Didactic game in math lesson

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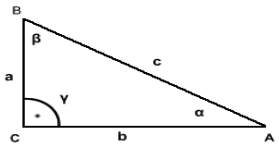
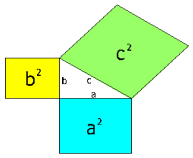
Subject: Mathematics.
Country of creation: Czech Republic.
Countries of testing: France and Belgium.

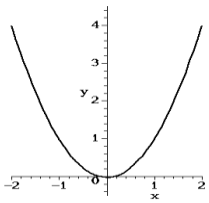
Aims of the GP

Students will be able to name and describe mathematical symbols, pictures and diagrams.

They perceive the maths lesson as a game, it's more fun for them, but they work very hard.







General note

This activity can be used in all subjects. If you have time and if the students like this game, it's up to the teacher how long they play it.

Teaching material

The teacher has to prepare two worksheets with the mathematical terms (the terms to be revised).

The groups need a plain sheet of paper and a pencil or a pen.

Age of the students

Any age

Preparation and teaching time

Preparation: 5-10 min. Playing the game: about 20-30 min. (The amount of time depends on the terms written on the sheets of paper. The more mathematical terms are written down, the more time this game takes).

Description of the game

I call this game "draw and guess":

- The teacher divides the students in two groups (5 min).
- The teacher explains the rules (3 min).

- The procedure (20 min).

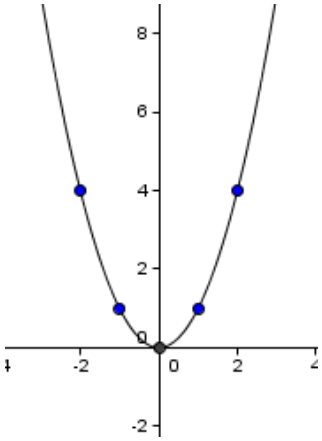
There are two sheets of paper with mathematical terms on the teacher's desk, one for each group. Each group has the same terms. The terms are not written in a line but in a column. Only one student from each group is allowed to come to the teachers' desk and see the term (the student can see only one mathematical term, the others are hidden). The student reads the term for him- or herself, e.g. *decimal fraction,* and he/she goes to his/her group and makes a drawing related to this key word. This student is not allowed to speak, only to draw. The group has to guess which mathematical term it is. If the group says the right term, another group member goes for the next mathematical term. Before the student can see another term, he has to whisper the term to the teacher; if it is right, the teacher shows the next term. The group which guesses all the terms first wins. It is important that both groups have the same terms. The groups are careful and speak very quietly to be sure that the other group cannot hear the term. So this game is very silent.

An example of a list of key words

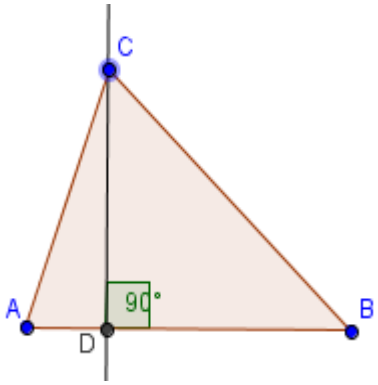
- Parabola.
- Fraction.
- Cylinder.
- Height of a triangle.
- Obtuse triangle.
- Tangent to a circle.
- Chord.
- Midline.
- Trapezium.
- Square measure.
- Radius.
- Parallel lines.
- Direct angle.
- Intersection.
- Pythagoras' theorem.

Example of pupils´ drawings

Parabola



Height of a triangle



Teacher reviews

The teachers enjoyed applying this GP. The French teacher stated: “I could see that the pupils like this game and that they learn a lot. I really enjoyed it and I’m still enjoying it. I will use this GP in the future. Furthermore, I’m trying to motivate all my colleagues to use this game in all subjects. This GP is exactly the GP that I was thinking of testing at the beginning of the project: a GP that teachers could adapt to their class and to the materials that they teach.” And the Belgian teacher gave similar feedback, as he also said that he liked the fact that this GP was universally useable: “Training in mathematical keywords, concepts and representation by playing this game is possible in different classes and at different levels.” Another point that was highlighted as positive was the fact that a teacher can use the game as a longer activity in class, but it can also be easily integrated as a short 10 minute revision activity that students will enjoy.

The SPICE project

SPICE was a two-year project (December 2009 – November 2011) carried out by **European Schoolnet** (http://europeanschoonet.org) together with **Direção Geral de Inovação e Desenvolvimento Curricular** (http://sitio.dgidc.min-edu.pt/Paginas/default.aspx) from Portugal and **Dum Zahranicnich Sluzeb MSMT** (http://www.dzs.cz/) from the Czech Republic.

The primary objective of the SPICE project was to collect, analyse, validate and share innovative pedagogical practices, particularly those using inquiry-based learning, whilst enhancing pupils' interest in the sciences. SPICE supported this objective by singling out, analysing and validating good practice pedagogies and practices in maths, science and technology (mostly ICT-based) and disseminating them across Europe. SPICE involved 24 teachers from 16 different educational systems (from 15 different countries). This teachers' panel helped the SPICE partners in defining good practices that were then tested in classes by 41 teachers during the school year 2010-2011.

For more information see: **http://spice.eun.org**

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