



Friends of Cooper Island

Monitoring a Changing Arctic since 1975

Graphing Black Guillemot Chick Weights from Cooper Island Alaska-Summer 2019

[Click here to LISTEN along as you read!](#)



This week you are going to work with Katie's guillemot chick weight data from her work on Cooper Island last summer! UCDS 3/4 students are the FIRST SCIENTISTS to analyze this data! It's going to be exciting to find out how the chick weights changed over time! Here's your Math Vitamin this week--

In 2019, Katie Morrison & George Divoky weighed a lot of Black Guillemot chicks on Cooper Island! Recording daily chick weights is one of the main ways George collects data. Chick weight reflects the availability of fish that parents are providing to their young. Increasing weights means that

parents are able to find enough fish that the chicks will eat. Decreasing weights means that less fish are available. Chick weights are an indicator for the health of the under-ice ecosystem.

Use the DATA to construct a LINE GRAPH on graph paper. Choose one set of chick weight data (nest site K-07, K-12 or M-15) to graph first, then you can do more!

Supplies Needed:

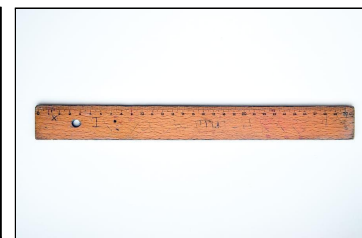
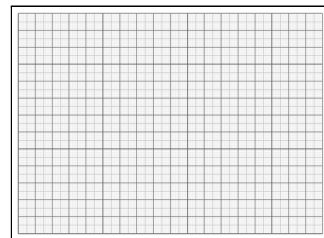
graph paper

chick data

pencil

ruler for drawing straight lines

colored pencils (optional)





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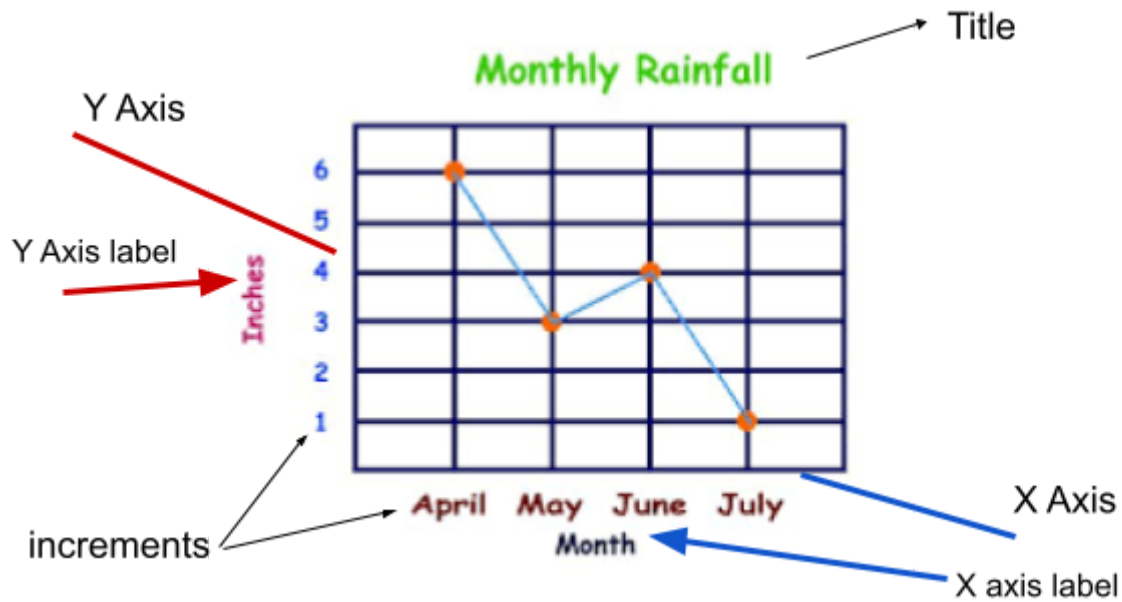
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Background Information for Constructing Line Graphs--

This website is a great place to start to find out about WHAT IS A LINE GRAPH and HOW DO I MAKE ONE...

<https://www.mathsisfun.com/data/line-graphs.html>

Another example:





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Important information for understanding your data and making your own graph -

- Highlight or underline the important information from the problem as a place to start. Remember to read through this information or have someone read it to you two or three times to help your understanding.
- Chick weights are in GRAMS
- Chicks are “named” with a letter and a number to refer to their nest box location
- X axis in your graph - the horizontal line (left to right) - this will be the DAYS - you can use dates or day 1, day 2, day 3, etc
- Y axis in your graph - the vertical line (up and down) - this will be the WEIGHTS of the chicks
- To determine your Y axis you need to know the RANGE of the chick weights. What is the lowest? What is the highest? How will you create the Y axis to have this range and each specific chick weight in between? Your Y axis needs to be in equal increments. You can count by 1s, 2s, 5s, 100s, 250s, etc, as long as you keep the intervals equal. How will your choice of increments in grams for your Y axis change the look of your graph?
- When done plotting points - you need to connect the lines - a ruler is a helpful tool here!
- Be sure to have a TITLE, LABELED X-axis (day), LABELED Y-axis (chick weight in grams), and DATA POINTS CONNECTED
- Answer these final questions when your graph is complete. Please use complete sentences.
 - What do you notice about your graph?
 - How did the chick weights change over time?



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Black Guillemot Chick Weight Data - Summer 2019

There are 3 total data sets to pick from. Complete a line graph for ONE and then feel free to choose another!

Nest site	Date	Weight (g)
K-07	July 24	105
K-07	July 26	100
K-07	July 28	175
K-07	July 30	165
K-07	August 1	160
K-07	August 3	175
K-07	August 5	190
K-07	August 7	205
K-07	August 9	250
K-07	August 11	270
K-07	August 13	285
K-07	August 15	320
K-07	August 17	360
K-07	August 19	370

Nest site	Date	Weight (g)
K-12	July 26	52
K-12	July 28	68
K-12	July 30	87
K-12	August 1	100
K-12	August 3	100
K-12	August 5	130
K-12	August 7	130
K-12	August 9	130
K-12	August 11	140
K-12	August 13	200
K-12	August 15	215
K-12	August 17	240
K-12	August 19	285
K-12	August 23	240
K-12	August 25	290
K-12	August 27	295
K-12	August 29	310

Nest site	Date	Weight (g)
M-15	July 22	65
M-15	July 24	83
M-15	July 26	105
M-15	July 28	120
M-15	July 30	140
M-15	August 1	215
M-15	August 3	200
M-15	August 5	200
M-15	August 7	220
M-15	August 9	275
M-15	August 11	295
M-15	August 13	315
M-15	August 15	320
M-15	August 17	290
M-15	August 19	315
M-15	August 21	315