



# Engaging Students with Scratch


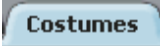








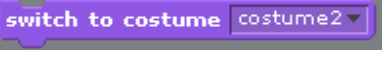


Combining Computer Studies with Story Writing in an Elementary Classroom

## Lesson 2 – Animating Sprites






**Sprites** can be animated by cycling through **costumes**. This makes stories more interesting to watch.

**Backgrounds** can be drawn and changed by editing the costumes of the stage.

Today we will be animating sprites by learning new  and  code blocks.



1. Open up a new Scratch program and right-click on the cat and delete it.
2. Click on  to create a new sprite.
3. Draw a stick figure monkey and click **OK** when done.
4. Select the  tab of your monkey sprite. Click on  and then click on  for the new costume. Change the second costume a little bit with the goal of making it look like the monkey is walking when we change between costumes. Click **OK** when done.
5. Select the  tab.
6. From  drag  into the script box.
7. Drag the monkey sprite to the centre left of the stage.
8. From  attach  to the script.
9. From  attach  to the script. Change it to switch to **costume1**.
10. From  attach  to the script.

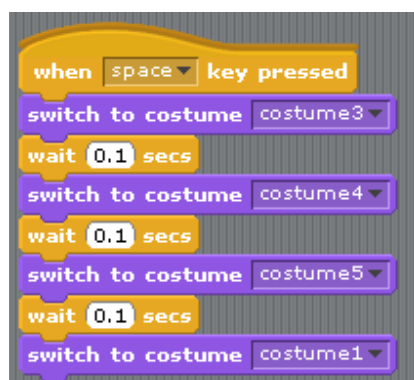
Now our monkey sprite resets every time we click 

11. Click on  select  and edit the background.
12. Select your monkey sprite click the  tab.
13. From  drag  into the scripts area. Change it from the **space** key to the **right arrow**.

14. From **Motion** attach **change x by 10** to the bottom of the script
15. From **Looks** attach **switch to costume costume2** to the script.
16. From **Control** attach **wait 1 secs** and change it to **0.2 secs**
17. Right click on **change x by 10** select duplicate and attach the code to the bottom of the **“when right arrow pressed”** script.
18. Change the second **switch to costume costume2** to switch back to **costume1**

Now when we press the right arrow our monkey animates and moves. Let's program the monkey to throw a ball.

19. Select the **Costumes** tab of your monkey sprite. Click on **Copy** and then click on **Edit** for the new costume (**costume3**).
20. Draw a red ball beside the monkey. Click OK and copy this costume.
21. Edit **costume4** and use the  to move the ball a little. Click OK and copy this costume.
22. Edit **costume5** and use the  to move the ball a little. Click OK and copy this costume.
23. Select the **Scripts** tab.
24. From **Control** drag **when space key pressed** into the scripts area.
25. Use **switch to costume costume2** and **wait 1 secs** to cycle through the costumes when the space bar is pressed, as shown below:



We now have a monkey that animates when walking to the right and throws a ball when the space key is pressed.

**Task 2** – Create a super hero with different special abilities that are activated using buttons on the keyboard.

**Enhancement 2** – Enhance your hero so that they have a different animation for moving side to side, jumping up, and falling down.