

Winter Wonder Land: Project 4 – Present Collector

Activity Structure – 45min

Activity	Timing
Warm up	5 mins
Introduce Project	10 mins
Main Activity	30 mins
Final test & debug	throughout

Overview

Let's make one final game for our Winter Fair. Oh no! Father Christmas has dropped all his presents. Can you help Father Christmas to find the presents and put them back in his sack?

Use a remote control to move either Father Christmas or your penguin around the screen and collect all the missing presents.

Learning Objectives

- To hone and consolidate the skills taught earlier in the day (different start blocks, using an object from the real world, and starting to use messaging blocks).
- To personalise a MAMA.codes project.

National Curriculum links

- **Spoken Language** To maintain attention and participate actively in collaborative conversations, staying on topic and initiating and responding to comments
- **Computing:** children will use technology purposefully to create, organise, store, manipulate and retrieve digital content

Warm up game: Simon/Simone Says...

- *Have you ever played Simon Says? What happens? Are there any rules?*
- Explain that in some ways coding is a bit like Simon Says. When we play Simon Says we must use the phrase 'Simon says...' to make the other players do what we ask, e.g. rub their tummy or touch their feet. Similarly, when we code in Scratchjr we use a 'start' block to make a character do an action.
- Show the children a character with some simple code (but don't include a start block). *What will happen when I run this? Why? How could I debug/fix it?*
- Play a couple of rounds of Simon says (a child could be 'Simon' or 'Simone').
- Let the tutor or TA take on the role of Simon/Simone. Instead of saying 'Simon says...' say a start block, followed by the action, e.g. 'start on green flag' + 'clap your hands', 'start on tap' + 'turn around'. Explain that the aim of the game is to only carry out the action if a start block is said first.

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

- Show the children the Present Collector 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 'penguin' character it controls.*
- *Why do the two arrows of the remote control need to be separate characters? What would happen if I just used one character?*
- Point out the different messaging blocks. *Why have I used more than one message block? What do they do?*

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Main Activity Key questions and teaching

1. Choose a wintery background from the library.
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.
4. Select the penguin character from the library. Position the penguin and the two arrow characters.
5. Code the remote control and the penguin using the message blocks. You could code the first arrow together, but then challenge the children to code the second arrow independently.
6. Use the paint Editor to draw 2-4 presents. You could either use the shape, line and fill tools, or draw a rectangle shape and then use the camera tool to photograph a piece of wrapping paper.
7. Let's move onto the interaction between the penguin and the presents. *What do we want to happen to each present when the penguin touches it? How could we code this?* Code the present [On bump, Jump, Pop, Hide].
8. You can drag and drop to copy the code from the first present to the remaining ones.
9. Test and debug: *does each present work as you expected? Do the remote-control arrows correspond with the correct direction?*
10. That's it finished. Well done!

Teaching points

- Optional: have pieces of Christmas wrapping paper available for the children to photograph to create the present characters.
- Challenge the most experienced coders to work on this project as independently as possible.
- As this is the final project for the day, encourage and support the children to use their own ideas for the game.
- Have the images of the characters that need to be drawn available for the children (see resources below)
- Encourage children to test and debug throughout.

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 presents have been collected? I've coded the penguin so that when it is tapped a Father Christmas character appears. To create the Father Christmas character edit the Northerner character in the Paint Editor.

To Simplify

- Have fewer presents and very simple rectangles.
- Avoid using messaging blocks by having the presents positioned in a rough line along the screen. Code the penguin to jump and move forward when it is tapped.
- Code the presents to 'hide' on bump.

Winter Wonder Land: Project 4 – Present Collector Resources

