

## Practical Methods of Teaching Natural Sciences

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### ANNOTATION

*The practical method is determined by the orientation of students' various activities in the learning process. It is the development of a plan, the acquaintance with the body, the formalization of the results of thinking, the conclusion of the work done. This method is widely used because it is the best way to study objects, bodies and natural phenomena.*

**KEYWORDS:** *Definition and significance of the practical method; types of practical method. The process of applying the practical method; experiments; types; fill in the diary; the role of instruments in practical work (thermometer, compass, gnomon stick, globe, etc.).*

The practical method is inextricably linked with the oral and visual methods (demonstration, the teacher's understanding of the task at hand). Before starting any practical work, the teacher sets a task for the students and gives a demonstration of how to do it. It is better to have a problem-solving task. In the process of solving it, the teacher's practical work and logical thinking are combined with knowledge. Practical organization of the learning process in the acquisition of knowledge stimulates the independence and creative thinking of students. The knowledge actively acquired in the course of practical work became not only light and conscious, but also much stronger. The practical method is used when there is a need to acquire new knowledge as a result of active practical and thinking activities. Not only sound education but his alertness and dedication too are most required.

There are several types of applied method: observation laboratory experiments; identification and characterization of living things; work with instruments; practical work in the corner of wildlife and in the field of educational experiments. Observation is the purposeful perception of objects and events in nature, which determines the laws of their common and distinctive features. In the process of observation, students develop observation skills. Observation is a scientific method that prepares students to conduct and conduct more complex research experiments.

The teacher will have a specific task for the observation. Observations are made individually, in groups and frontally. K.D. Ushinskiy, V.P. Vaxterov, L.S. Sevruc, A.Ya. Gerd paid close attention to the observation. A.Ya. In his book, *Living Animals at School*, Gerd argues that student-based actions are equipped with the ability to independently solve learning and practical tasks about a research student. As a result of the observations, in grades 2-3-4, the "Observation Diary" notebook is filled in, and the questions are answered. The processes of growth, development, flowering and fruiting of plants are observed.

Experiments: - is a method of teaching, which is used to determine the laws of the studied objects and phenomena. To do this, it creates new conditions and influences it. At this time, students develop new ideas about science. Experience plays an important role in shaping the materialist worldview, developing logical thinking and speech. They help to clarify abstract concepts and unravel the mysteries of the unknown. For example, a thermometer can be used to determine the movement of mercury over a change in temperature, and to change the temperature of water in one state to two

states only experimentally.

Simple experiments at home and more complex ones are performed by the teacher during the lesson. At this point, it is valuable for students to understand the observation process and learn to describe its results. Students should be aware that the river cools in the fall depending on the position of the sun relative to the ground. Students will learn the reason for this from the following experiment, in which a thin paper ribbon is tied to a lighted candle. One ribbon is held at the top of the candle and 2 are held a little farther away from the candle. Students should say which paper tapes were closed first and explain why. Students should notice that this experiment helps explain how sunlight warms the surface in summer and autumn. Based on the experiment, students conclude that the sun goes down on the earth in the fall. Its sloping rays penetrate the earth's surface and do not heat the air. So it starts to get cold in the fall.

To reinforce the lesson, the teacher and the student can draw or describe their experiences, sometimes describing both. In Grade 4, an experiment will be conducted on "The Impact of Perennial Ornamental and Onion Vegetable Plants on Flowering Time and Abundance". To do this, by planting these plants in the experimental plot, students observe the growth of experimental and control plants in parallel, compare them, record the results of their work, draw a picture, write in their notebooks. write their conclusions, mark the differences. Children will gain a deeper understanding of the material during this experiment before learning about the topic. To create a problem situation during the experiment: how to prove it, how to determine it, what do you see now? How do you explain these processes? Why do you think so? At the end of the experiment, students draw reliable conclusions.

