

“ Science Is : a source book of fascinating facts, projects and activities” by Susan V. Bosak, second Edition, Scholastic Publishers, (2001), Rs. 500.
“Scholastic Science Dictionary” by Melvin Berger. Scholastic Reference, (2000), \$ 19.95.

There was this child who did not speak until he was three. He did poorly in school and his teachers predicted that he would amount to "nothing good." But when taught how to make buildings from playing cards, he spent countless hours at it, constructing some structures 14 stories high. He also enjoyed making jigsaw puzzles and constructing buildings from prefabricated blocks. These early experiences, combined with his unique intellectual gifts, helped this young man--Albert Einstein--to become one of the most creative scientists ever to expand our knowledge of the world.

Learning, specially learning science by doing is now recognized as the best way to become skilled at science. Science can be defined as a way of observing, thinking and asking questions about the world, and communicating these thoughts to others. Experience and research shows that young children are excited about science when they are given the chance to do science. However, in most schools, either the teachers are not trained to think about science in this way or in some cases where the teachers do take the initiative, there is a tremendous dearth of resource material. “Science Is....” is a wonderful resource book for those teachers who want to break away from the rote-learning mode and try and teach science in a meaningful, creative way.

The book is a comprehensive collection of hands -on activities, experiments and projects that could help the reader to explore the wonders of the world around her. It is divided into 3 major sections in increasing order of complexity. The first part is a long and fairly detailed section on “Using This Book” where the philosophy and methodology of the book is explained for the teachers and parents. Then there is a section on quick and easy projects and activities covering about ten subject areas like discovering science, humans, environment etc. These activities are such that they can be done without any advanced preparation. Then come the activities that require a little bit of planning and take some time. These are the ones in the “Make Time” section that again covers the ten subject areas. But here, the concept, which is used in the activity, is discussed in great detail. The last section is called “One Leads to Another” and here the idea is to have a set of related activities in the subject areas so that the end result is either a project or a detailed understanding of a key concept.

The activities range from the simple minded drawing of figures to illustrate optical illusions to making your own planetarium and an electric motor. The activities mostly use materials that are easily available around the house. Furthermore, there is not very much in the activities or the explanations that is specific to Canada, the country where it was first published. With each activity, there is a lot of information about the scientific concepts involved, which allow the student to connect the theoretical understanding with its demonstration. There is also supplementary information about scientists or curious facts related to the concept. For instance, in the activity on showing that the earth moves, the student is asked to observe how the shadows change during the course of a day. But along with this activity there is a box on leap years, rotation of the earth and so on.

This is an absolutely extraordinary book. It is by far amongst the best book on science that I have come across. The only other books that are similar to this one (though less comprehensive) are the books written by Janice VanCleave on Activity based Science but these are unfortunately not easily available in India. This book is targeted at the middle and secondary level. Though slightly expensive, it is easily affordable by most schools as a resource book to be used by teachers. One hopes that Scholastic will bring out a translation in Indian languages so that it can be used by a wider cross section of teachers. This is certainly a book that should be read by parents to get an idea of how science is not necessarily done in laboratories but can also be learnt by observing the world and asking questions.

The “Scholastic Science dictionary” is also a resource book for children where scientific terms and concepts are explained in an easy to understand language. The book is very well illustrated and the illustrations are used in most cases to give a detailed explanation of the more difficult scientific concepts. There are also biographies of about 140 scientists though the choice of scientists is somewhat unusual. It is certainly up to date as is evident from several entries (like Search Engines) that have their origins in the Internet! Though the book is expensive for most parents, it could serve as a useful resource book for the curious child who is constantly inundated with unfamiliar terms in this technological age.

Science begins for children when they discover that they can learn about the world through their own actions, such as blowing soap bubbles or adding a block that causes a structure to collapse. A child best learns to swim by getting into the water; likewise, a child best learns science by doing science. Hands-on science experiences, together with conversations about what is occurring in the world around us, are the best method for developing children's science process skills. Unfortunately, our education system has taken the fun out of learning in general and learning science in particular. Books like “Science Is...” can serve as a useful antidote to the devastating influence that our educational system has on the minds of young children.