

ST. XAVIER'S INSTITUTE OF EDUCATION MUMBAI
SCIENCE CLUB ACTIVITY REPORT
Academic Year 2022-23

Date : 22nd September 2022

ABOUT SCIENCE CLUB OF ST. XAVIER'S INSTITUTE OF EDUCATION, MUMBAI

The Science club of St. Xavier's Institute of Education is an organisation of 8 pupils from science pedagogy and it is operated under the guidance of Dr. Bijoy Thomas where the students make deliberate efforts to promote interest in science and organise science related activities. However it is not restricted to students of science pedagogy alone. It is a group activity and helps the students in training for developing scientific methods. It is instrumental in making science education more meaningful and effective.

The science club thus breaks the barriers of the education system which focuses on examination related teaching strategies and confinement of the programme curriculum. It provides a holistic learning environment to a student which incorporates various practical aspects of science and balances it with the theoretical aspects of classroom teaching. It develops love for science and promotes the habit of self-learning through developing reasoning and critical thinking skills. It provides motivation among students to take up initiative to promote learning in science and nurture scientific attitude. It translates the theory learnt in the classroom into practice which involves experiences from the learning of day to day life. Even though it is informal in nature it does have a well organised planning and execution of various activities through proper guidance and leadership of Dr. Bijoy Thomas.

PURPOSE OF SCIENCE CLUB

Development of scientific attitude: It provides an environment which responds to a pupils natural curiosity about the natural phenomena and inculcates genuine interest towards the study of science and developing of the scientific attitude. It acquaints the students to develop a sense of service to the society and contribution of science in their lives. The student is able to relate how science can be utilized in one's own life. Science club encourages and inspires the pursuit of scientific knowledge by enlarging the scope of the discipline. It provides an opportunity to engage the community and explain how science benefits and contributes to everyday life

Direct experience : The students' enthusiasm in learning science is fostered by the scientific club. The pupils are encouraged to actively take part in club activities. It encourages the student to actively engage with the environment and try to find out science related concepts apparent in those environments. It gives students the chance to understand science through observation and experimentation.

Impact on learning process: Science Club enables pupils to appreciate the fun of studying. It can be difficult to learn in a classroom. Science in the real world is sometimes difficult for students to understand. Students take control of their own education through Science Club's active learning strategy, which directly relates knowledge and abilities to real-world situations. This leads to greater interest in academic areas and a boost in self-assurance. The students who participate in Science Club perform better on tests of abilities like experimental



design, data processing, and drawing conclusions based on evidence. These competencies are very important for students' future professional paths.

SCIENCE FIELD VISIT

The Science Field visit was organised at Sanjay Gandhi National Park (SGNP), Borivali on 22nd September 2022 from 11.00 am to 5.30 pm. There were 8 students belonging to Science Pedagogy who went for this science field visit accompanied by the professor Dr. Bijoy Thomas. It was made clear to the students that even though the trip had an element of entertainment it was mostly an educational trip.

The purpose of this excursion was to provide students a chance to observe biodiversity at the Borivali national park and to give the students real-world and practical exposure in planning for the science field visits. It provided the students with a direct experience and thus the learning became more meaningful and interesting. It taught the students planning, cooperation and other details of organisations of the science field visit. Several endangered plant and animal species can be found in the park. More than 1,000 plant species, 251 migratory, land, and aquatic bird species, 5,000 insect species, and 40 different types of animals can be found in the park's woodland area. The park also offers refuge to 150 types of butterflies, 38 species of butterflies, 9 species of amphibians, and a wide diversity of fish.

PLANNING AND IMPLEMENTATION: PRE-VISIT STAGE

Pre-Phase

1. The teacher discussed with the students about the general objectives of the Science field visit which was to develop a scientific attitude, providing outside classroom exposure and to learn adopting scientific approaches and methods.
2. The next step involved deciding of the place of the field visit which was in keeping with the criteria of a science field visit.
3. Brainstorming the activities included in the visit : The activities brainstormed was to experience the Tiger Safari, visit to Kanheri caves and Visit to Butterfly garden.
4. Budget the expenditure and get the consent from students: It covered the cost of entry fee and the eating and travel cost.
5. Survey on the places and focus on the learning ; The place was surveyed prior to the actual visit.
6. Decide the activities on the day of visit : The activities were then decided upon considering the time limitations.
7. Seek permission from the Head of the Institution: A formal letter was written by the teacher to the head of the institution providing the necessary details of the science field visit
8. Decide tentatively regarding the activities during visit and post visit: A timetable was planned to accommodate the activities to be conducted and also the post visit activities like recording the data, evaluation of the visit and writing of the report.

