Where's the Magic Elephant?

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 a hide & seek game where the player tries to find a magic elephant. Once they discover they elephant they can watch it perform a number of 'magic tricks' such as shrinking and growing, and changing colour.

Learning objectives:
- To skilfully position multiple characters.
- To use positioning to create various effects such as hiding a character, or making a character appear to change/transform.

National Curriculum / EYFS Curriculum Links
- Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.
- Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.

Warm up game: Multi-coloured messages
- For this game you will need four different coloured pieces of card or paper (orange, blue, red, yellow, etc.) and your flashcards.
- Before you start, have the children locate the messaging blocks in Scratchjr. *What are these? Why are they different colours? What might they be used for? What kind of block are they? - They're start blocks.*
- Assign each child a message colour.
- Tell the children that you are going to hold up different colour message cards. If it is their colour, then they do the code that follows it, else they do nothing.
- Hold up the blue card followed by a code block (Jump). All the 'blue' children should jump. Hold up a yellow message card followed by 'pop'. All the 'yellow' children should say 'pop'.
- Play a few rounds. *Can anyone guess how this might relate to the messaging blocks we use in Scratchjr?*
- To make it trickier, you could hold up more than one messaging colour card, e.g. if you hold up yellow and blue then both sets of children carry out the action.

Introduction (discuss the project together, share ideas and create excitement)
- Show the children the game. *There is a magic elephant hidden in this group of elephants. Can we find her?*
- We are going to make our own version of this game.
- We are going to use two different start blocks. Hold up the 'Start on tap' flashcard. *What do you think this block does?*
- Hold up 'Start on Orange Message'. *How might this start block work?* Explain and demonstrate on your tablet how the message blocks work (with just one message: orange).
- Look at page 2, 3 and 4 on the advanced version. *What magic 'tricks' does the elephant do?* Vanish and appear somewhere else, jump and change colour, Spin around growing and shrinking. *What background will you choose? It could be anywhere as the elephant is magic!* Talk about the code used to create these effects.

Project Plan

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Where's the Magic Elephant?

Main Activity Key questions and teaching

1. Create a Magic Elephant character by editing the elephant character from the library. Use the Paint Editor to personalise its colour and pattern.
2. Select several grey elephant characters for the magic elephant to hide behind.
3. Position the Magic Elephant character behind one of the other grey elephants so that it is completely hidden. *Which blocks could I use to adjust the size of the elephant characters?*
4. Position the remaining grey elephants around the screen.
5. *Let's code the grey elephants:* Start on Tap, pop, hide.
6. *How could I copy this code to the other grey elephants?* Demonstrate dragging and dropping this code to the other grey elephants.
7. *Let's add some extra code for the grey elephant which is hiding the Magic Elephant. How could I make it trigger the Magic Elephant to appear when it is tapped?* Explain that 'on tap' this elephant will send an orange message to the Magic Elephant character.
8. *Now let's code the Magic Elephant character.* Drag down a hide block and 'hide' the Magic Elephant character at the start of the animation.
9. *Let's code the Magic Elephant to move in an interesting way when she receives the orange message. How could the Magic Elephant move? Will she jump, spin around, grow then shrink, etc?* Let the children experiment with different movements until they're satisfied.
10. Add a second page to the project and add a [Go to page 2] block to the end of the Magic Elephant's code.
11. *Let's add an animation to page 2 so that it looks like our Magic Elephant is performing a magic trick. What trick might the Magic Elephant do? Vanish and appear somewhere else? Jump and change colour? Spin around while growing and shrinking. What background will you choose? It could be anywhere as the elephant is magic!*

Teaching points
- The children may need support positioning and arranging the elephants.
- Encourage children to test and debug throughout.
- The children could code the first elephant with support, the second elephant with minimal support and the third elephant (and any others) independently.

Possible Extensions
- Have loads of grey elephants hiding the grey elephant (Where's Wally style).
- Add a second/ third/ fourth page and use [Go to page…] to create a further animation with the magic elephant character. *What tricks could your Magic Elephant character do?*

To Simplify
- Have fewer grey elephant characters (or only have one).
- Position a slightly larger Grey Elephant in front of the Magic Elephant.
- Avoid using message blocks by simply having the grey elephant hide when it is tapped, thus revealing the Magic Elephant hidden underneath.
- Code the magic elephant character to do a movement and say something when she is tapped.

Finishing up
Share the projects with each other.
Can we take it in turns to say one nice thing about someone else's project/how they worked today? The tutor and TA may need to model and support the children to do this.

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