2018-1-TR01-KA229-059796_3

CODEinMATHS

CREATIVE OPINIONS DIFFERENTIATE EDUCATION IN MATHS

Magazine No. 1, 2019

September 2018 - February 2019

Co-funded by the
Erasmus+ Programme
of the European Union

CREATIVE OPINIONS DIFFERENTIATE EDUCATION IN MATHS

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ISSN 2668-4276, ISSN-L 2668-4276

Co-funded by the Erasmus+ Programme of the European Union

Project Title: Creative Opinions Differentiate Education In Maths

Project Acronym: C.O.D.E in Maths

Main objective of the project: Exchange of Good Practices
Project Start Date: 01-09-2018
Project End Date: 31-08-2020
Project Total Duration: 24 months
Applicant Organisation: Denizli Erbakir Fen Lisesi, Turkey
Website: https://codeinmaths.weebly.com

Partner Organisations:

Colegiul Tehnic ”Gheorghe Cartianu”, Romania

Technikum Informatyki Edukacji Innowacyjnej, Poland

Istituto Tecnico Settore Tecnologico - Liceo Scientifico "E. Mattei", Italy

Centro Integrado De Formación Profesional Medina Del Campo, Spain

CodeWeek EU

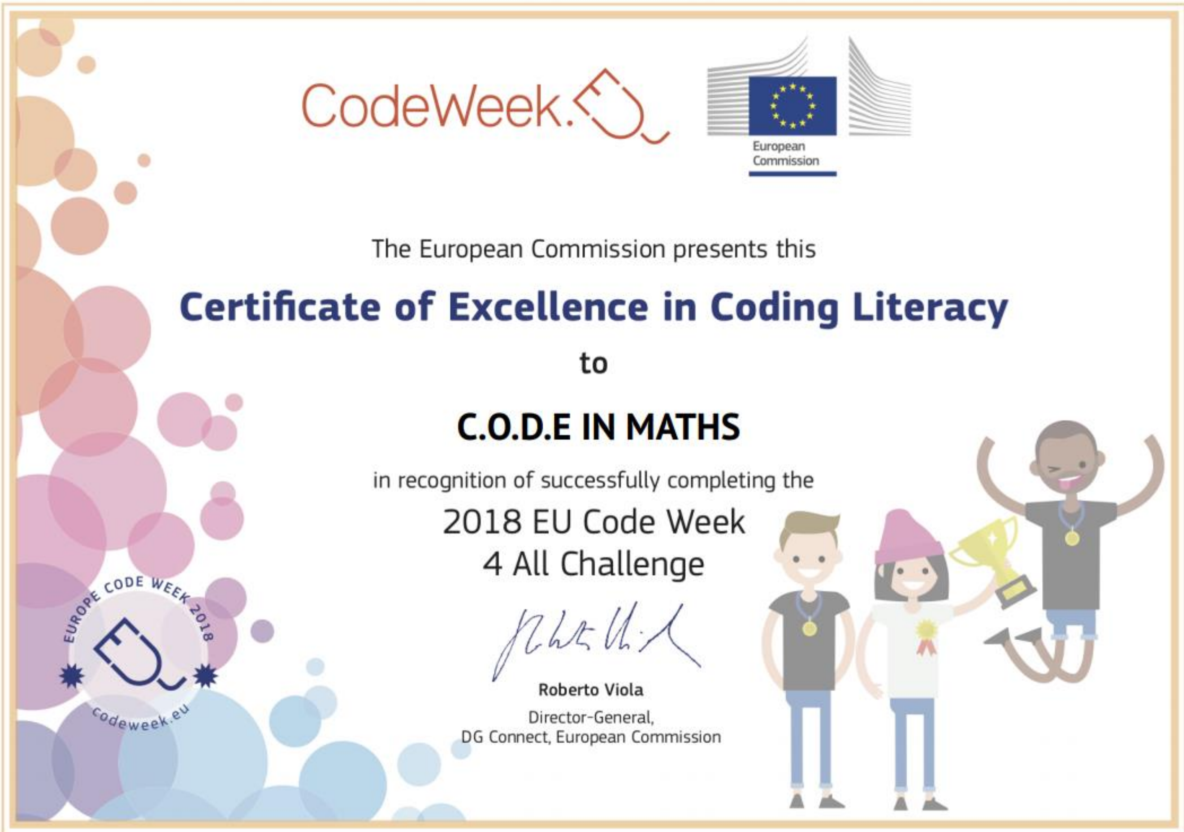
6th — 21st October 2018

"EU Code Week is a grassroots initiative which aims to bring coding and digital literacy to everybody in a fun and engaging way."

Our event: codeweek.eu/view/166922/code-in-maths

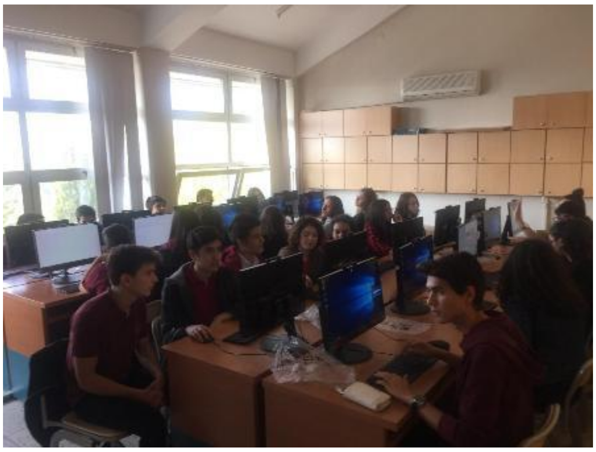
In our Erasmus + project - Creative Opinions Differentiate Education In Maths - we celebrated "EU Code Week" as it was a great event for our students and teachers to bring together people who were motivated to learn.

The idea was to make programming more visible, to show young people, adults and the elderly how we brought ideas to life with coding. We used Coding for Young Beginners to develop digital and STEM skills for our students.



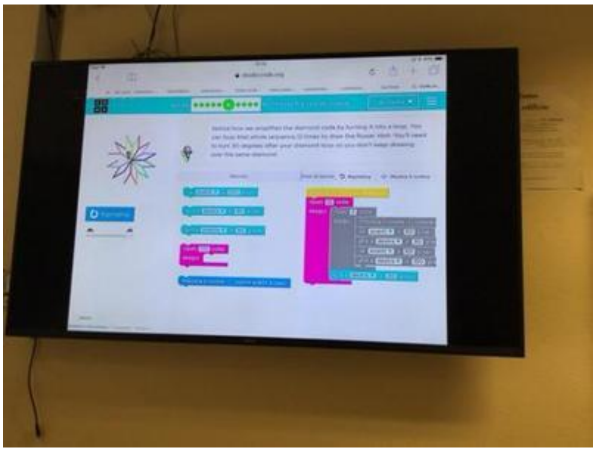
Code Week activities in Turkey

Students from Erbakır Science High school did some workshops by using action bound application which was a STEM-based game.They used Scratch to create a game that had educational quality and MIT App-inventer to create a mobile application which found solutions to the problems we face in our daily life.



Code Week activities in Italy

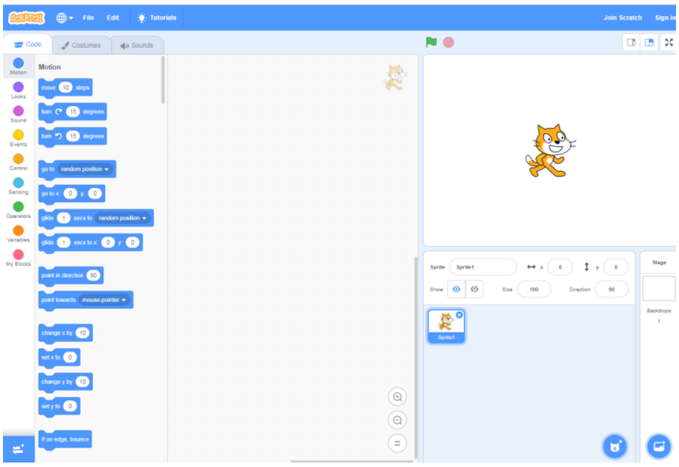
The class 1b of IIS Mattei, Vasto, Italy, celebrated **Europe Code week 2018** with an activity called "The artist of the platform www.code.org" which allowed us to write programs to draw geometric shapes. Later on students programmed robots to reproduce geometric designs. The coordinator teacher was Antonella Pellegrini.



Code Week activities in Romania

Students from "Gheorghe Cartianu" Technical High School used Scratch to celebrate CodeWeek.

https://scratch.mit.edu/projects/editor/?tip_bar=getStarted



Mathematics in Architecture

Teacher: Daniela Diaconu

”Gheorghe Cartianu” Technical High School, Romania

The connection between Mathematics and architecture has persisted since old times. Although at the beginning architecture was not a form of art (because ancient people wanted just a simple shelter), later it developed due to the need of building something pleasant for the eye.

People’s imagination and dare have turned architecture from a job into the most complex form of art.

The great architect **Le Corbussier** said that ”*architecture is an art, an emotional phenomenon out of the building matters and beyond them.*”

The most important building problems can be solved through Geometry. All buildings present volumetric mixtures of geometric shapes. The mathematical **proportions** lie at the root of the architecture quality.

