














Programming Turtle Logo and Scratch: Sprites

<p>Aim: Understand what algorithms are, how they are implemented as programs on digital devices and that programs execute by following precise and ambiguous instructions.</p> <p>Create and debug simple programs.</p> <p>Use logical reasoning to predict the behaviour of simple programs using Scratch.</p> <p>I can create an algorithm and use the commands to change the backdrop and add sprites.</p>	<p>Success Criteria:</p> <p>I can write commands in the correct order.</p> <p>I can write a variable value where required.</p> <p>I can correct any mistakes.</p> <p>I can change the backdrop.</p> <p>I can add sprites.</p>	<p>Resources: Lesson Pack</p> <p>Desktop Computer or Laptop.</p> <p>Scratch application (installed or online).</p> <p>Whiteboards and pens or books, pens and pencils for recording.</p>
	<p>Key/New Words: Algorithm, instructions, commands, sprite, block, move, add sound, repeat, say something, green flag, change colour, key press.</p>	<p>Preparation: Differentiated Activity Sheets as required.</p>

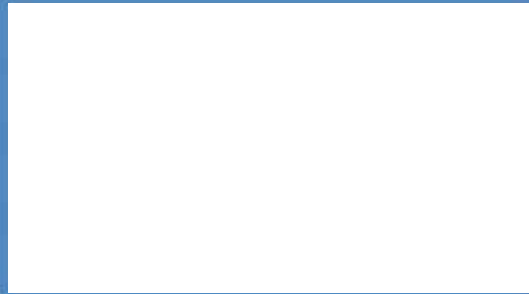
Prior Learning: Children will have used Scratch to create an algorithm to make a sprite dance, added sound and used the green flag to start in lessons 3, 4 and 5.

Learning Sequence

	<p>Can you...? Children create an algorithm in Scratch to complete the given tasks. (Click on the algorithm to see it run in a browser) Please note, if using Scratch 3, the 'play drum' programming block is now located within the 'add extension' option that can be accessed from the bottom left of the Scratch screen. Click on the 'music' extension and the appropriate blocks will appear. The block is now a different colour but has the same function.</p>	
	<p>Add a Backdrop / Add a Sprite / Which sprite? Over the next 3 slides demonstrate how to change the background and add a sprite.</p>	
	<p>Add a Sprite and a Backdrop: Children work through the demonstrated activities using the differentiated Activity Sheets.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div>  <p>Children create a project with 2 dancers on a stage.</p> </div> <div>  <p>Children create a project with 2 fish moving in a tank.</p> </div> <div>  <p>Children create a project with 2 penguins in a winter scene.</p> </div> </div>	
	<p>Share: Take it in turns to show your partner your project. What do you like about your project? How have you made it start? What might you improve?</p>	
	<p>All Together: Ask children to share what improvements they would make. Finish the unit by asking the children to recap the skills they have learnt in these programming lessons.</p>	

Taskit

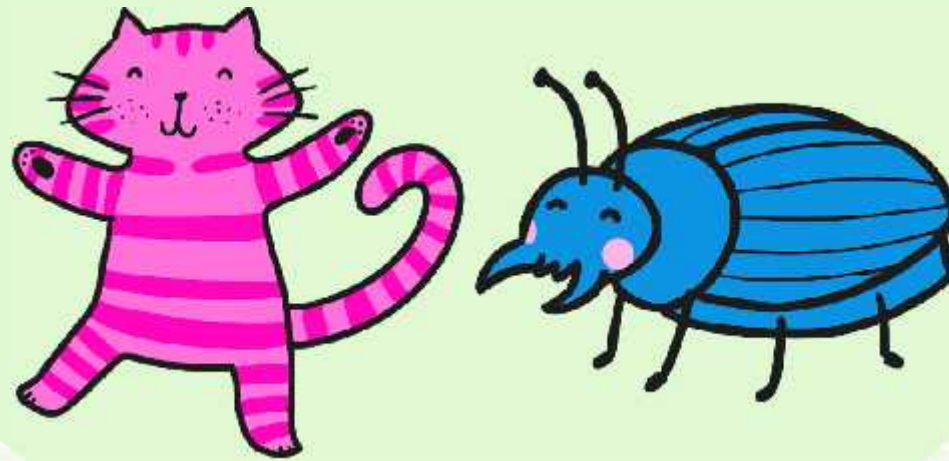
Spriteit: Children explore different sprites and combine in an algorithm.



