Affordable essay writing service - modern school

Begin a series of articles about the problems and outdated concepts in the school curriculum and we offer you to speculate about why students need physics, and why today it is taught not as I would like.

What the modern student is studying physics? Or that he wasn't tired of parents and teachers, or then to pass the exam of choice to collect the required number of points and to get into a good University. There is another option that the student is the physics of love, but that love usually exists as something separate from the school curriculum.

Do you know the physics?

In any of these cases, teaching is conducted according to the same scheme. It adapts to the system of self control — the knowledge must be presented in such form that they can be easily checked. This is the system of UNIFIED state exams, and preparation for these exams, as a result, becomes the main purpose of training.

How to construct the exam in physics in its current version? Job exams are created by a special codifier, which includes formulas that, in theory, should know every student. It is about hundreds of formulas for all sections of the school curriculum, from kinematics to nuclear physics.

Most of the job — around 80% — is aimed at the application of these formulas. Where other solutions cannot be used: framed formula which is not in the list — did not get some amount of points even if the answer has converged. And only the remaining 20% is on the understanding.

As a result the main goal of teaching is to ensure that students knew the formulas and could use it. And all of physics is reduced to simple combinatorics: read the conditions of the problem, understand what is the formula you need, turn need performance and just get the result.

In elite and specialized physical and mathematical schools, of course, arranged differently. There, as in preparation for the various Olympiads, there is some element of creativity, and combinatorics formulas become much more complicated. But we are here interested in the basic physics program and its shortcomings.

The history of physical and mathematical schools in the program of Lev Lurie: "These people taught that every statement is necessary to prove, is a very controversial thesis from the point of view of Soviet reality".

Source: 5-tv.ru

Standard tasks abstract and theoretical construct that should know an ordinary schoolboy, disappear very quickly from the head. The result is physics after high school, nobody knows — except the minority, which is why it is interesting or have a degree.

It turns out that science, whose main goal was the knowledge of nature and the physical world, the school becomes utterly abstract and remote from everyday human experience. Physics, like other subjects, rote learning is taught and when in high school the amount of knowledge to be learned increases dramatically, all to hack is just not possible.

Obviously "formulaic" approach to learning.

But it would be optional, if the purpose of training was not the use of formulas and understanding of the subject. To understand this, ultimately, is much easier than cramming.

The picture of the world Forming

The theoretical minimum: physics for advanced

Consider, for example, how do the books Yakov Perelman "Amusing physics", "Entertaining mathematics", which was read by many generations of students and after-school students. Almost every paragraph paralemniscal "Physics" teaches us to raise questions which every child can ask yourself, starting from elementary logic and life experience.

Problems which we here propose to solve — not quantitative but qualitative: it is necessary to calculate not some abstract figure like efficiency, and to speculate why perpetual motion is impossible in reality, is it possible to shoot out of a cannon to the moon; you have to do tests and to assess what will be the effect of any physical interaction.

An example of "Entertaining physics" 1932: the problem of Krylov Swan, cancer and pike, and resolved according to the rules of mechanics. The resultant (AR) has to engage in the water who.

In a word, to memorize the formula here is not necessarily — the main thing is to understand how physical laws are subject to the objects of reality. The only problem is that knowledge of this kind is much more difficult amenable to objective verification than the presence in the mind of the student the exact set of formulas and equations.

That is why physics for the average student turns stupid cramming, and at best — a kind of abstract mind game. Forming in humans a complete picture of the world — not the kind of task that performs de facto the current system of education. In this respect, by the way, it's not too different from the Soviet, which many tend to overestimate (because before we say, the atomic bomb was developed and flew into space, and now only the oil can sell).

Knowledge of physics, students after school now, as then, are divided roughly into two categories: those who know her very well, and those who do not know at all. The second category, the situation is particularly worse when the teaching of physics in grade 7-11 has decreased from 5 to 2 hours a week.

The majority of pupils physics formulas and theories do not really need (what they understand), and most importantly — not interested in abstract and dry form in which they are presented now. In the end, mass education does not perform any function — only taking time and effort. Pupils not less than the teachers.

Attention: a wrong approach to the teaching of the exact Sciences can have devastating consequences

If the task of the school curriculum was the formation of the world picture, the situation would be completely different.

Of course, there must be specialized classes, which are taught to solve complex problems and deeply familiar with the theory, which no longer intersects with everyday experience. But the usual "mass" student would be more interesting and useful to know how the laws works in the physical world in which he lives.

Lecture by Walter Lewin — a good example of how to combine physical theory and formulas with specific observations.

Source: youtube.com

Entertainment science in the movies: what YouTube channels to subscribe

It is certainly not confined to schoolchildren instead of textbooks read Perelman. You need to change the approach to teaching. Many of the sections (e.g., quantum mechanics) could be deleted from the curriculum, others to cut or to reconsider, if not for the ubiquitous organizational difficulties, the fundamental conservatism of the subject and the educational system as a whole.

But allow yourself a little dream. After these changes, maybe, and would increase overall social adequacy: people would be less believed every torsion speculators, speculating on "the protection of bio-field" and "normalization of the affordable essay writing service aura" with the help of simple tools and pieces of unknown minerals.

All these consequences of the vicious system of education we have seen in the 90s when the most successful fraud even enjoyed considerable sums from the state budget, observed today, albeit on a smaller scale.

The famous Grigory Grabovoy not only assured that can resurrect people, but also took away the power of thought asteroids from Earth and "psychic has diagnostirovat" government aircraft. It was patronized by no one else but General Georgy Rogozin, Deputy head of the security Service under the RF President.

Source: vk.com

After all, the present of the student — a future President, an official, a businessman or an accountant. Better that he doesn't know all the formulas of the codifier, but at least understands that you can not laser to extract the energy from the stone to use to supply power to the vortex generators, which does not apply the law of conservation of energy, and is not afraid that televisions and computers using electromagnetic fields to manipulate his nervous system.

A large part of the thoughts expressed above are based on the opinions of practicing teachers. Special thanks for the story and advice — Anton Sakino, assistant of the Department of high energy physics and elementary particles, St. Petersburg state University and the physics teacher in 10th grade.

In the design of the article used the image of the "dream Team of physicists", "Flickr".