Ancient and Medieval builders used the geometrical shapes to draw the plans of the building on the ground, whereas the mathematical calculations were used to measure the component parts of the buildings.

Euclidean geometry has a fundamental role in architecture. Along the time, the pyramid is present in impressive constructions.

Initially the pyramids appeared in the Precolumbian civilizations (Mayan or Aztec) and they had terraces for sacrifices, being built with stairs. This highlights the architectural representation of a new religious conviction.

The Pyramid of the Sun in Teotihuacan (an old Aztec town in Mexico) was built in such a way as the Easter part could be oriented exactly towards the sunrise and the sun rays could come down directly on the top of the pyramid at 12 pm on May 19 and July 25.

https://cersipamantromanesc.wordpress.com/2010/03/28/misterele-piramidei-soarelui-din-mexic/

The Egiptian pyramids impress us even today as they have survived through their perfection along the time.

When it was built, the **Lion Pyramid Kheops** was the highest construction in the world.

The Egyptian architects, who were priests as well, built the pyramid so as thearea of the isosceles triangle that makes the side face could be equal to the area of the square whose side is the height of the pyramid

https://jurnalspiritual.eu/piramida-lui-keops-stiati-ca/

It was the highest construction in the world for more than 43 centuries. Initially, it measured 147m in height, the side face was 227m and it has 2,521,000 m^3 of stone. It is built under the angle 54˚ and 54 min. The biggest error between the side lengths is under 0.1%.

It seems that the Egyptians perfected the structure of the pyramid and had large knowledge of Mathematics and Astronomy. Blending science and religion, they considered that the two-dimensional and three-dimensional geometrical shapes influence the energetic field around them. That is why the pyramid has this effect – because of its shape.

Even today the pyramid is viewed as one of the strongest architectural constructions. Modern architects analyze it from different perspectives so as to get spectacular and efficient structures.

The Great Pyramid from the Louvre Museum in Paris is an impressive construction, made of metal and glass, surrounded by other 3 smaller pyramids in the inner courtyard of the Louvre Palace. I.M.Pei is the architect who drew the remarkable and innovative structure of the pyramid. It measures 21m in height. The building has 673 glass panels: 603 are diamond-shaped and 70 are triangular-shaped. The bottom measures around 35m^2.

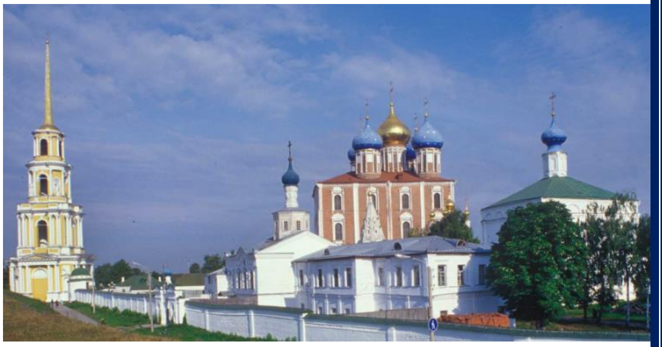
http://www.descoperalocuri.ro/atractii-turistice/muzeul-luvru-arta-capitala-frantei.html

We present you some other imagines containing contemporary constructions worldwide, having a pyramid as a bottom.

Walter Pyramid

https://en.wikipedia.org/wiki/Walter_Pyramid

'Ryazan Kremlin' Historic and Architectural Complex



https://www.rbth.com/travel/327249-russian-incredible-ryazan-kremlin

Bolz Music Academy in Wisconsin

https://www.idealdecor.ro/wp-content/uploads/2015/09/153519dd-79c4-46b4-8c3c-1baa6d80ab16-olbrich-botanical-gardens-Custom.jpg

Mathematics in Architecture

Teacher: Daniela Pavăl

The famous monuments of Ancient and Medieval world architecture impress through their grandour and balanced shapes.

All buildings represent combinations of geometrical shapes whose size is determined by using the mathematical calculus. The analysis of the ratios between the size of the elements and the artistic shapes can offer information about their architectural qualities. After studying more monuments of the world architecture and keeping in mind the phylosophical doctrine belonging to Pythagora, Plato and the neoplatonic scientists regarding the balance of architectural works expressed by numbers and ratios, there came up the concept that ***the artistic shape of buildings is due to certain proportions from the component parts of the construction***. The term *proportion* in architecture, according to the numeric value of the ratio, is an aesthetic category and the number, in the ancient scientists' view, expresses not only the quantity but also the quality of the ratio.

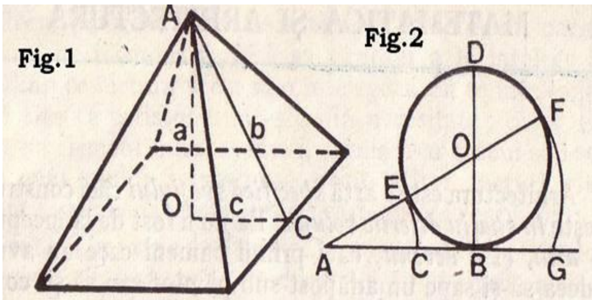
The corroboration of the found numeric ratios with the historical ones belonging to the theory of architecture, and their rebuilding according to indirect data from the sciences related to the art of construction, led to the highlight of a limited number of ratios. There were found arithmetic ratios expressed through natural numbers: : $\frac{1}{2};\frac{1}{3}$; $\frac{3}{4}$. There were also used irrational numbers: $\frac{1}{\sqrt{2}}$; $\frac{1}{\sqrt{5}}$; $\frac{1}{\frac{\sqrt{5}}{2}}$; $\frac{2}{\sqrt{5}-1}$ or $\frac{\sqrt{5}+1}{2}$. The proportion $\frac{1}{\sqrt{2}}$ expresses the link between the value of the square side and its diagonal ($\sqrt{2}$). The ratios – $\frac{2}{\sqrt{5}-1}$ *or* $\frac{\sqrt{5}+1}{2}$ give the value of the"golden section" – 1,618..., written by Φ (from the name of the sculptor Phidias). Practically, the finding of this ratio was often replaced by the ratio from integer numbers from Fibonacci's additive string ...$\frac{3}{5}$,$\frac{5}{8}$, $\frac{8}{13}$, $\frac{13}{21}$, etc.

These famous proportions were found in the architectural monuments through graphic analysis, they themselves representing one side of the aesthetics of mathematics, but also "chainings" of ratios between the sizes of the building components, with mutual interpenetrations of similar shapes.

The shape of the Egyptian pyramids takes us to think about geometry. The great pyramid of Cheops resembles a high mountain of 150 m which can be seen from a distance of 40 km. This was the highest monument on Earth and was considered one of the seven wonders of the world. This pyramid has a square as its foot and its sides are isosceles triangles.

Herodotus found out from the Egyptian architects, which were also priests at that time, that the pyramid of Cheops was built in such a way as the area of the isosceles triangle which represents a side face is equal to the area of the square which would have as a side the height of the pyramid.

(Fig.1) The right triangle AOC is the meridian semi-profile of the pyramid. We note with *a* the height of the pyramid, with *b* the length of the apotheosis of the pyramid and with *2c* the length of the side of the square from its foot.



From what the Egyptian priest confessed, it results that $b \cdot c = a^2 (1)$, meaning that the area of the side isosceles triangle equals the area of the square with the side a. This shows that the height of the pyramid is mean proportional between two of the sides of the meridian triangle sides of the pyramid: *b* and *c*.
Because the triangle AOC is right, from the Pythagorean theorem results that $b^2 = b \cdot c + c^2$.
Deviding by c^2, the relation becomes:

$$\left(\frac{b}{c}\right)^2 - \frac{b}{c} - 1 = 0 \; (3).$$

The problem can be seen from a more general point of view, namely: being given a segment of a line AB (fig.2) we can divide it in two unequal parts AC and CB (AC>CB), so as ”the full segment can be reported to the bigger segment the same way as the big segment reports itself to the small one”. This division of a segment was called by Euclid ”split into mean and extreme ratio” and now it is called ”the golden ratio”. The golden ratio is an irrational number that verifies the relation $\frac{b+c}{c} = \frac{b}{c} = \varphi$, where b and c represent the two parts of the initial segment. Thus results that φ is the solution of the equation $\varphi^2 - \varphi - 1 = 0$, meaning $\varphi = \frac{1+\sqrt{5}}{2} \approx 1{,}6180339887 \ldots$.

Many artists and architects proportioned their works according to the golden ratio, considering that this offers a pleasant aesthetic to their buildings. The two sides of the meridian triangle of the pyramid of Cheops represent two segments which are in the *golden cut*.

This cutting can be done with the ruler and the compass (fig.2). We draw the given segment AB=a and raise the perpendicular BD from B on AB so as BD=AB=a.

We build the tangent circle in B at AB, having the diameter $[BD]$ and the center O. As we know from the theorem of the power of a point against a circle, the secant AO determines on the circle the points E and F, so that $AB^2 = AE \cdot AF$.

Building the segments AE =AC și AG =AF, the above relation can be written as follows: $AB^2 = AC \cdot AG \Leftrightarrow \frac{AB}{AC} = \frac{AG}{AB} = \frac{AC+AB}{AB} = \frac{AC}{CB}$ (4) , meaning $\frac{AB}{AC} = \frac{AC}{CB}$ (5)

In conclusion, the building of the segment AC is done by taking the circle tangently into B, radius equal to AB and then transferring AB, the segment AE cut by the secant AO, on the circle. Let us now establish the relation that links the segments AB =a to AC =b and CB =c.

