

# **Project Report on Day- Night, Seasons and Eclipse**

## **Project objective**

Children encounter the concept of Day-Night, Seasons, and Eclipse very early, but cannot quite grasp them because of non-availability of good visual aids. This workshop is designed to explain these concepts using digital tools and reconstructable kits/models.

## **Agency**

Media Lab Asia - Apne Hath Se group.

## **Venue**

This workshop was carried out at Swami Vivekananda Vidyalaya, Lodhar, run by Jagriti, on Sunday, 2<sup>nd</sup> February 2003, from 11 a.m. to 4 p.m.

## **Participants**

Twenty students from classes VII and VIII attended the workshop. They were divided into groups of 5 members each for the period of the workshop,

## **Facilitators**

A group of 7- 10 members, including faculty members of IITK, teachers of the Lodhar School, and students of IITK.

## **The Workshop Details**

The first half of the workshop involved an animation of “Day-Night, Seasons, and Eclipse”. The various aspects of the above mentioned topics presented to the students included:

- ✍ Seasonal changes due to orbital motion of the earth
- ✍ Phases of the moon
- ✍ Solar and lunar eclipse
- ✍ Latitudes and longitudes/ time
- ✍ A general overview of the Solar system

## **The Workshop**

There were three parts to the workshop:

1. Computer animation followed by a discussion
2. Model building
3. Game

**Session 1:** This was an interactive session. The groups were shown the animation, and M. K. Verma gave supplementary input about each of the phenomena. Some animations showed the earth rotating on its axis and the day- night phenomena,



the earth revolving in its orbit and the resulting seasonal changes and so forth.

The animation of each phenomenon was followed by a question, students had to choose the correct answer from the set of answers provided before moving on to the next animation. Wherever necessary, M.K.Verma clarified the students' doubts with the help of physical models of the earth/sun or solar system and explanations of the phenomena. Students were encouraged to ask questions about the topics covered.

**Session 2:** This post- lunch session of the workshop involved active participation of the students in constructing a working model.



of a part of the solar system- the earth and the sun, to demonstrate the night and day phenomenon. First a model was constructed before them and then each group of students was given a set of material.



to construct a similar model. The facilitators supplemented the efforts of the group if the need was felt for. This entire exercise took about two and a half hours. Each group demonstrated their working model.

**Session 3:** This session involves exercise to understand the rotation and revolution of planets in the solar system. Each group of students was to organize themselves as the first 3 planets of the solar system, the sun and the moon. The students (planets) moved on marked out circle/ ellipses (orbits) so that the proportion of movements of and between the planets was maintained. The concept of the Solar and Lunar eclipse was demonstrated in this exercise.



These were an experiment on shadow measurement. The student found the direction of the sun by following shadows observed hourly.

