

## **Science Outreach at local Schools – *Launched on 9 July 2010***

This year, NCL is partnering with three schools, and will conduct five modules, at each of these schools over the year. The primary objective of our modules is to excite school students (specifically targeting those in 8-10<sup>th</sup> standard) about science and technology. Each of our modules is based on a topic from the regular school science curriculum – but we aim to arouse the curiosity of the students, rather than teach them science. Therefore, our modules mainly comprise of exciting demonstrations and videos to illustrate properties and applications, and we discuss the history behind the science.

The first module in this series is on the “Discovery of Elements.” This lecture-demonstration was first launched at the Jawahar Navodaya in Shikrapur on the 9<sup>th</sup> of July, and was presented at two schools in Pune: the Vidya Niketan, Hutatma Balveer School in Pune on the 23<sup>rd</sup> of July and the Valley View School in Kondhwa on the 31<sup>st</sup> of July. Dr. K. Guruswamy, NCL Scientist delivered these lecture-demonstrations.

This lecture demonstration includes several experiments conducted “live”, in front of the students, such as generation of hydrogen gas, and setting a hydrogen balloon on fire; spectroscopy using a flame test – with visually stunning coloured flames; making nylon polymers; properties of powerful rare earth magnets; etc. as well as spectacular videos of white phosphorous burning, safety match stick chemistry, etc.

The first talk at the Jawahar Navodaya was attended by 150 students, and their teachers, and the lecture demonstration held them spellbound for 90 minutes. The students also received an attractive illustrated periodic table, specially put together for these lectures, to remind them that each element has its own story, and that chemistry is fun.

On Friday, 23 July, Dr. Guruswamy spoke at Hutatma Balveer Shirishkumar Shala (Vidya Niketan), Police Lines, Shivajinagar. This talk was attended by 70 students, and their teachers. The last talk by Dr. Guruswamy was on 31<sup>st</sup> July at the Valley View School in Mitha Nagar, Kondhwa, and over 50 children attended this talk.

# Photographs



## Press coverage

Sakal 25 July 10.

# शास्त्रज्ञच उलगडतात विज्ञानाची कोडी...

विद्यार्थ्यांसाठी 'एनसीएल'चा विशेष उपक्रम

पुणे, ता. २४ : शालेय विद्यार्थ्यांमध्ये विज्ञानाची आवड निर्माण करण्यासाठी राष्ट्रीय रासायनिक प्रयोगशाळेच्या (एनसीएल) 'एक्ससायटिंग सायन्स ग्रुप'तर्फे विशेष उपक्रम राबवला जात आहे. त्याअंतर्गत शास्त्रज्ञ आकर्षक गोष्टी व प्रयोगांच्या माध्यमातून मुलांना विज्ञानाचे मूलभूत ज्ञान शिकवत आहेत.

या उपक्रमातील पहिले प्रात्यक्षिक व सादरीकरण डॉ. गुरुस्वामी यांनी 'मूलद्रव्यांचा शोध' या विषयावर महापालिकेच्या हुतात्मा सुरेशकुमार विद्यालयात शिवाजीनगर येथे शुक्रवारी केले. 'एलसीडी'च्या माध्यमातून, आकर्षक चित्र व लघुपटांतून मूलद्रव्यांच्या निर्मितीचा इतिहास अतिशय सोप्या भाषेत मुलांना समजावण्यात आला. मूलद्रव्यांचे गुणधर्म समजून घेण्यासाठी विविध प्रात्यक्षिके विद्यार्थ्यांनी स्वतः करून पाहिली.

डॉ. गुरुस्वामी म्हणाले, "शिकवणे हा आमचा उद्देश नाही. आमहाला विद्यार्थ्यांमध्ये विज्ञानविषयी कुतूहल निर्माण करायचे आहे. ते निर्माण झाल्यावर

विद्यार्थी आपणहून आवडीने शिकतात. पूर्णपणे 'एनसीएल'च्या शास्त्रज्ञांनी पुढाकार घेतलेल्या या उपक्रमाची सुरवात सप्टेंबर २००८ मध्ये झाली. सुरवातीला दर महिन्याला एनसीएल, पाषाण येथे विज्ञानाच्या एका विषयावर आधारित व्याख्यान व प्रात्यक्षिके व्हायची. त्यामध्ये शहरातील शाळा सहभागी व्हायच्या. महापालिकेच्या शाळांतील आर्थिकदृष्ट्या दुर्बल असणारे विद्यार्थी या उपक्रमात सहभागी होऊ शकत नाहीत, त्यांच्यासाठी आम्हीच अशा शाळांमध्ये पोचण्याचा निर्णय घेतलाय."

पहिल्या टप्प्यामध्ये एकूण तीन शाळांची निवड करण्यात आली आहे. यात जवाहरलाल नेहरू नवोदय विद्यालय-शिक्रापूर, व्हॅली व्ह्यू-कोंढवा आणि हुतात्मा सुरेशकुमार विद्यालय यांचा समावेश आहे. तीनही शाळांमध्ये प्रत्येकी पाच प्रात्यक्षिके दर महिन्याला एक याप्रमाणे होतील. आठवी ते दहावीचे सर्व विद्यार्थी याचा लाभ घेऊ शकतील.

DNA 24 July.

