

Monthly Newsletter of Vigyan Prasara



# DREAM 2047

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## VP News



Prof. Murlidhar Manohar Joshi, Hon'ble Minister of Human Resource Development and Science & Technology Govt. of India, releasing Vigyan Prasara's publication "Where God's Come Alive" : A Monograph of the Bronze Icones of South India, during the National Science Day function held at Technology Bhavan on 28 February 2001. Also

present are (L to R) Dr. Manju Sharma, Secretary, Department of Biotechnology; Shri Bachi Singh Rawat, Hon'ble Minister of State for Science & Technology and Prof. V.S. Ramamurthy, Secretary, Department of Science & Technology, GOI.

## Inside

### EDITORIAL

X-rays: The Unknown Glimmer



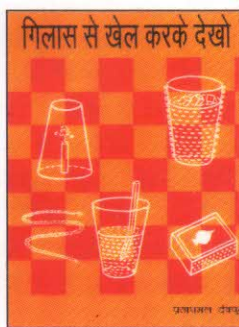
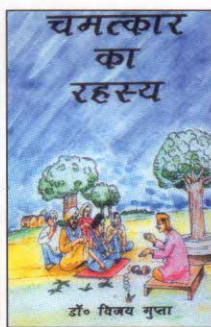
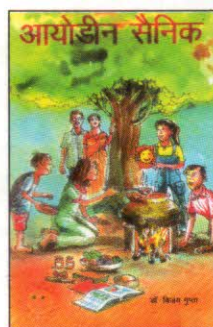
EXPLORING YOUR WAY THROUGH SCIENCE!



Development of Cometary Thought PART - I



## New Publications



**IODINE SAINIK** : The deficiency of Iodine has been found not only in India but also in developed countries. It is estimated that there are one billion people suffering from this deficiency. This book tells about the effects of the deficiency of Iodine and how it can be removed. The subject has been explained

in a story form which is interesting to read not only by children but by adults also.

**Iodine Sainik** : by *Dr. Vijay Gupta*

**CHAMATKAR KA RAHASYA** : There are many people who cheat gullible people by showing some miracles, where as there miracles are nothing but an art based on some scientific or technological principle. The book exposes some such miracles through interesting stories.

**Chamatkar ka Rahasya** : by *Dr. Vijay Gupta*

**GILAS SE KHEL KARKE DEKHO** : The book deals with some interesting experiment which can be performed just with the help of a glass. Children can do it themselves. They can get the necessary material easily for these experiments. It is an interesting and useful activity book for children

**Gilas Se Khel Karke Dekho** : by *Pratapmal Devpura*

... think scientifically, act scientifically ... think scientifically, act scientifically ... think scientifically, act...

## Investment In Real Terms

Indeed the last few weeks have brought enormous excitement. We had the first global view of the genomic landscape of human beings. The map of life unfolded by the genome explorers threw up quite a few surprises – the most crucial being that the difference in genomes between different races is minuscule, only 0.1 per cent; that is 99.9 per cent of all humans have the same DNA. This implies that there is no “superior” race on this planet. The other surprise was that the number of human genes are actually much less than estimated earlier – only about 30,000 as against the initial estimate of 100,000. This is just twice as much as the number of genes that make up a fruit fly! Further, the large tracts of human DNA which don't contain any genetic material (also called desert regions or junk DNA), may not be garbage after all. What is striking is the fact that we are a product of the unique orchestration of our genes, proteins, pre-historic bacteria and environment. May be, it is this environmental factor that let hundreds of bacterial genes find their way into human genome and not through evolution. In addition, the belief that one gene is responsible for one protein no longer holds. It is now thought that it is actually a network with control genes kicking other genes into life to make proteins. Instead of producing only one protein per gene, the average human gene produces three different proteins!

Next, the Near Earth Asteroid Rendezvous – Schumacher spacecraft touched down on Eros, the kidney-bean shaped asteroid, or the geologic relic formed some 4.5 billion years ago and more than 300 million kilometres from the Earth, ending journey of some 3 billion kilometres and a full year in its orbit. Eros belongs to a group of large asteroids with orbits relatively close to the Earth, like the one which is believed to have slammed into the Earth and wiped out dinosaurs some 65 million years ago. The data has given scientists clues about the history of solar system and work out means of averting such catastrophes in future.

No doubt, all that is great news for science, and full of excitement. Whether it is the universe outside the Earth, or inside the living cell, it is bound to fire anybody's imagination. What is intriguing is the fact that why does

it fail to fire the imagination of our younger generation? What makes our students turn a blind eye towards a scientific career? One reason oft-quoted is that science is no more a lucrative profession! But, the crux of the matter is our school children are rarely exposed to the excitement of science. They are unaware of the challenges and thrills offered by a scientific career. In the absence of such an exposure, no wonder students shy away from this challenging profession. The warning bells have already started tolling. It is becoming increasingly difficult to recruit the right type of scientific personnel in our R&D labs, universities, and even science teachers in schools. Given that the social and economic development of a country depends on how strong its scientific base is, it becomes all the more imperative to convey the thrill and excitement that a scientific career offers to our children, especially at secondary and senior secondary levels.

What is the remedy, then? A few years ago, the Indian Institute of Science, Bangalore, evolved a programme of Extension Lectures in Science and Engineering by the faculty members of the institute on modern scientific developments in schools and colleges within a radius of 500 kilometres from Bangalore. The lectures are delivered on voluntary basis by the faculty members in addition to their regular academic and research commitments and are supported by demonstrations, slides or models. The schools/colleges need only play the host and organise the lectures, the travel and other expenses being borne by the institute. The programme has proved to be immensely popular and effective in triggering an interest in science among the children, and at the same time encouraging them take up a scientific career in their chosen areas. The lectures, if brought out in the printed form – especially in the local languages, would go a long way in furthering this noble effort. It is high time scientists from our R&D labs, universities and industries also followed the suit with active support from their respective organisations. Indeed, this would be an investment in real terms for the social and economic growth of the country.

□ V.B. KAMBLE

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