In 4th grade, laboratory experiments in the study of "Soil, its composition, soil types" deepen students' knowledge. Each unit conducts experiments on sandy, loamy, and ice and other types of soils. There is a discussion about the importance of soil to plants and the task to know: "After rain, in some places the water is quickly drained, in others it is stored for a long time and a puddle is formed, and then it appears in the soil. 'Explain why. Prove in practice which soil is better permeable. "

Students will receive a written assignment:

Task 1. Consider a glass of water: 1 cup / numbered / sandy soil, and 2 glasses of muddy soil. Pour the same amount of water into the glasses, marked with a dash. Observe which glass absorbs water faster. Before completing Task 2, the teacher asks a problematic question: why is the soil more colorful and scattered? Students receive soil from the experimental plot.

Assignment 2. Add soil to a glass of water: mix manure in 1 and sand in 2 and mix carefully. During this time, students will see a soil sample for 3-5 minutes and work with the textbook. Then they conclude that the water in the 1st glass is dark and does not stay long, the 2nd glass of sand settles, and a layer of fresh water is formed on top. Based on the results, the interview will be conducted and summarized. Extracurricular activities can be conducted to determine whether different soils are divided into different mineral salts. It is also possible to conduct experiments to identify control objects and research objects by comparing their common and distinctive features. Such experiments will be conducted on the plants in the wildlife corner as well as on the training and experimental plot. For example, after studying vegetables and grains,

Grade 3 prepares for spring-summer field experiments: "Determining the effect of sowing time and germination on carrot yield", "Determining the effect of irrigation on cucumber yield", "Effect of nutrition on wheat yield" Experiments on "Learning", "Name". An experimental plan will be developed for this. There will be a "study" and a phenological observation diary. Students will learn the concepts of "experimental field" and "control field" in the learning area.

Thus, each learning experience allows us to determine the cause-and-effect relationship between the body and the event. Its results are the criterion of truth. Experiments are needed to develop students' scientific knowledge and practical skills. Practical work in the classroom will be related to handouts. At this time, the activity of the sensory organs of students increases, the ability to receive expands. Students will have a small experiment. For example, using an object or a hammer to determine the brittleness of an object, they determine its flexibility by bending. Handouts are insects, plants and their parts, and small animals. Before the start of the practical work, the purpose of the work is announced, the teacher gives instructions, the content of the assignment is explained, materials are distributed, the results of the observation work are discussed, conclusions are written in a notebook, pictures are drawn. During the practical work, the teacher helps and activates some students. It is very important to carry out practical work in the corner of wildlife. It involves long-term observation and experimentation.

The practical work carried out in the corner of wildlife, first of all, explains its purpose and sequence. Students should be given a questionnaire. The results of the work in the corner of nature are used in the study of relevant topics. In the process of practical work, the teacher gives additional explanations, evaluates them as work, encourages those who do well, suggests correcting mistakes. At the end of the lesson, the final conversation ends: the lesson identifies what new information the children have learned and what they can do.

At the end, the teacher explains how the seeds planted or the experiments were organized. Organizing practical work during the trip will be very effective in achieving the desired goal. Independent work will focus on collecting plant leaves, measuring, comparing the appearance of plants, studying medicinal plants, and collecting minerals and insect collections. Before starting the practical work, the teacher gives an assignment, that is, introduces the method of work - how to collect leaves, how to cut branches, how to dig up plants; the fringe is shown how to use it and is given to them from the ground during a similar operation. Particular attention will be paid to the development of visual aids during the trip. These include soil types, minerals, insect collections, cabbage butterfly, mulberry silkworm development: different plant groups - leaf species, color changes, the country's ornamental trees, shrubs, grasses 'herbariums are prepared on the stages of development of plants, seeds from plants. These exhibits decorate the science classroom and are used in the classroom. Thus, in the course of the lessons, the teacher uses a variety of methods and techniques, which must be complex, complementary, and they are well received by the children of the objects and phenomena being studied, and the course. should ensure the correct formulation of concepts

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