

## Exploring Computer Science

### Scratch #7 - Dice

Objective: Demonstrate your understanding of how to use Scratch to create random numbers. Further your understanding of changing costumes and using variables.

1. In your *Exploring Computer Science* folder, create a folder titled *First\_Last\_Scratch\_7*
2. Download *dice.sb2* file from the [www.missblomeyer.com](http://www.missblomeyer.com) website and save it in your *Scratch\_7* folder.
3. You are to finish *dice* so that it contains a **pair** of dice. You may change the look of the dice if you wish. You will also need to add a button.
  - a. You will need to add the additional costumes for the *Die1* Sprite. The costumes must look as close to what a real die looks like as possible. These costumes must match the costumes that already exist. Make these costumes using the Scratch editor.
  - b. You will need to add a Sprite for the second die. Name this Sprite *Die2*.
  - c. You will need to add a variable for the second die. Call it *die2*.
  - d. You will now add a 3<sup>rd</sup> Sprite which should look like a button. The text on the button should be *Roll the Dice*.
  - e. When the button is clicked, it should broadcast *Roll the Dice*. The button should use the ***broadcast... and wait*** block.
  - f. When *Die1* and *Die2* receive *Roll the Dice*, *Die1* should set *die1* to be a random number from 1 to 6 and *Die2* should set *die2* to be a random number from 1 to 6. Each Sprite should change its costume to match the value of its associated variable.
  - g. Add a *total* variable. The value of *total* should contain the sum of *die1* and *die2*. The **button** should set this variable after the ***broadcast... and wait*** block.