

Lesson 6: A Closer Look at Histograms – Sweet!

Opening Activity

- The table below lists the number of grams of 12 candy bars. Use the table to complete the bar graph.

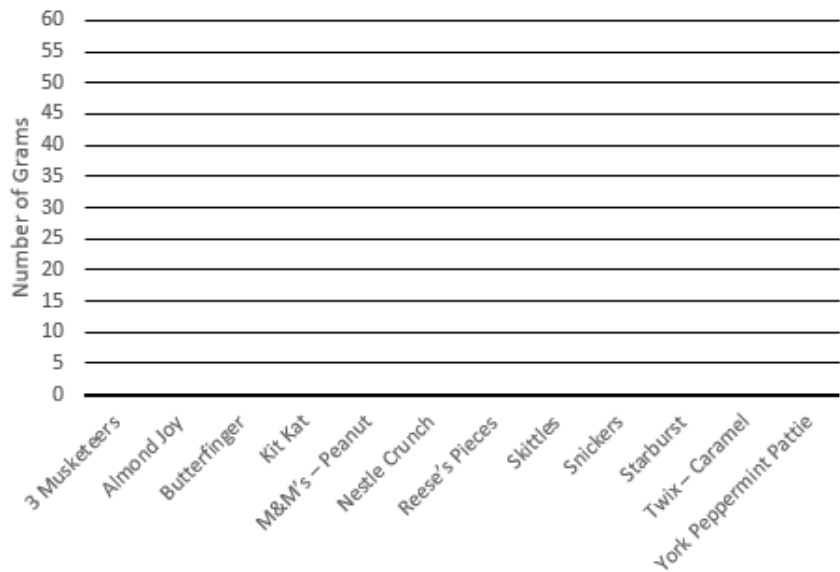


Candy Name	Number of Grams
3 Musketeers	51
Almond Joy	50
Butterfinger	45
Kit Kat	43
M&M's - Peanut	47
Nestle Crunch	44
Reese's Pieces	55
Skittles	57
Snickers	57
Starburst	59
Twix - Caramel	57
York Peppermint Pattie	43

[source:

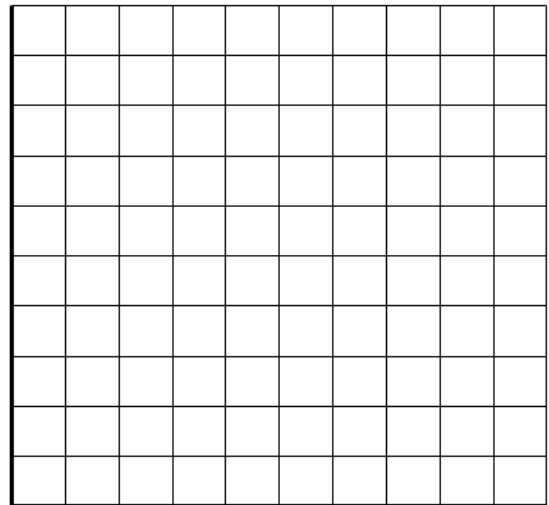
<http://www.cnn.com/FOOD/resources/food.for.thought/sweets/compare.candy.bar.html>]

