

Designing Environmental Science Worksheets

Chandrika Soni

Environmental Science (EVS) is an academic subject that gives children an opportunity to learn through continuous interaction with the environment. Children understand this subject better because it gives them opportunities to develop various skills, like observing, learning by doing, discovering, gathering information, drawing conclusions by doing experiments and presenting these etc. We, as teachers, also have new experiences while working with children on this subject which enrich our teaching-learning process. The teaching of EVS gives us many opportunities to talk to the children about our society, culture, health and conservation. Children also share their views and experiences.

Textbooks include many things that are useful for children at their (grade) level, but there are limitations. For example, the textbook of Chhattisgarh state has limited information – the whole chapter on agriculture is only around the cultivation of paddy. The same is the case with chapters on festivals, historical places, food and modern family etc. So, while working on these topics, we feel the need to widen the scope of the classroom discussion. In order to do that, we use different types of teaching-learning materials (TLMs), videos and other resources. Videos help us to a great extent, but when it comes to working on skills like reading, writing, and comprehension, worksheets are the best option. Therefore, worksheets are used as per the requirements of

a topic. With the help of worksheets, we are not only able to expose children to various aspects of a topic, but we can also assess the children.

We used worksheets regularly during the pandemic period; they became a medium for us to connect with the children and their parents. We were able to send the subject matter to them with the help of worksheets. Sometimes we were successful, and sometimes we failed; because if the children are able to answer the worksheet themselves or with the help of someone else, then its purpose is served. But if the child gets the whole worksheet answered by someone else, then it becomes a futile exercise. Therefore, while preparing a worksheet, we should keep some important things in mind.

The instructions on the worksheet should be clear, the language used should be simple, the content should be according to the level of the child, appropriate illustrations should be used, and the tasks should cater to the children at different levels so that the children can solve the worksheet on their own. While working on the worksheet, we also realised that we should try to get the opinion of the children about the worksheet given to them. We should ask them whether they like it; if they enjoy doing it. Is there any difficulty? What other information do they want? Do they have any questions?

How did you like this workbook? What was the problem in understanding or solving this? Tell us in writing. You can also give your suggestions.

Figure 1. Questions for children

Allowing space for such questions creates opportunities for self-assessment. Such questions, thoughts or suggestions from children open up avenues for us to do better. Children answered these questions in writing, expressing their enjoyment in solving the worksheet, or that they did not understand certain questions, or liked a particular piece of information and so on. In this way, the worksheet is a link that connects the teacher with the children because it conveys their understanding and ideas to the teacher.

Worksheets as an assessment tool

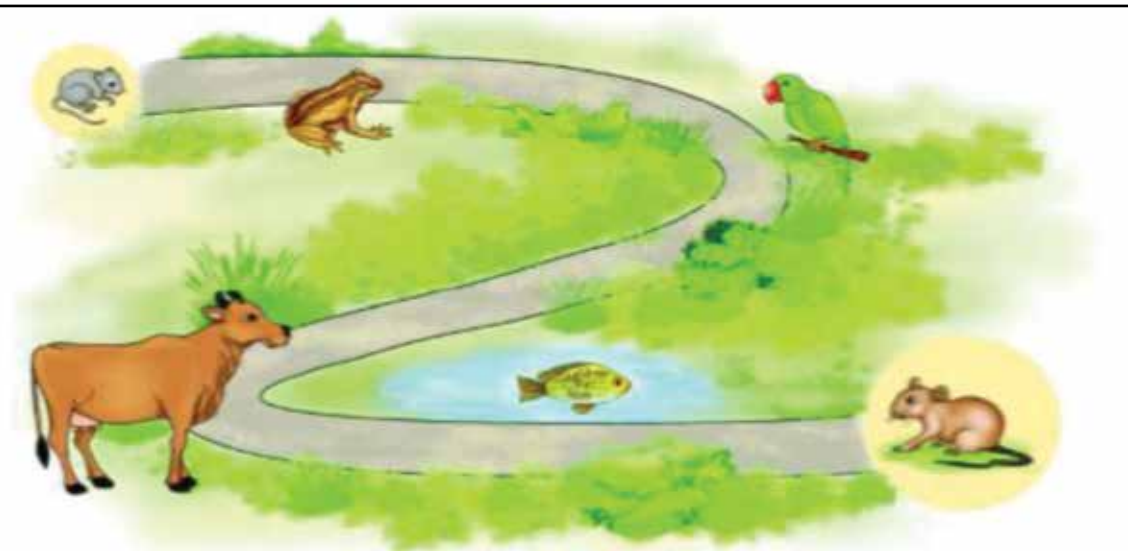
There can be no better way of assessment than when children are solving worksheets in front of the teacher in the classroom because while solving the worksheet, children read, write and look at the pictures with full attention, take help from the teacher when they face a problem. This helps the teacher to check and know each child's level of understanding, their confusion, challenges and also

know whether their problem pertains to language or the subject.

We took several things into account when creating a good worksheet on EVS, for example, in addition to the contents of the textbook, we included information from various sources, such as magazines and the Internet. We included a variety of short stories, poems and pictures so that children could get reading material beyond their books.

