
More details about this activity can be found at this link :https://drive.google.com/file/d/1AaQ7WENy96wMX_g-5ZQAZTQ-FbYh-B78/view?usp=sharing

Yes, a rainbow on our plates!

The students of Government Model High School, Manimajra were introduced to the concepts of nutrition and balanced diet by integrating art, language, Mathematics and Science through various activities. The activity of dressing the salad focused on adding colours to their salads and presenting it aesthetically. To make learning even more joyful, students were asked to compose and sing songs and rhymes on various food groups, highlighting their importance in our lives. In another activity, the students were asked to collect data/information regarding their favourite fruits from their classmates. This data was represented in the form of a pie chart and a bar graph, thereby enabling students to understand tabulation of data and its interpretation. The science behind a balanced diet and the nutrient composition of various food items was also discussed. The students demonstrated the importance of rainbow coloured food in their lives by making posters, thereby strengthening their learning and also displaying their creativity.

More details about this activity can be found at this link:
https://drive.google.com/drive/folders/10UCN6JadRBndxfpx-5jiSrSrdli9eSDS?usp=sharing

No laxity till there's a cure!

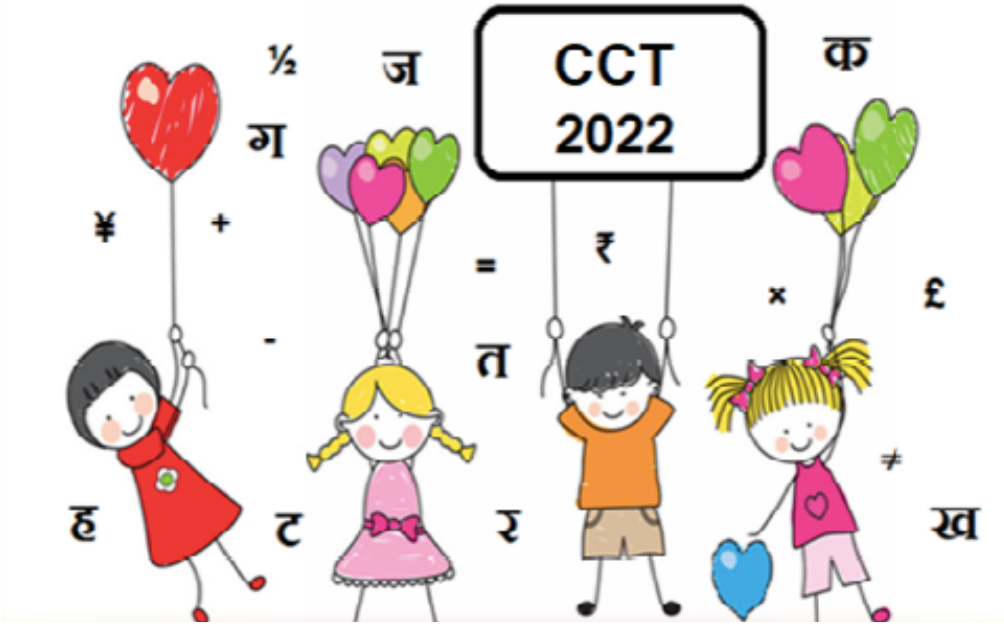


The students of St. Kabir Public School, Sector 26, Chandigarh were initiated into the activity of poster making so that they would develop the ability to locate and organize several pieces of deeply embedded information and infer which information in the text was relevant. The students created beautiful posters on consumer awareness,

sustainable development, energy saving and protection from Covid-19. This poster making activity proved to be a perfect example of a reflective tasks that required critical evaluation and drawing on specialized knowledge. Keeping all aspects of reading in mind for the students, this task was taken up so that the students typically get involved in dealing with concepts that are contrary to expectations. This activity sensitised students about various problems the modern world is facing. It created interest, engaged students in research work, widened their knowledge base and helped them research on various topics of concern. It helped in improving their writing and creative skills.

