NetLogo:

Start simple
Create turtles
Get turtles moving
Hatch/die turtles

More difficult
Create turtles in random locations
Turn left/right/reverse depending on the color of the patch
Virus simulator with healthy/sick/innoculated turtles

Difficulties:
Transferring from Scratch to NetLogo, the students encounter the never ending “syntax” errors. They missed a bracket or typed a code word incorrectly. Perhaps a variable was spelled incorrectly. This can be very frustrating for any of us. This is when test, test, test is very important. Check one line at a time. Make one change at a time.

WarmUp & Assignment handouts

Project to work on: Chain Reaction

This program is to start with all the patches being yellow traps. A ball is dropped onto the center patch. The patch color is changed to brown (triggered). A new ball is created, and both balls bounce off in a chain reaction landing on other patches. If the ball lands on a brown patch, the ball dies. If the ball lands on a yellow patch, a new ball is created, and both balls bounce off. This continues until there are no more balls.

Programming steps: Check each step for errors along the way.
Interface:
1. Buttons needed: setup, go once, go
2. Add a slider max-distance (0.0 to 10.0)

Code:
1. You will need a global variable traps-triggered
2. setup
   set traps-triggered to zero
   set all patches to yellow
   create one turtle of the default-shape “circle”
   set the color of the turtle to white
   reset-ticks
3. Write a function move to move the turtle in a random 360 direction a random distance set by the max-distance slider. This function needs to be called from the go.
4. go
   call the move function
   add a test before the move to check the pcolor.
   If brown, then die.
   Else set to brown, increment traps-triggered, hatch a new turtle and move both turtles.
   add a test at the beginning of go to stop the program if there are not any? turtles.
5. Interface tab:
   settings: max pxcor 80, max pycor 80, turtle size 4
   add two plots: Traps triggered using traps-triggered
   Balls in the air using count turtles