For example, in Figure 2, a mouse is searching for his mother. On the way, he meets the animals seen in the picture, but they do not resemble his mother. He meets a frog first. But the mouse felt that the frog did not look like his mother. Further, he meets a parrot. Even the parrot did not look like his mother. Similarly, all the animals he saw on the way, looked different to him. Children are asked to look at the picture and answer questions, such as:

- Is the frog like its mother? _____
- What are the differences between a frog and a mouse? _____



एक चूहा अपनी माँ को ढूँढ़ रहा है। रास्ते में उसे चित्र में दिख रहे जानवर मिलते हैं , लेकिन वे उसे अपनी माँ जैसे नहीं लगते । उसे सबसे पहले मेढक मिलता है । पर वो चूहे को माँ जैसे नहीं लगा, फिर तोता भी नहीं लगा ऐसे ही रास्ते के जानवर उसे अलग लगे ।

प्यारे बच्चों ऊपर दिये चित्र ध्यान से देखिये और बताइये :-

- ❖ क्या मेढक उसकी माँ जैसा है ?-----
- ❖ मेढक और चूहे में क्या-क्या बातें अलग है ?

Figure 2. A short story with questions

For example, while preparing the worksheet on *My Family* for classes III and IV, a short pictorial story was included from the EVS textbook to retain the interest of the children. Similarly, poems and

activities on 'Our Environment' (NCERT) were also included. We also took pictures from the Internet and made an attempt to portray different types of modern families and familiarise the children with them.

नीचे दिये चित्र को ध्यान से देखिये ...



चित्र में आपको एक पालक परिवार (single parent family) दिखाया गया है। आज कल इस तरह के भी परिवार देखने मिलेंगे, जहाँ बच्चों कि देखभाल केवल एक पालक भी कर रहे है , उनके अकेले होने के कई कारण हो सकते है (आगे कभी चर्चा करेंगे)। नीचे कुछ और परिवार के प्रकार (family patterns) दिये गए है , उसे ध्यान से देखिये , और सोचिए इस तरह के परिवार कैसे होते होंगे ?-----

Figure 3. My family worksheet

Rationale and structure

In the picture, single-parent families are shown. Nowadays, such families are common, where only one parent is taking care of the children. There could be many reasons for this, which will be discussed later. Some more family patterns are shown in the next worksheets, look at them carefully and imagine how these types of families must be.

While preparing the worksheet, we kept in mind the essential elements that are required to achieve the prescribed learning outcomes. What should be our objectives when we work on the topic of 'the family' with children who are at this (the current) level? Which skills will we be able to develop better with the help of this topic? How should children solve the worksheet, how much of a topic should they read or solve in a day?

Having decided how much work the children should do on a particular day; the worksheets were divided into day-wise tasks so that the children could work on other subjects as well. The worksheet began with

a short story and the children had to write down their feelings after reading the story. A poem given in the textbook was also included in the first day's work. Children have often been able to connect the ideas of a poem with their personal experiences. I tried to cover all the important things in this worksheet, such as types of relationships; where families live; structure of the family -- joint family, nuclear family; modern family; the importance of family; benefits or problems of living in different types of family structures; reasons for changes in family structure etc.

Other than human beings, we included pictures of animal families so that children could understand that even animals have families, they also live in groups and understand that they are dependent on each other for their existence. Another reason for including pictures of animal families was to develop sensitivity in children for those animals and to understand the co-existence of humans and animals in the environment.



ऊपर दिये चित्रों को ध्यान से देखिये । चित्रों मे आपको विभिन्न जंतुओं के परिवार दिखाई दे रहे होंगे, मनुष्यों जैसे ही इनमे भी प्यार ,परिवार , एकता ,सहयोग ,,एक दूसरे पर निर्भरता,दोस्ती जैसे भाव होते है । क्या आपने ऐसा कुछ (जीव जंतुओं में देखा है)अनुभव किया है ?लिखिए -----

Figure 4. Animal families worksheet

One more section called ‘Family Yesterday, Today and Tomorrow’ was added for the children to give them a new experience. Here different types of families were shown, like a single-parent family, same-sex family, and a family having only pets. We asked the children, according to them, which kind of families do not exist or are impossible to imagine and the children's answers were very amusing.

In the worksheet for class III on this theme, the task of collecting information about adults was also included, so that children could talk to their elders and write answers. Thus, efforts have been made to help the children be aware of and understand various matters. We tried to rectify any shortcomings that were found when children worked on the worksheets.

A final word

We know that there are challenges in whatever we do; in working with worksheets too we constantly face challenges. Some of these include, children not completing the work in the prescribed time or not completing their work at all; getting someone else to do their work instead of doing it themselves. It is not easy to make children, who have some basic difficulty with reading and writing, fill out a worksheet. Despite this, we keep giving them work continuously. Many children are doing well, they are being helped, parents are happy that the children are doing something different, they (especially grandparents) are also learning with the children, and it is very encouraging for us to know all this. And our journey continues.



Chandrika Soni is an EVS teacher in the Azim Premji School, Dhamtari, Chhattisgarh. As a teacher, her special interests include working collaboratively with children, giving new dimensions to their talents through creative pursuits, and skill-oriented teaching of the environment. She can be contacted at chandrika.soni@azimpremjifoundation.org