

# Creative Coding with Scratch

## Growing Flowers



### Getting Started

Select **Tree** backdrop.

Choose **Butterfly 2** from the sprite library.

Create a flower sprite using the **Paint** tool and rename it **Flower**.

### Challenge 1

Can you resize **Butterfly 2** and position it to the left of the **Stage**?

### Challenge 2

Can you **duplicate** the **Flower** five times, position them in a row across the **Stage** and program them to reset size when the green flag is clicked?

### Challenge 3

Can you make **Butterfly 2** move across the **Stage** when spacebar is pressed, bouncing off the edge?

### Challenge 4

Can you make each **Flower** grow as **Butterfly 2** flies past?

### I can:

use the **Paint** tool to create a sprite;  
resize a sprite;  
duplicate a sprite;  
make a sprite move when spacebar is pressed;  
make sprites bounce, if on edge;  
make a sprite interact with another sprite,

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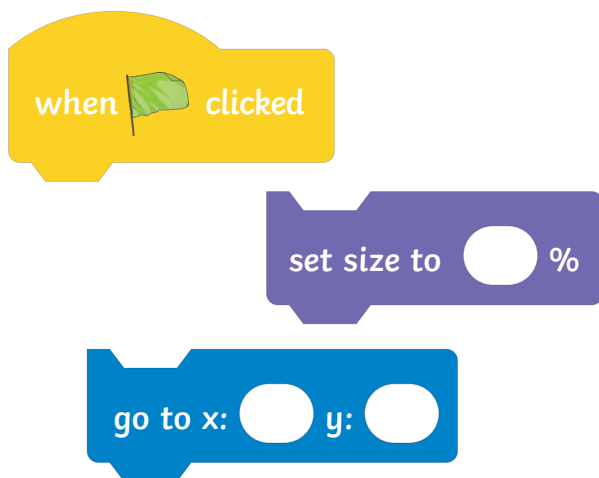
# Helpful Hints

## Growing Flowers

Use these hints to help you complete the challenges. They will not give you the complete solution to the algorithm but should help you on your way.

The following code belongs on **Butterfly 2** and all **Flower** sprites:

To resize and position a sprite:



### Top Tip

If **Butterfly 2** goes behind the **Flower** sprites, use the go to front layer block to position it in front.



The following code belongs on **Butterfly 2**:

To make a sprite move with the spacebar:



To resize and position a sprite:



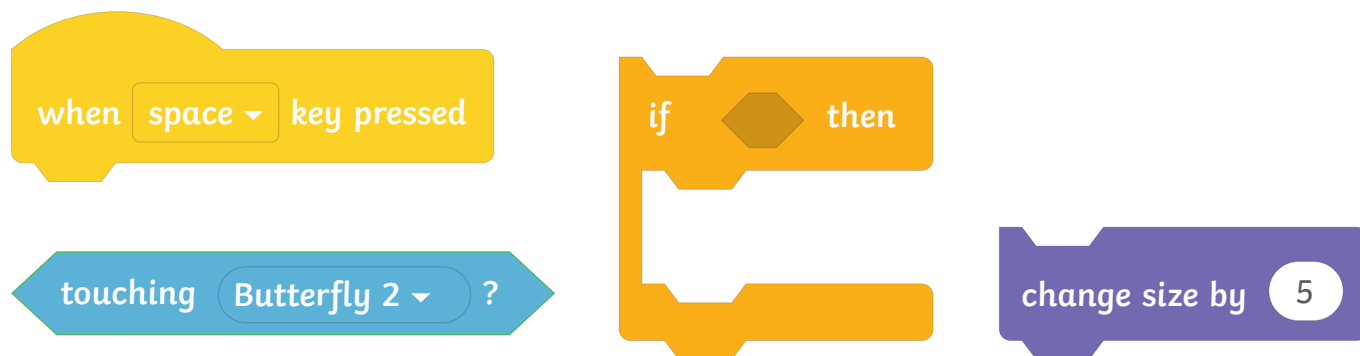
### Top Tip

To make sure the sprite rotates accurately when bouncing off the edge, use the **set rotation style** block.



The following code belongs on all **Flower** sprites:

To make a **Flower** sprite grow as another sprite touches it:



### Top Tip

To ensure the **Flower** sprites grow to a specific size:



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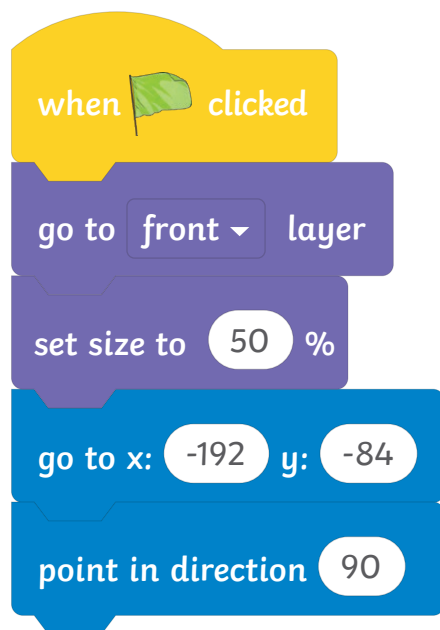
## Growing Flowers Answers

Each Creative Coding Challenge is an open-ended task, which can be approached in many different ways. Pupils should be encouraged to have a go and tackle these tasks independently. The helpful hints are not intended to provide complete solutions but may serve as useful cues for supporting less-confident coders.

The following algorithms are just one possible solution to each challenge.

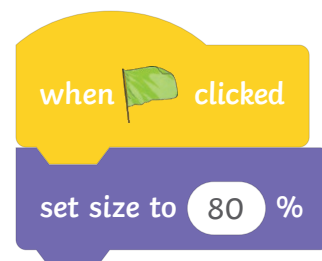
### Challenge 1

The following code belongs on **Butterfly 2**:



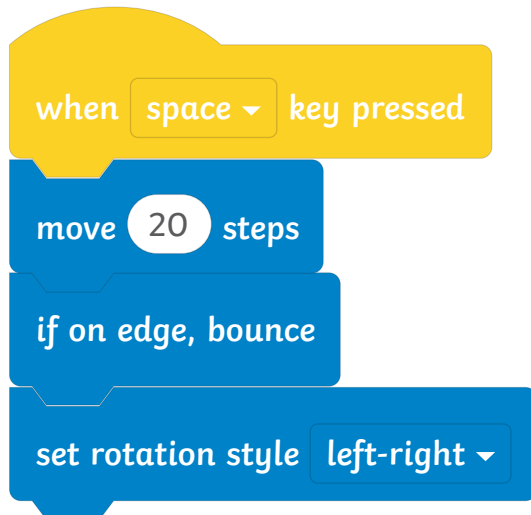
### Challenge 2

The following code belongs on all **Flower** sprites:



**Challenge 3**

The following code belongs on **Butterfly 2**:

**Challenge 4**

The following code belongs on all **Flower** sprites:

