

Break the spell!

ULBS

Scenario title/name of the game: Break the spell

Children’s age (primary school students):7-8 years old

Time needed:15 minutes

Content/Subject: Geometry (square, rectangle, triangle, circle: identification and graphic representation)

Aim of the activity:Analyze and describe spatial relationships, standing in space in relation to others and objects.

# Introduction

E This game involves describing the positions of objects in relation to other objects and associating objects with geometric shapes. Students are challenged to analyze the relationships between them and establish the path of movement of the object to the corresponding figure.

## Resources:

Programmable robot or a toy: the robot is a small and programmable robot that moves in different directions and distances.

Shapes: circle, square, triangle, rectangle, different forms and image

Accessories: colorized scotch to make the table on the floor or a map divided in 15 cm squares or a map made of carton

# A detailed description of the scenario

An evil witch who went to bed late and didn't sleep. She was angry and grumpy so she turned the sun, pizza, TV and gift box into geometric figures! She then hid them among other objects! Only clever children can bring back the sun, the TV, the pizza and the gift box by guessing where each one is. Can we help? Let's see in what geometric figures the witch transformed the sun, the TV, the gift box and of course the slide of pizza? Let's break the spell!

# Steps

1. Students are instructed by the teacher how to use the robot and what is the subject of the lesson. Together they can name the robot as they wish.
2. They name the geometric figures given on the map, namely: the square, the triangle, the rectangle and the circle.
3. They associate the objects with geometric figures: the TV, the sun, the slice of pizza, the gift box (other objects can be chosen) – rectangle, circle, triangle, square.
4. Students draw a mental map of the road to collect the first shape and associate it with the corresponding object.
5. Then they program the robot (or put the arrows in the right order) to get to that first object. Depending on difficulty level, the teacher can challenge students to program the robot to go directly to one object or program it step by step, resetting the robot each time. Second choice is easier.
6. Students identify the object by its position relative to another object and determine the shape of the object. If they have found the object correctly, they point where it is relation to other objects around it. For example: 2 steps forward, the object found is: the TV. The students says: ”I recovered the TV from the bad witch! And the related shape is the rectangle. The rectangle is under a heart”. Then programs the robot to go there. For example, 3 steps forward and 3 to the right. Finally, he/she reaches the rectangle.
7. From the first figure, ask students to go to the nearest object. For example:
8. Go to the sun. Students need to recognizes the object and the figure. Point its position relative to the other objects and proceed to find the circle on the map.
9. Go to the gift. Students need to recognizes the object and the figure. Next, they need to determine the position of the object in relation to the others. Finally, they need to find the figure on the mat.
10. Students need to always program the robot to the nearest object. In this way they recover faster what the witch has taken away.
11. The robot can return to the starting position each time, if you want to make the game simpler.

# Tips and tricks for the teacher

Give instructions at the beginning of the game!

Encourage children to speak out loud when they think!

Each student makes mental maps or even notes of the sequences of instructions that the robot has to follow along the given route.

Repeat as a group the possible movements: left, right, forward, backward, rotate and if necessary, pause or reset.

Change the starting place of collecting the shapes, if you wish to add challenge for each participant!

Let children make mistakes. Trying again and discovering the error is part of the game!

Add in more shapes and more object to prologue and complicate the game.

The teacher can program the robot to congratulate or to encourage students to continue.

Play the game in teams to add competition, if you aim to increase the speed of solving the tasks!

# scenario implementation and other resources

* Board or worksheet
* A robot
* An instruction sheet for the robot to be visible to students
* Stickers for rewords
* Small model sheet to pass the trails to the students

# Variants of the scenario/the game

More objects and geometric figure can be added (for higher grades).