

STEM Discovery Week 2018

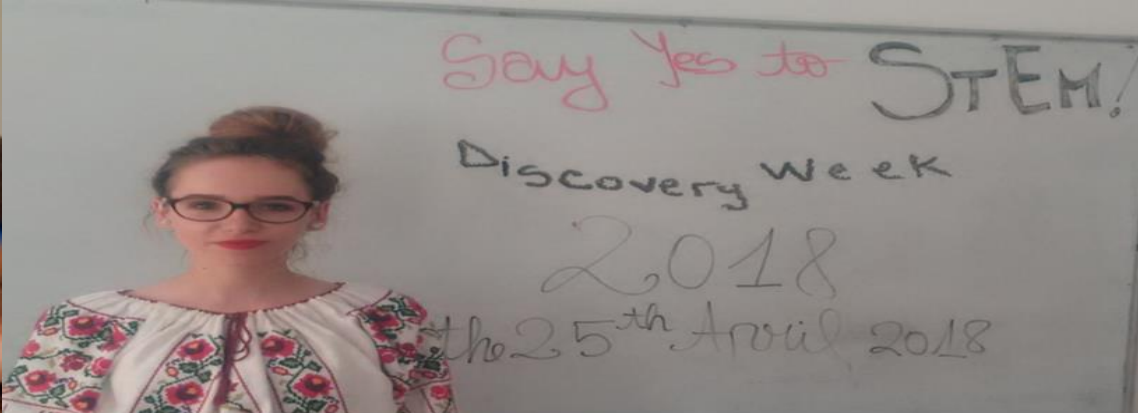
at the "Grigore Antipa" Theoretical High School in Botosani, Romania



A promotional graphic for STEM Discovery Week 2018. It features a young woman with long brown hair holding a yellow and black robotic arm. The text "Say Yes to STEM!" is written in a white box. Below it, the word "STEM" is written in large, colorful letters (S in green, T in blue, E in red, M in black) with icons of a person, a computer monitor, and a gear. Underneath, it says "Discovery Week 23-29 April 2018". At the bottom, it reads "Learning Sciences through practice 25.04.2018 ora 11". The title "Derivable functions" is written in a large, white, serif font at the bottom of the graphic, with a reflection effect below it.

In order to obtain remarkable results at national exams, mathematics and physics teachers introduced a mathematical problem with practical applicability, making the notion of derivation of a function evident. Students gave other practical examples and then debated the theoretical applicability of the theme.

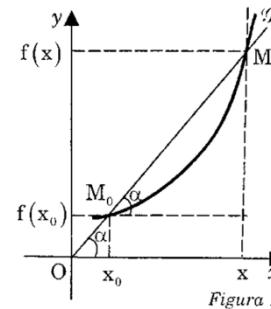
**Planned, organized and live activity by the teacher
Voinea-Axinte Costică**



The notion of derivative of the function f The problem of tangent to a curve

The slope or angular coefficient of the tangent at M at the G_f curve is:

$$m = \lim_{x \rightarrow x_0} \frac{f(x) - f(x_0)}{x - x_0}$$



The problem of the instantaneous speed of a mobile

$$v(t_0) = \lim_{t \rightarrow t_0} \frac{s(t) - s(t_0)}{t - t_0}$$

Mathematical

Physics



The design of the notion targeted - Interdisciplinarity– a lesson in which teaching - learning was done by correlating learning objects between mathematics and physics, activating students, stimulating creativity and contributing to the unity of the educational - educational process, to the formation of a man with a vast culture.

- 1. QUESTION-INVESTIGATION: The notion of derivative in mathematics or physics?**
- 2. SELECTION OF THE PROFESSIONS PROVIDED BY THE TEACHERS:** By working on the distributed workbooks organized by groups, the pupils have determined and collected the scientific evidence to explain the answers to the question
- 3. I RECEIVE INDICATORS:** Students were instructed by the teacher to alternative resources
- 4. CONNECTING RESOURCES TO SCIENTIFIC KNOWLEDGE:** Students have found and examined alternative resources to form links to scientific knowledge
- 5. ANALYSIS:** Students have decided how to structure their analyzes of the investigation process and their learning.



I saw happy students!

THANK YOU
European Schoolnet

Recommendations and suggestions

- **Promoting interdisciplinarity / transdisciplinarity** in current education is a necessity imposed by cognitive changes and accumulations in many areas of knowledge, as well as the complexity and diversity of the problems faced by mankind.
- Today, more than ever, **the teenager must assume roles and responsibilities**, make decisions for others, respond quickly and well to the various challenges of life; success and performance only arise if it has integrated knowledge, if it looks at reality as a unitary image and if it thinks flexible and creative.
- **Mathematics, as the basic discipline in the curriculum "Sciences", overtakes theoretically all disciplines.**

Mathematics offers interdisciplinary cognitive bridges for all educational disciplines.

Say yes STEM