More details about this activity can be found at this link :https://drive.google.com/drive/folders/1lNvEWKaO8qs9SRfdvbLlD8-z9QeMCNsx?usp=sharing

विस्थापन



हिंदी लिटरेसी टीम की ओर से सृजनात्मक एवं तार्किक सोच (सीसीटी) को विकसित करने के उद्देश्य से कक्षा नौवीं के बच्चों को अभ्यास करवाने हेतु मोड्यूल विकसित किया गया। 9 गवर्मेंट स्कूलों के लगभग 1000 बच्चों ने पूर्ण उत्साह के साथ इस प्रैक्टिस में भाग लिया। इस अभ्यास का निर्माण बच्चों की भाषा सम्बन्धी दक्षताओं (reading competencies) को बढ़ाने और उनके व्यावहारिक ज्ञान को परखने के उद्देश्य से किया गया। प्रतिमान पाठ्य पुस्तक से ही लिया गया परन्तु उसके प्रश्नों को बनाते समय कुछ बिन्दुओं का ध्यान रखा गया जैसे- सूचना की पुनः प्राप्ति (Retrieving information), व्याख्यात्मक पाठ(interpreting text), प्रतिबिंबित और मूल्यांकन(Reflecting and Evaluation) I इस गतिविधि के रूप मे बच्चों को अपनी रचनात्मकता, अभिव्यक्ति दक्षता, सृजनात्मक और तार्किक सोच को प्रस्तुत करने का मौका मिला। बच्चों ने गूगल फॉर्म, पेंटिंग, विडियो, आडिओ व लिखित अभिव्यक्ति से अपने व्यवहारिक ज्ञान व तार्किक सोच का परिचय दिया।

इस गतिविधि के बारे में अधिक जानकारी इस लिंक पर मिल सकती है:
https://drive.google.com/drive/folders/1kCGxkvqcBa9w1k92KXNJ_kCrUrxdPh1x?usp=sharing

Teacher Talk!

Time To Change!

Gone are the days when the teachers used to say,
Copy this down, learn by heart and do it this way.

The times have changed, let's go with the tide,
Children don't need a teacher, they just need a guide.

Gaining knowledge is vital we cannot ignore this fact,
but application is the key
we must accept.

It's not enough to read and comprehend the text.
One should be able to interpret, evaluate and reflect.

Let knowledge come out of books, let's not leave it there.
Let's connect it with our life, let's gain it everywhere.

Kids of today are creatures smart and bright,
Let them think and create, let their imagination take flight.

-Satinder Kaur
GMSSS 37B

Why is PISA so important?

The programme for international student assessment (PISA) is a study done to produce comparable data on education policy and outcome across countries.
Unlike conventional tests and exams, PISA test does not assess students on their memory, but attempts to evaluate whether students can apply the knowledge they have gained through primary and secondary education. Apart from subjects like Mathematics, reading comprehension and Science, the test includes an optional section on innovative subjects such as collaborative problem–solving and financial literacy. Further it evaluates whether students can solve mathematical problems or explain phenomena through scientific thinking or interpretation of text.
The test is taken in the language of instruction that the students are familiar with. PISA is a way to prepare students for higher education and subsequent employment. PISA test helps in evaluating the student's adequate social and community skill which enables them to excel holistically as a member of the society. PISA initiates students for experiential learning and out of the box thinking. It is all about the new challenges in the education which is no longer just about teaching students but about helping students

build a reliable compass and the navigation tools to find their own way through an increasingly volatile, uncertain and ambiguous world.
Finally the test helps to assess the ability to use their reading and mathematical and science knowledge and skills to meet real life challenges. PISA also evaluates students in innovative domain in terms of creation of new knowledge.

-Nandita Malviya
Sacred Heart Senior Secondary School

Resource in Focus!

Step by Step

Everything around us can be understood better with Mathematics, as it can help children to think about many aspects of their world through its connections with them. For students, learning usually happens best when they can relate it to real life situations.
With each class, it becomes more advanced and challenging. Many students find it difficult to understand and have to work harder and practice longer to understand abstract mathematical concepts.

However, by infusing real life examples with mathematical concepts, teachers can help students view mathematics from an entirely different point of view. With this in mind, the booklet "STEP BY STEP", was developed by Mr. Devendra Singh (Principal, GMSSS 35), Mrs. Gurpreet Kaur (TGT, Maths, GMSSS 23), Mrs. Abha Kumar (TGT, Maths, GMSSS 19).
The booklet was created with the objective of promoting learning Mathematics in a joyful manner. This will also help in enhancing Creative and Critical Thinking skills of a child.

Your opinion matters!

Do share your feedback on this edition of Samvaad on this link
https://forms.gle/osaRvNhVbxF6c8sy6