From (5) and a=b+c and consequently $\frac{b+c}{b} = \frac{b}{c} \Leftrightarrow \left(\frac{b}{c}\right)^2 - \frac{b}{c} - 1 = 0$ *, meaning the relation*(3).

One of the greatest qualities of the Greek architects was exactly that they expressed their aesthetic intuition through certain number ratios, for example the golden cut in the segments found in their buildings. Through their appearance, the Greek temples are classified in three orders: **Doric**, **Ionic** and **Corinthic**. Each of these orders have various proportions at the foot and the columns, the gables, etc.

In the temple of Poseidon, the god of the sea, which seems to have been built in the 6th century BC, we feel the power full of greatness, severity and life that the aspect of the columns release. Having a height of almost six times its diameter, its columns give the impression of some trees grown in the ground. Their base has no ornament and the necking has the shape of a swimbelt on which lies the stone slab that supports the down-shaped roof of the temple. This surrounds the necking which has the shape of an isosceles triangle. Through its hugeness, it reminds something from the Egyptian influence, although the feeling that its appearance brings is one of freshness and optimism.

A different impression is the one inspired by the temple of Victoria on the Acropolis of Athens, belonging to the Ionic order. Its columns are even more ellegant than those of the temple of Poseidon. The ratio between their height and diameter is of 9 to 1, meanining that the height of a column is 8 or 9 times more than its diameter and that is why they seem more vivid. In fact, these columns do not come out directly from the ground but they stand on a pedestal made of three or even four overlapped cylindrical rings and the necking of the columns is adorned with two spiral-shaped scrolls which remind about the shell of a snail. The roof leans against these scrolls. Everything shows wealth, ellegance and exuberance. Its columns are 10 times higher than its diameter and the neckings are adorned with acanthus leaves. To this geometry of the columns we must also add the series of calculations requires by the whole structure of the temple, calculations which derive from the ratio of the golden cut.

The Corinthic order is even more greaceful because its columns are higher, ten times higher than its diameter, and the neckings are adorned with acanthus leaves.

The Parthenon, the temple dedicated to goddess Athena Parthenos, was built in the Doric style. The measurements done in the 19th century showed that all the horizontal lines of the Parthenon are slightly thickened in the middle and thus the lines which seem horizontally straight are in fact convex curves and at the same time the walls and vertical edges are in fact concave curves.

The considerations about the proportions among the different component parts of a building did not limit the artist's genius or freedom. The Greek architects were not the slaves of calculations. The made alterations so as to give harmony and ellegance to the building. Comparing the temple of Poseidon and that of Parthenon, one is bewildered by the difference between these two constructions, built in the same style.

The Roman architects built one of the most amazing amphitheatres in the world: the Colosseum in Rome. It could hold, it is estimated, between 50,000 and 80,000 spectators. The arena is eclipse-shaped, having the big axis of 200 m and the small axis of 167 m and the surrounding wall is cylinder-shaped, being made of 4 floors, all made of arcades. Each floor is built in a different style, meaning Doric, Ionic and Corinthic.

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Parabola, Paraboloid In Architecture

Teacher: Zavaliche Tudorița

”Gheorghe Cartianu” Technical High School, Romania

<u>Parabola</u> is defined as a set of points in a plane that are equidistant from both the line and the point.

The line d is called the ***directrix*** of the parabola while the point F is called the ***focus*** of the parabola.

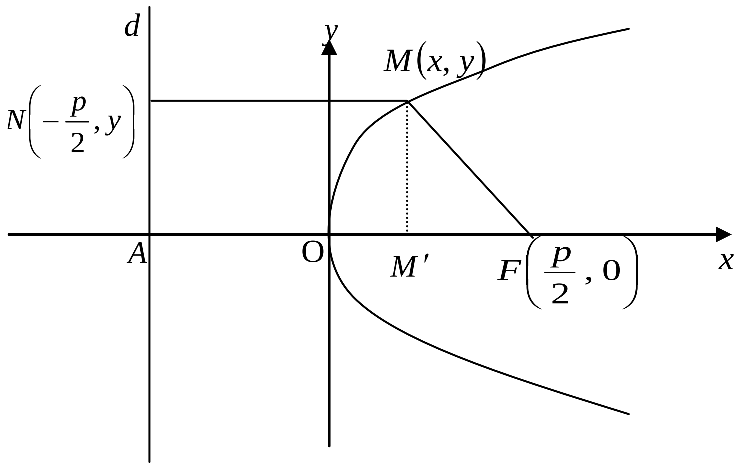


Fig. 1.

The parabola does not have a centre of symmetry but has an axis of symetry Ox. It is a plane curve.

<u>Implicit Cartesian equations of the parabola</u>: $y^2 = 2px$.

<u>Note:</u> When $x \le 0$, the implicit Cartesian equation will become $y^2 = -2px$.

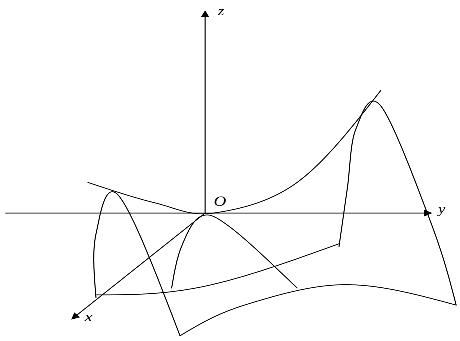
<u>Explicit Cartesian equations of the parabola</u> : $y = \pm\sqrt{2px}$, $x \ge 0$, p being a positive point called the *parameter of the parabola* which shows its shape.

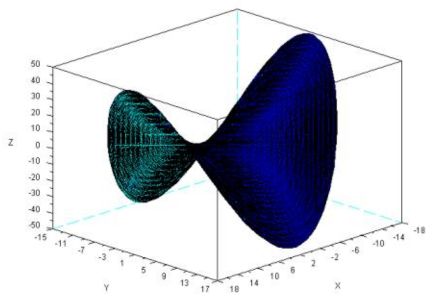
The smaller p is, the closer Oy comes to the focus and directrix and the parabola gets closer to Ox axis (when $p \to 0$ then the parabola degenerates in Ox axis). The bigger p is, the farther the focus and directrix get from the Oy axis and the parabola comes closer to the Oy axis (when $p \to \infty$ then the parabola degenerates in the Oy axis).

Parametric equations of the parabola: $\begin{cases} x = \dfrac{t^2}{2p} ; & t \in \Re \\ y = t \end{cases}$

Hyperbolic paraboloid is the locus of the points M(x,y) in the plane which satisfy the equation: $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 2z, a, b > 0$

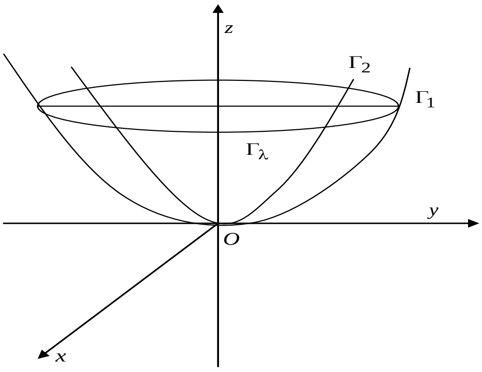
The hyperbolic paraboloid is a doubly ruled surface shaped like a saddle and i formed by doubly ruling a parabola that opens downward on a parabola that opens upward.

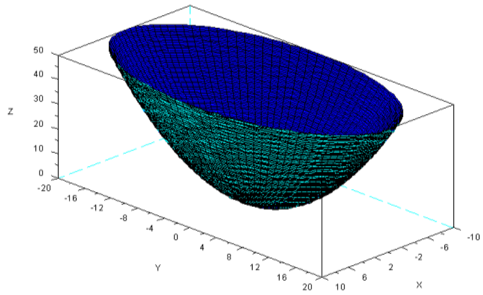




The hyperbolic paraboloid is used in industrial constructions as a roof pattern.

Elliptic paraboloid is the locus of the points M(x,y) in a plane which satisfy the equation: $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 2z, a, b > 0$





Note: If a=b, then the elliptic paraboloid is circular around Oz, that means it can be generated through the rotation of a parabola of equation: $y^2 = 2a^2 z$ around the axis Oz.

Parabolas and Paraboloids in architecture

Parabolic arches are often used in architecture and construction engineering because they ensure the equilibrium of forces and thus the construcions are much more stable.

Spring 24 in Olăneşti mountain resort

The Olympic Pool in Bacău

Hulme Arch Bridge, Manchester, England

Bibliography: ro.wikipedia.org

C.O.D.E in Maths Kick-off meeting in Łódź

14-16.11.2018

Day 1, 14.11.2018

09.00 – 09.30	Welcome Coffee, signing list of participants etc.
09.30 – 10.00	Presentation of the meeting agenda and other activities
10.00 – 12.30	Management and Implementation of the Project
12.30 – 13.30	Lunch
14.00 – 16.00	Visit at the EC1 Science Center
16.00 – 17.00	Day 1 conclusion

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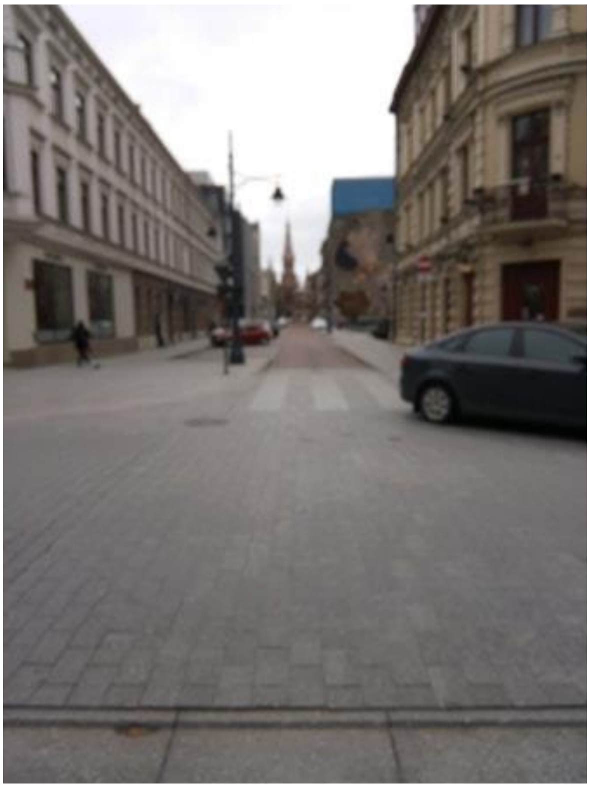
Day 2, 15.11.2018

11.00 – 12.00	Presentation about the city in the Marshall's Office of Lodzkie Region
12.00 – 14.30	Discussions about the next steps of the Project (first students visit in Romania, partners responsibilities etc.)
14.30 – 15.30	Visiting school and university building
15.30 – 16.00	Day 2 conclusion





Young Architects - club from Romania

Our students built houses from recyclable materials. In addition to constructions, they also made light installations. They used Arduino for home automation.

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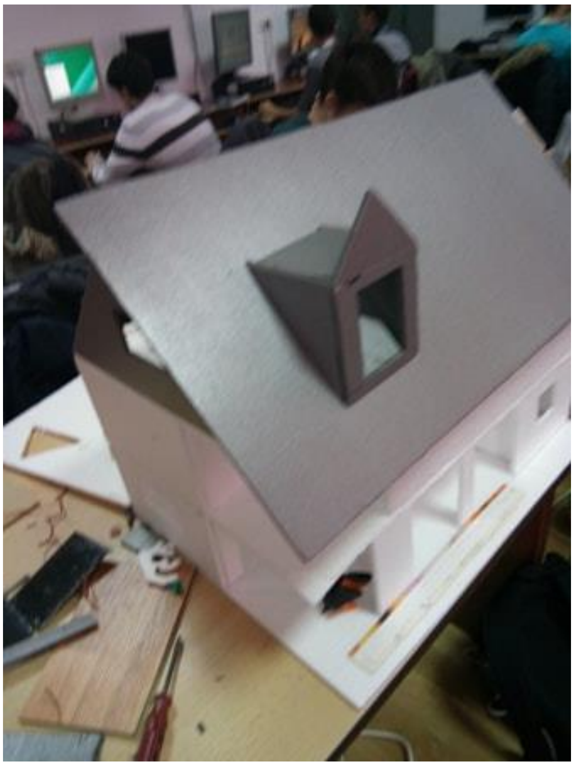
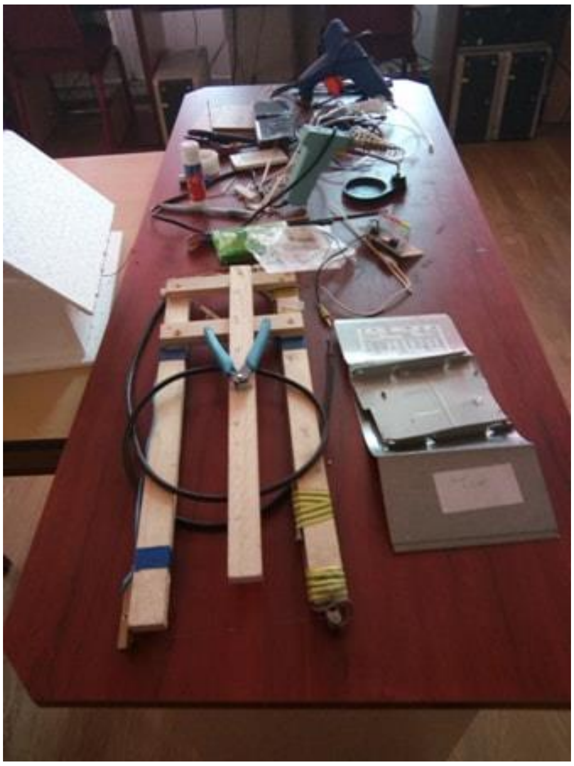
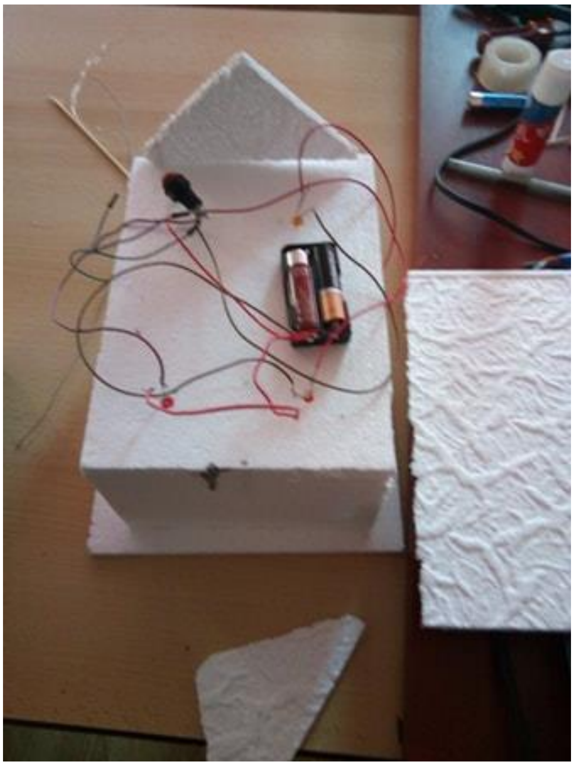
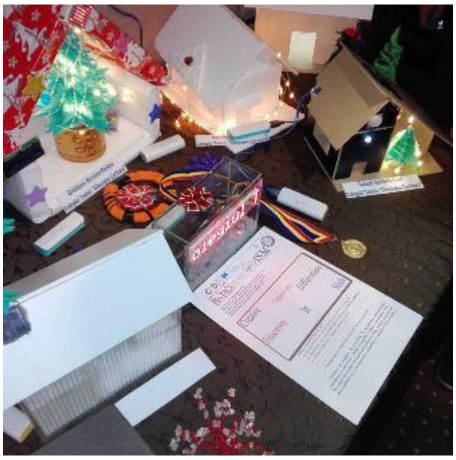



The **"Christmas Era"** regional competition - all members of the "Small Architects" team won the first prize.




SHORT-TERM EXCHANGES OF GROUPS OF PUPILS

C1.Maths and Coding in Architecture

14- 18 January 2019, Romania

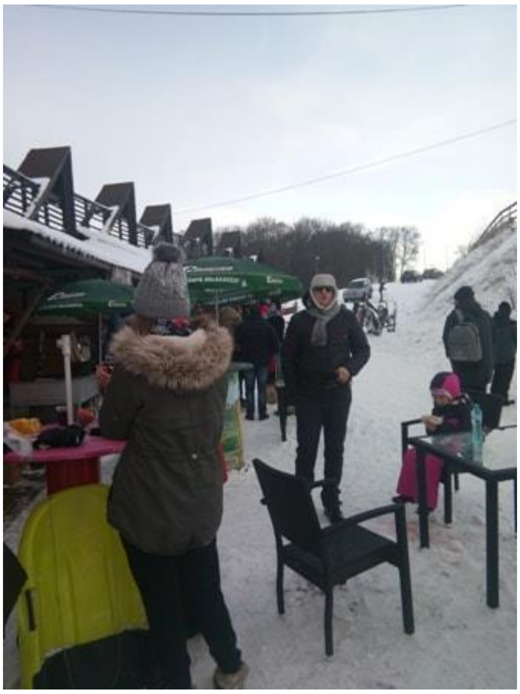
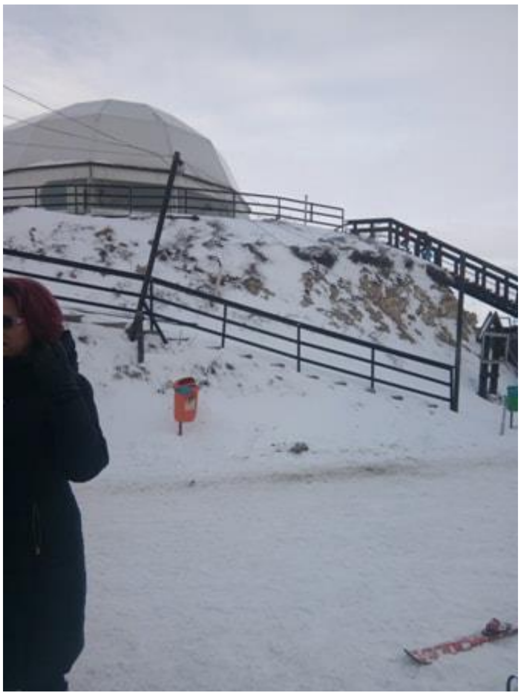
Days	Activity
13 January 2019	Arrival
14 January 2019	**Culture Fest** Each partner school made a presentation about their educational system and how the informal education aiming at 14-18 year old students takes place in their countries according to legislative rules and administration. Presentations about school and country.
15 January 2019	Introduction of the challenge which was digitally visualized and design the home of students' dreams was the challenge of the activity. Students visualized and planned their dream home with a realistic 3D home model. Mingled groups of students created the groups. There were 5 corners where students performed team work. There were workshops and students created their own dream homes in a free access software platform. Students measured lengths and checked the results using the program. The 3D products surprised all students. They made round table meetings with their pairs and also decided what kind of homes they would create. They designed Home & Floor and a floor plan as a blueprint and then switched it to the 3D model.
16 January 2019	**Study visit** Designing Room & Interior There was a study visit at the University of BACAU, the Faculty of Engineering. Coding workshop were done and possible career paths were discussed.
17 January 2019	Designing Landscape & Garden The houses were presented by the group leader and the students voted the best product. They used Bitable to share. At the end students had the post-test which proved to be more demanding than the pre-test.

