



SCRIPT FOR MATH GAME

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in cooperation with the Experyment Science Center in Gdynia

INTRODUCTION

age of participants	13 years
duration	30 minutes

GOALS

- comparative analysis of the features of flat figures
- training in drawing conclusions based on the information obtained
- team work - students learn from each other
- implemented program content: properties of quadrilaterals
- educational aids needed: envelopes with tasks / reading application QR codes. A work sheet for the identification of the figure, which is the student's own note

DESCRIPTION

The lesson can be conducted in two ways: with the use of tablets or mobile phones with an application to read QR codes, or without hardware electronic with tasks hidden in envelopes. We deploy in both cases tasks in the classroom and school corridor. Students after scanning the QR code receive a task to be solved and directions on where to place them next task.

COURSE OF THE CLASSES

1. students are divided into groups
2. After scanning / reading the first quest, they are shown an introductory plot from Game instructions
3. the implementation of tasks is carried out in accordance to the planned plot and at the needed pace
4. After the end of the game, students have their own worksheet summarizing properties of flat figures.

There was great chaos and mess in the land of the weeds. An organised world of flat figures fell apart and no one could find anything anymore. Do an investigation, sort this world out and find the culprit among the scattered figures.

EPISODE 1

- Hush! the worthy TRAPEZ shouted. - Someone made a huge mess and confused our data. We have to finally put it in order, together. There is a traitor among us.

During the last party in honor of Pythagoras, we were given a drink of oblivion. Not all of us have drunk everything, so there's a chance we'll get to the truth together. It's definitely a flater whose sum of internal angles is 360 degrees.

Perform the mentioned figures !!! There was silence on the great plane. It was possible to hear gentle grunts and soft moans everywhere. But after a while, imperceptibly flater after flater started leaving the crowd from the crowd, PARALLELOGRAM, DELTOID, TRAPEZE RECTANGULAR, RHOMBUS, EQUALIZED, RECTANGLE and SQUARE.

- I'm declaring a secret meeting!

task: enter the listed figures in the table - after completing the task, the transfer to the next episode takes place

EPISODE 2

When the first embarrassment was over, the assembled group of flaters sat down in a secret room conference. The ubiquitous SQUARE looked into the eyes of his interlocutors and said: - We can do it. Surely each of us remembers something. Let's just think a little bit together we will discover the truth. Who will start?

- Maybe me - entered the conversation RHOMBUS. - When the drink of oblivion took its toll, a flater came up to me and in a mocking voice said that it was not only me. Then I fell asleep immediately. I don't remember anything else.

- But what angle? the RECTANGULAR TRAPEZOIDER asked eagerly

- I heard nothing more because I fell asleep

task: find out which figures meet this condition and where; establish a circle suspects. after completing the task, the transition to the next episode takes place

EPISODE 3

- Whew! the PARALLELOGRAM sighed.
- It's definitely not me. Now they can admit that during the party I saw a mysterious figure who was hanging around drinks and had an ID tag around his neck with the words:
- What did he look like, do you recognize him? the curious RECTANGLE asked.
- Unfortunately, I did not pay attention to him, because I was watching how beautifully the wheel dances.
I only remember this pattern because it was just like mine.

$$P = a \times b \times \sin \beta$$

task: assign patterns to appropriate figures; establish a circle of suspects.
After completing the task, the transition to the next episode takes place

EPISODE 4

- I think I saw this traitor! - exclaimed SQUARE. - I saw his two angles internal that were equal. He was so symmetrical!
- And did you see the other angles? DELTOID asked
- No, this figure appeared like a phantom and quickly hid behind two right triangles, who talked about the wheel that they had recently gained weight. I preferred to listen to rumors.

task: assign a given feature to the appropriate figures; establish a circle of suspects.
after completing the task, the transition to the next episode takes place

EPISODE 5

- Wait a minute! - called a rectangle. - When the PARALLELOGRAM talked about the mysterious character who was hanging around drinks, I mean the image - a snapshot from the show laser lights. Such a sneaking silhouette that fits perfectly on the rim light ... but the lights flashed so much that I won't say anything else ...
- Are you sure the hoop fits inside the tweeter and not on the outside? - DELTOID asked
- I'm sure of it because it looked funny. The hoop on the outside did not fit quite.

task: match the condition of the inscribed and circumscribed circle to the corresponding figures; determine who the traitor was after completing the carriage task

EPISODE 6

- We already know a lot - said SQUARE - We have few suspects left. But before we issue a judgment, we must be sure of the judgment made. Does anyone remember something else? There was silence in the room. Everyone started looking around and I look suspiciously at the RHOMBUS, then at DELTOID.

- Enough! DELTOID shouted. - I confess!

The astonishment on the faces of the tweeters was enormous. Everyone did not believe it. There was no accusations, no one said anything. Only the sobbing of RHOMBUS was heard in the room.

- I...I .. I am like you after all. I have many of your qualities... and you still have me you are ignoring. I feel so rejected ... I wanted to take your memory away because maybe then ... you would play with me more ...

- NO! - they all shouted at the same time - We want to play with you! It happened to us all the time. You seemed to be ignoring us, but we hope that will change from today!

task: discuss the entries on the worksheets in class; fill in the gaps, add other relevant information, make drawings.

The end

The script was developed as part of the "Science Inspired" project carried out by the Experiment Science Center in Gdynia in cooperation with Agora Science Center (Hungary), VIDA! Science Center (Czech Republic) and Noesis Science Center and Technology Museum (Greece). The project is co-financed by the Erasmus + program of the European Union, Action 2: Strategic Partnerships for Youth.



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