How to write games, animations and stories using SCRATCH

for primary schools

Lesson Plan 8
Game Over!

Mathematical Skills / Concepts
Scratch Features
Curricular Links
Problem Solving, Variables, Sequencing
Variables, Sensing, Broadcasting
Mathematics, Art, Language

lero THE IRISH SOFTWARE ENGINEERING RESEARCH CENTRE

ICS SKILLS CERTIFICATION BODY OF THE IRISH COMPUTER SOCIETY

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Learning Objectives

The child will:

- Create a game which uses variables to calculate lives and score.
- Use sensing to effect change in a game.

> **Teacher Tip**
>
> If children remix other projects from http://scratch.mit.edu by clicking on the Remix button at the top right hand corner of the project editor, the original creator will be acknowledged in the project page.

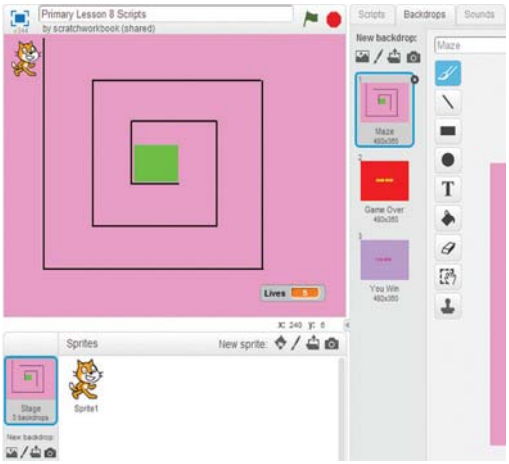
Introduction

- View some of the sample games in Scratch.
- On the Scratch website at http://scratch.mit.edu click on Explore and then Games.
- Have a discussion with the children about the different games they enjoy playing. Look at the code in the sample games and chat about how this code could be altered to make other games.

Broadcasting

You may have noticed in the last lesson that if you lose all 5 lives in the game nothing happens. Similarly if you get to the end of the maze, nothing happens. We will use broadcasting to create suitable endings for the game, if you win or if you lose.

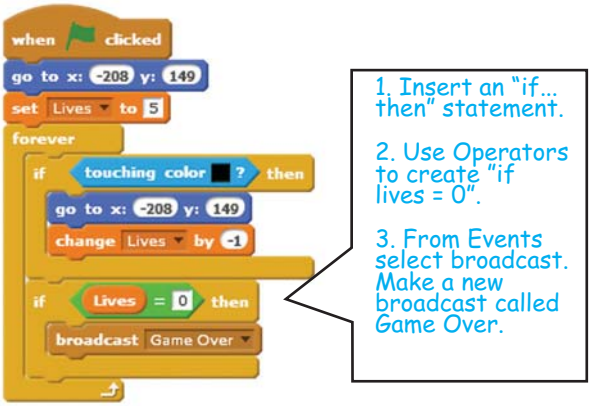
- Use your previous maze scripts (from lesson 7).
- If lives equal 0, we want the backdrop to change to show that the game is over.
- If you get to the end by touching the green colour at the end of the maze backdrop, we want a backdrop that tells you that you have won the game.
- Click on the stage, then backdrops. Create 2 more backdrops. One should say Game Over. The other should say You Win. Rename your backdrops to suit your own game.



- This code will require 2 “if...then” statements.

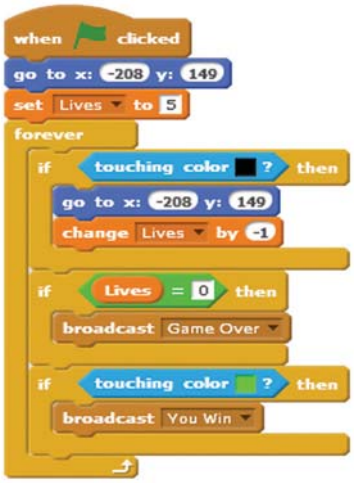
1. If all the lives are gone i.e. lives=0

    - Click on the sprite.
    - Click on Scripts.



2. If the sprites get to the end of the maze successfully by touching the coloured square

- Add another “if..then” statement to the sequence.



- When we send out a broadcast, it sends a message to another part of the program. We need to create a program to receive this message and to act upon it.
- Click on Stage.
- Now we need three different pieces of code:
  1. To show the Maze backdrop when we start the game.
  2. To show the Game Over backdrop if we lose.
  3. To show the You Win backdrop if we get to the end of the maze.
- Click on Scripts and create the following code.

Challenge Time 1!

1. Create a maze backdrop.
2. Choose a sprite.
3. Use if statements and broadcasts to create a maze game.
4. Add Lives to your game. What happens if you lose all your lives? What happens if you win the game? Add sounds e.g. cheering when you win.
5. Use a broadcast called “Level 2” to extend your game. You may need more backdrops for this.
6. Allow your classmates to play your game. See who plays the best!

7.

Ultimate Challenge!

1. Plan a game which uses Lives or another variable e.g. Score.
2. Choose sprites and backdrops for your game.
3. Use if statements and broadcasts to create your game.
4. Play your game to check for bugs. Try to solve all problems. Work with your classmates.
5. Look at other people's games. Tell them what you like and suggest ideas to make their games even better!

Notes