One Serving of Selected Candy Bars

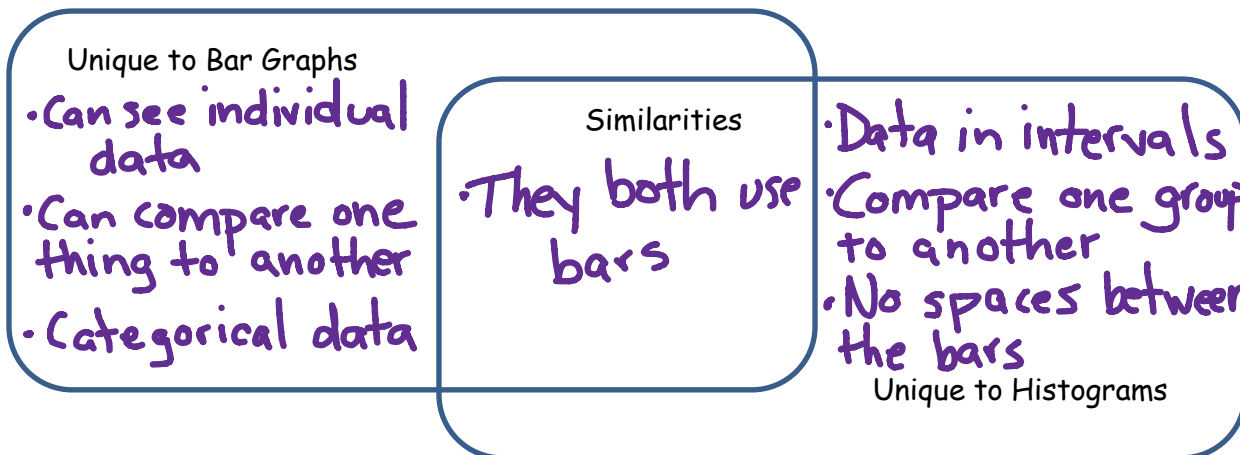


- Use the same data to create a histogram.
- Why might someone be interested in how many grams are in a single serving of each candy bar?

One Serving of Selected Candy Bars

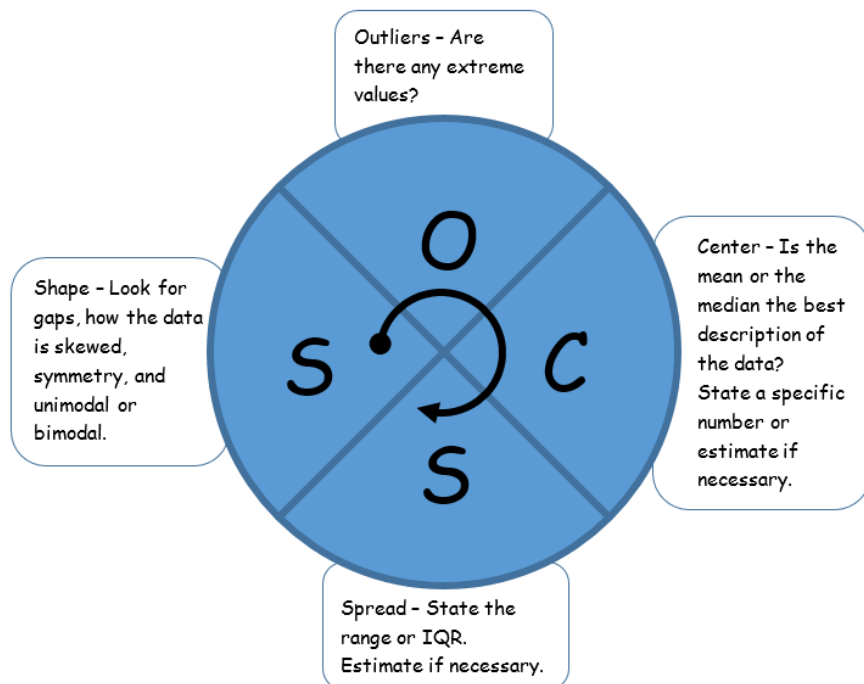


4. What are differences and similarities in the bar graph and histogram you made in Exercise 1? List your ideas in the Venn diagram below.



