

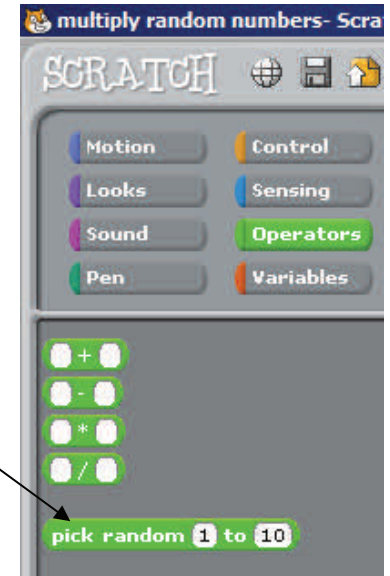
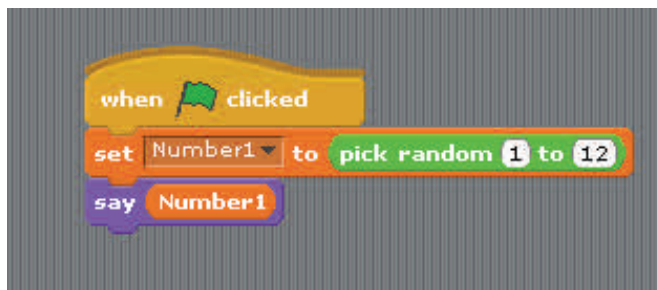


## Computer Programming - Random Numbers

Computer programmers often have a need to use random numbers and a computer programming language, using computer hardware, has the ability to generate these random numbers.

In SCRTACH we can generate random numbers using the command block shown here, which is in the Operators palette.

Try this simple program - it will show you how to use the command block:



Run the code a few time to verify that it is, indeed, generating random numbers.

### Exercises

1. Create a program which generates a random number between 1 and 30, stores it in a variable named random and outputs the random number to the stage. Once it is working, save it a RNG1.
2. Create a program which uses a loop and which generates 12 different random numbers between 1 and 12 and which displays them on the stage, each after a two second delay. Once it is working, save it s RNG2.
3. Create a program which generates two different random numbers between 1 and 50, which outputs each number to the stage, which then adds them together, and outputs the total to the stage. Make it user friendly (eg the first random number is.... etc). Once it is working save the program as RNG3.
4. In your Thinking and Practising books, draw a flowchart for the program you have just created and tested (in 3 above)
5. Write pseudocode in your Thinking and Practising books to represent a program which asks a user to input two different variables, then generates a random numbers, stores that into a third variable, adds the two inputted numbers together and multiplies that total by the random number variable. Once the pseudocode has been written, use it to produce a SCRATCH program. Once you have run and tested the program, save it as RNG4