

0-2 Frequency and Histograms

S.ID.1 Represent data with plots on the real number line (dot plots, histograms, and box plots).

Frequency - The # OF TIMES a data value occurs.

Frequency Table - Shows the FREQUENCY of each data value.

Making a Frequency Table

EXAMPLE 1

The final scores for each golfer in a tournament are given below. Use the data to make a frequency table with intervals. (Use an interval of 3.)

~~77, 71, 70, 82, 75, 76, 72, 70, 77, 74, 71, 75, 68, 72, 75, 74~~

GOLF TOURNAMENT SCORES

SCORES	FREQUENCY
68-70	3
71-73	4
74-76	6
77-79	2
80-82	1

16

EXAMPLE 2

The number of days of Maria's last 15 vacations are listed below.

Use the data to make a frequency table with intervals. (Use an interval of 3.)

4, 8, 6, 7, 5, 4, 10, 6, 7, 14, 12, 8, 10, 15, 12

VACATION # OF DAY	FREQUENCY
4-6	5
7-9	7
10-12	4
13-15	2

15

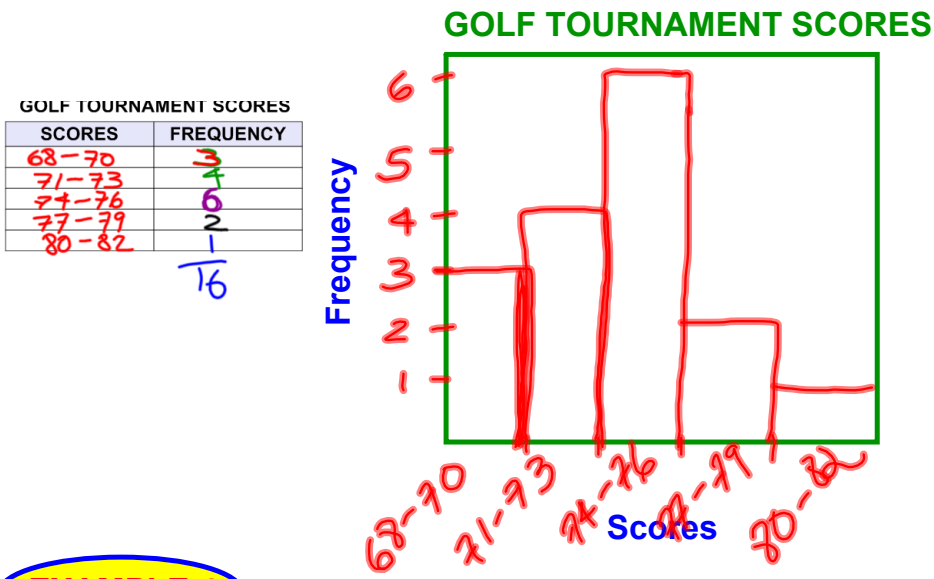
Histogram - A *bar graph** used to display the FREQUENCY of data divided into equal intervals.

(The bars must be **EQUAL WIDTH** and **should TOUCH**, but **NOT OVERLAP**.)

Making a Histogram

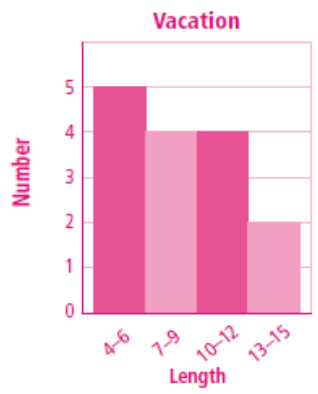
EXAMPLE 3

Use the frequency table in Example 1 to make a histogram.



EXAMPLE 4

Use the frequency table in Example 2 to make a histogram.



Cumulative Frequency - Shows the frequency of all data values ≤ a given value.

Making a Cumulative Frequency Table

EXAMPLE 5

The heights in inches of the players on a school basketball team are given below. (Use intervals of 3.)

~~72, 68, 71, 70, 73, 69, 79, 76, 72, 75, 72, 74, 68, 70, 69, 75, 72, 71, 73, 76~~

Basketball Players' Heights		
Height (in.)	Frequency	Cumulative Frequency
68-70	6	6
71-73	8	14*
74-76	5	19
77-79	1	20

How many players have heights under 74 inches? 14

EXAMPLE 6

The numbers of vowels in each sentence of a short essay are listed below. (Use intervals of 3.)

33, 36, 39, 37, 34, 35, 43, 35, 28, 32, 36, 35, 29, 40, 33, 41, 37

1. Use the data to make a cumulative frequency table.

# OF VOWELS	FREQUENCY	CUM FREQ
28-30	2	2
31-33	3	5
34-36	6	11*
37-39	3	14
40-42	2	16
43-45	1	17

2. How many sentences contain 35 vowels or fewer? 11

0-2 FREQUENCY AND HISTOGRAM HOMEWORK

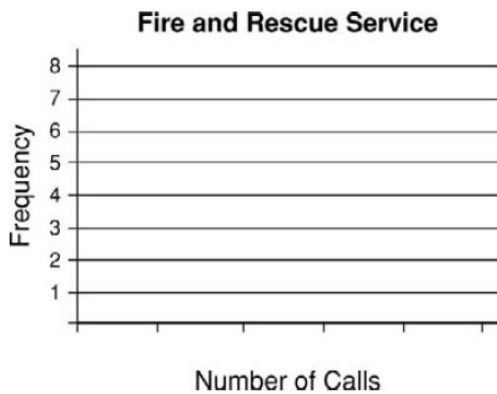
Name _____

1. The number of calls per day to a fire and rescue service for three weeks is given below. Use the data to complete the frequency table.

Calls for Service										
5	17	2	12	0	6	3	8	15	1	4
19	16	8	2	11	13	18	3	10	6	

Fire and Rescue Service	
Number of Calls	Frequency
0 - 3	
4 - 7	
8 - 11	
12 - 15	
16 - 19	

2. Make a histogram with a title and axis labels from the information in Problem 1.



3. Which intervals have the same frequency? _____

4. Complete the "third column" for the table in Problem 1 to make it a cumulative frequency table.

Cumulative Frequency