Coding club

Code a wild place

Build a calming scene to test your coding skills.

What you will need
- A computer
- Access to the internet
- Scratch

How does it work?
This project uses a free, online coding language called Scratch. By creating programs using Scratch, you can improve your problem-solving skills. This project teaches how to set up your own variables.

Tree script

```
when 🚩 clicked
forever
    set size to ( tree ) %
```

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

2 Click on the tree sprite (icon) on the right-hand side of the screen.

3 Create a new variable, by clicking the "Make a Variable" button. You can find this in the Variables section on the left-hand side of the screen. Label it "tree" and then select "For all sprites". You should see the "tree" variable, set to "0" appear on the Stage (top right).

4 Right-click the "tree" variable on the Stage, and select the "slider" option from the drop-down menu.

5 Right-click on the "tree" slider again, and select "change slider range". Set the Minimum value as 100 and Maximum value to 300.

6 Now, it's time to build the script (a stack of coding blocks that makes a set of instructions) for the tree. Drag the colour-coded blocks from the list on the left-hand side of the screen and drop them onto the coding area in the middle of the screen. Snap them together to make the script.

7 Check each line carefully, then test your code by clicking the green flag. Moving the slider should make your tree change size.

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

Flower script

```
when 🚩 clicked
forever
    set ( color ▼ ) effect to ( flowers )
```

1 Select the flower sprite and create a new variable. Label it "flower", and select the "For all sprites" option.

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

3 Build the script above and test your code by clicking the green flag. Moving the slider shifts the speed that your flowers change colour.

Background script

```
when 🚩 clicked
forever
    set ( brightness ▼ ) effect to ( light )
```

1 In the Stage tab on the right-hand side of the screen, you'll see the "Backdrops" icon. Click on it.

2 Create a new variable by clicking the "Make a Variable". Call it "light". Once again, turn the variable into to a slider and set the range between a minimum of -40 and a maximum of 40.

3 Build the script, and test your code by clicking the green flag and moving the "light" slider.

Insect script

```
when 🚩 clicked
go to ( back ▼ ) layer
set rotation style ( left-right ▼ )
forever
    move ( 5 ) steps
    next costume
    if on edge, bounce
    wait ( grasshopper ) seconds
```
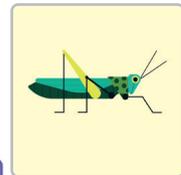
1 Finally, select the grasshopper sprite and build the insect script. You will need to create a new variable, this time called "grasshopper".

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

3 Click on the green flag and move the slider. This should make your grasshopper move faster or slower.

The Raspberry Pi Foundation is a UK-based educational charity working to put the power of computing and digital making into the hands of people all over the world. Discover more step-by-step coding projects at rpf.io/scienceandnature

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