



Hatch to Catch Summary

Now that you've successfully guided your lobster larvae, let's compare the different regions you chose to see what it takes to survive from "Hatch to Catch!" Form a group with other students who chose different regions than you chose. For example, if you chose to hatch your cohort off of Cape Ann, find a student who chose Nova Scotia and one who chose Down East and complete this summary activity together.

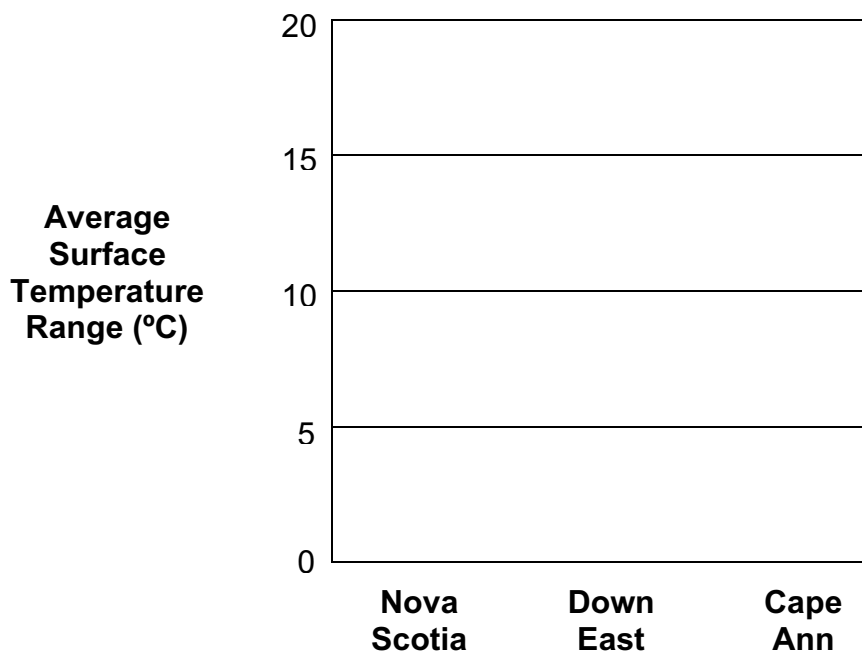
1. Compare the regions and starting points that the 3 of you chose by referring back to your data sheets (Table 1) and answering the following questions:
 - a. Whose cohort ended up furthest from their hatch area (provide the hatch area and starting point)? How far did the cohort travel?
 - b. Whose cohort ended up closest from their hatch area (provide the hatch area and starting point)? How far did the cohort travel?
 - c. Whose cohort traveled at the fastest speed (provide the hatch area and starting point)? How fast did the cohort travel?
 - d. Whose cohort traveled at the slowest speed (provide the hatch area and starting point)? How fast did the cohort travel?
 - e. What caused the variability in how far cohorts ended up from their hatch areas and the variability in the speeds at which your cohorts traveled?

2. Further compare the regions and starting points that the 3 of you chose by referring back to #6 on your data sheets and answering the following questions:

a. How did the surface water temperature vary at these different areas? Fill in the table below to compare.

<u>Hatch Area</u>	<u>Average Low Temperature (°C)</u>	<u>Average High Temperature (°C)</u>
<i>Nova Scotia</i>		
<i>Down East</i>		
<i>Cape Ann</i>		

b. Plot this range (as a bar graph) on the graph below.



c. Remembering that Nova Scotia is furthest north and Cape Ann is furthest south, circle the word that completes this sentence based on your graph above:

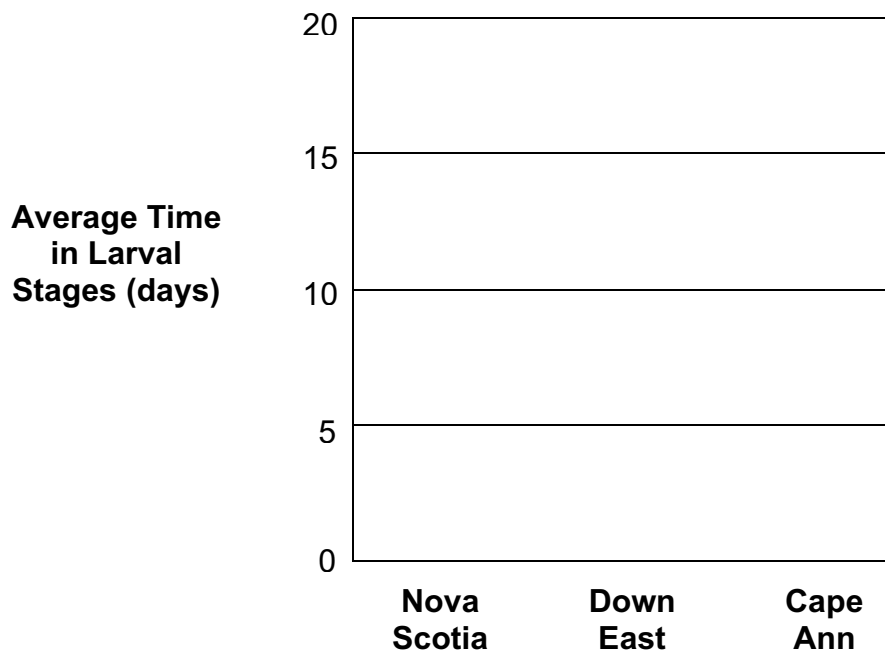
“As you move from north to south, the average surface water temperature gets _____ (warmer OR colder).”

3. Further compare the regions and starting points that the 3 of you chose by referring back to #7 on your data sheets and answering the following questions:

a. How did the number of days the larvae spent in Stage 1, Stage 2 and Stage 3 vary at these different areas? Fill in the table below to compare.

<u>Hatch Area</u>	<u>Average Time as Stage 1 Larvae (days)</u>	<u>Average Time as Stage 2 Larvae (days)</u>	<u>Average Time as Stage 3 Larvae (days)</u>
<i>Nova Scotia</i>			
<i>Down East</i>			
<i>Cape Ann</i>			

b. Plot this variation (as a line graph) on the graph below. (Hint: You should have a different line for each stage. Don't forget to indicate which line represents which stage!)



c. Remembering that Nova Scotia is furthest north and Cape Ann is furthest south, circle the word that completes this sentence based on your graph above:

“As you move from north to south, the average number of days lobster larvae spend in each stage _____ (decreases OR increases).”

4. Now use your two graphs above to complete this sentence:

“As the average surface water temperature gets _____ (warmer *OR* colder), the average number of days lobster larvae spend in each stage _____ (decreases *OR* increases).”

5. In your own words, summarize how water temperature affects lobster growth rate.

6. Laboratory measurements **made at constant temperatures** have found that larval lobsters spend more time in Stage 4 than in Stage 1. In fact, the lab measurements indicate that the amount of time spent at each stage looks like this: Stage 4 > Stage 3 > Stage 2 > Stage 1. Look back at the graph you made in #3 above *and the paths of your larval lobsters*. Can you provide an explanation as to why your lobsters spent more time in Stage 1 than Stage 2 and Stage 3, the exact opposite of what the laboratory measurements predict?

7. Based on what you have learned about lobster growth rate and temperature, why do you think the **depth** where your cohort might settle would be important? (*Hint: Look at Table 2 on your data sheets to see how water temperature varies with depth*).

