



3. Superhero Buttons

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

Let's create an interactive animation featuring our superhero. Tap a button to watch them perform amazing stunts!

Learning Objectives

- With support, to use multiple messaging blocks.
- To make simple edits to a character using the Paint Editor.

National Curriculum

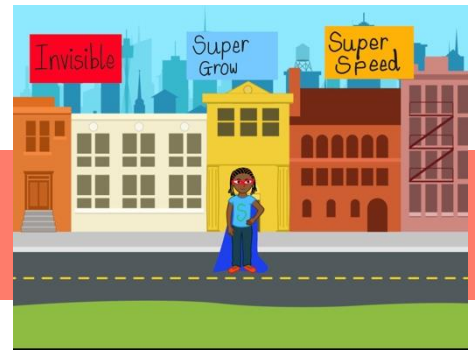
- create and debug simple programs
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

Warm up game: Start on Message Blocks

- For this game you will need 4 different coloured pieces of card, paper or envelopes.
- Assign each child a message colour (e.g. blue). Hold up the blue card followed by a code block (e.g. 'Jump').
- All the 'blue' children jump. Repeat for the other three colours using various code blocks (e.g. hold up a red card followed by the 'Shrink' card).
- Explain how this relates to the messaging blocks in ScratchJr, 'I can tell/trigger you to do an action by sending you a message that matches your message start block.'
- Experienced coders could have a sequence of instructions after the coloured start.
- If it is quite an advanced class, you could give 2-3 of the children one of the coloured cards so that they complete their action before triggering another child to start their own action (multiple messages).

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

- *Do you know any superheroes? What superpowers do they have? If you could have a superpower what would you choose? Super speed, super strength, invisibility, flying, etc.*
- Show the children the project.
- We have used two start/trigger blocks today: Start on Tap and Message blocks. *Does anyone know how the message blocks work? Could you give me an example?*
- Show the children the code. Explain that when we tap on a button a message is sent to the superhero. The superhero will then run any code which starts with that colour message block.
- *How many coloured message blocks have we used in this project? Why is it important to make sure we don't get the message blocks muddled up?*
- Tip: point out that the colour of each button matches the colour of the message which triggers it. *This helped me to not get confused when I used more than one message block.*
- *What superpowers could your superhero have? How will you show/code that in your project?*



3. Superhero Buttons

Main Activity Key questions and teaching

1. Choose a town background from the library.
2. Select and edit a 'person' character from the library to make them resemble a superhero. Children could add a cape, mask or an 'S' to the T-Shirt.
3. To add a cape, use the arrow/drag tool to move the person to one side. Draw the cape either freehand or with the triangle tool. Then using the arrow/drag tool to position the person in front of the cape.
4. Let's draw the first button. Use the Paint Editor to draw and fill a blue rectangle. Use the squiggle tool to write the superpower in the centre of the rectangle (children may need support to do this).
5. Now let's code the first button: make a recording which says the name of the superpower. Then send a blue message to the superhero: [Start on Tap, Record1, Send a blue message block].
6. Now let's code what the superhero will do when they receive the message. *What will your superhero's power be?* Support the children to code their power. [Receive blue message block, do superpower, Go Home].
7. *Why do I also use a Go Home block?*
8. Repeat steps 4-7 for the remaining two buttons. FYI in order, the message colours in Scratchjr are: orange, red, yellow, green, blue, purple.
9. Test the buttons. *Does each button correspond to the correct superpower? Did you remember to use a 'Go Home' block?*

Teaching points

- For progression, code the first button with support, the second button with minimal support and the third button as independently as possible.
- Avoid confusion by matching the colour of the button to the message it sends, e.g. a red button sends a red message to the superhero character.
- Test and debug throughout.

Possible Extensions

- Have more than three buttons.
- Encourage the children to be ambitious with their superpowers (invisibility, super-strength, Jumping between buildings, etc.). Try and support them to work out how to turn their ideas into code that works.

To Simplify

- Have just two buttons.
- Encourage the children to pick simple superpowers. (Super Jump, Super Speed, Super Grow).

Finishing up

Swap your tablet with a friend and try out their interactive animation. *What did you like best about your friend's project?*