



Lesson Activity Sheet

School:

Date:

Class size:

Year group:

Application used: Scratch Jr

Resources: 15 ipad minis,
interactive whiteboard



Topic: CODING - Loops and Collisions

Overview:

This week we are focussing on loops which is a fundamental coding principal. Students will be using loops to repeat blocks of movement and also to detect collisions...very important if you are designing a game!

Week 3

Learning Objective/s:

1. To understand how to use 'loops'.
2. To be able to detect collisions between characters and assign actions as a result.
3. To be able to record their own voice and use as part of the coded animation.

Learning Outcome:

Students will have coded an animation using loops to extend the path travelled by their character and have added collision detection to their code.

LESSON OUTLINE

Starter input/activity (10 mins)

With the teachers iPad playing through the interactive whiteboard, the teacher is to recap briefly on the basics learned last week and to explain how to repeat and extend movement using loops.

Activity (10 mins)

Working in pairs, students to create a simple character and extend its movement using a loop. What effect does altering the value of the loop have on the path travelled by the character?

Input - Detecting Collisions(5 mins)

Teacher to show the children how to detect collisions and program the character to take action when it is. Also show the children how to record their own voice and use that as a 'shout out' when the collision is detected.

Activity - Create a short coded animation using collision detection (20 - 30mins)

Children to code a new animation using any characters or scenes that they like but they must have an element of collision detection and loops involved.

Plenary/Reinforcement (5-10 mins at the end)

Were there any problems using loops and collisions etc?... Do any of the children have specific questions about what they have done. Teacher to go over what has been learned. If possible it would be a good idea at this stage to show a couple of good projects from the class and talk about how they were done.

It is important to gauge the level of learning that has taken place across the whole class and so to that end it is often appropriate to have a show of hands for each learning objective. Pupils can show 1 to 5 fingers indicating how well they feel they grasped each concept or learning objective. Alternatively, you can use a simple sketch app to turn the iPad into a mini whiteboard that they can hold up with a number drawn on.

Differentiation and Extension

Differentiation is usually by outcome here... More able students will have explored the capabilities of Scratch in greater depth.

It might be a good idea to pair a bright child with a not so able child for this exercise so that the slower children are brought along and kept on track. The slower children will be able to adopt a more 'physical' role, moving the characters etc under instruction from their partner.

National Curriculum:

1. Coding/ICT
2. Problem solving
3. Literacy/Numeracy