18 January 2019	The partner students participated at classes as teachers and they taught some traditional games and also some common phrases in their own language. In the meantime teachers evaluated the overall activity and discussed about the next mobility. Internal report was revised. - Digital Library (taking photos and videos during the program) with the creations and their posting on social networks. Evaluation Departure
19 January 2018	Departure

Visiting Piatra Neamt

January 13, 2019

We visited the city with the Spanish team and travelled by cable Gondola.




Culture Fest

January 14, 2019

Each partner school made a presentation about their educational system and how the informal education aiming at 14-18-year-old students takes place in their countries according to the legislative rules and administration. Presentations about schools and countries: **Romania, Turkey, Poland, Italy and Spain.**



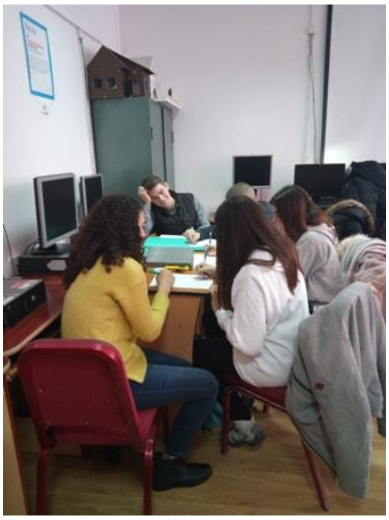




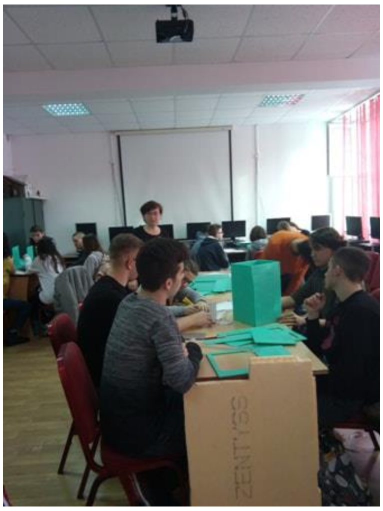

Creating and designing houses from recyclable materials

January 15, 2019

Workshop - Creating and designing houses from recyclable materials: wood, cardboard, paper, boxes, etc. We made 2D sketches on paper and measured the perimeters, surfaces, lengths, etc.











Sweet Home 3D software

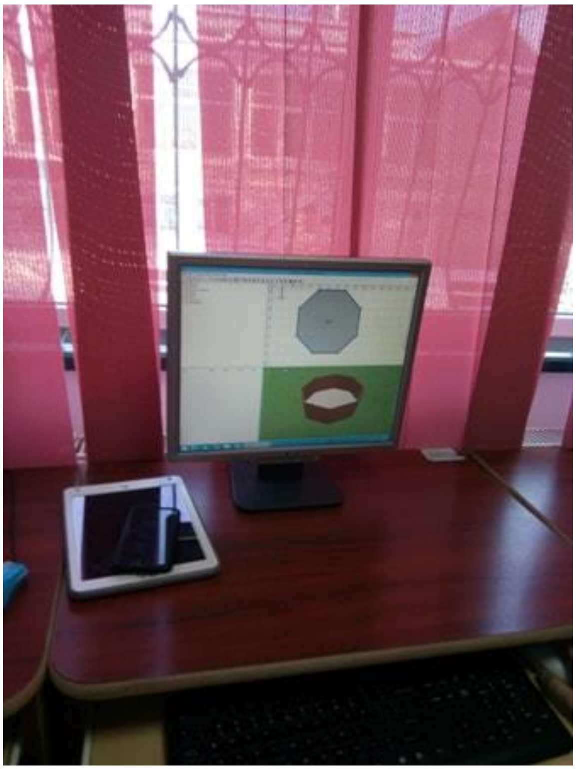
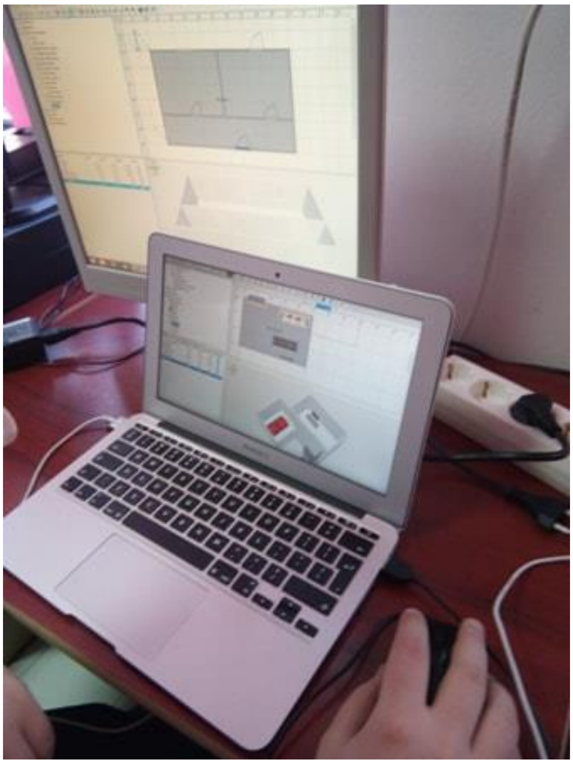
Sweet Home 3D is a free interior design software that is used to draw the plan of a house, arrange furniture on it and visit the results in 3D.

Sweet Home 3D user's guide: www.sweethome3d.com/userGuide.jsp


STATIA 9


STATIA 14



Study visit at the University of BACAU, the Faculty of Engineering

January 16, 2019

”Vasile Alecsandri” University of Bacău is an important institution of the Romanian educational system. The Faculty of Engineering was established by the Ministry of Education and Research in 1976 and now is part of the network of Romanian public technical universities.

http://www.ub.ro/en/university/presentation

http://www.ub.ro/inginerie/en/











Visiting the Academic TV -youtu.be/Qy37Pg1XRt0.


5:31 / 7:11


4:55 / 7:11


6:30 / 7:11


0:11 / 7:11

Visiting ”Gheorghe Cartianu” High School

January 17, 2019






Workshop guided by the Electronics and Robotics Team of the Neamt County Center with achievements in the STEM field

















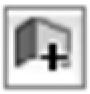
Evaluation of the CODING-based activities (post-test)

"Deepening knowledge of coding"

1.The furniture catalogue contains the categories: *

- ☐ Bathroom
- ☐ Bedroom
- ☐ Door and Windows
- ☐ Kitchen
- ☐ Lights
- ☐ Living room
- ☐ Miscellaneous
- ☐ Staircases

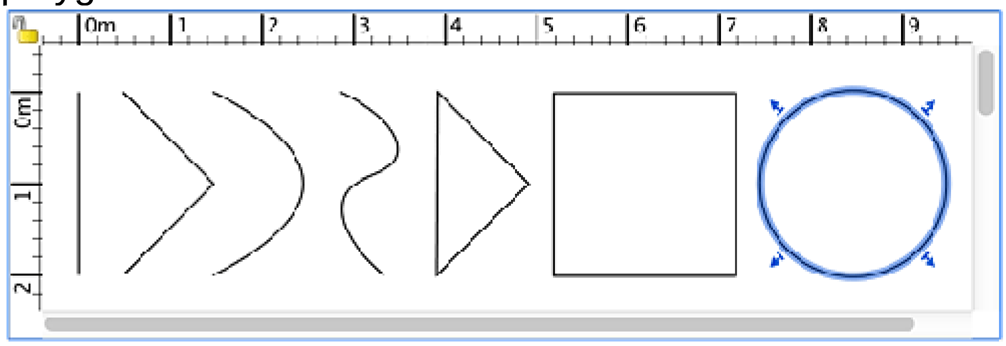
2.To draw walls, you can use: *

- ☐ Plan ->Create walls
- ☐ 
- ☐ select the Create walls tool
- ☐ Edit->Create walls

