



## LESSON 2 Process Skills in Science for Children: Let us Begin Science

Grade Level: 7-9

### 1. Grades 7-9

**2. Overview** Process skills in science are very important in the formal presentation of science to children. There is a strong belief that children who are properly introduced to science through Process skills will find the skills useful throughout life. While it is possible to easily forget science content learnt, process skills tend to remain with many individuals for a relatively longer period.

**3. Purpose** The purpose of this lesson is to present FIVE out of the many science process skills to children. The five process skills are observing, grouping, measuring, communicating and reading.

**4. Objectives** Students will be able to:

- i. Explain what is meant by Process Skills
- ii. Relate the process skills to their sense organs
- iii. Describe how process skills can be used in everyday living.

**5. Resources/ Materials** A collection of common objects in the school environment and in the community. The following items could be included:

- balloons
- simple bar magnets
- candles
- plants, fruits, and seeds.

**6. Activities and Procedures** Process skills in science for children emphasises the use of our five sense organs. The concept of DOING SCIENCE is very important here. Although there are more than five basic process skills in science, these five, -- observing, classifying, measuring, communicating and reading are considered starting points. Of these, observing is considered the most important and should be emphasised.

There is need for the teacher to be aware of the other process skills mentioned in the science literature. These include hypothesising, experimenting, inferring/concluding. In a way, learning Process skills is a preparation to becoming a scientist. The work of

scientists involves carrying out experiments, recording observations, making measurements and presenting data derived from the experiments. Children can be put through Process skills.

This lesson raises a very important question-"What is Science?". The teacher should approach this question by first establishing the fact that science begins when something happens twice. Science should therefore be presented as a way of finding solution to common every day problems. Indeed, science should be presented as a way of understanding the physical environment in which we live. The processes of science are therefore the tools which scientists use. These tools can also be used by those who are preparing to become scientists.

The study of science at this early stage should be undertaken at places where science occurs. Problems in our environment can occur anywhere. Thus the teacher should let the students realise that science can therefore be studied in various places-at home, in the play ground, on the way to school and then at school.

Observation in science expects the students to pay attention to details. The distinction between seeing, looking and observation should be made very clear. At one end of the spectrum, seeing is presented as a passive approach whereas at the other end of the spectrum is an active approach, observing. Science as is therefore evident is activity oriented. A student who is a good observer is a potential good scientist in the making. The need for scientists to communicate information properly should be underscored. There are many ways of communicating information. The teacher should draw attention to both the verbal and non-verbal ways of communicating information. Young students could be encouraged to communicate information through vivid illustrations.

Finally, Reading has been presented as an important process skill. Students who are preparing to become scientists should be encouraged to read as a way of finding out what others have written.

**7. Tying it all together** Process Skills also sometimes referred to as the Scientific Process is a tool which most rational human beings use. With this tool, problems are unravelled and solutions found. Process Skills should be understood as a useful guide plan. There is still the argument whether Process Skills must follow the sequence in which they are presented. Science we are told begins when an observation is made about a phenomenon. So many educators advise that observation should be the starting point of science. Thereafter, the other skills are used as the need arises.

**8. Assessment** Assessment in Process Skills is rather difficult to undertake by the usual Paper and Pencil method. It has therefore been suggested that Process Skills be assessed through observational techniques. In their Paper presented at a science conference, Omoifo and Oloruntegbe (1999) have suggested that on the spot assessment is an additive to Paper and Pencil test technique for assessing Science Process Skills.

**9. Author(s)** S. T. Bajah,(2000). **Early Learning Science Series for Africa** [ELSSA], [stan@alpha.linkserve.com](mailto:stan@alpha.linkserve.com).

**10. References** Bajah, S. T. (2000). **Let us begin Science**. Ibadan: Childsplay Books Ltd.

Omoifo, C. N. and K. O. Oloruntegbe (1999). " On the-spot Assessment: An Additive to Paper and Pencil Test Technique for Assessing Science Process Skills" STAN 40th Annual Conference Proceedings.