4. Superhero Clean Up

Activity Structure – 45min

Activity	Timing
Warm up Game	5 mins
Introduce Story and Project	10 mins
Main Activity	25 mins
Final test & debug	throughout
Share with group	5 mins

Overview

Help - there are pieces of rubbish everywhere! Can you help to pick them up?

*Litter is one of the nine ecoschool topics and part of the citizenship curriculum.

Required Props: 'clean' pieces of litter.

Learning Objectives

- To use the camera tool in the Scratchjr Paint Editor to create our own characters.
- To create a simple control pad for a character.

National Curriculum

- create and debug simple programs
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

Warm up game: Green flag, tap, message (similar to *Duck, Duck…Goose!*)

- Ask the children to sit in a circle (on the floor or around a table).
- Walk around and assign each child a 'start' block (green flag, tap or message).
- When you call out a start block the children must run around the circle and get back to their place. The last child to sit down is 'out'.
- If it's tricky having the children race instead say their start block and then show them a movement block for how they need to move around the circle, e.g. 'Green flag' + 'Slow' + 'Forwards'.

Or

- Discuss and sort any pieces of litter you've brought in. *What material is this made from? How do you know? Can it be recycled or composted?*

Introduction (discuss the project together, share ideas and create excitement)

- Show the children the 'clean' litter. *Where do you think I found this? Where do you normally see litter? Do you ever see it on the ground?*
- *Why do you think it is important to not drop litter? What sort of problems do you think litter causes animals/ children/grown-ups?*
- We are going to create a game where our Superhero is going to collect all the pieces of rubbish left lying around. Show the children the project.
- Point out the remote control. *What do you think will happen if I touch this? Which code blocks might I have used?* Spend some time looking at the code for the remote-control buttons and the superhero character it controls.
- *Why do the two arrows of the remote control need to be separate sprites? What would happen if I used just one character?*
- Point out the different messaging blocks. *Why have I used more than one message block? What do they do?*

Project Plan

4. Superhero Clean Up
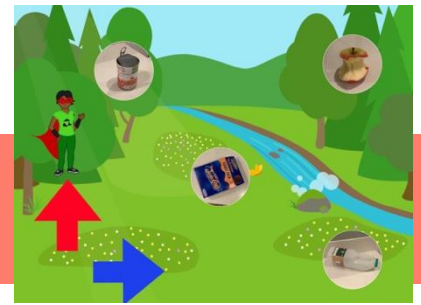
Main Activity Key questions and teaching

1. Choose a background. Will you choose a town, countryside, the beach, etc? Unfortunately, people drop litter anywhere!
2. Draw the two 'arrow' characters which will make up the remote control. Remind the children that each arrow must be a separate character.
3. *What size will your arrow be? Think about the user's experience. If it is too small, it will be hard to play and if it is too big it will take up a lot of the screen. Where will you position your arrows on the screen?*
4. *We need to create a superhero character. What might they look like?* N.B. capes can be drawn beside a human character. Then use the arrow/drag tool to position the human in front of the cape. Give the children some time to create their superhero character.
5. Code the remote control and the superhero character using the message blocks. You could code the first arrow together, but then challenge the children to code the second arrow independently.
   Superhero: [Green Flag, Recording "Oh no! Better clean up this rubbish], [Receive Red Message, Go Up], [Receive Blue Message, Go Forward].
   Arrow: [On Tap, Send Red/Blue Message].
6. Next we are going to create our litter characters by taking photos of pieces of rubbish. Open the Paint Editor and create 3-4 litter characters by drawing a shape and then using the camera tool to take a photo of the litter.
7. Position the litter sprites around the screen (make sure they're not touching the superhero character or one another).
8. *What do we want to happen to each piece of litter when the superhero touches it? How could we code this?* Code the litter [Start On bump, Hide]. You could also add a sound effect after the litter character 'hides'.
9. Test and debug what you have created so far.
10. That's it finished. Well done!

Teaching points

- Encourage children to test and debug throughout.
- Support children to use the camera, and remind them where the camera is located on their tablet.
- Have the message block flashcards displayed for the children to refer to.
- Correspond the colour of each arrow to the message block it sends, e.g. a blue arrow sends a blue message. This will help the children to keep track of the different message blocks

Possible Extensions

- Record or type some instructions for the game.
- Make a four-arrow remote control.
- Can you create a celebration for when all the rubbish has been collected?

To Simplify

- Only have 2-3 pieces of litter.
- Avoid using messaging blocks by having the litter positioned in a rough line along the screen. Code the Superhero to jump and move forward when it is tapped.
- Code the litter to 'hide' on bump.

Finishing up

- Swap your game with a friend.
- *Did anyone find anything tricky today? How did you overcome that problem?*

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