

Coding Sheet

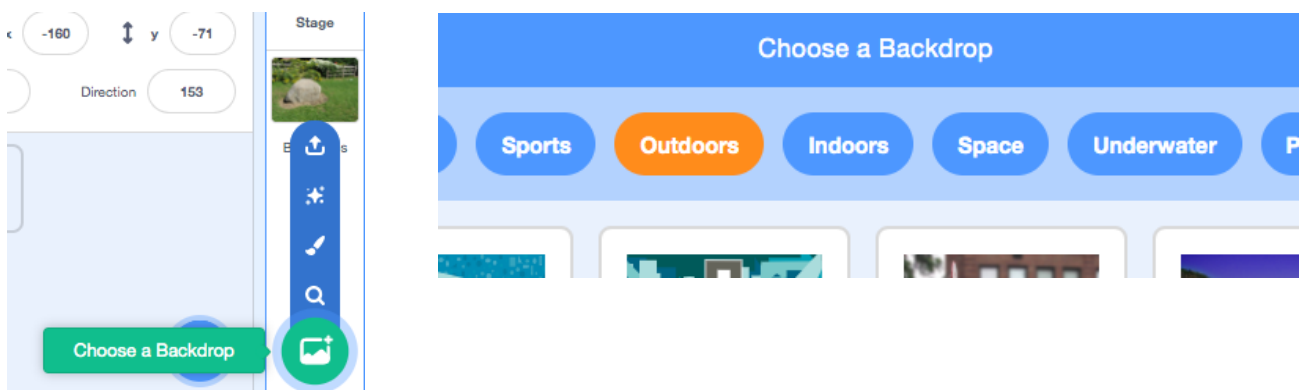
Introduction: This document contains step-by-step instructions on how to code sprites that behave in different ways using Scratch. There are three examples, but students can feel free to experiment! This document starts at the point where you have created a new project in Scratch using the “Create” link on the upper left-hand side of the site next to the logo.

Here is a fully functional version of this code if you’d like to test it out beforehand. It can be found by copying this URL into a browser. <https://scratch.mit.edu/projects/418343481>

The first step is to add a new Sprite. Add a sprite by clicking the blue circle in the sprite section. You can sort the sprite by type on the top. Select Animals then simply click on the animal you want to add to your program and it will appear. **You can use the small garbage icon that appears after clicking on a sprite to delete it.**



Next let’s add a background. You can choose a background by clicking on the blue circle in the lower right of the screen in the stage section. You can filter the results to outdoors and select a habitat for the creatures to live in.

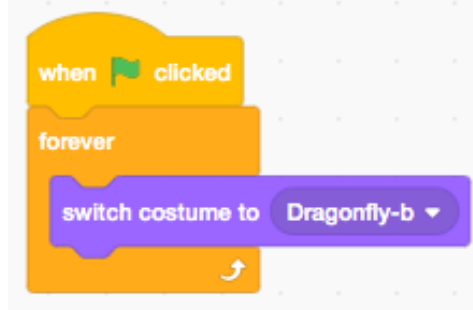


Now have students create a Loop, by attaching a repeat block from the **Control** section to a “When flag clicked” block from the **Events** section on the left.



Example 1: Flying Bug

Our first example will be how to make a flying bug, such as a Dragonfly. First from the **Looks** section attach a “Switch costume to” block in the forever loop and set it to whatever costume B is.



In the forever block beneath the switch costume add a “glide X secs to random position block” from the **Motion** section, and set the seconds to .5, then add another change costume block from the **Looks** section and set it to costume A, lastly place another “glide X secs to random position block” and also set it to .5. Now you should have a sprite that flies around randomly around the screen and animates its wings!



Example 2: Crawling Snake

Next, we'll animate a snake that crawls along the ground. First add a new sprite, the code we'll use is very similar to the first code, only this time we've changed the **Motion** blocks so that they move our creature to specific coordinates on the screen. You can find the "glide to X: Y:" block in the **Motion** section. I have mine set to X:-100 Y:100 and the other block set to the opposite. X:100 Y:-100. Your students can experiment with the ranges they want.



Example 3: Sleeping Hedgehog

Our last example is a creature that sits still, a sleeping hedgehog. In this code with switch costumes, but instead of using motion block we use **Control** blocks to have our program wait a bit before continuing to complete the animation. In the **Control** section add "wait" blocks between each costume change.

