

# Grow a dragonfly!

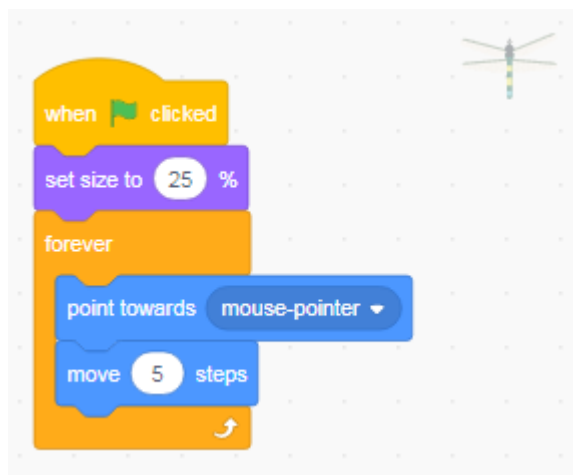
We will help a dragonfly eat insects until it has grown really big!



See full instructions at <https://projects.raspberrypi.org/en/projects/grow-a-dragonfly/>, or the finished project at <https://scratch.mit.edu/projects/1077515815/>.

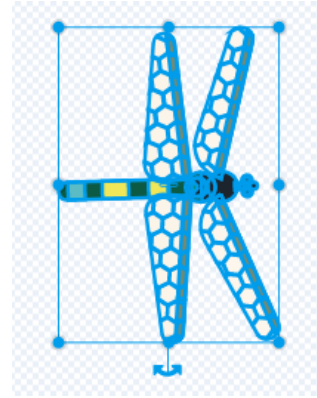
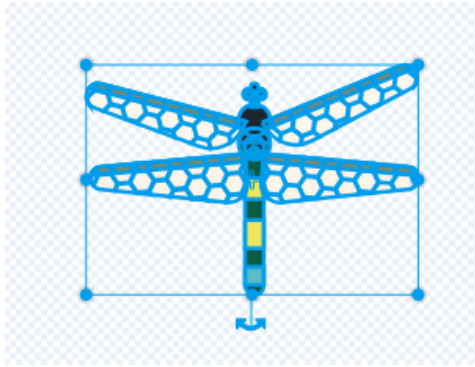
## Step 1: Dragonfly

- Choose an outdoor backdrop, or draw one if you prefer.
- Choose the dragonfly sprite (or a different one).
- Add this code to move it:



- Test it out. Does it go sideways? You will need to rotate its costume so it points to the right (turn over for how to do this).

- On the Costumes tab, use the arrow to draw a box around the whole costume (it will light up blue once it is selected):

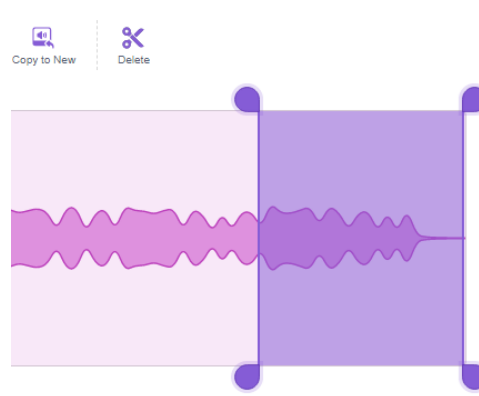


- Then use the 'handle' to rotate the costume to face to the right, like in the second picture.
- Test it again!

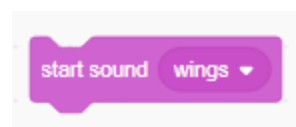
## Save your project

### Step 2: Fluttering wings

- There isn't a sound in Scratch for wings flapping, but we can edit one of the sounds (or import one of our own).
- On the Sounds tab, choose the sound 'Crank' and then select the end of the sound and 'Copy to New':



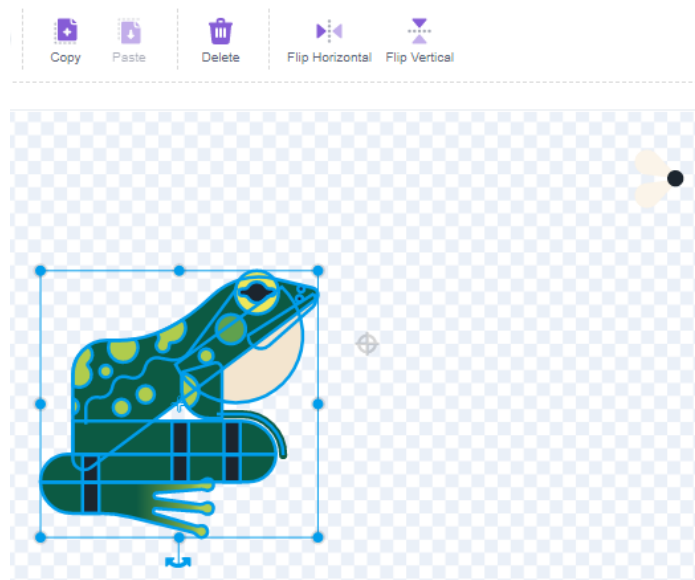
- Call the new sound 'wings' and speed it up by clicking the 'Faster' button until you are happy with it – you can also edit it more if you like.
- Then add the block to play the sound, inside the 'forever' loop:



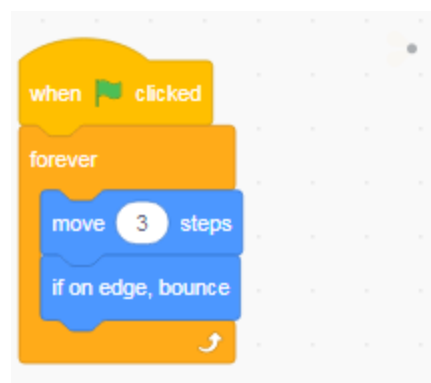
## Save your project

### Step 3: Add an insect

- There isn't a flying insect sprite in Scratch, but we can make one from the 'Frog 2' sprite!
- Choose this sprite, and go to the Costumes tab. We want to edit the first costume, to keep the fly and delete the frog.
- Select the frog using the arrow tool again, and click 'Delete':



