оказывают влияние на кинетику кристаллизации, значительно увеличивают плотность упаковки макромолекул. В результате этого полимерных цепей возрастает молекулярное воздействие и затрудняется движение кинематических сегментов, т.е. часть примесных полярных радикалов теряет подвижность, попадая в кристаллические области.

Литература

"PHYSICAL EXPERIMENT IN TEACHING PHYSICS"

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The importance of laboratory studies in physics lies in the fact that students form an idea of the role and place of an experiment in cognition. When students perform experiments, experimental skills are formed, which include both intellectual and practical skills. The first group includes the skills: to determine the purpose of the experiment, put forward hypotheses, select instruments, plan an experiment, calculate errors, analyze results, and issue a report on the work done. The second group includes skills: to assemble an experimental setup, observe, measure, experiment. In addition, the value of a laboratory experiment is that when it is performed, students develop important personal qualities such as accuracy in working with instruments; the observance of cleanliness and order in the workplace, in the records that are made during the experiment, organization, perseverance in obtaining a result. They form a certain culture of mental and physical labor. [5]

Frontal laboratory work is a type of practical work when all students in a class simultaneously perform the same type of experiment using the same equipment. Accordingly, in the office should be 15-20 sets of instruments for frontal laboratory work. The names of frontal laboratory work are given in the curriculum. There are many of them, they are provided for almost every topic of the physics course. Before carrying out
to consciously do the work, determines its purpose together with them, and discusses the progress of the work, the rules for working with the instruments, methods for calculating measurement errors. Frontal laboratory works are not very complex in content, are closely related chronologically to the material under study and are designed, as a rule, for one lesson. Descriptions of laboratory work can be found in school textbooks on physics.

The physical workshop is conducted with the aim of repeating, deepening, expanding and generalizing the knowledge gained from various topics of the course in physics; development and improvement of experimental skills in students through the use of more sophisticated equipment, more complex experiment; the formation of their independence in solving problems associated with the experiment. The physical workshop is not related in time to the material under study, it is conducted, as a rule, at the end of the school year, sometimes at the end of the first and second half of the year and includes a series of experiments on a particular topic. Physical practical work students perform in a group of 2-4 people on a variety of equipment; in the next classes, there is a change of work, which is done according to a specially drawn up schedule. Drawing up a schedule, take into account the number of students in the class, the number of practical work, the availability of equipment. For each job, the teacher must make a statement that should contain: name, purpose, list of instruments and equipment, a brief theory, a description of the instruments unknown to the student, a plan for completing the work. After the work, students should submit a report, which should contain: job name, work goal, instrument list, installation diagram or figure, work execution plan, results table, formulas from which values were calculated, measurement error calculations, and conclusions. [6]

Interesting experiments in physics can not only illustrate various physical processes, but also stimulate cognitive activity and the desire to learn. An interesting confirmation of the existence of inertia is an ordinary top. Each particle of the top moves in a circle in a plane perpendicular to the axis of rotation. According to the law of inertia, the particle at each moment of time tends to move so that all the time to remain in a plane perpendicular to the common perpendicular to them, i.e. the axis of rotation itself, also seeks to maintain its balance, the top seems to resist trying to overturn it. The more massive the top and the faster it rotates, the more stubbornly it counteracts the rollover. So in the laboratory, you can do the following experiment. Take a centrifugal machine and let them fall freely from the same height. Why metal disc will fall faster than paper? Put the paper disk on the metal and let them fall freely. Why in this case they fall at the same time? [1]

Answer: Two forces act on each disk: the force of gravity and the force of air resistance. At the beginning of the motion, the resultant of these forces is directed downwards, more for a metal disk, so it will move with greater acceleration. But with increasing speed, the air resistance force will increase and become equal to gravity. As a result, both disks will move uniformly, but the metal disk will move with greater speed. (A similar situation occurs when the parachutist is in a state of free flight: jumping out of an airplane, he has a relatively low speed and then accelerates to about 50 m / s, these two forces are balanced and he falls at a constant speed).

In the second case, the air resistance will overcome only the metal disk, and the force of gravity gives the bodies equal accelerations regardless of their masses.

Take two sheets of paper of the same size and weight. Crumple one sheet. Simultaneously release the sheets from the same height. Why does the crumpled sheet fall faster?

Answer: A crumpled piece of paper falls faster, as it is affected by less air resistance.

Friction is a type of interaction between bodies. It occurs when two bodies come into contact. Friction, like all other types of interaction, obeys Newton's third law: if a friction force acts on one of the bodies, then the force of the same magnitude, but in the opposite direction, acts on the second body. The forces of friction, as well as the elastic forces, have an electromagnetic nature. They arise as a result of the interaction between atoms and molecules of contiguous bodies. Dry friction forces are the forces that arise when two solid bodies come into contact in the absence of a liquid or gaseous
layer between them. They are always directed tangentially to touching surfaces. Dry friction that occurs when bodies are relatively at rest is called resting friction. The force of static friction is always equal in magnitude to the external force and directed in the opposite direction.

Here is an experience showing what happens if the action of the friction force is small. Take a silk thread. We tie its end to knots to any load and pull the second end of the thread. The knots will be untied. Or there is an even more difficult experience to explain. Take a ruler and place it horizontally on your index fingers. Slowly move your fingers to the center of the ruler. Why does the ruler move one by one, then by another finger? [2]

Answer: The force of pressure from the ruler to the fingers changes with movement. Thus, the friction force between the fingers and the ruler also changes. If one finger is closer to the center, then pressure acts more on it. Between it and the ruler, there is a large pressure force, so the second finger moves, and so on.

Already in the definition of physics as a science, there is a combination of both theoretical and practical parts in it. It is considered important that, in the process of teaching physics, a teacher can demonstrate as fully as possible to his students the interrelation of these parts. After all, when students feel this relationship, they will be able to give the correct theoretical explanation to many processes occurring around them in everyday life, in nature. This may be an indicator of fairly complete ownership of the material. What forms of practical training can be offered in addition to the teacher’s story? First of all, of course, students observe the demonstration of experiments conducted by the teacher in the classroom while explaining new material or repeating the lessons, one can also offer experiments conducted by the students themselves in the classroom during the lessons in the course of frontal laboratory work under the direct supervision of the teacher. [7]

You can also offer:
1) experiments conducted by the students themselves in the classroom during a physical workshop;
2) demonstration experiments conducted by students in response;
3) experiments conducted by students outside the school on the teacher’s homework; 4) observations of short-term and long-term phenomena of nature, technology and life, conducted by students at home on the special assignments of the teacher.

Experience not only teaches, it fascinates the student, makes better understand the phenomenon that he demonstrates. After all, it is known that a person interested in the final result achieves success. So in this case, having interested the student, we will continue the craving for knowledge.

**Literature**
3. Methodical literature on the course of physics
   WWW.METODIST.RU
4. Collection of physical laws “Bernoulli’s law”
   WWW.ADNET.RU