

# Activity 3: Scratch

## Executing actions in different ways

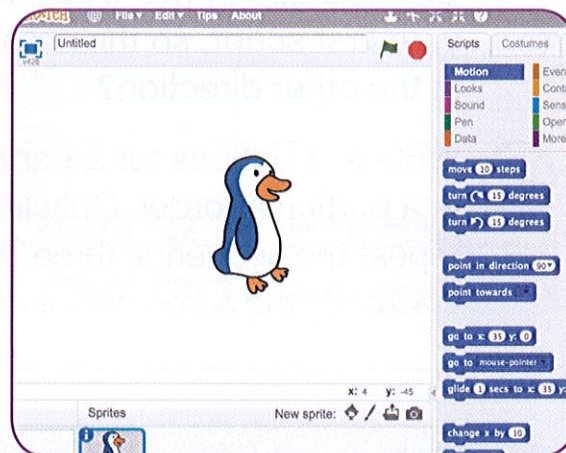
You can program scripts to start in various ways, such as by pressing different keys on the keyboard. In this activity you will write a script to make a penguin change colour when you press the space bar.



1

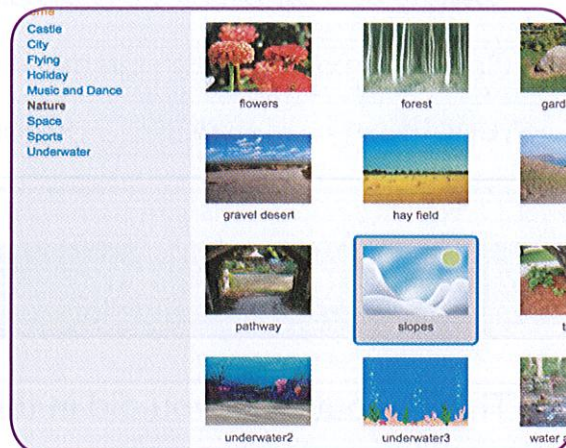
Right-click on the cat and click on **delete**. Click on the **Choose sprite from library** icon and select the **Penguin2 Talk**. Click **OK**.

The penguin has two costumes which can be used to make it look like he is waving as he walks.



2

Click on the **Choose backdrop from library** icon on the bottom left and click on the **Nature** theme. Select **slopes** and then click **OK**.



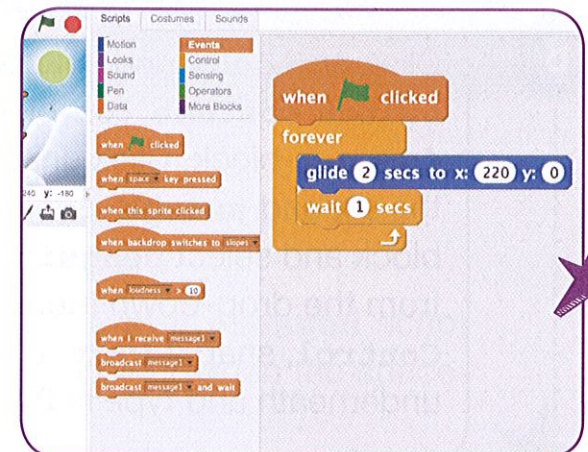
3

Click on **Penguin2 Talk** in the **Sprites** box. Now click on the **Scripts** tab and then on **Events**. Drag and drop a **when clicked** block into the scripts area. In the **Scripts** tab, click on **Control** and drag and snap a **forever** block underneath the **when clicked** block.



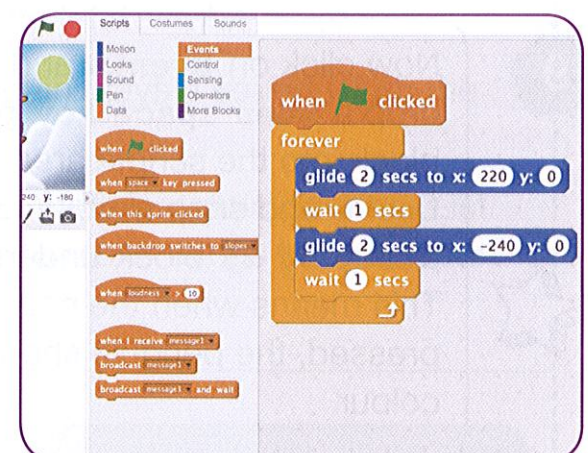
4

In the **Scripts** tab, click on **Motion** and snap a **glide...** block into the **forever** block. In the **secs** box, type **2**. In the **x** box, type **220**. Leave the **y** box as **0**. Click on **Control** and snap a **wait 1 secs** block underneath the **glide...** block.



