

Name _____ Date _____

Chesapeake Excursions Worksheet #1: Collecting Data

	Year	Excursion	What powers the boat?	What is the price of the boat ride per person?	How many passengers can go on the boat?	How many crew members are needed to handle the boat?
1	1813	A Trip Down the Patapsco River on <i>Chesapeake</i>				
2	1824	Sailing a Pleasure Boat out of Fells Point				
3	1885	A Trip to Tolchester Beach on <i>Louise</i>				
4	1908	A Steamboat Cruise on Board <i>Emma Giles</i>				
5	1925	From Baltimore to Washington through History on <i>Virginia</i>				
6	1948	A Cruise in Tidewater Country on <i>Edwin and Maud</i>				
7	1978	A Trip to Fort McHenry on the <i>Defender</i>				
8	1986	An Evening on the <i>Bay Lady</i>				
9	1991	Learning about the Patapsco on <i>Lady Maryland</i>				
10	2000	A Daysail Aboard <i>Pride of Baltimore II</i>				

Chesapeake Excursions Worksheet #2:

Analyzing Data

Power Source and Number of Passangers

Excursion	Sail Power	Steam Power	Diesel Power
1. Chesapeake		100	
2. Fells Point Sloop	10		
3. Louise			
4. Emma Giles			
5. Virginia			
6. Edwin & Maud			
7. Defender			
8. Bay Lady			
9. Lady Maryland			
10. Pride of Balto II			

Calculate the Median or Central Tendency

Sail Power	Steam Power	Diesel Power

The median for sail power is:	The median for steam power is	The median for diesel power is

Chesapeake Excursions Worksheet #3:

Graphing Data

Complete the following sentences:

Steam powered boats carried _____ passengers.

Sail powered boats carried _____ passengers.

Diesel powered boats carried _____ passengers.

(the least the most the medium)

What type of power is most efficient?

Chesapeake Excursions

Working with Your Data, Page 1

Measuring Efficiency

You have just collected lots of information about excursions on Worksheet #1: Collecting Data. You could use this data to answer all sorts of different questions. For instance, you could find out which excursion was cheapest, which excursion carried the most people, which excursion needed the largest number of crew members, and so on.

However, you are going to answer just one question:

What type of power is most efficient for an excursion boat?

We are measuring efficiency by the **number of passengers a boat can carry**. If a boat can carry more passengers, it can serve the recreational needs of more people at one time. In this way, it is efficient.

Worksheet #2: Analyzing Data

On Worksheet #2: Analyzing Data, you will fill in the table with the data that you collected on Worksheet #1. Write in on the table the number of passengers each excursion vessel carried under the type of power that vessel used. The first two excursions, *Chesapeake* and *Fells Point Sloop* are done for you as examples. For instance, in row one next to *Chesapeake*, 100 is filled in under steam power because *Chesapeake* could carry 100 passengers and was powered by steam. In row two next to *Fells Point Sloop*, 10 is filled in under Sail Power because the *Fells Point Sloop* could carry 10 people and was powered by sail

Now complete the table using information from Worksheet #1.

Determining the Median of a Column of Numbers

Sometimes it is easier to compare data if you can find a number that all of the numbers in a column are most like, or a central tendency. For example, in our sample of excursion boats, you could compare just one number for each type of power. Then there will be no question about which is largest, smallest, and in the middle, or in other words, which type of power is most and least efficient.

You need to find the median, or central tendency, for each of the three categories. Find the median by listing the numbers from smallest to largest. Then find the middle number in your list. This number is the median. If the middle of the list falls between two numbers, find the number that falls exactly between these two numbers. To do this, find the mean average of the two middle numbers. In other words, add the two numbers together and divide by 2. Look at the examples below.

Example One

100

210

500

780

Median is 355, the number exactly between 210 and 500

Example Two

12

17

38

Median is 17, middle number in the list

Finding the median will let you compare the categories of excursion boats without comparing specific boats. It will allow you to see if the type of power an excursion boat used affected how many passengers it could carry.

Now find the median for the three types of power of the excursion boats. Use the second table on *Worksheet #2: Analyzing Data* to list the number of passengers by power the ten vessels carried. List the numbers from smallest to largest. Find the media, or central tendency, for the three types of power using the processes described above.

Write it on the space provided on the bottom table of *Worksheet #2: Analyzing Data*.

Graphing Your Data

Once you have the median number of passengers for each type of power, make a bar graph to show the relationship of these numbers. Use Worksheet #3: Graphing Data. On the left side of your graph, or the vertical axis, write the label "Median Number of Passengers." Choose a scale that will include all the numbers you have shown. On the bottom, or horizontal axis, of your graph, write the label "Type of Excursion Boat." Write the labels "Steam," "Sail," and "Diesel" under each bar. Now find the point on the vertical side of your graph that represents the median number of passengers each type of power carried. Draw a line across the appropriate part of the graph for each type of power. Fill in the rectangle below the line you drew in a different color for each power type. These colored bars represent the median numbers of passengers carried by each power type. The bars make it easy to compare these numbers.

Now write a title for your graph. A title for a graph always includes information about the categories and numbers being compared. Your title should mention both the labels for your graph's axes.

Now that you have finished your graph, write statements telling the relationship between power type and number of passengers carried. Choose the appropriate words (least, most, or medium) and write it on the spaces provided on Worksheet #3.

Steam powered boats carried	_____	passengers.
Sail powered boats carried	_____	passengers.
Diesel powered boats carried	_____	passengers.
(the least	the most	the medium)

Write a sentence answering the question:

What type of power is most efficient?

Enter this information on Worksheet #3: Graphing Data.