GALAXY INTERNATIONAL INTERDISCIPLINARY RESEARCH JOURNAL (GIIRJ)
ISSN (E): 2347-6915
Vol. 9, Issue 10, Oct. (2021)

ORGANIZE LEADER LEARNING ACTIVITIES OF STUDENTS SEMINAR CLASSES

Tursunov Chingiz Abduramonovich
Termez branch of Tashkent State Technical University

ABSTRACT

In the article, seminars are an active form of independent work of students. It is in these lessons that the full realization of the "teacher – student" relationship can be achieved, students can consciously master the material studied, get answers to incomprehensible questions. In a number of cases, there is a discussion in the classroom, in which students argue and convince others of the ideas put forward, stating that students need to expand their knowledge.

Keywords: Experiment, practical, occupation, lens, portrayal

INTRODUCTION

During the seminar there is an opportunity to monitor the independent work of students and evaluate their mastery and work with additional literature. Pre – seminar interviews will be conducted. At the same time, the teacher provides an understanding of this type of training and the requirements for its preparation.

N.P. Guzik skillfully combines lecture – seminar methods with other teaching methods. This system of work includes the following five types of lessons:

1. Lectures.
2. Combined seminars with individual work of students on the educational material.
3. Lessons on generalization and systematization of knowledge, which are also conducted in the form of tests on previously studied topics.
4. Lessons on interdisciplinary generalization of material.
5. Lessons in the form of practical classes.

MATERIAL AND METHODS

It allows the bulk of the reading to take place in the classroom itself, with the exception of traditional reproductive homework, which is replaced by creative independent work. This system activates the process of independent work of all students in the classroom and helps them to develop as much as possible, mentally. Such methods of work help children to cooperate in all aspects of the learning process. Students are given a special time to repeat the subject several times in order to present the material in different ways and in different ways. All this helps students to fully and deeply master the learning material.

The role of physical experience and problematic issues in strengthening students' theoretical knowledge, forming in them an ecological belief, the right attitude to work and directing them to scientific research is enormous. Physical experiments used in the practice of teaching physics are divided into two types:

1. Demonstration experiments. They are mostly done by the teacher.
2. Learning experiments (laboratory experiments), practical classes, internships, solving experimental problems, etc. Are performed by students themselves.

Demonstration experiments are conducted primarily when students are unfamiliar with the topic and events being studied in advance and are not ready to observe. At this time, the teacher not only demonstrates the topic to be studied, but also organizes its observation.

Learning experiences performed by students are a form of independent work. At the same time, students' independent work in seminars consists of laboratory experiments, practical exercises and solving experimental problems, which are carried out as a whole or in groups, aimed at learning, testing and strengthening a new topic. We recommend the following experimental problem.

The lens slides between the stationary object h_1 and h_2 the screen. What size is the item?

Given

$h_1=h_2$

Solve

Since the lens is not changed, its focal length will be the same in both cases.

F=const;

$f_1+d_1=f_2+d_2$

$\frac{1}{F}=\frac{1}{f_1}+\frac{1}{d_1}$

$\frac{1}{F}=\frac{1}{f_2}+\frac{1}{d_2}$ $\frac{1}{F}=\frac{1}{F}$

h=? $\frac{1}{f_1}+\frac{1}{d_1}=\frac{1}{f_2}+\frac{1}{d_2}$: (1)

The distance between the appliance and the screen is the same $f_2 + d_1 = f_2 + d_2$; (2)

In the first case, the magnification of the lens in the second case;

$K_1=\frac{f_1}{d_1}=\frac{h}{h_1}=>f_1\frac{h_1d_1}{h}$ $K_2=\frac{f_2}{d_2}=\frac{h}{h_2}=>f_2\frac{h_2d_2}{h}$

We find h by substituting the value of f_1 va f_2 into formulas (1) and (2).

(1) $\frac{1}{\frac{h_1d_1}{h}}+\frac{1}{d_1}=\frac{1}{\frac{h_2d_2}{h}}+\frac{1}{d_2}$

(2) $\frac{h_1d_1}{h}+d_1=\frac{h_2d_2}{h}+d_2$

$\left(\frac{h}{h_1}+1\right)\frac{1}{d_1}=(\frac{h}{h_2}+1)\frac{1}{d_2}$ $h_1d_1+hd_1=h_2d_2+hd_2$

$d_1(h_1+h)=d_2(h_2+h)$

$\frac{d_1}{d_2}=\frac{\frac{h}{h_1}+1}{\frac{h}{h_2}}=\frac{(h+h_1)h_2}{(h+h_2)h_1}$ $\frac{d_1}{d_2}=\frac{h_2+h}{h_1+h}$

$\frac{d_1}{d_2}=\frac{d_1}{d_2}=>\frac{(h+h_1)h_2}{(h+h_2)h_1}=\frac{(h+h_2)}{(h+h_1)}$