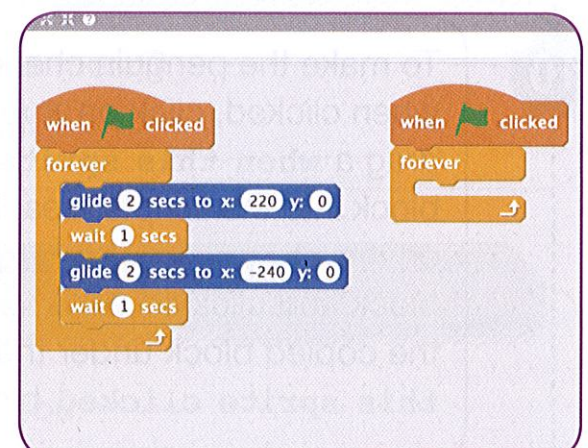
5

In the **Scripts** tab, click on **Motion** and snap another **glide...** block into the **forever** block. In the **secs** box, type **2**. In the **x** box, type **-240**. Leave the **y** box as **0**. Next click on **Control** and snap on another **wait 1 secs** block.



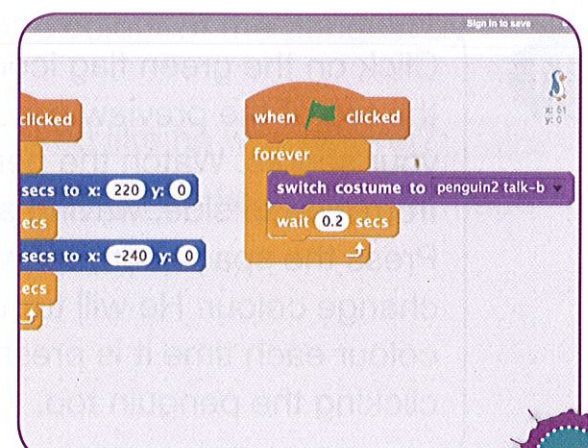
6

In the **Scripts** tab, click on **Events** and drag another **when clicked** block into the scripts area. Next click on **Control** and drag another **forever** block underneath your **when clicked** block – just like you did before.



7

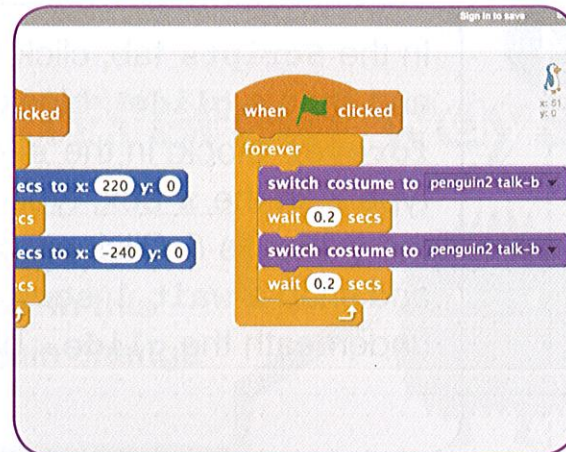
In the **Scripts** tab, click on **Looks**. Drag a **switch costume to...** block into the middle of the **forever** block. Click on **Control** again. Snap a **wait 1 secs** block underneath it in the **forever** block. In the **wait...** block, type **0.2**.





