

Outcome	Advancing	Meets	Exceeds
Creation - Uses a computer to create new applications.		Designs products for a target audience.	Design products for a target audience that anticipate and address user interface.
Innovation - writes algorithms to solve problems		Uses a repeatable set of pseudocode to accomplish a specific task.	Uses a repeatable set of pseudocode to accomplish a specific task with efficiency and sophistication
Precision - Writes executable programs.		Precisely translates algorithms into an executable program.	Code is clean, readable, and runs without errors.

Lesson Objective

- **Objective: SWBAT** use the random block to create a random event in code

This lesson has 13 steps.

Video will be added later

- 1) Click [here](#) and press roll. What number do you get?**

- 2) Try to predict what number will come next and press roll. Did you predict the number?**

- 3) This is a random number generator, so each time you press “roll”, it is supposed to give you a random number. In this case, it is from 1-10. So in theory, what are the odds that you would predict the number correctly before pressing roll?**

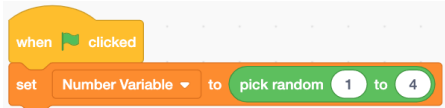
- 4) To think of it differently, what are the odds that you can predict the right outcome of a coin flip?**

5) That's right! There are 2 possible outcomes for a coin flip: heads or tails. That means you have a 1 in 2 chance of predicting the correct outcome. The word **random** describes something that is unpredictable or involving equal chances for each item. **As best you can, try to explain the idea of randomness in your own words in the box below:**

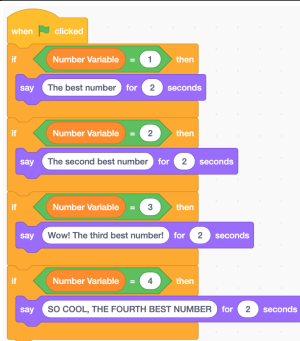
6) Click [here](#) to open up a sample random number generator in Scratch. **What is the variable in this program called?**

7) There are 2 things that change when you press the green flag. One is the variable named "Number Variable". **What is the other thing that changes?**

8) The 2 blocks of code below make the variable called "Number Variable" change. When the green flag is pressed, the computer assigns a random number between 1 and 4 to the variable "Number Variable". **Enter all the numbers that could be randomly assigned to the variable "Number Variable"?**




9) The second thing that changes is what the cat says. This works by using the conditional block "if" to have the cat say a different thing each time a different number comes up. **What does the cat say if the Random Variable equals 1?**



7) What does the cat say if the Random Variable equals 3?

8) Screenshot the block of code that creates the randomness and paste it in the box below:

9) If you pasted something in green that looks like this  you nailed it!. Explain what this block does in your own words:

10) Click [here](#) and press remix. Assemble the blocks of code so that the random number generator works. When you have fixed it, press save, share and **copy-paste the link to your working code in the box below:**

11) You have now earned the M. If you want to earn the E, complete the following:

Spicy:

- Create your own program
- Create your own variable
- Make your program have at least 6 different random events when green flag is pressed
- Give your program a background (or different random ones)
- Use sound
- Use costume changes
- Copy paste the link below: