

TITLE: Who will get to the balloon first?

LEARNING SCENARIO	
School:	Duration (minutes): 90
Teacher:	Students age: 13

Essential Idea:	How to create a computer game: Who will get to the balloon first?
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Topics:

- Pupils deepen their understanding of the use of various software and policies.

Aims:

- Pupils will be able to design and create programs that utilize subroutines, appropriate structures and data types, expressions, variables and iterative and conditional commands.
- General programming languages are used to create programs.
- Pupils understands the different ways to use simulations and step-by-step organization algorithms to solve problems.

Outcomes:

- Pupils create a more complex game, application, or mobile application that solves a particular problem from specific subject or topic.
- Pupils learn how to outline the operation of a more complex program into various patterns and generalizations.

Work forms:

- individual work
- work in pairs
- group work

Methods:

- presentation
- discussion

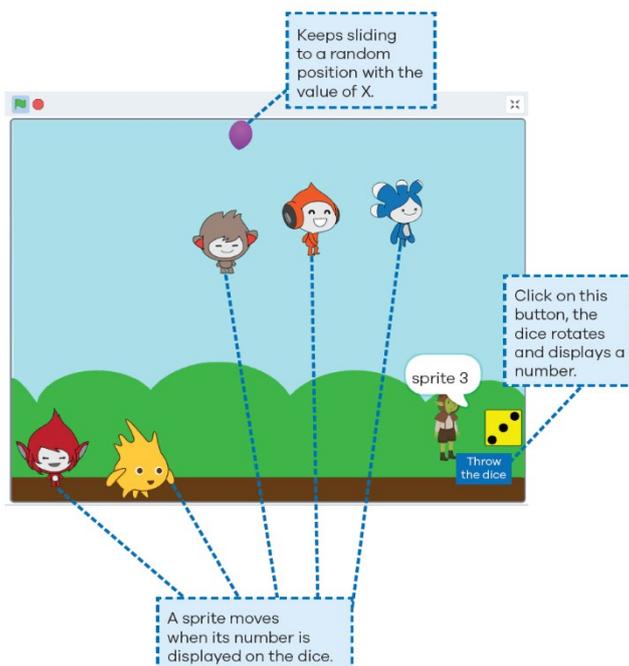
- interactive exercise

ARTICULATION

Course of action (duration, minutes)

INTRODUCTION

Teacher explains and starts discussion with pupils about how to create a computer game:
Who will get to the balloon first?



Sprite1 to Sprite6 compete who will touch the balloon first.

Sprite 1, 2, 3, 4, 5 or 6 should reach the balloon first to win.

The balloon keeps sliding to a random position with the value of X.

When you click on Throw dice, it rotates and displays a number.

The sprite with the given number moves for a random number of steps from 30 to 50.

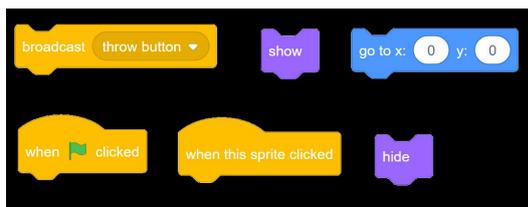
MAIN PART

Instructions:

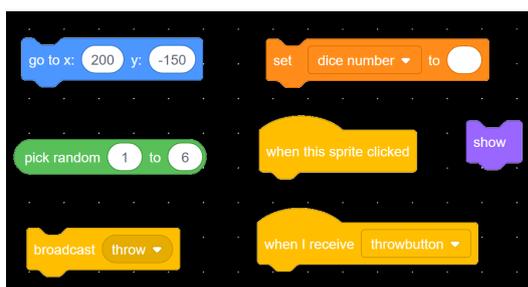
1. Load the stage and the character sprites. Call the sprites sprite1, sprite2, sprite3, sprite4, sprite5 and sprite6. Draw a Throw dice sprite.
2. Draw a dice sprite and six costumes. Each costume shows a number from 1 to 6.



3. Draw a sprite you need to click on to start the game. It will say you need to click on the Throw dice sprite. It appears in the middle of the stage after clicking on the green flag. When you click on the sprite, it sends a message to the Throw dice sprite to appear on the stage and is no longer shown on the stage. We called the message „throw button”. Connect the blocks:



4. The Throw dice sprite appears at (200, -150) after receiving a “throwbutton” message from the sprite in Step 3. When we click on the sprite, it sets the Dice number variable to a random value from 1 to 6 and sends a message to the dice. We named the message „throwing”. Connect the blocks:

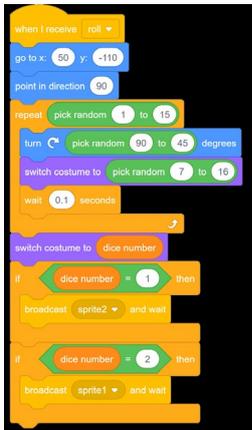


5. When it receives the „throwbutton” message, the dice appears at (200, -110) and points to the 90° direction. Connect the blocks.

6. When it receives a „throw” message, the dice is displayed at (200, -110) and pointed to the 90° direction. The dice repeats a turn five to fifteen times between -45° and 45° and changes costumes from 1 to 6. Then it waits for 0.1 seconds. Then the dice sets the costume corresponding to the value of the Dice number variable. If the Dice number

variable equals one, it sends the message to sprite1 and waits. The same goes for sprites from 2 to 6.

Correct the script block and add missing blocks:

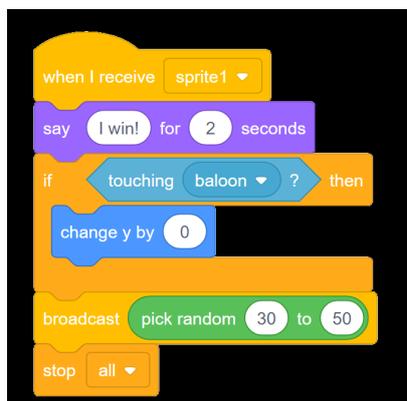


7. Arrange sprites from sprite1 to sprite6 on the stage. When we click on the green flag, they should be placed in that position. For example, we have set sprite1 to (-200, -140). Make sure that the Y value is equal for all sprites.



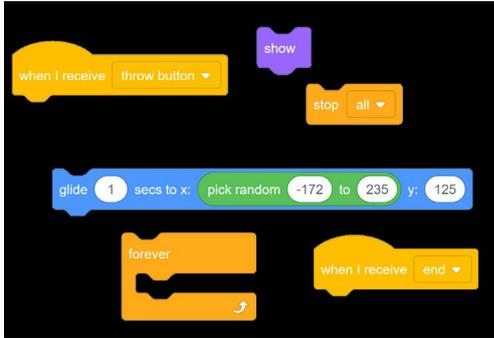
8. When sprite1 receives the message „sprite1”, it changes the Y value by the number of steps between 30 and 50. If it touches the balloon sprite, it says I am the winner for two seconds, sends the „end” message, and stops everything. Do the same for all sprites from 2 to 6.

Correct the blocks:



9. Insert the balloon sprite. When it receives a „throwbutton” message, the balloon is displayed and keeps sliding at a random value of X from -172 to 235 and the Y of 125. When it receives the „end” message, everything stops.

Connect the blocks:



EXERCISE 1

According to the previous example, pupils can design and create their own new computer game.

CONCLUSION

Pupils and teacher discuss and evaluate the presented solutions.

Methods

presentation
discussion
work on the text
graphic work
interactive exercise /simulation on the computer

Work forms

individual work
work in pairs
group work
frontal work

interview
demonstration
role playing

Material:

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Literature

PERSONAL OBSERVATIONS, COMMENTS AND NOTES