

THEORETICAL AND PRACTICAL KNOWLEDGE IN LEARNING PHYSICS

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<https://doi.org/10.5281/zenodo.8176591>

Abstract: The article shows the methods that should be used in classes to make students interested in physics from the 6th-7th grades, to be able to understand and imagine physical phenomena, to be able to use formulas in their place, to learn important physical concepts and laws by conducting simple experiments, and to be able to think correctly.

Keywords: Practical knowledge, physical phenomena, observation, experience, question-and-answer game, force impulse, body momentum, conservation laws, picture problems, theoretical knowledge, research

The Theoretical and practical knowledge in the study of physics is the main part of physics. This knowledge helps to understand, use and implement the principles of physics. Physics is distinguished from other sciences by a number of its features. Being included among the natural sciences, it is at the same time an exact science, and in turn, in some cases, we can call it an applied science. In the process of studying science, it requires the student to be quick, think independently, observe theoretically proven phenomena through direct experiments, and observe the requirements, and this process shows its positive indicators only after it is carried out regularly. That is, it expands the student's scientific worldview and the world of imagination, develops the ability to think correctly, understands the essence of phenomena and can apply formulas in their place, introduces the world of techniques and technologies, and ultimately encourages creativity. Theoretical knowledge helps to learn the basic concepts and laws of physics. These include topics such as rules, understanding natural processes, calculating energy and forces, and understanding motion. Mathematics and modeling methods are also widely used on the basis of theoretical knowledge.

Practical knowledge helps to test the principles of physics through physical experiments and technical tools based on theoretical knowledge. Based on this knowledge, laboratory work, experiments and quality educational materials are used.

In studying physics, theoretical and practical knowledge are interrelated. Theoretical knowledge has a theoretical basis, while applied knowledge provides appropriate methods for testing these theories. People with both of these knowledges enable physicists to analyze problems, conduct new research, and develop technical tools.

Theoretical and practical knowledge in the study of physics gives every student the opportunity to understand the principles of physics and apply them in practice. This knowledge helps to develop interests in the natural sciences and pave the way for scientific careers. Arousing the student's interest in physics largely depends on the teacher's pedagogical skills, ability to apply scientific knowledge in everyday life, reveal the essence of phenomena and explain them in correct, short, easy ways. This encourages the teacher to regularly work on himself and think creatively.

In the process of teaching science, students can be shown simple experiments, and if necessary, experiments that can be performed at home independently or with the help of their parents can be assigned. For example, in the early stages, tasks related to observing the movement of a car, bicycle, clock, and the movement of attractions in the children's

playground should be given. In the next stages, after slowly explaining how to perform simple experiments, independent performance and conclusion tasks are given.

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Of course, giving information about the mechanisms used by our scholars in the past, the tools created by them, awakens a sense of national pride in the heart of the student. It is of great practical importance to define the teaching words of our grandfathers as the motto of the lesson in accordance with the topics, and to explain the application of the physical law in life.

In conclusion, it is worth mentioning that in the teaching of science, we should not rely only on theoretical knowledge, but should be able to connect with natural phenomena, lifestyle, and correctly analyze these phenomena to create formulas and rules.

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