

Name: _____ PD: _____

Activity – Now You See Me- Now You Don't: Peppered Moths

- A. Google: NetLogo homepage or type in <https://ccl.northwestern.edu/netlogo/>
- B. Then click on **Go to NetLogo Web** OR Download NetLogo
- C. Go to **Search Models Library** or FILE-Models Library
- D. Select **Biology-Evolution-Peppered Moths**

Part ONE:

1. Click **set up**.
2. Make sure the parameters are set as follows:
 - cycle pollution = on
 - total moths = 100
 - pollution = 0%
 - ticks = slower or (10)
3. **Record** the starting number of each kind of moth on data table.
4. Click on “**go**” button.
5. Click “**go**” button a second time at 25 ticks to stop the simulation.
6. Repeat for 50 ticks, 75 ticks, 100 ticks, 125 ticks, and 150 ticks. Record observations.
7. **Make a sketch** of the final graph. Be sure to make a color-coded legend.

Now You See Me-Now You Don't: Peppered Moths

Part ONE

Data Table:

ticks	light	Medium	Dark	%pollution	Total # moths	Observations <i>(Background color, relationship between % pollution and color of moths, total population increasing or decreasing or staying the same, etc)</i>
0						
25						
50						
75						
100						
125						
150						
175						

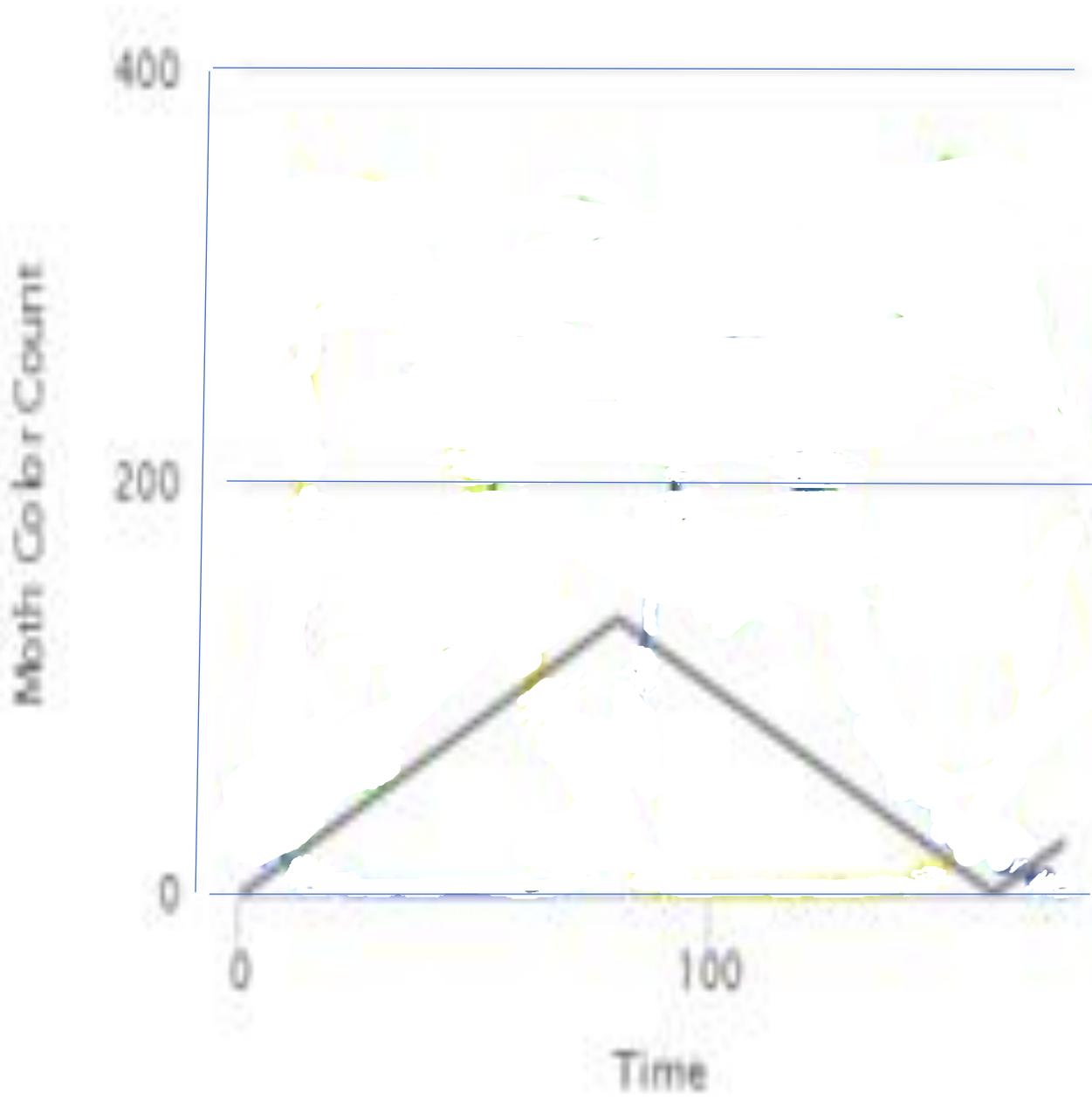
Model Info:

- 1) Ticks represent the passage of time.
- 2) Background color represents the tree bark coloration (as pollution increases, bark gets darker).
- 3) The only predators are birds.
- 4) Birds see the moths best when the moth's color contrasts with the tree bark (meaning the moth and the tree bark are different colors). (No camouflage)

Describe what happened during the simulation. Be descriptive. Include as much detail as possible.

Why do you think the moth population remain somewhat constant after an initial increase?

Moth Colors Over Time



Light



Medium



Dark

— Pollution

Activity – Now You See Me Now You Don't: Peppered Moths

Part TWO:

1. Click **set up**.
2. Make sure the parameters are set as follows:
 - cycle pollution = on
 - total moths = 100
 - pollution = 0%
 - ticks= slower (or 10)
3. Record the starting number of each kind of moth on data table.
3. Click on "go" button.
4. Click "go" button a second time at pollution = 25% to stop the simulation.
5. Repeat for pollution = 50%, pollution = 100%. Record observations.

Data Table:

pollution (%)	light moths	medium moths	dark moths	Total # moths
0				
25				
50				
100				

Describe the relationship between moth color and pollution. Include as much detail as possible.