3.To draw dimensions, you can use: *

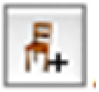
- ☐ choose Plan -> Create dimensions
- ☐ 
- ☐ select the Create dimensions tool
- ☐ choose Plan > Create length

5.With what tools can you create different polylines, curves and polygons? *

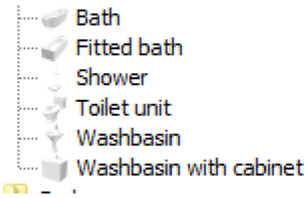


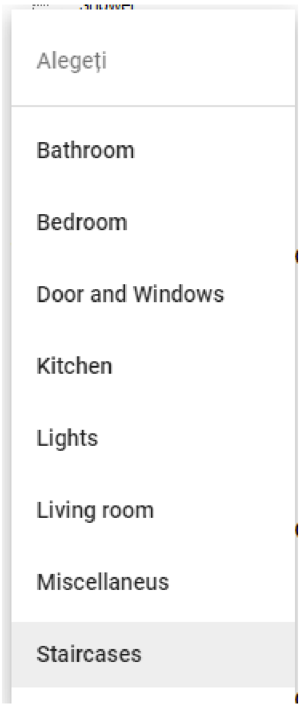
☐ the tool in the figure 1 

☐ the tool in the figure 2 

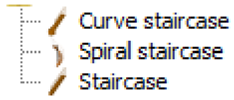
☐ the tool in the figure 3 

6.Which category do the elements in the figure belong to? *





7. Which category do the elements in the figure belong to? *



Alegeţi

Bathroom

Bedroom

Door and Windows

Kitchen

Lights

Living room

Miscellaneus

8. Which category do the elements in the figure belong to? *

Alegeţi

Bathroom

Bedroom

Door and Windows

Kitchen

Lights

Living room

Miscellaneus

9. Which category do the elements in the figure belong to? *

- Box
- Curtains
- Cylinder
- Electric radiator
- Frame
- Hot water radiator
- Mannequin
- Railing
- Triangle
- Venetian blind

Alegeți

- Bathroom
- Bedroom
- Door and Windows
- Kitchen
- Lights
- Living room
- Miscellaneus
- Staircases

10. Which category do the elements in the figure belong to? *

- Door
- Door frame
- Double French window
- Double-hung window
- Double small window
- Double window
- Fixed triangle window
- Fixed window
- French window
- Front door
- Garage door
- Half round window
- Open door
- Outward opening window
- Round door frame
- Rounded door
- Round window
- Service hatch
- Slider window
- Small window
- Window

Alegeți

Bathroom

Bedroom

Door and Windows

Kitchen

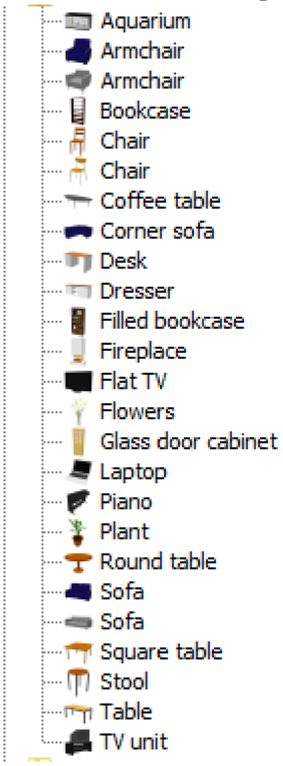
Lights

Living room

Miscellaneus

Staircases

11. Which category do the elements in the figure belong to? *



Alegeţi

Bathroom

Bedroom

Door and Windows

Kitchen

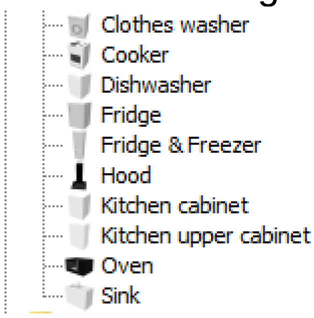
Lights

Living room

Miscellaneus

Staircases

12. Which category do the elements in the figure belong to? *



Alegeţi

Bathroom

Bedroom

Door and Windows

Kitchen

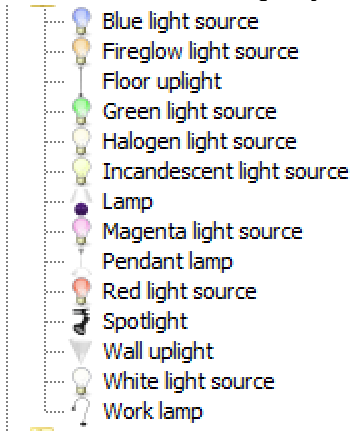
Lights

Living room

Miscellaneus

Staircases

13. Which category do the elements in the figure belong to? *



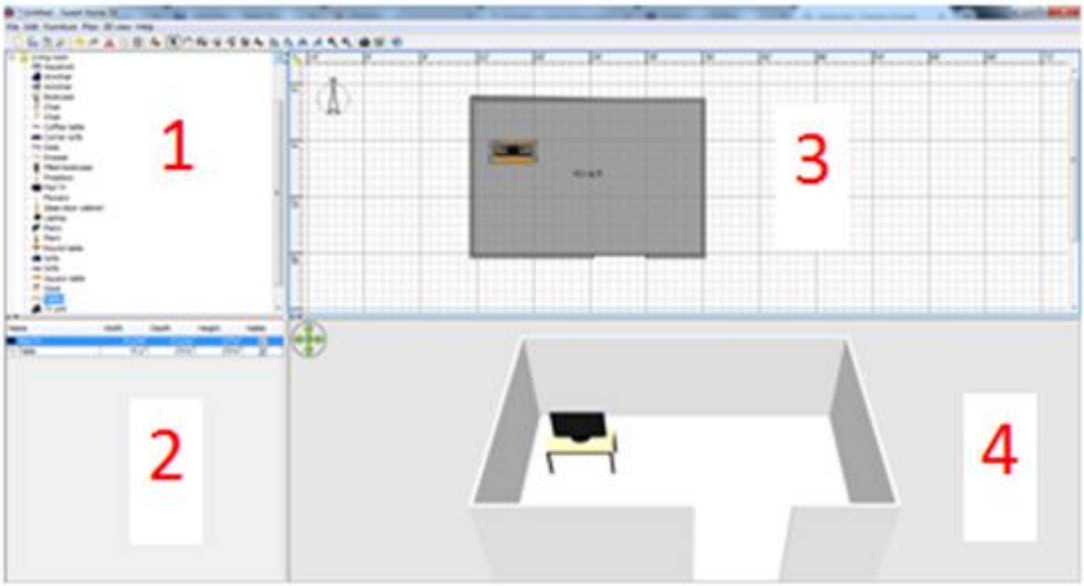
Alegeți

- Bathroom
- Bedroom
- Door and Windows
- Kitchen
- Lights
- Living room
- Miscellaneus
- Staircases

14.With Sweet Home 3D software can you create: *

- ☐ homes
- ☐ walls
- ☐ furniture
- ☐ gardens

15. Each Sweet Home 3D window edits the interior design of a home and is divided in four resizable panels, described as follows. *



	1	2	3	4
The furniture catalog.	☐	☐	☐	☐
The home 3D view.	☐	☐	☐	☐
The home plan.	☐	☐	☐	☐
The home furniture list.	☐	☐	☐	☐

16.To transfer focus to another panel, you can use: *

- ☐ TAB keys
- ☐ SHIFT key
- ☐ ALT key
- ☐ click in the panel

17. When Aerial view is selected, the 3D view is always centered at the .... of the set of walls, rooms and furniture. LeftRightCenter *

- ☐ Left
- ☐ Right
- ☐ Center
- ☐ Justify

18. The floor default size of a new home is: *

- ☐ 5 by 5 meters.
- ☐ 10 by 10 meters.
- ☐ 20 by 20 meters.

