

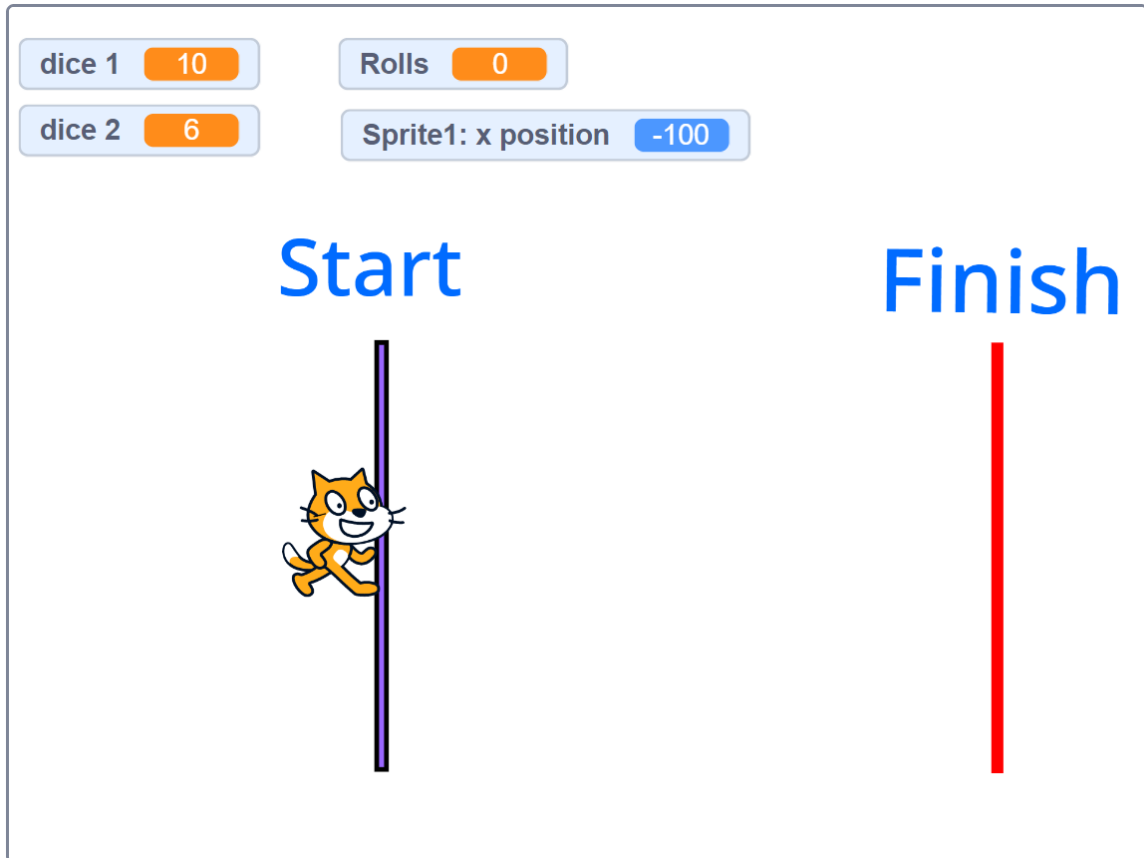
Patterning and Algebra
Unit 3 Line Master 2a


Probability Game

Block Coding Program

Click the link to access Scratch: Dice Game – Doubles:

<https://scratch.mit.edu/projects/484777128/>



The  starts the game, and the space bar rolls the dice.
Play until you win. Play again.
Compare your results with the class results when
students rolled number cubes.

Probability Game (cont'd)

Block Coding Program

Examine the Code

[↩ See inside](#)

- Click **See Inside**. Look at the code.
What do you think the different blocks mean?
How do they relate to the probability experiment?

```

when clicked
  set Rolls to 0
  go to x: -100 y: -50
  forever
    if touching color red? then
      say Winner! for 3 seconds
  
```

```

when space key pressed
  erase all
  point in direction 90
  change Rolls by 1
  set dice 1 to pick random 1 to 10
  set dice 2 to pick random 1 to 10
  if dice 1 = dice 2 then
    go to x: -100 y: -50
    start sound Meow
  else
    move dice 1 + dice 2 steps
  
```

Probability Game (cont'd)

Block Coding Program

- Connect the blocks to what happened during the experiment.
For example,

 has Cat facing right (looking from Start to Finish).

 has Cat starting at (-100,50).

```

if (dice 1 = dice 2) then
  go to x: -100 y: -50
  start sound Meow
else
  move (dice 1 + dice 2) steps
  
```

has Cat go back to Start if the dice match.

If the dice don't match, the numbers rolled are added. Then Cat takes that many steps.

```

change Rolls by 1
set dice 1 to pick random 1 to 10
set dice 2 to pick random 1 to 10
  
```

has the roll tracked each time, and random numbers are chosen from 1 to 10.

```

if (touching color red) then
  say Winner! for 3 seconds
  
```

has the Cat being declared the Winner! When the Cat touches the red Finish Line.

Note:

Cat starts at -100 and ends up at 150.

Thinking about the distance on each side of 0,
100 pixels + 150 pixels = 250 pixels.