

The coding club is your place to learn and develop coding skills. We've created these pages with the Raspberry Pi Foundation to provide loads of projects, from building games to designing animations.



This project uses the Scratch programming language.

SCRATCH

Code a digital nature space

Test your coding skills by creating a living, breathing wild scene.

Grow a tree

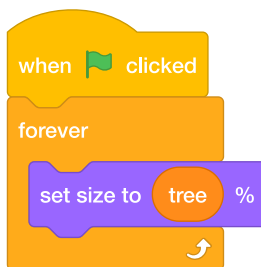
1 First, go to rpf.io/serene-scene-on to open the starter project in Scratch.

2 Select the tree sprite on the right-hand side pane, underneath the stage.

3 Build the script (right) in the coding area of the tree sprite. A script is a stack of coding blocks that makes a list of instructions.

4 You will need to create a new variable, by clicking the Make a Variable button (which you'll find in the Variables coding block section on the left-hand side of the screen). Label it "tree" and select "For all sprites". You should see the "tree" variable pop up on the stage.

5 Now, right-click your tree variable box on the stage and select slider from the drop-down menu. Right-click again and select "Change slider range". Set the minimum value to 100 and maximum value to 300.

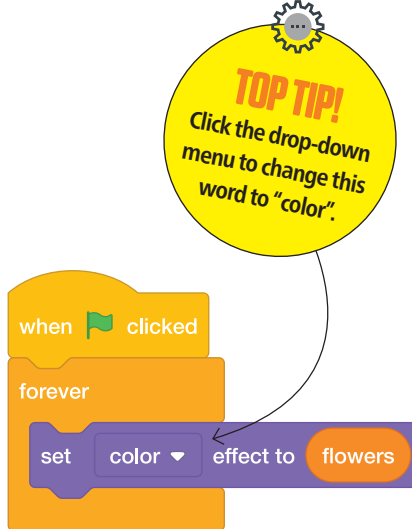


Colour the flowers

1 Select the spring flowers sprite and create another new variable. Label it "flowers" and select "For all sprites".

2 Right-click the "flower" variable on the Stage, and select the "slider" option from the drop-down menu. Right-click the slider again and select "change slider range". Set the minimum value to -100 and the maximum value to 100.

3 Now, build the script (right) and test your code by clicking the green flag. Moving the slider changes the colours of your flowers.



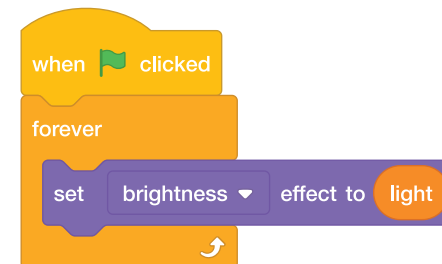
TOP TIP! To find out how to add more insect and forest sounds, go to tinyurl.com/SN-wildplace

TOP TIP! Click the drop-down menu to change this word to "color".

Set the scene

1 Click on the backdrop icon in the stage pane and build the script (right).

2 Create a third new variable by clicking "Make a Variable". Call it "light". Once again, change the value box on the stage into a slider, and set the range between a minimum of -40 and a maximum of 40. Test your code by clicking the green flag and moving the light slider. Does the background brightness change?



Take it further

Add a dragonfly sprite to your project, and use a slider to control its movements. The dragonfly could move from side to side, like the grasshopper, or up and down, it's up to you. To make your scene even more serene, why not add some nature sounds like raindrops, swishing leaves or insects chirping? To do this, select the effects from the Sounds tab and add the relevant Sound coding blocks to your scripts. Most importantly, send us your finished project so we can have a play too, at hello@science-nature.co.uk

SERENE SCENE

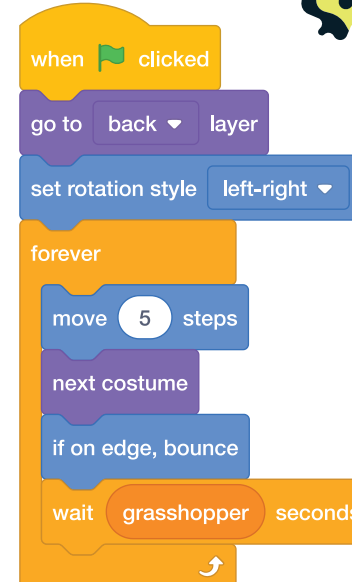


Make the insect move

1 Finally, select the grasshopper sprite and build the script (right). You will need to create a new variable, this time called "grasshopper".

2 Right-click the "grasshopper" variable on the Stage, and select the "slider" option from the drop-down menu. Then, right-click it again and set the slider range between 0.0 and 1.0.

3 Click on the green flag and test the slider. This changes the speed that your grasshopper moves.



The Raspberry Pi Foundation is a UK-based charity with the mission to enable young people to realise their full potential through the power of computing and digital technologies. Discover more step-by-step coding projects at rpf.io/scienceandnature



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