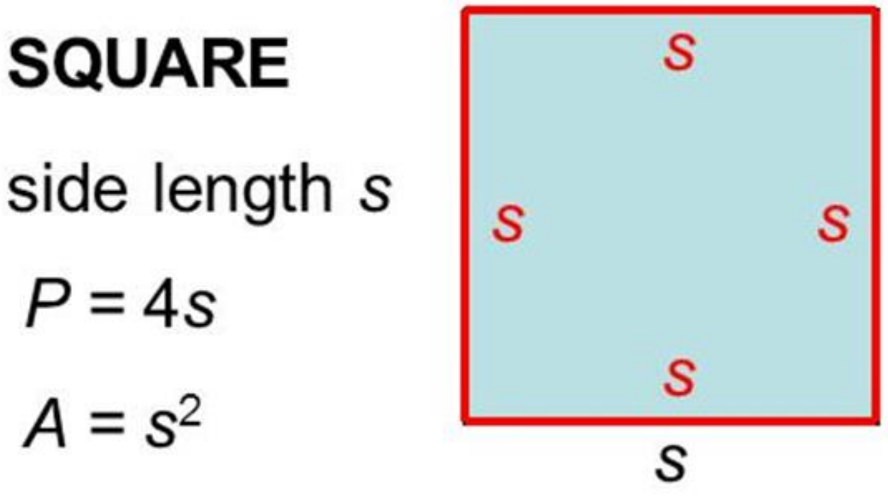
19. To create a home, simply use the default empty document created at Sweet Home 3D launch, choose: *

- ☐ File ->New from demo
- ☐ CTRL+T
- ☐ CTRL+N
- ☐ File-> New

20.What extension do the files created with the Sweet Home 3D program have? *

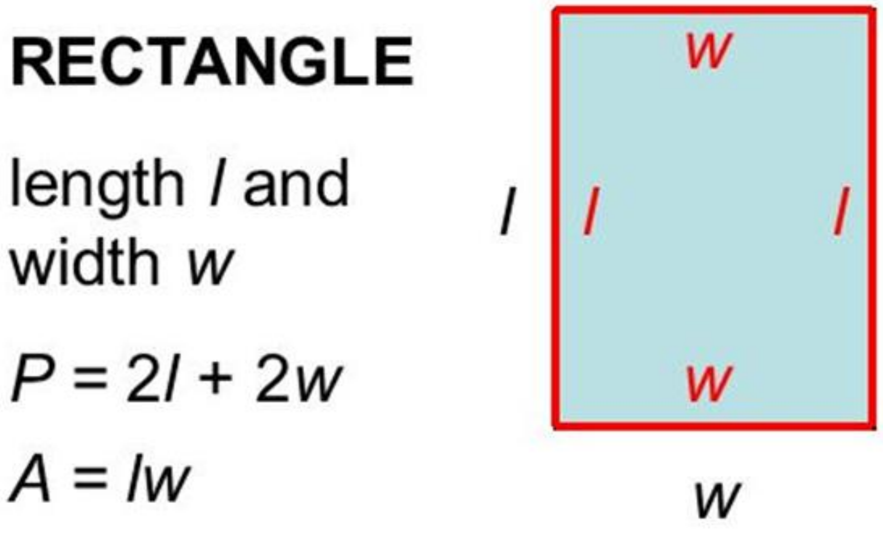
- ☐ .sh0d
- ☐ .sh3d
- ☐ .so3d
- ☐ .se3d

21.If s = 3, what is the area of the square? *



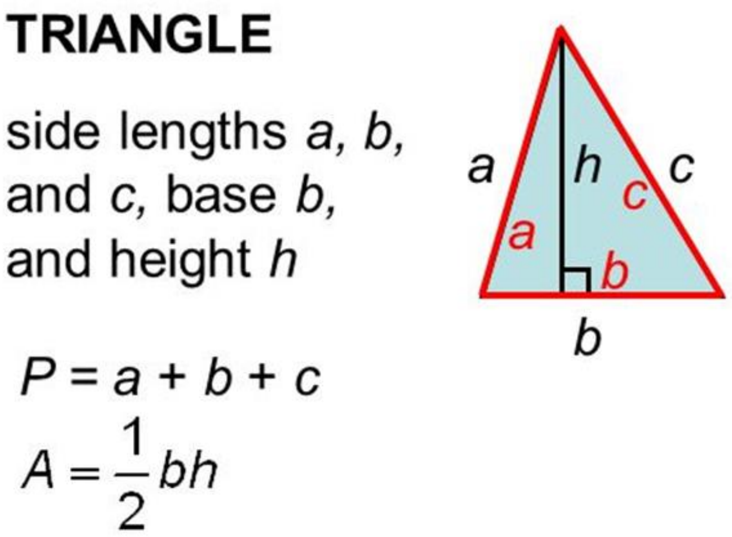
- ☐ 6
- ☐ 12
- ☐ 9
- ☐ 3

22.If l = 8 and w=5, what is the perimeter of the rectangle? *



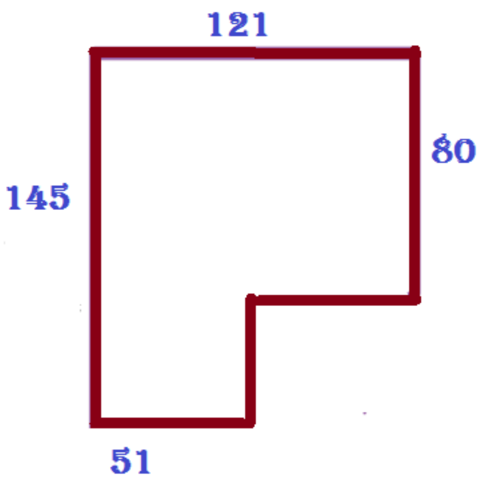
- ☐ 40
- ☐ 16
- ☐ 10
- ☐ 26

23.If a = 6, b=6, c=6 what is the perimeter of the triangle? *



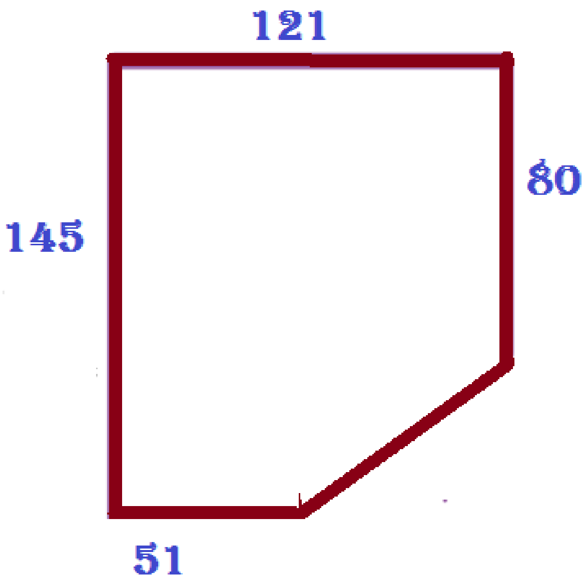
☐ 6
☐ 12
☐ 18
☐ 36

24.What is the perimeter of the shape? *



☐ 481
☐ 532
☐ 430
☐ 397

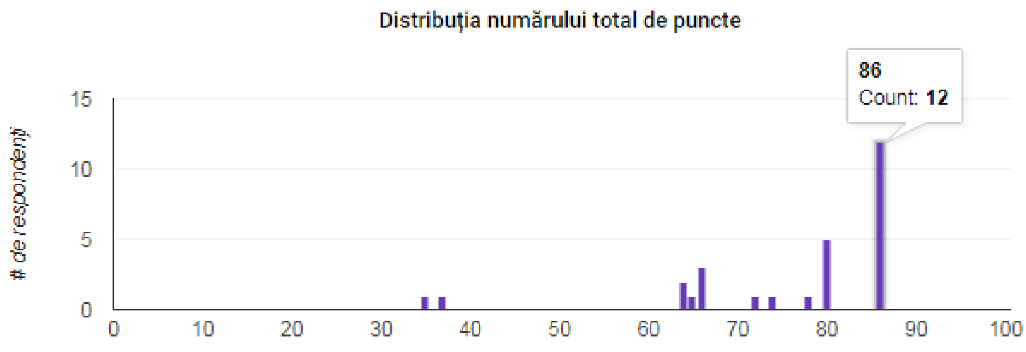
25.What is the area of the shape? *



- 19280
- 15270
- 22750
- 13450

Statistics

Medie	Media	Interval
75,68/100 puncte	80/100 puncte	35 - 86 puncte



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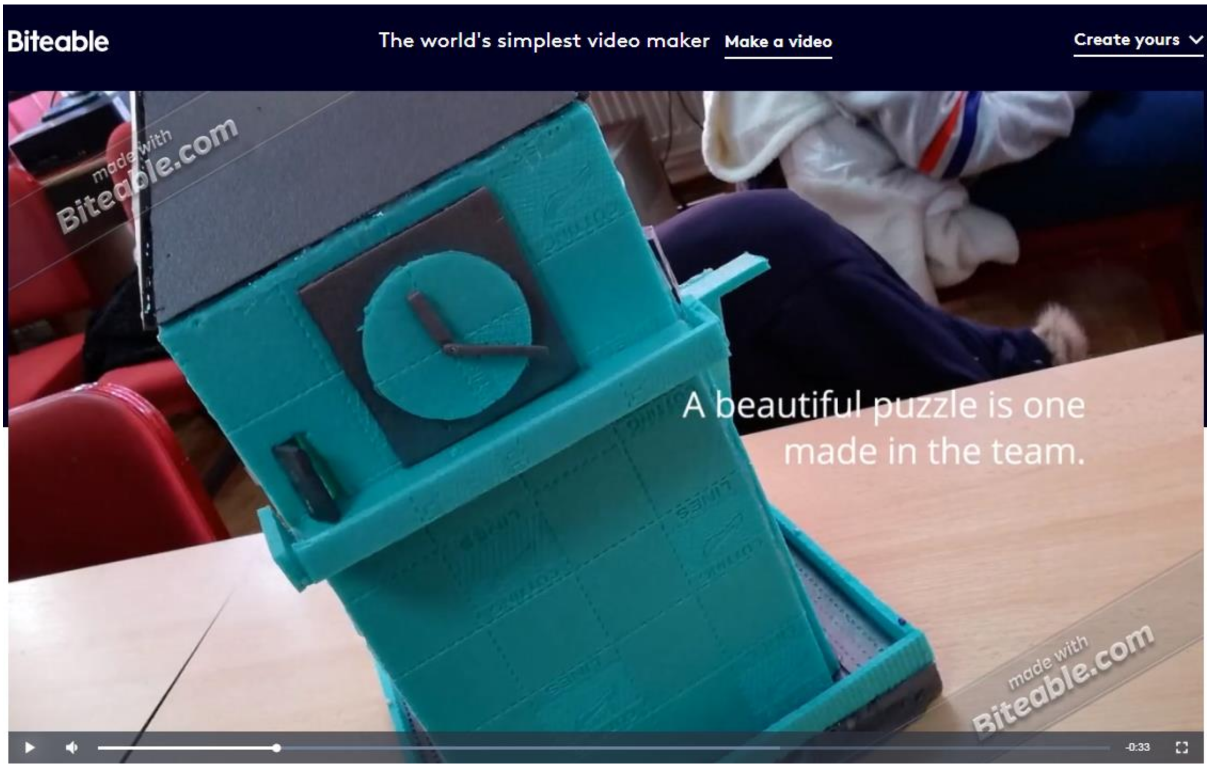
Presenting the home in a Biteable film