Computing

Programming Turtle Logo and Scratch

Sprites



Aim

- I can create an algorithm and use the commands to change the backdrop and add sprites.

Success Criteria

- I can write commands in the correct order.
- I can write a variable value where required.
- I can correct any mistakes.
- I can change the backdrop.
- I can add sprites.

Can You...?



Create an algorithm that does the following:

1. Move forward and say "back again" for 1 second.



Back again

2. Move back to the starting position and clap hands.



3. Repeat steps 1 and 2, 4 times and start when the 'Green flag' is pressed.



Click on the 'Green flag' to run the algorithm in a browser.

Add a Backdrop

1. Below the stage, click 'Choose backdrop from the library'.



2. Select a suitable backdrop.



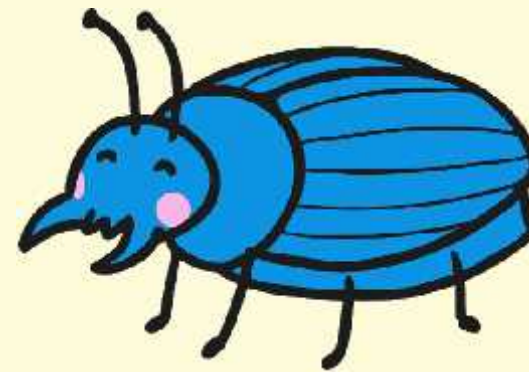
Add a Sprite



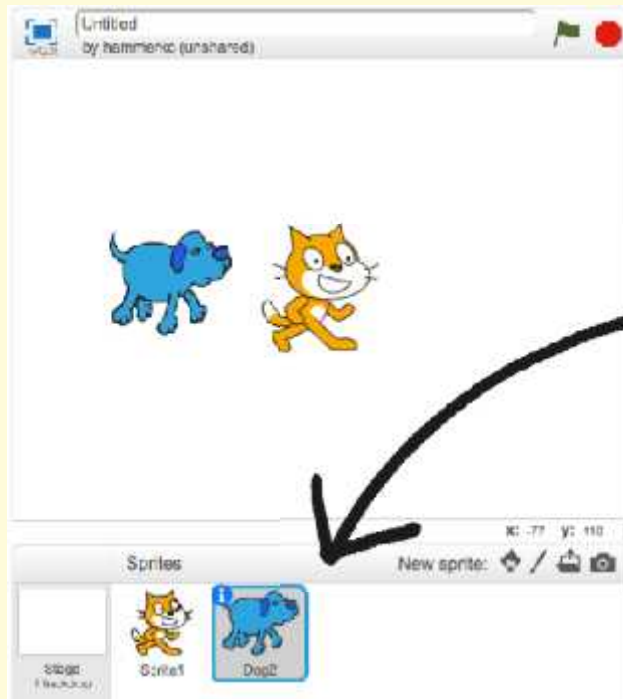
1. Below the stage, click 'Choose sprite from library'.



2. Select a suitable sprite.



Which Sprite?



When you are creating algorithms for each sprite, make sure that you select the correct sprite below the stage.

Add a Sprite and a Backdrop



How to Use Scratch

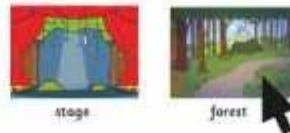
Add a backdrop

1.



Click the backdrop library icon.

2.



