TEACHING MATHS AND SCIENCE THROUGH CARTOONS

TEACHER	Patel Kumarpal Pravinchandra
SCHOOL	Shri Mehtapura Beat Kendra Primary School, Himmatnagar Taluka, Sabarkantha District – 383001
PHONE NUMBER	9725–4336–66
E-MAIL	patelkumar33666@gmail.com

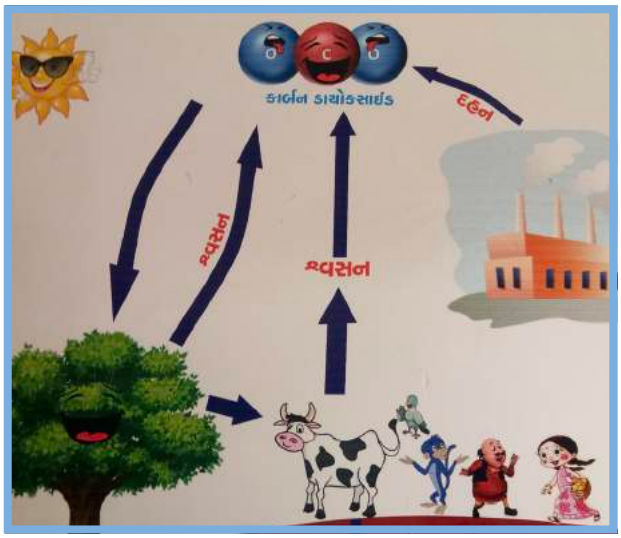
Scan QR-code to watch video

Shir Kumarpal Patel joined Mehtapura Beat Centre Primary School in September 2011 as Math and Science teacher of classes 6 to 8.

He noted that there was a diagram of the digestive system in the Class-7 science textbook. While diagrams such as these helped students to some extent, around 80% of them were still unable to identify and label the different parts during an assessment. He realized that children learnt by rote and a result, forgot what they had learnt in a short span of time.. He observed the same problem in Mathematics also. It is this observation that motivated him to use cartoons in the teaching process in order to capture and retain student' interest, engage them with the subject and ensure long-term learning.

So while teaching about the Solar System, he supplemented the lesson with an animated video sourced from the YouTube for display on an LCD. The children seemed to respond well to the experiment further inspiring Shri Patel to use digital media in learning. During the summer break of the year 2012–13, he spent his time he learnt to edit various animated cartoon characters such as Chhota Bheem, Motu-Patlu, Chutki, Malta using image editing software such as Adobe Photoshop and CorelDraw. He then developed cartoon-based flash cards on various subjects. He also searched for free Google images which he could use in his flash cards and charts. He then learnt to use software such as Picstart Photo Studio to make flash cards for Science and Mathematics on topics such as digestive system, respiratory system, human body, carbon cycle, plant parts, magnet types, molecular formulae, planets, symbols, and more. He also created flash cards for numbers from 1 to 100, number theory, divisible — indivisible numbers, square roots, cube — volume, timeline, and odd-even numbers.

Shri Patel used the animated cartoon characters that students so loved to his advantage. So he had the much loved cartoon character Chhota Bheem explain the digestive and respiratory systems while another character from



Science cartoons on the school wall

Drama on Science Issues

the Chhota Bheem series to explain the excretory system. He divided this activity into four steps to simplify learning: (1) Display the chart or flash card of the topic under discussion on the noticeboard 4 days before actually teaching in the classroom; (2) Clear children's doubts; (3) If a video of the flash card-based activity is available online, show it to the children using a projector; and (4) use the textbook to support teaching aids.

The children were greatly enthused by this method of teaching. Taking it a step further, Shri Patel decided to go one step further and use the method to conduct assessments. To the activity-based flash cards put on display on the notice board outside the classroom, he added two other types of cards, one with a noun and the second with a math formula.

Shri Patel prepared PDF files of the various cartoon sets he had created to teach classes 6 to 8 and shared with his colleagues so that they could also benefit from them.

In 2016-17, he came up with another fun-filled activity to encourage students' engagement with the lessons. Using some help, he painted the school wall, pillars, staircase and his classroom with cartoons providing information on various subjects besides Science, Mathematics and English. He also prepared PDF and digital files on various subjects. The school had received two projectors from the government and he used them to show animations, videos, cartoons and flash cards, especially when the children were free or when their teacher was on leave for the day.

Shri Patel conducts regular tests to assess the impact of his work. He has found that the introduction of these cartoon-based activities have helped to improve students' performance in science and math by about 25 to 30 percent. His work has been recognized by IIM Ahmedabad and GCERT at the Education Innovation Fairs. More than 280 teachers have adopted his work in their lessons. A good example is Manishaben, an English teacher teaching standard 6 to 8, who in 2014-15 used this set and then created similar activities to teach the language.

?

QUESTIONS FOR TEACHERS

1. What are the benefits of digital classroom?
2. How digital platform is useful for students for self study?
3. What care should be taken when teaching in a digital classroom?

QUESTIONS FOR TRAINEES

1. How can a flashcard be used to teach a science subject?
2. What can be done to make children interested in the subject?
3. What activities can be organized to help children speak English fluently?