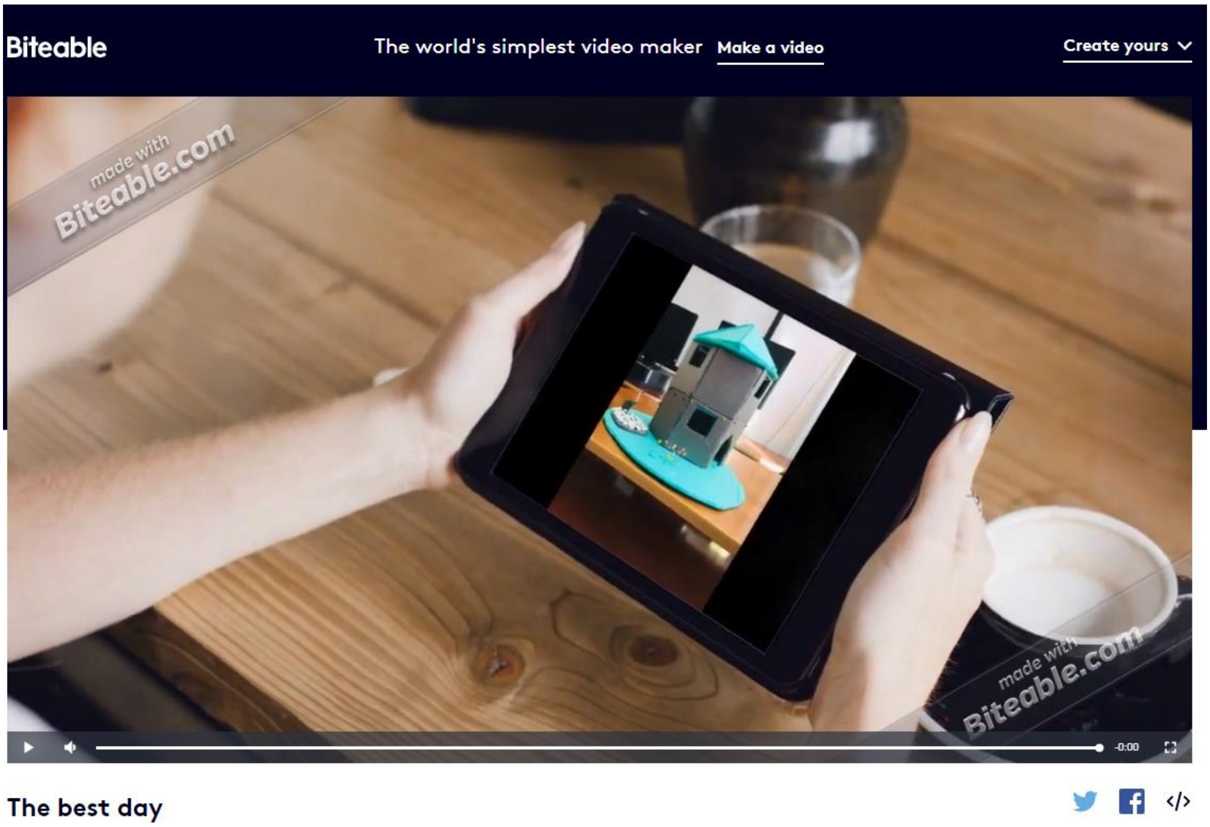
(https://biteable.com/)

Biteable, the power of video, helps us to create professional videos in minutes. We can create a video from scratch by using our broad library of animations and footage. Biteable can be used to make ads, explainers, and social media videos.

Here are some examples which were created by our students:

https://biteable.com/watch/the-dreams-tower-2132919/
https://biteable.com/watch/the-best-day-2132911/
https://biteable.com/watch/my-home-2132908/
https://biteable.com/watch/real-estate-ad-copy-2132462/
https://biteable.com/watch/my-future-house-2132140/
https://biteable.com/watch/chiara-cipollone-3-2132104/
https://biteable.com/watch/my-home-2132114/
https://biteable.com/watch/home-presentation-2132100/
https://biteable.com/watch/my-home-2132069/
https://biteable.com/watch/my-home-2132088/
https://biteable.com/watch/future-home-2132079/
https://biteable.com/watch/house-building-2132096/
https://biteable.com/watch/lorenzo-torquato-2132092/
https://biteable.com/watch/future-home-2132079/
https://biteable.com/watch/travel-2132066/
https://biteable.com/watch/my-home-2132065/
https://biteable.com/watch/the-home-2132050/
https://biteable.com/watch/sweathome-2132030/
https://biteable.com/watch/take-2131997/
https://biteable.com/watch/sevval-2131996/
https://biteable.com/watch/beyza-2132012/
https://biteable.com/watch/accountant-ad-copy-2131994/





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Romanian traditional dinner

at "Colibele Haiducilor" restaurant












Educational activities

January 18, 2019

- Teachers' and students' participation at classes
- Learning the expressions of daily speech in their own language











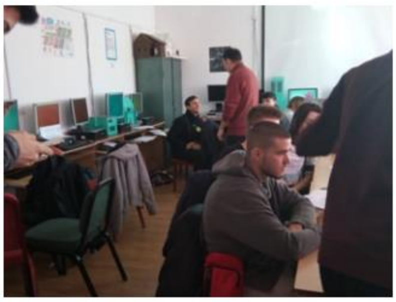


Painting workshop

Visit of the painting workshop from our school coordinated by Ciprian Istrate, president of The ERA Cultural Association.









Evaluation of activities

ceremony of awarding certificates of participation










Essay contest BE THE NEXT INVENTOR

The use of robotics in medicine

Student: Bădîngă Alexandru Nicolae

As robots begin to mingle more and more in modern medicine, I can assure you it is not much until they will do most (or even all) of our work. We already use robotics to our advantage: from devices that can detect cancerous cells, to machines that are operated remotely by surgeons and even nanorobots.

We currently lack the all-in-one version, but when we will have it, we can say (to a large extent) goodbye to the need of human workers in medicine.

Imagine a world in which the long doctor checkup will be replaced by a few seconds, with instant results. After a few years of development, we might even have a "pocket doctor". The idea may seem a little far-fetched, but that is exactly what happened in the last decade in IT (we have come to have processors with huge computing power, smaller than a cent, an idea that seemed impossible in the 70's-80's).

We do not have to think of robots as simple "wheel and arm" machines that make weird sounds when they move. Robots are actually defined as "automated systems" of any shape, form or size. We can even make a hospital-size robot if we want, everything inside being automated.

You might ask yourselves, what properties should a super-medical-robot have?

Obviously, it should be able to do most things a doctor, psychologist, assistant, pharmacist, surgeon (etc.) can do. It should be fast and efficient, we can even make it power efficient by using clean energy.

I can give some examples of things such a robot can do, but truly the sky is the limit.

He could:

-do instant checkups and provide instant results. He can dispense a wide range pharmaceutical products, he can even suggest lifestyle or diet changes that would benefit the user

-promptly answer all questions, having the largest medical knowledge library in the world

- be able to do surgical operations safe and fast, cleaning and nursing all by himself, offering hospitalization in nearby sterilized rooms

Ideas are easy to state, but harder to implement, because of both financial needs or even moral implications that can arise from such a big project and the limited technology of today.

However, we can always hope for a better tomorrow, we will succeed sooner or later to make ourselves an easier and better way of life!

Robotics

Student: Grădinaru Nicoleta Daniela

I think there is a lot of work to do in the field of robotics. Robotics is the science that deals with design, technology, and robot manufacturing. In this field, programming, electronics and mechanics are required.

To create a robot, you must first have a lot of patience. Often, if a single thread is not connected properly, the robot does not work. Proper assembly of the robot is essential to be able to move to the programming side.

If the program lacks only one character it may not work. Often the discovery of errors requires time and, again, patience.

Until now, I have developed with Arduino platform such as: electric lights, a smart home, the Rico robot that can dance and I have checked the operation of several sensors.

I would like to invent a robot for people who feel alone to get rid of their sadness.

I want to create a robot for sick people to care for them.

In the future, when I have children, I would like a humanoid robot, a nanny to care for my children.

I know it is hard to make a robot have human feelings or do some of people's daily activities.

Although they are mistrustful, robotics will develop in the future to help mankind.

Contents

Co-funded by the
Erasmus+ Programme
of the European Union