

Activity 2: Scratch

Programming a sprite using repetition

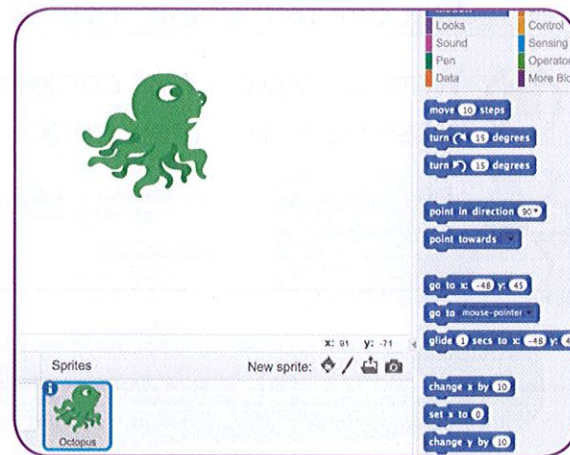
As well as programming a sprite to move, you can also use repeat blocks so a sprite moves continuously. In this activity you will build a script for an animation of an octopus who never stops swimming!



1

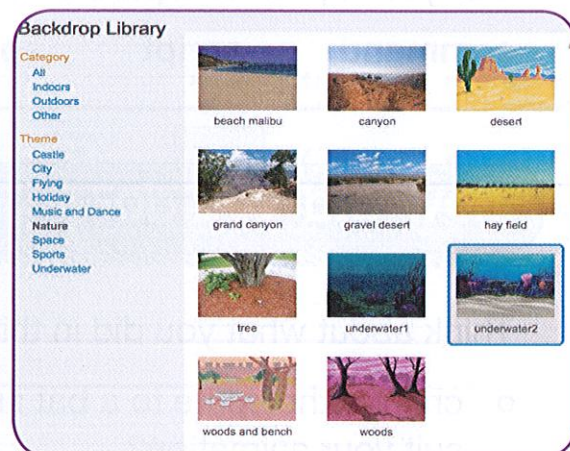
First, right-click on the cat and click on **delete**. Click on the **Choose sprite from library** icon and select **Octopus**. Click **OK**.

The octopus has two costumes. Costumes are different versions of the same sprite so they can have different looks.



2

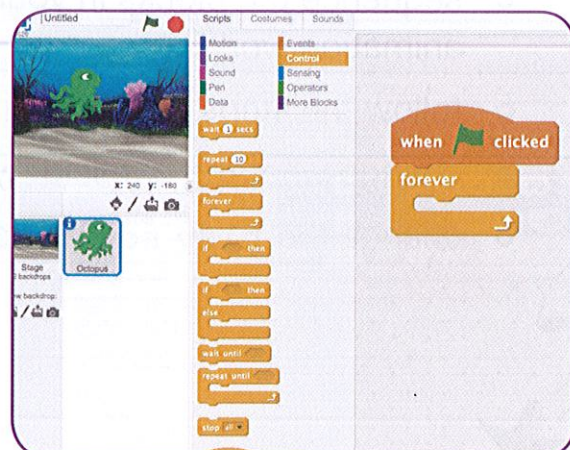
Click on the **Choose backdrop from library** icon at the bottom left and click on the **Nature** theme. Select the **underwater2** backdrop and then click **OK**. Click on the octopus sprite in the *Sprites* box.



3

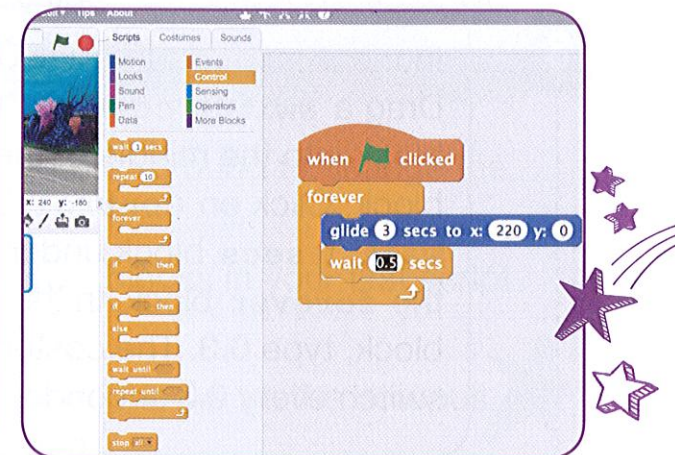
Click on the **Scripts** tab and then on **Events**. Drag a **when clicked** block into the scripts area. In the **Scripts** tab, click on **Control**. Drag and snap a **forever** block underneath.

Any command within the **forever** block will be repeated over and over again.



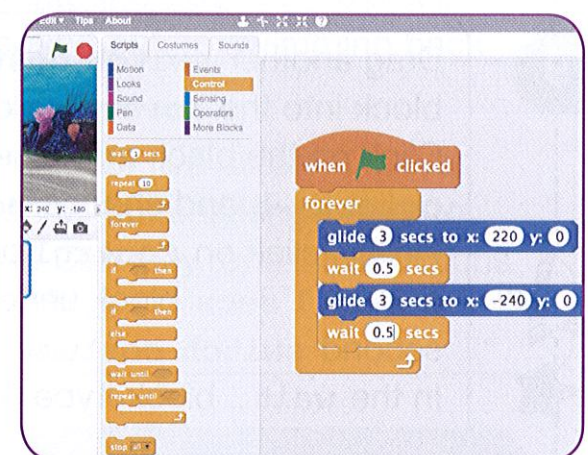
4

In the **Scripts** tab, click on **Motion** and snap a **glide...** block into the middle of the **forever** block. In the **secs** box, type **3**. In the **x** box, type **220**. In the **y** box, type **0**. Click on **Control** and snap a **wait 1 secs** block underneath the **glide...** block. Click in the **secs** box and type **0.5**.



5

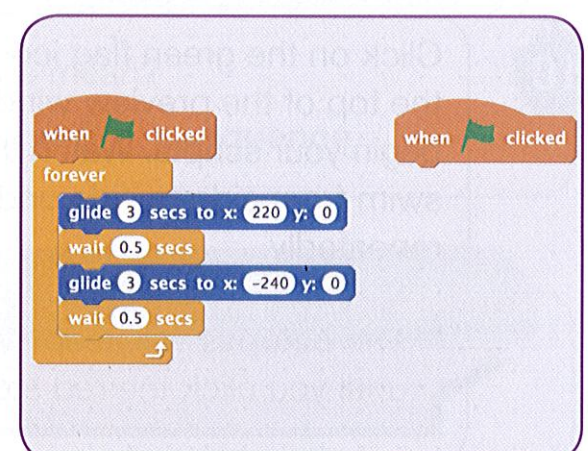
In the **Scripts** tab, click on **Motion** again and snap another **glide...** block into the **forever** block. In the **secs** box, type **3**. In the **x** box, type **-240**. Leave the **y** box as **0**. Click on **Control** again and snap on another **wait 1 secs** block. In the **wait...** block, type **0.5**.



6

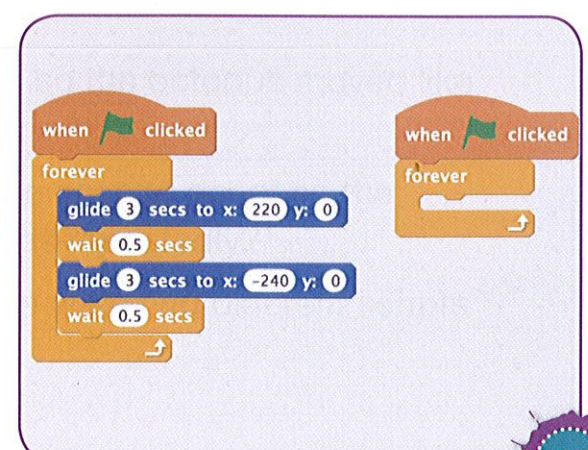
In the **Scripts** tab, click on **Events** again and drag a **when clicked** block into the scripts area.

You will create a second script using the octopus's costumes to make him look like he's swimming. He will switch between two costumes to create this effect.