Choose a backdrop from the library and click OK.

3.



The new backdrop will now appear on the stage.

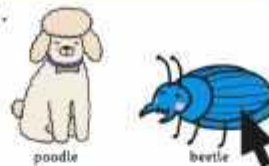
Add a sprite

1.



Click on one of the add new sprite icons.

2.



Choose a sprite from the library and click OK.

3.



Drag the sprite to where you want it to be.



Share



What do you like about your project?



How have you made it start?



What could you improve?



All Together



What would you improve?

What skills have you learnt
in the unit?

Think about the specific skills in Turtle Logo and Scratch.

Think about your programming skills and working together.



move 10 steps

say Watch me dance! for 2 secs



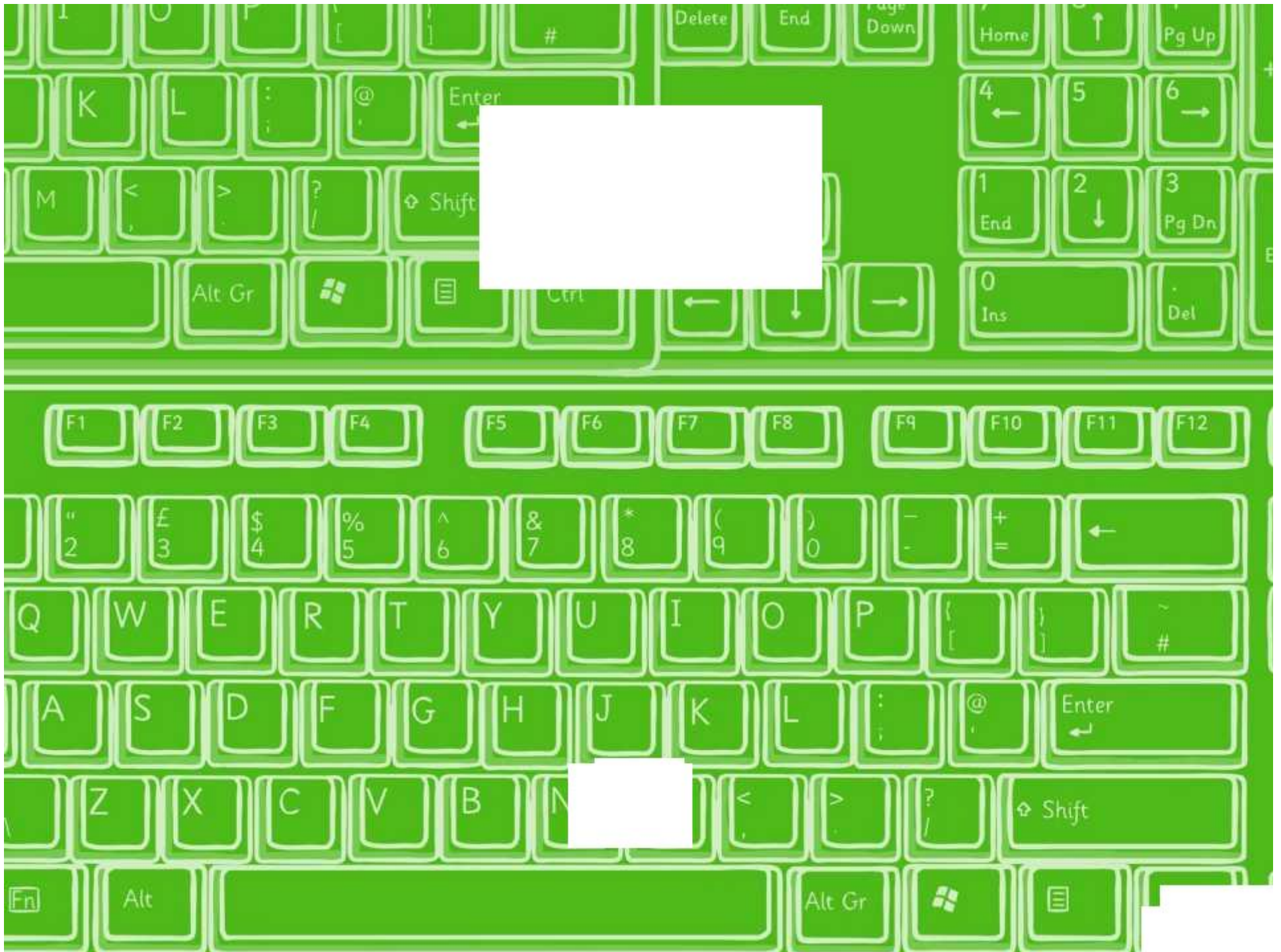
Aim



- I can create an algorithm and use the commands to change the backdrop and add sprites.

Success Criteria

- I can write commands in the correct order.
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How to Use Scratch

Add a backdrop

1.

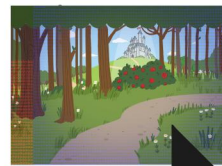


Click the backdrop library icon.

2.



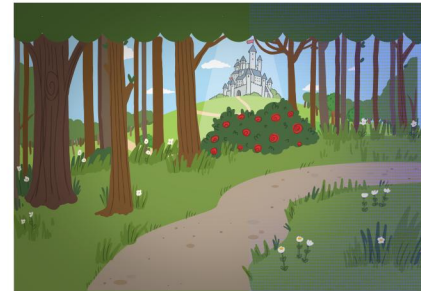
stage



forest

Choose a backdrop from the library and click OK.

3.



The new backdrop will now appear on the stage.

Add a sprite

1.

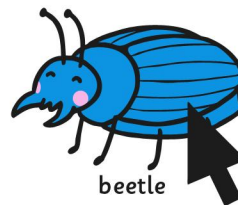


Click on one of the add new sprite icons.

2.



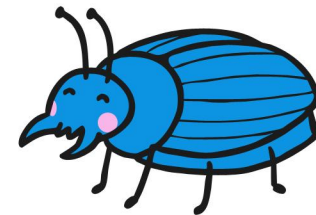
poodle



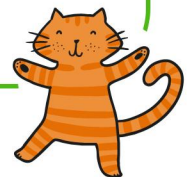
beetle

Choose a sprite from the library and click OK.

3.



Drag the sprite to where you want it to be.





Sprites

I can create an algorithm and use the commands to change the backdrop and add sprites.



