

INTERMEDIATE SCRATCH – THE 20-LINE CHALLENGE!

LEVEL 4 –
SHI !!!

We came across a cool “line drawing” project tweeted by a ninja from another dojo which we’ve added some variables to and which then gave us a idea! It’s a great bit of Scratch coding and uses less than 20 blocks of code for some awesome results!!!! We tried to see what we could do with 20 blocks or less and came up with the “microbe battle”. Your challenge? Simple ... what can you do with 20 blocks or less????



name:

date :

sensai:

Line Drawing

Variables used

- ☒ degrees
- ☐ Increase
- ☐ step
- ☒ steps

when clicked

```
hide
set x to 0
set y to 0
set increase to 0
ask Type in an angle and wait
set degrees to answer
ask How many steps (1-10)? and wait
set steps to answer
clear
pen down
set pen color to red
repeat until touching edge?
  change pen color by pick random 1 to 100
  move Increase steps
  turn degrees degrees
  change increase by steps
pen up
```

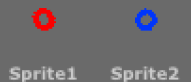


Microbe Battle

Variables used

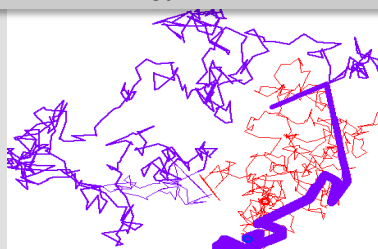
- ☐ blue_steps
- ☐ red_steps

Sprites used



```
when clicked
go to x: pick random -100 to 100 y: pick random -100 to 100
set red_steps to 25
clear
set pen size to 1
set pen color to 0
pen down
forever
  move pick random 1 to red_steps steps
  if on edge, bounce
  if distance to Sprite2 < 50
    turn 180 degrees
  else
    if touching color?
      change red_steps by 5
      change blue_steps by -5
      change pen size by 1
    else
      turn pick random 1 to 360 degrees
  wait 0 secs
```

Sensai Rob says: “These microbe sprites move around randomly and “feed” off each others trails until they get to max size. If they eat the other they speed up, if they get eaten they slow down, if they “see” each other they run away! You can leave this running for hours!!!”



Hmmm ... I think Sensai Rob has cheated a bit! There might only be 20 blocks of code here but he’s used them for both the Red and the Blue Sprite. Isn’t that 40 blocks of code or is it ok to use the same 20 on more than 1 sprite???? What do you think? Shall we let him off?