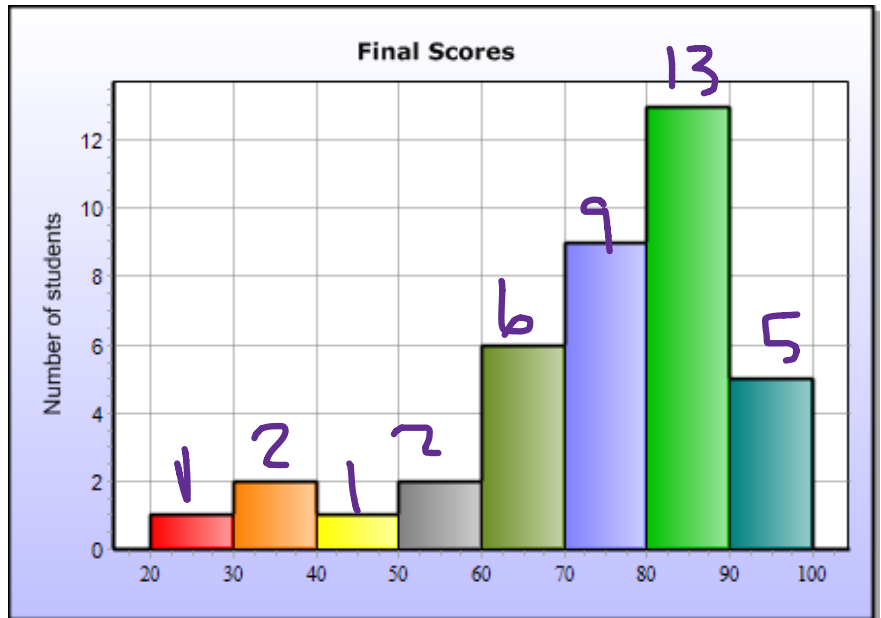
Histograms have similar characteristics as other graphical representations. You can use the SOCS diagram we saw in Lesson 3 to describe histograms.

5. Use SOCS to describe the number of grams of the candy bars.



6. A. For the histogram at the right, describe the distribution using SOCS.

• Left skewed
 • Unimodal
 • No gaps
 • No outliers
 • The center is about 70
 • Wide IQR



- B. Can we determine the original data from the graph? Explain.

No

- C. How many students earned less than a 60% on their final?

6

- D. How many students took this final?

39

- E. Approximate the mean of the data.

Around 75

7. Use the histogram at the right to answer the questions.

A. How many cherry trees were between 70 and 74.99 feet in height?

8

B. How many cherry trees were measured altogether?

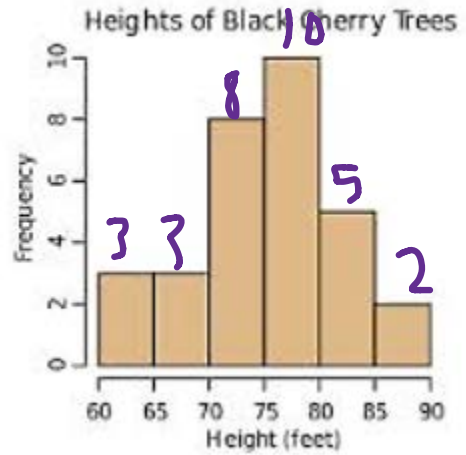
31

C. Can we tell from this histogram what the minimum and maximum are? If yes, what are they? If not, explain.

No

D. Without calculating, what is an approximate mean for this data?

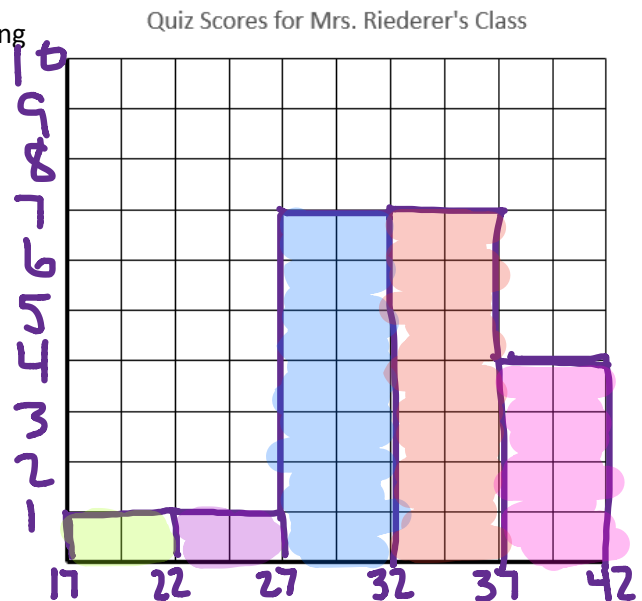
Approx. 75



8. Mrs. Riederer gave her students a quiz out of 40 points. Their scores were:

40	39	39	38	37	35	35	35	35	34
32	31	31	30	29	28	28	28	24	18

Create a histogram of the data. Then describe the data using SOCS.



