ICT GAME

RELAY TEAM WITH BLUEBOT

INTRODUCTION

The use of educational robotics in schools encourages the creation of learning environments open to creativity and digital, capable of combining science and technology, theory and laboratory, individual study and cooperative study. This practice offers pupils a strongly constructivist approach that tends towards "acting" knowledge.

The pupils become the main actors in the design of different interventions, in a game context created around devices with which they can "learn by operating", through interaction on the physical and material level (manipulable objects), on the technological and IT level (programming).

AIMS

Working with small robots allows you to work simultaneously on an abstract dimension (design and / or programming) and on a concrete / manipulative dimension, reinforcing both. It also allows the student to receive immediate feedback on what has been achieved by observing the behavior of the robot. These peculiarities offer the child or boy a privileged opportunity to reflect on his own reasoning and it is also very engaging and stimulating for students of all ages.

TARGETS

• Initiate pupils to computational thinking and the acquisition of the logic of programming

• Acquire specific terminology through the demonstration and elaboration of increasingly complex mini-game activities applied to logical-mathematical disciplines; logical-linguistic

• Involve and stimulate pupils to work in a team

MATERIAL:

- 1 Grid
- 2 Bluebot
- 2 flash cards Start button

- 10 field sport flash cards (Challenge n.1)
- 10 traditional games flash cards (Challenge n. 2)
- 5 European flags flash cards (Challenge n.3)
- 11 skittles (toilet paper roll)

STAGES OF THE GAME:

- Preliminary phase: pupils will learn to use the basic commands to move Bluebot. The proposed games and paths will allow the child to become familiar with some concepts of spatial relationships (right / left, near / far) and some concepts of computational thinking (programming)

- Central phase: RELAY TEAM WITH BLUEBOT

The class is divided into two teams. Each team is arranged in pairs in a row. Each team is positioned on the side of the grid at the START button.

Each team must play three games.

Each competition consists of three challenges, the team that wins two challenges, wins the first competition.

The team that wins two competitions out of three is the winner.

RELAY TEAM DESCRIPTION

HYPOTHESIS FOR A CLASS OF 20 STUDENTS (2 teams: 5 couples)

VARIATIONS: The game can be modified according to the number of pupils in the class by increasing the number of flash cards for each challenge, dividing the class into two teams not in pairs, varying the flash cards according to their teaching proposals (alphabet, colors, animals etc …)

COMPETITION

Challenge n. 1:

10 flash cards depicting traditional games are placed in a mirror way on the grid (5 for each team).

Objective: Move with Bluebot on the grid to position yourself on your flash cards located in the middle of the grid according to the sequence called by the teacher and remove them as soon as possible.

At the starting signal the first couple (one programs, the other collects the card), starting from the START button, performs the path with Blueebot. It positions itself on the flash card, removes the card and delivers it to the second couple in line, who will repeat the procedure starting from the Blueebot new position, until the five couples have removed the five cards.

Whoever finishes first wins the challenge.

Challenge n. 2:

10 flash cards depicting the sports are placed in a mirror way on the grid (5 for each team).

Objective: Move with the Bluebot on the grid to position itself on the flash cards in a free sequence and remove them as soon as possible.

The player will be able to choose the order of collection freely (choosing the closest ones; the important that they are representative of the 5 sports).

At the starting signal the first couple (one programs, the other collects the card), starting from the START button, performs the path with Blueebot. It positions itself on the flash card, removes the card and delivers it to the second couple in line, who will repeat the procedure starting from the Blueebot new position, until the five couples have removed the five cards.

Whoever finishes first wins the challenge.

Challenge n. 3:

Bluebot bowling

5 flash cards depicting the flags of the European countries and 11 skittles (toilet paper roll or similar) are placed on the grid.
Objective: Move on the grid with Bluebot that acts as a ball, in free sequence, and hit the skittles, taking care not to go through the flags flash cards. The hit skittle is picked up by the partner. Each couple can pick up a skittle in turn. The player can freely choose the skittle to hit (choosing the closest one).

At the starting signal the first couple (one programs, the other picks up the skittle), starting from the START button, makes the journey with Bluebot. It drops the skittle

then passes the turn to the next couple who will repeat the procedure starting from the Bluebot new position, until there are no more skittles.

Whoever has collected more skittles wins the challenge.

1 point will be awarded to those who have won the FIRST COMPETITION (two challenges conquered).

The relay goes on repeating the competition two more times reversing the roles between the couple.

The team that has won two out of three competitions wins the relay