POGIL – Exploring Movement in Scratch

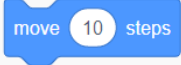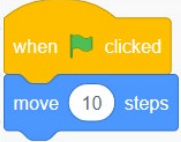| Manager	
Recorder	
Presenter	
Reflector	

Getting Started:

1. Manager, assign one person to use their computer to use for this activity. All students should be able to see this one computer.
2. Bring up a browser and navigate to scratch.mit.edu [You don't have to be logged in for this activity but you can].
3. Click on the "Create" tab so that you are ready to program
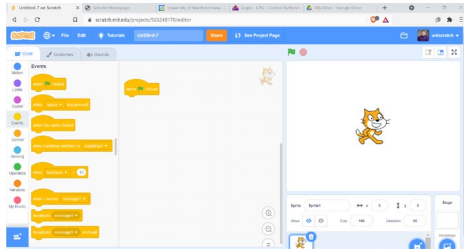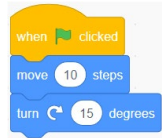

Activity One – Basic Movement (15 minutes)   Start Time: _____

1. Drag out the block from the Events menu and the block from the Motion menu. Connect them so they make the small program: . Press the green flag icon above the stage (next to the stop sign). What happens when you press the green flag? Press it several times to confirm what happens.

2. Click inside the white circle and replace the 10 with -10. What happens when you press the green flag icon? [Again, press it several times to confirm what happens.]

3. Click inside the white circle and replace the -10 with a 50. What happens when you press the green flag icon? [Again, press it several times to confirm what happens.]

4. Change the 50 back to a 10 and drag out the **turn ↻ 15 degrees** block from the Motion menu and add it to

the bottom of your program **[when 🏳 clicked / move 10 steps / turn ↻ 15 degrees]** What happens when you press the green flag? [Again, press it several times to confirm what happens.]

5. Change the 15 in the turn block to 45. What happens when you press the green flag?

6. By now you may have your cat sprite in crazy places on the screen and turned in funny directions. One of the techniques we use to make sure the program always starts the "right" way is to add a short "places everybody" set of action(s) at the start of many programs. For example, I want the cat to always start in the center of the screen and standing "upright" so I might start my program with

[when 🏳 clicked / go to x: 0 y: 0 / point in direction 90 / wait 1 seconds]

Put this in your program and add some movement after the "places." Why might I call this set of code "places everybody"?

7. Find three different ways that you can write a program where the cat starts in the middle of the stage (using the places everyone commands from #6) and then moves to the upper left hand corner of the stage. Record the commands for those different ways below:

8. In solving the previous problem, what did you discover about the coordinate system and directional system in scratch?