- Now select the fly the same way, and drag it to the centre of the costume.
- We can rename this costume and the sprite, and delete the other costumes – I called mine 'fly'.
- Next add the code below to make the fly move about:

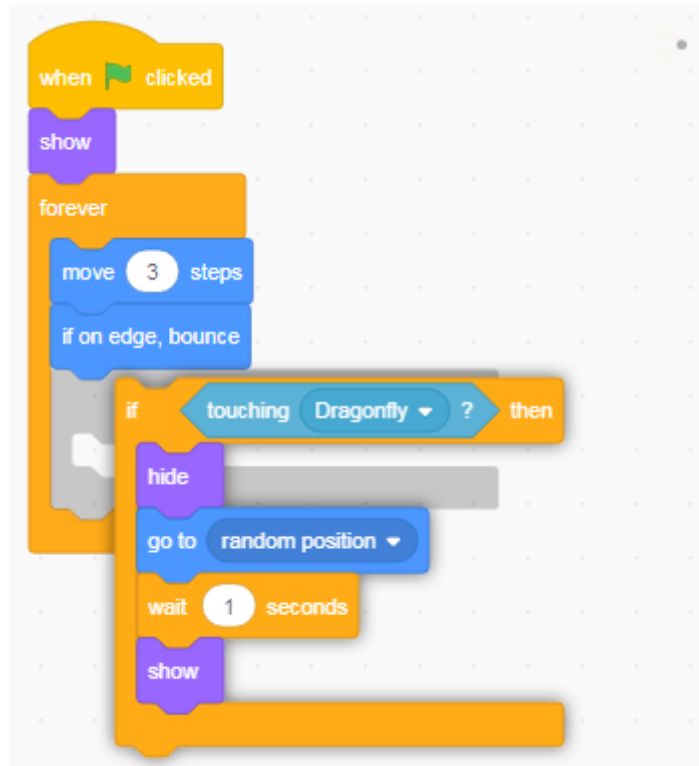


- Test your code, does the fly move?

## Save your project

## Step 4: Eat the insect!

- We want the fly to disappear when it touches the dragonfly, so add an 'if' statement that checks for this and hides (then reappears somewhere else).



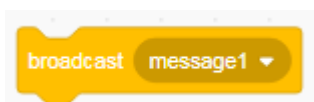
- You will also need a 'show' block at the start.
- Test it out!

## Save your project

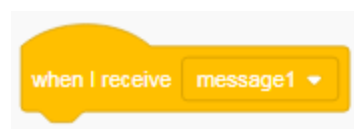
## Step 5: Tell the dragonfly to grow!

- When the fly has been eaten, we want it to tell the dragonfly to grow bigger, so we will use messages:

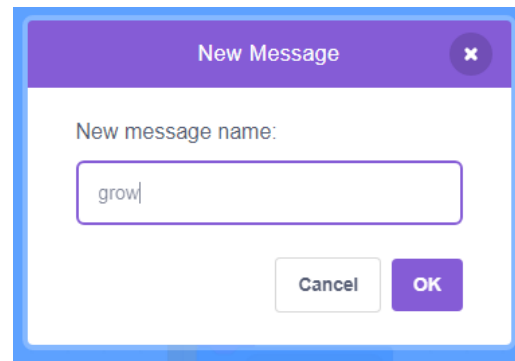
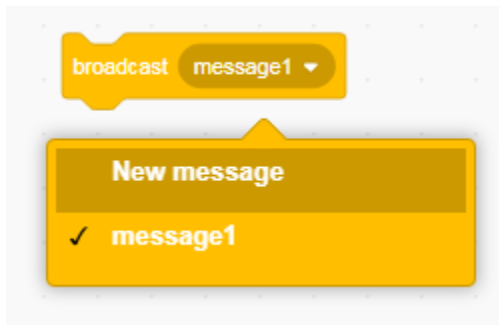
On the fly sprite



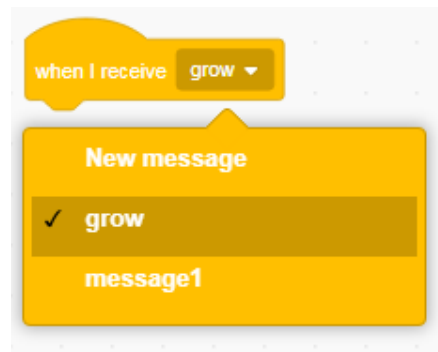
On the dragonfly sprite



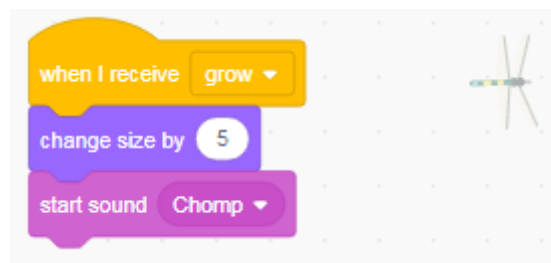
- Add the 'broadcast message' block on the fly sprite, and click the dropdown arrow to make a new message – I called mine 'grow':



- The 'broadcast message' block goes inside the 'if' statement, at the top.
- Next, on the dragonfly sprite, start a new block of code with 'When I receive grow':



- Choose an eating sound for your dragonfly, and make it grow. Your code should look like this:



- How big will your dragonfly get?

## Save your project