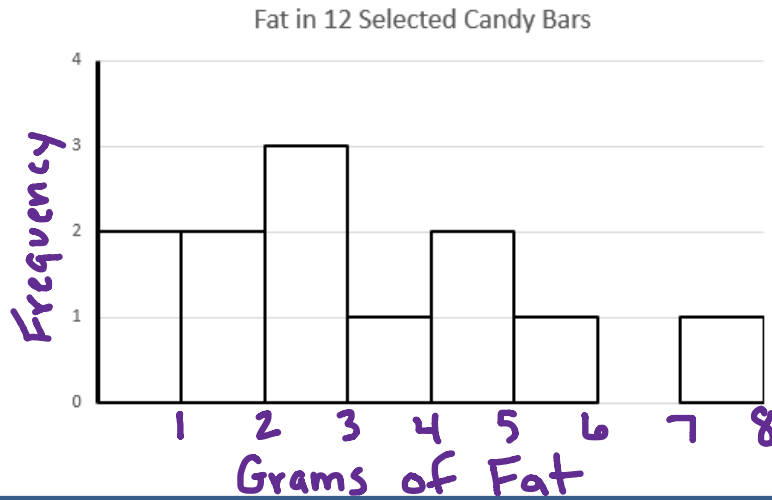
9. Write in the labels on the horizontal axis of the histogram in the summary below.

Lesson Summary

Here are the grams of fat in 12 candy bars: 1.5, 2.5, 5.5, 3, 4.5, 2.5, 7, 0, 0, 4.5, 2.5, 1.5

Intervals:

Grams of Fat	Frequency (counts)
$0 < x < 1$	2
$1 < x < 2$	2
$2 < x < 3$	3
$3 < x < 4$	1
$4 < x < 5$	2
$5 < x < 6$	1
$6 < x < 7$	0
$7 < x < 8$	1

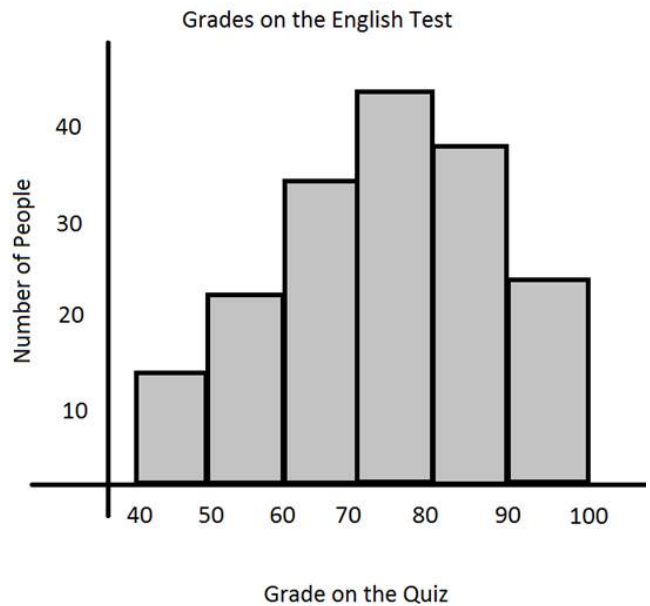


Homework Problem Set

1. A. Describe the distribution of the data in the histogram below.

B. What specific information can you get from this graph?

C. What could have been done to make this histogram easier to read?



2. Use the data on candy bars data to create two histograms - one on the number of calories and one on the grams of protein. Then describe the data in each distribution.

Candy Name	Number of Grams	Calories	Proteins in Grams
3 Musketeers	51	212	1.5
Almond Joy	50	232	2.5
Butterfinger	45	216	5.5
Kit Kat	43	220.5	3
M&M's - Peanut	47	242.5	4.5
Nestle Crunch	44	229.5	2.5
Reese's Pieces	55	258	7
Skittles	57	231	0
Snickers	57	273	4.5
Starburst	59	233.5	0
Twix - Caramel	57	284.5	2.5
York Peppermint Pattie	43	149	1.5

[source: <http://www.cnn.com/FOOD/resources/food.for.thought/sweets/compare.candy.bar.html>]

Number of Calories in One Serving with 12 Selected Candy Bars	Number of Grams of Protein in One Serving with 12 Selected Candy Bars
Description	Description