

# Concept: Understanding Statistics

Name: \_\_\_\_\_

## PART A: COMPUTER COMPONENT

**Instructions:** In  follow the **Content Menu** path:

**Graphing > Statistics**

 Work through all Sub Lessons of the following Lessons **in order**:

- *An Introduction*
- *Data... What is it?*
- *Examples of Data*
- *Statistics... What is it?*
- *Collecting Data*
- *Presenting Data*

**NOTE:** You will not be finishing the entire section before stopping to complete some **OFF COMPUTER EXERCISES**.

 As you work through **PART A: COMPUTER COMPONENT**, you will be prompted to make notes in your notebook/math journal.

When you reach the end of the lesson *Presenting Data*, leave the computer and move on to **PART A: SUMMARY** below.

## PART A: SUMMARY

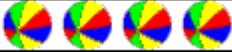
1. The Tally Chart below records the number of fish in Sasha's aquarium over a four-year period.

Number of Fish	
1999	### /
2000	### ///
2001	////
2002	### ### //

- (a) How many fish were there in 2000? \_\_\_\_\_
- (b) How many more fish were there in 2002 than in 1999? \_\_\_\_\_
- (c) In which year did Sasha have the least number of fish? \_\_\_\_\_

2. The Pictograph below records the number of balls each grade uses during gym class.

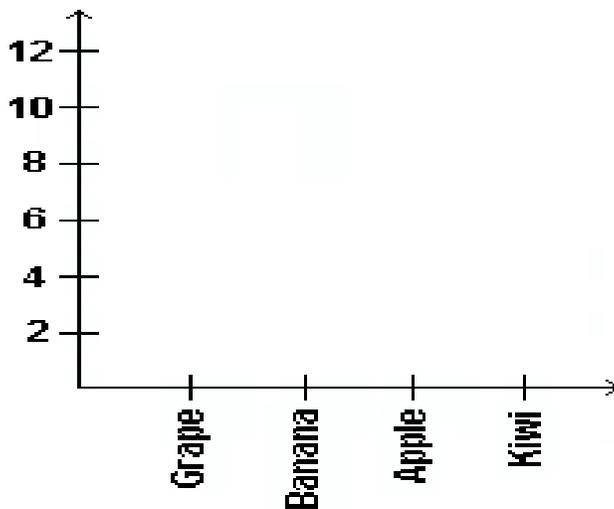
Each  represents 2 balls.

Number of Balls	
1st	
3rd	
5th	
8th	

- (a) How many balls does the 5<sup>th</sup> grade use? \_\_\_\_\_
- (b) Which grade uses the greatest number of balls? \_\_\_\_\_
- (c) How many more balls does the 8<sup>th</sup> grade use than the 3<sup>rd</sup> grade? \_\_\_\_\_

3. Use the information in Tally Chart below to draw a Bar Graph of the students' favorite fruits. (Don't forget to label the axes!)

Favorite Fruit	
Grape	###
Banana	### ###
Apple	
Kiwi	###

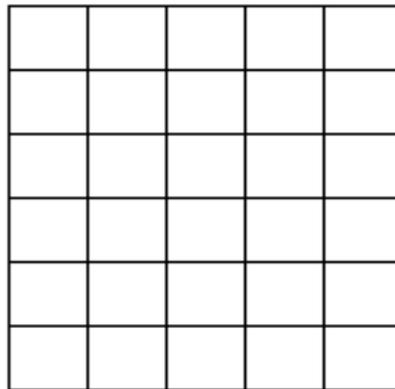


- (a) How many students like banana the most? \_\_\_\_\_
- (b) Which fruit is the least popular? \_\_\_\_\_

(c) How many students are in the class? \_\_\_\_\_

4. Using the information in the chart, draw a Line Graph of the number of times Tim walked to school over the weeks. (*Don't forget to label the axes!*)

Week #	# of Days Walked
1	3
2	2
3	5
4	0
5	4



(a) In which week did Tim walk the most often? \_\_\_\_\_

(b) In which week did Tim walk the least often? Why do you think that this was the case?

\_\_\_\_\_

(c) How many times did Tim walk to school in the five weeks counted? \_\_\_\_\_

*Demonstrate your superior knowledge of 'statistics' by filling in the spaces below to complete the sentences and answer the questions.*

(a) In order to help readers understand the data, we can convert data to other forms, such as \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.

(b) Statistics is a branch of mathematics that provides you with methods of \_\_\_\_\_ data, \_\_\_\_\_ data  
\_\_\_\_\_ data.

(c) The method of collecting your own data is called a \_\_\_\_\_  
\_\_\_\_\_ - \_\_\_\_\_ method.

- (d) To begin a stem and leaf plot, you set up a table.  
*Describe in your own words how to proceed from there.*

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- (e) In a bar graph, the bars are the \_\_\_\_\_ width.

- (f) What is the difference between a bar graph and a histogram? \_\_\_\_\_

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- (e) A line graph involves connecting each point on the graph with a \_\_\_\_\_ line.

- (f) When drawing the sections in a circle graph, we must first calculate the \_\_\_\_\_ of the circle that each sector must be.

I.e. 80% of the circle is 80% of  $360^\circ = ????$

The calculation involved here is \_\_\_\_\_ x  $360^\circ =$  \_\_\_\_\_ $^\circ$

- (g) We use scatter plots to find \_\_\_\_\_ in the data.

**PART A: OFF COMPUTER EXERCISES** (*complete the following in your notebook/math journal*)

1. Below are the speeds of the vehicles travelling on the Intercity Highway.

NOTE: the speeds are in kilometers per hour

95	82	85	108	83	95	120	111	90	110	116
99	103	115	78	134	121	109	117	99	131	122
99	123	127								

- (a) Place these results in a Stem and Leaf Plot.

- (b) Create a Histogram using the information given.

2. The following data represents the breakdown of the money in a school's Student Activity Fund:

Student Council \$2000, Athletics \$1500, Yearbook \$875, Band \$1100, Dances \$600, Math Club\$200.

- (a) Create a Bar Graph to present this information.

(b) Create a Circle Graph using the data given.

3. The number of vehicles passing through a particular intersection on a Tuesday is given below.

7:00am	– 5	11:00am – 9	3:00pm – 9
8:00am	– 25	12:00am – 18	4:00pm – 25
9:00am	– 45	1:00pm – 20	5:00pm – 48
10:00am	– 8	2:00pm – 12	6:00pm – 30

(a) Draw a Line Graph to show the data.

(b) Re-plot the data given as a Scatter Diagram. *What are the trends?*