



Coin Flip- #CSandMath

Project Goal:

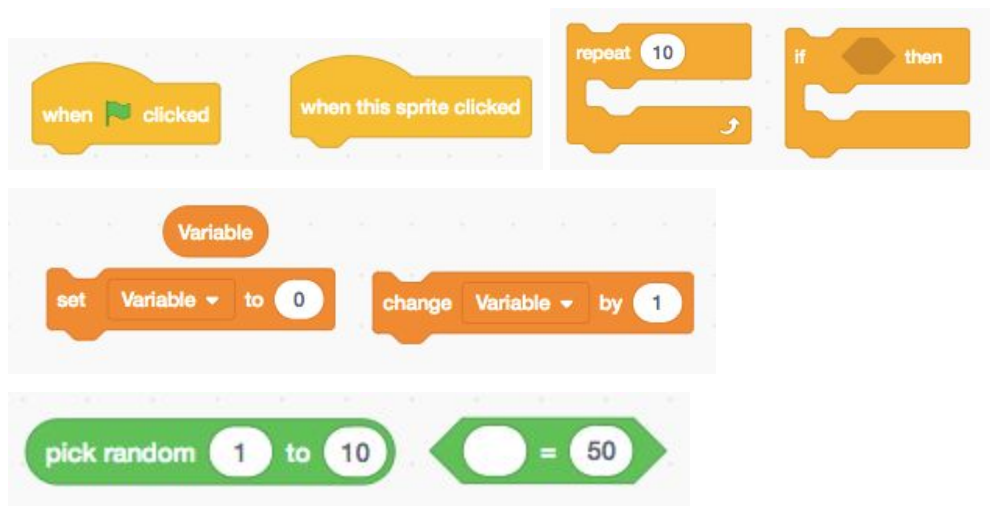
Create a program that simulates a coin flip.

- Each time you flip the coin it should tell you how many times you have flipped heads/tails.
- Your program should re-calculate the experimental probability after each flip.

Standard:

7.4.3.2 Calculate probability as a fraction of sample space or as a fraction of area.

Blocks:



Student Handout:

[Coin Flip Introduction](#)

Teacher Video Guide:

[Step-by-Step Video](#)



Solution:

```
when clicked
  set Heads to 0
  set Tails to 0
  set Total Flips to 0
  set Probability of Tails to 0
  set Probability of Heads to 0
```

```
when this sprite clicked
  set Random Flip to pick random 1 to 2
  change Total Flips by 1
  if Random Flip = 1 then
    switch costume to Heads
    change Heads by 1
  if Random Flip = 2 then
    switch costume to Tails
    change Tails by 1
  set Probability of Heads to Heads / Total Flips
  set Probability of Tails to Tails / Total Flips
```



Extension: Simulate "X Number" of Coin Flips

```
when clicked
repeat 100
  set Random Flip to pick random 1 to 2
  change Total Flips by 1
  if Random Flip = 1 then
    switch costume to Heads
    change Heads by 1
  if Random Flip = 2 then
    switch costume to Tails
    change Tails by 1
  set Probability of Heads to Heads / Total Flips
  set Probability of Tails to Tails / Total Flips
```