PLANNING AND IMPLEMENTATION: DURING VISIT

Tiger Safari

Travelling in the safari we were able to view two tigers and a herd of deer from inside a moving vehicle. This view made the journey special. We watched the tigers moving in the spacious safari cages. We observed the tigers movement and it's behavior in a particular controlled environment and scientifically evaluated the living conditions of the animals which was



observed to be good as there was water, food and spacious place and environment provided to the animals to replicate the natural settings of the forest.

Visit to Kanheri caves

The next place visited was the collection of caves and rock-cut monuments known as the Kanheri Caves. They were created from a large basalt outcrop. This place is a good place to view the excellent architectural design with a scientific mindset to provide for the sustainability of the people staying in the caves in the ancient times. It is an astonishing view to observe rock-cutting techniques used in creating caves.

Observing Biodiversity - Flora and Fauna of SGNP (Visit to Butterfly garden and zoological parks)

The next visit was to the butterfly garden and the zoo. In the butterfly garden we observed a variety of flowering plants. We were able to scientifically observe and evaluate the plants which were distinguished by way of its structure and appearance. In the zoo we observed the herd of deer and an ostentation of peacocks.

PLANNING AND IMPLEMENTATION: AFTER VISIT

- Every field visit should provide for some follow up of the activity for example discussion, evaluation and report writing.
- The steps involved in the process are as follows:
- The experiences gained during the visit and the challenges encountered were discussed after the visit.
- Accounts were settled and the budget of the field visit was evaluated.

The students were asked to write a report on the field visit.

LEARNING PROCESS

Through this experience of visiting the Sanjay Gandhi National Park Borivali, a science field visit as a part of science club activity has taught many valuable lessons.

- Development of scientific attitude: During the visit I got to develop the scientific attitude of observation. I observed the behaviour of the tiger, peacock and deer in the zoological parks during the safari and zoo visit. The animals' behaviour was according to that of their natural environment. The sounds that they made had a peculiar meaning.
- Application of knowledge; I was able to apply the knowledge of science to the various architectural designs of the Kanheri caves which ensured the proper living conditions in the ancient times. The knowledge of caves and environment was translated into practical and tangible understanding. The understanding of science was deepened in the process. Science which is a study of natural phenomena can be understood in its true form when it is practiced and observed outside of the classroom environment.
- Create interest: It created a deep interest in knowing about nature, the flora and fauna and the architecture of the cave. I got to see so many different kinds of plants. I was mesmerized by the variety of plants present at SGNP. The many carvings at the cave represent some meaning when decoded that brought about an understanding of the life lived by the people in the ancient times in those caves. I was also interested in the view to observe the change in the climate and the view of nature due to rains.
- Contact with nature: It gave me an opportunity to observe nature and feel one with nature as science is the study of natural phenomena. It provides deeper insight into getting in touch with nature. Various phenomena like light and sound were observed in its natural setting. It also helped us to analyse the climatic conditions of the place.



It demonstrated the interrelatedness present in nature like temperature, atmospheric pressure and humidity.

- Spirit of cooperation: I interacted with my friends and got to go through the experience of observing nature and trekking together.

All the aims and objectives of the science field visit was realized through this entire process.

REFLECTIONS FROM THE ABOVE ACTIVITY

It also provides a basic training in organising the activities and programmes related to science. This gives the students an opportunity to collaborate and work together due to which they learn the value of cooperation and inculcate in themselves many social skills. It is therefore a suitable forum for the students to conduct and organise various science related activities.

The informal nature of the science club makes it possible to create a social environment of openness and dialogue among the students which otherwise would have not been possible in a formal classroom set up. It helps students develop the habits of self-reliance, self-dependence, and a love of science. It also encourages students to do extra reading of literature of science that includes reading of scientific journals , periodicals and magazines. The science club encourages the active participation of the pupils. It gives students the chance to develop their creative, constructive, and exploratory faculties. It teaches pupils how to manage their time effectively and instils in them a sense of the importance of time. It recommends pupils to learn about the biographies and accomplishments of renowned scientists.

It offers students the chance to put their knowledge of several scientific disciplines into practice. It cultivates a scientific mindset and develops training in the scientific technique of problem-solving. It fosters among students a culture and attitude of healthy competition for both personal and social causes. A well-run science club will be a valuable tool for encouraging pupils to learn science and for assisting with science instruction. The success of the science club is greatly influenced by the students' interest and excitement as well as the organisers' efforts.

Our approach must focus on building the science skills that engineers and scientists use every day rather than on teaching students science knowledge. It is also commonly acknowledged that science and technology offer future generations a wide range of career opportunities and avenues for economic progress.

Therefore, it is crucial to provide students with a strong foundation in science so they may make decisions about their future based on knowledge of science and awareness of the power science has to influence that future. Hopefully, having this information and understanding will inspire them to choose science courses and pursue professions in the field.

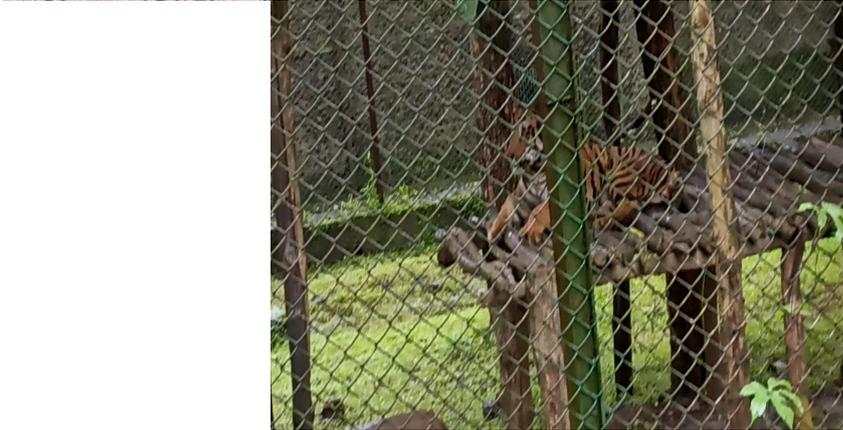
Report prepared by

Mr. Nevelle Coutinho, Roll no. 7 (Student)

Dr. Bijoy K Thomas (Faculty Coordinator)



Photos



*Due to the low network, GIS tag photos are not available.



To,
The In-charge Principal,
St. Xavier's Institute of Education (Autonomous)
40 A New Marine Lines,
Mumbai 400 020

Date: 21/09/2022

Subject: Seeking permission for Science Field Visit on 22nd September 2022

Dear Madam,

As per our discussions, I am writing this letter on behalf of students of Science Pedagogy (Semester II, 2022-23) of SXIE, to seek your approval for the field visit to Sanjay Gandhi National Park, Borivali. The visit is planned for Thursday, 22nd September 2022. This visit is organised as a part of the Science Club activity and as mentioned in the September timetable.

This objective of this visit is to provide the student teachers to acquire direct experience of biodiversity, and provide a practical exposure in organising science field visit as science teachers.

Details of the Visit

Name of the Place : Sanjay Gandhi National Park, Borivali

Date of visit : 22nd September 2022

Time : 11.00 A.M to 5.30 P.M

Approximate amount per head : Rs. 500/-

Details of the Students

1. Akansha Carvalho
2. Gaurav Sant Kunvar
3. Kileshwar Pandey
4. Melissa Karkada
5. Marilyn Almeida
6. Nevelle Coutinho
7. Nicole Gonsalves
8. Sally Rodrigues

I request that you grant us permission for this field visit and allocate the fund once we submit the bills for the expenses incurred on this visit.

Yours Sincerely,



Dr. Bijoy K Thomas
Assistant Professor
Faculty Co-ordinator of SXIE Science Club
St. Xavier's Institute of Education (Autonomous)

Permitted.
M. J. M. M. M.
21/09/2022.



St. Xavier's Institute of Education (Autonomous)

Affiliated to the University of Mumbai - N.C.T.E. Recognised

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NAAC Reaccredited 'A' (2016)

21st September 2022

To Whom It May Concern

This is to grant permission to the following who are the First year (2022-23) students of St. Xavier's Institute of Education (Autonomous), Mumbai for the field visit which will be held on 22nd September 2022 to Sanjay Gandhi National Park, Borivali.

Name of the Students

1. Akansha Carvalho
2. Gaurav Sant Kunvar
3. Kileshwar Pandey
4. Melissa Karkada
5. Marilyn Almeida
6. Nevelle Coutinho
7. Nicole Gonsalves
8. Sally Rodrigues

Name of the Faculty

1. Dr. Bijoy K Thomas

Yours Sincerely,

Prof. Geeta Shetty
In-Charge Principal