# Intro to Programming
# Scratch #8h - Dice

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

1. Download *first_last_scratch_8.sb3* file from the www.missblomeyer.com website and save it on your Chromebook. Login to the Scratch website. Create a new project. Do *File>Load from your computer* and upload the *first_last_scratch_8.sb3* file. When asked if you want to replace the contents of the current project, click *OK*. Now, rename your project so that *first_last* is your first name and your last name.

2. You are to finish *dice* so that it contains **3** dice and a button. You may change the look of the dice if you wish.

   a. You 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 need to add a Sprite for the second die. Name this Sprite *Die2*.

   c. You need to add a Sprite for the third die. Name this Sprite *Die3*.

   d. You need to add a variable for the second die. Call it *die2*.

   e. You need to add a variable for the third die. Call it *die3*.

   f. You need to add a fourth variable. Call it *total*.

   g. Now add a 4th Sprite that looks like a clickable button. The text on the button should be *Roll the Dice*.

   h. When the **button** is clicked, it should do the following:

      i. set the die1 variable to a random number from 1 to 6

      ii. set the die2 variable to a random number from 1 to 6

      iii. set the die3 variable to a random number from 1 to 6

      iv. broadcast *roll*

      v. set the value of total to the sum of *die1*, *die2,* and *die3*.

   i. When *Die1, Die2,* and *Die3* receive *roll*, each Sprite should

      i. use a repeat block to switch its costume to a random number from 1 to 6. The block should execute 10 times. After each costume switch, wait 0.001 seconds

      ii. switch its costume to match the value of its associated variable.

3. Always do *File->Save now* before you log out of the Scratch website.

4. Now do *File->Save to your computer*.

5. Turn in your *first_last_scratch_8.sb3* file to *missblomeyer.com* in the usual way.