$(h+h_1)^2h_1=(h+h_1)^2h_2$

$(h^2+2hh_2+h_2^2)h_1=(h^2=2hh_1+h_1^2)h_2$

$h^2h_1+2hh_2h_1+h_2^2h_1=h^2h_2+2hh_2h_1+h_1^2h_2$

$h^2h_1-h^2h_2=h_1h_2-h_2^2h_1$

$h_2(h_1-h_2)=h_1h_2(h_1-h_2)$

$h^2=h_1*h_2$

$h=\sqrt{h_1*h_2}$ Answer: $\sqrt{h_1*h_2}$

Since the lens is not changed, its focal length will be the same in both cases

Problems in which the object of study consists of connection graphs of physical quantities are called graphical problems.

RESULTS

In some cases these graphs are given in terms of issues, and in some cases they need to be aggregated.

When solving graphic problems:

• Students should have the skills and competencies to "Read" graphs and create simple graphs.

• Increasing the complexity of working with graphs, encourage students to find quantitative relationships between quantities until they can build equations.

The steps for solving graphical problems are as follows:

1) if a graph of the connections between the quantities is given, then it is necessary to explain it, to study the nature of the connection in each section; 2) using the scale to find the quantities (values on the abscissa and ordinate axes) sought from the graph; 3) If a link graph is not provided, then a graph is created based on the values obtained from special tables or the condition of the problem. To do this, the coordinate axes are drawn, a certain scale is selected, tables are drawn, and then the corresponding points are placed on the ordinates and abscissae corresponding to the plane with the coordinate axes. By combining these points, a graph of the relationship between the physical quantities is made, which is then studied in the order mentioned above.

As an example, we see the following issue.

Describe how objects move and write the velocity formula for each movement.

Students independently analyze the movement by looking at the graph.

Analyze each view of the graph separately.

1. The movements in the graph are analyzed by the students as follows:

a) If the speed increases over time, then the motion is accelerating.

b) Slowing down if the speed decreases over time.

c) If the speed remains constant, there will be a smooth motion.

2. For variable motion acceleration is determined $a = \frac{\Delta v}{\Delta t}$.

3. Write the velocity formula from the acceleration formula for smooth variable motion.

$v = v_0 = a \cdot t$ will be.

4. Constant quantities are determined from the graph: From the velocity axis v_0 and by calculation

$a = \frac{\Delta v}{\Delta t} = \frac{v_2 - v_1}{t_2 - t_1}$

found. v_0 and a the value of is put into the general formula.

In order to draw conclusions based on the students 'answers, how the teacher analyzes the graphs based on the theoretical knowledge acquired by the students, the analysis of the graphs based on their independent thinking is considered.

I - is a flat accelerating motion with an initial velocity of zero on the graph.

II - is a smooth accelerating motion with an initial velocity of 2m/h.

III - is a smooth decelerating motion with an initial velocity of 7m/h.

IV - is a special case of a plane accelerating motion with an initial velocity equal to zero.
V - is a straight motion with velocity $v = 4\ m/h$.
Based on the above conclusions, the equations are written by putting the acceleration values in the velocity formula:

$$v_0 = 0 \quad a = \frac{7}{5} = 1{,}4\ m/h^2$$

$$v_0 = 2m/h \quad a = \frac{7-2}{5} = 1\ m/h^2$$

$$v_0 = 7m/h \quad a = \frac{0-7}{6} = 1{,}2\ m/h^2$$

$$v_0 = 0 \quad a = \frac{7}{5-2} = 2{,}33\ m/h^2$$
$$v_0 = 3m/h \quad a = 0$$

smooth movement. It can be thought of as a special case of a plane variable motion with acceleration equal to 0.
$v = v_0 + 0 \cdot t = v_0$ is analyzed. Based on these ideas, the issue is considered fully worked out on a graphic basis.

DISCUSSION

Such problematic issues do not fail to interest students. Other students want to solve the problem in such a sequence. Knowledge increases for students during the seminar. Especially since the issue is shown in practice, it becomes more interesting and meaningful. Students solve problems independently:
- Strengthens theoretical knowledge;
- The ability to think independently is formed and developed;
- Studies the relationships between physical quantities;
- Achieve conscious mastery of the laws of physics;
- Develops the ability to create graphs depending on the conditions of the problem;
- Learns to record the given physical quantities according to graphs.

REFERENCES

1) Babanskiy Yu.K. Methods of prediction of physical education in the middle school. –M .: Enlightenment. 1968. –199 p.
2) Kabardin O.F. Methodical bases of physical experiment. // J. Physics in school. 1985. № 2. S. 3– 9.
3) Pyorishkin A.V. Fundamentals of physics teaching methods. - T .: Teacher. 1990. - 320 p.
4) Yusupov A., Yusupov R. A set of questions and problems from physics. –T .: Teacher. 2000. - 64b.