# Students enjoy enriching lessons in chemistry

The meet helped connect scientists with Hutatma Balveer Shirish Kumar High School students and teachers

Gitesh Shelke

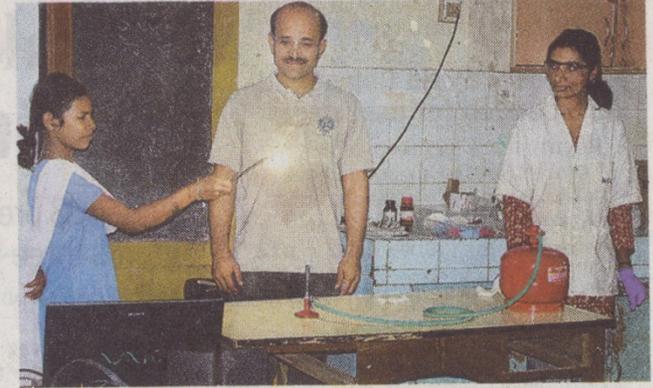
Students of the Pune Municipal Corporation (PMC)-run Hutatma Balveer Shirish Kumar High School in Shivajinagar had an enriching session on how to learn chemistry on Friday. The lecture-demonstration session was organised as part of the Exciting Science Group's 'Reaching out to Schools' initiative.

The Exciting Science Group at the National Chemical Laboratory and the Venture Centre in Pune aims to connect practising scientists with high school students and teachers.

The members of the group conducted an hour-long lecture and practical session for the students. The scientists explained in detail the element chart developed by noted scientist Dmitri Mandeleev.

"The lecture was directed to enhance interest among the students in chemistry," said NCL scientist K Guruswami. "In the next five months, we will continue to interact with the students," he said.

He told DNA that in the next five months the Exciting Sci-



A student with scientists at a practical session.

In the next five months, the Exciting Science Group will conduct similar lectures for students once a month in different city schools

ence Group will conduct similar lectures for students once a month in different city schools. Similar lectures were conducted at Jawahar Navodaya Vidyalaya in Shikrapur, and Valley Dew School, Pune.

The scientists explained to

the students in a lucid manner the history of elements, carbons, polymers, nylon-making, hydrogen and its properties, electro-chemistry, spectroscopy and rare earth.

The lecture-demonstration also included several experiments conducted live, such as generation of hydrogen gas, and setting a hydrogen balloon on fire; igniting a mixture of red phosphorous and potassium chlorate, spectroscopy using a flame test, properties of powerful rare earth magnets, as well as spectacular videos of white phosphorous burning.

# Away from the blackboard, NCL scientists inject fun into learning

EXPRESS NEWS SERVICE

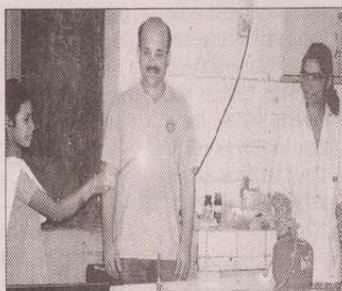
JULY 23

*Indian Express, 24 July 10*

WHILE chemistry lessons till now were only about looking at the blackboard, on Friday, for students at the Hutatma Balveer Shirishkumar School, in Shivajinagar, the classroom was more like attending a magician's show. They waited with bated breath till the end and wanted more of such classes in biology and physics.

This was the first lecture for the students of Std VIII and IX by scientists from the National Chemical Laboratory (NCL). Dr Guruswamy Kumaraswamy, a scientist from NCL gave the talk today on the discovery of elements. This was the first in the series of five such lectures to be delivered throughout the year.

"I am not an educator, and I don't even have a chemistry background, I am a



Dr Kumaraswamy oversees an experiment

chemical engineer. But I remember one of our teachers in college used introduce new concepts to us by actually performing the experiments in class. So I thought if I could do something similar, learning would be much more fun for at least a few kids," said Kumaraswamy.

Radhika Jagbir Lukkad, a student of Std IX said, "I had attended a summer programme at NCL and since then had been regularly attending the Sunday

morning lectures there. that the lectures would school also, I was waiting day we actually performed along with learning about concepts. The best part was the reaction of metals with the saw and produced flames of various colours like the kinds displayed in movies." Neeta, a science teacher at the school, said, "Most of the time she and I are hard pressed for time in the lab. Kumaraswamy late in the day brought enthusiasm and interest to the students. For the Sunday talks many students who are not able to come. It is a middle class phenomenon whose parents can drop their children to get to be a part of it. Seeing their interest, I wanted to take it to other schools also," he said.

# NCL talks help to generate students' science curiosity

**T**he first module of National Chemical Laboratory's (NCL) School Outreach talks was conducted at the Pune Municipal Corporations Vidya Niketan School (Hutatma Balveer Shirishkumar Shala) at Police Lines, Shivajinagar on July 23.

Dr Guruswamy, NCL scientist presented a lecture-demonstration on Discovery of Elements. This lecture demonstration included several experiments conducted live in front of the students, such as generation of hydrogen gas, and setting a hydrogen balloon on fire, igniting a mixture of red phosphorous and potassium chlorate, etc.

The 90-minute talk was attended by 70 students and their teachers. The students also received an attractive illustrated periodic table, specially put together for these lectures, to remind them that each element has its own story and that chemistry is fun.

As part of an initiative to excite school children about science and research, NCL is partnering with three schools this year. This talk was a part of this initiative.

Dr Guruswamy said, "Each of these modules is based on a topic from the regular school science curriculum - but the objective of



the lecture-demonstrations is not to teach the students, but to arouse the curiosity of the students. Therefore, these modules mainly comprise exciting demonstrations and videos to illustrate properties and applications, and that discuss the history behind the science."

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**Students enjoying the talk on science.**

# NCL generates curiosity about science

August 8, 10, cityplus Kondhwa

**T**he second module of National Chemical Laboratory (NCL)'s School Outreach talks was conducted at Valley View School in Mitha Nagar, Kondhwa.

NCL scientist Dr Guruswamy presented a lecture-cum-demonstration on Discovery of Elements. It included several experiments conducted live in front of the students, such as generation of hydrogen gas, setting a hydrogen balloon on fire, igniting a mixture of red phosphorous and potassium chlorate, etc.

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