In Scratch, create the following algorithms for 2 sprites.

Cat:

```
when space key pressed
say Look how I dance! for 2 secs
repeat 12
  move 20 steps
  play drum 3 for 0.25 beats
  move -20 steps
  play drum 8 for 0.25 beats
```

Second Sprite:

```
when space key pressed
say Watch me dance too! for 2 secs
repeat 12
  move -20 steps
  play drum 2 for 0.25 beats
  move 20 steps
  play drum 13 for 0.25 beats
```

Remember to test your algorithms.

How can you make the sprites dance separately?

Create an algorithm with 2 dancers on a stage. Record your algorithm below.




Sprites

I can create an algorithm and use the commands to change the backdrop and add sprites.



In Scratch, create the algorithm below for the cat and create a similar algorithm for the second sprite. Record the algorithm for the second sprite below.

Cat:	Second sprite:
	

Remember to test your algorithms.

How can you make the sprites dance separately?

Create an algorithm with 2 fish moving in a tank. Record your algorithm below.



Sprites

I can create an algorithm and use the commands to change the backdrop and add sprites.



Create an algorithm that includes a background and 2 dancing sprites. Record your algorithm in the space below.

Sprite 1

Sprite 2

Remember to test your algorithms and debug any errors.

Make the sprites start with the same key press, then try different ways to start.

Create an algorithm with 2 penguins in a winter scene. Record your algorithm below.



Sprites



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