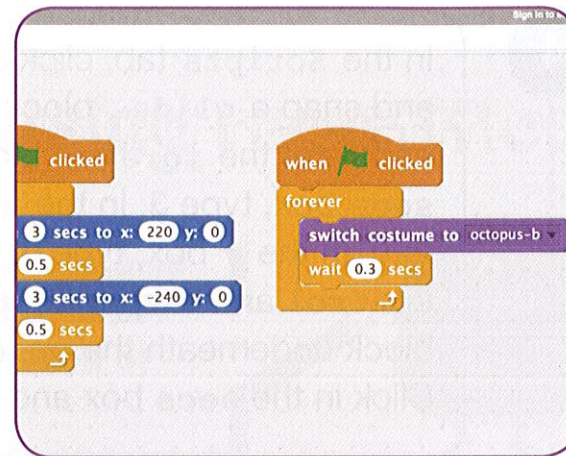
7

In the **Scripts** tab, click on **Control** and drag another **forever** block underneath your **when clicked** block – just like you did before. Make sure they snap together.



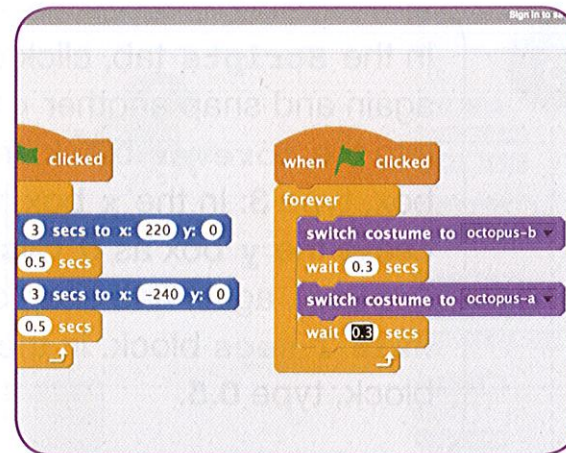
8

In the **Scripts** tab, click on **Looks**. Drag a **switch costume to...** block into the middle of the **forever** block. Click on **Control**. Snap a **wait 1 secs** block under it within the **forever** block. In the **wait...** block, type **0.3**. The costumes will switch every 0.3 seconds.



9

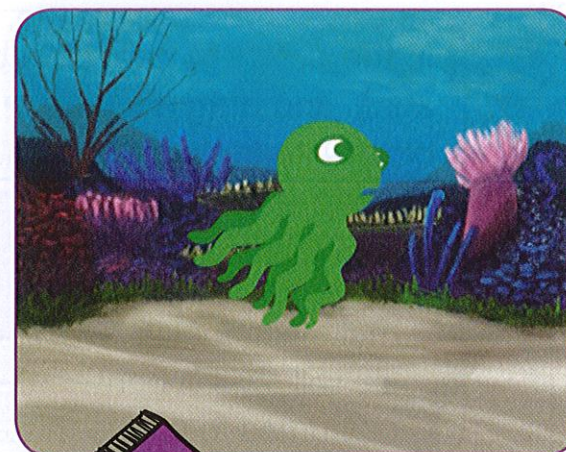
Drag another **switch costume to...** block into the **forever** block. Click on the black arrow next to **octopus-b** and choose **octopus-a**. Finally, click on **Control** again. Snap a **wait 1 secs** block underneath the second **switch costume to...** block. In the **wait...** block, type **0.3**.



10

Click on the green flag icon at the top of the preview window to begin your scripts. Watch the octopus swim from side to side underwater repeatedly.

The octopus will keep swimming until you click the red stop icon.



You should now have something that looks like this.

Now try this ...

- Can you select and use a different sprite and background to change the theme of your animation?
- Can you change the **wait 1 secs** or **glide...** blocks in your first script to make the octopus swim faster and slower?
- Can you change the coordinates in the **glide...** blocks so the octopus swims up and down instead of from left to right?
- Can you add in two **play sound...** blocks into the **forever** block in your first script, so the octopus makes a sound before swimming back in the other direction?
- Write instructions for a partner to perform a set of five different moves in a particular order. Only let them read it once, but challenge them to repeat the sequence three, four or five times. Can they repeat instructions in exactly the same way each time like Scratch can?

Key words

Can you explain to a partner what these words mean?

repetition **order** **select** **commands** **sequence**

How did you do?

Think about what you did in this activity. Did you:

- change the values in the **glide...** blocks so the octopus swam from left to right?
- change the **switch costume to...** blocks so the octopus moved like it was swimming?
- use the **forever** command correctly in the second script so the octopus switched between its two costumes repeatedly?
- use two **when clicked** blocks so there were two different scripts being performed at once?