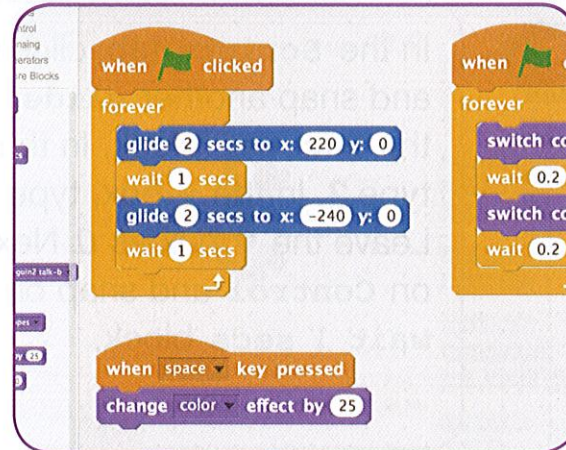
8

Click on **Looks** and snap another **switch costume to...** block into the **forever** block. Click on the arrow in the second **switch costume to...** block and select **penguin2 talk-a** from the drop-down menu. Click on **Control**, snap a **wait 1 secs** block underneath and type in **0.2**.



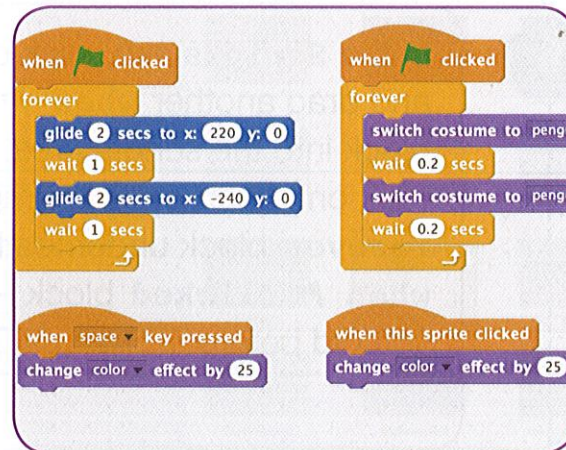
9

Now click on **Events** and drag and drop a **when space key pressed** block into the scripts area. Click on **Looks** and snap a **change color effect by 25** block underneath. This means when the space bar is pressed, the penguin should change colour.



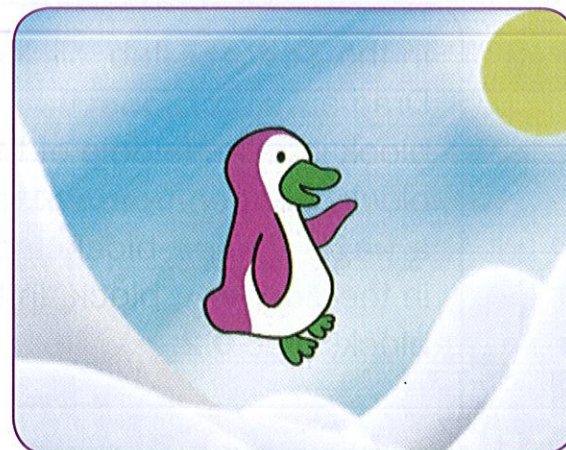
10

To make the penguin change colour when clicked, click on **Events** and drag a **when this sprite clicked** block into the scripts area. Right-click on the **change color effect by 25** block and click on **duplicate**. Snap the copied block under the **when this sprite clicked** block.



11

Click on the green flag icon at the top of the preview window to run your scripts. Watch the penguin move from side to side, waving as he goes. Press the space bar and watch him change colour. He will turn a different colour each time it is pressed. Try clicking the penguin too.



## Now try this ...

- Can you change the script so that the penguin changes colour when another key is pressed instead of the space bar? Can you program other keys to have different effects on the penguin?
- Can you add another block to the **when space key pressed** script so the penguin says hello as well as changes colour when the space bar is pressed?
- Can you change the coordinates in the **glide...** blocks so the penguin walks up and down instead of from left to right?
- Can you add in a fourth script so the penguin plays a sound when the up arrow key is pressed?
- Think about how you use computers and other electronic devices. List the different types of input a user can use to make things happen apart from pressing the space bar.

## Key words

Can you explain to a partner what these words mean?

**input**    **output**    **script**    **program**

## How did you do?

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

- create a script that animated a penguin so he moved from side to side?
- create a script so the user could change the colour of the penguin by pressing the space bar?
- make the penguin switch costume so it looked like he was waving?
- change the script so pressing another key instead of the space bar made the penguin change colour?