

Conducting Surveys:

When referring back to the C.O.D.A acronym, we know that the “C” stands for collecting data. There are many ways to do so, one being a survey.

What is a survey?

There are two types of surveys:

1) Census:

2) Sample:

Within a sample population, there are four methods of sampling. Try to match the term with its definition:

Non-Random Samples	(A) People are placed into groups, and each group is represented fairly within the survey (ex. Some names are pulled from a grade 9 hat, a grade 10 hat, a grade 11 hat, and a grade 12 hat)
Simple Random Samples	(B) Every person has an equal chance of being consulted, but the people are chosen from a predetermined way (ex. Using an alphabetical list of the student population, and every 5 th student is surveyed)
Systematic Samples	(C) Every person has an equal chance of being consulted (ex. Pulling names from a hat)
Stratified Random Samples	(D) Where specific groups of people are being consulted (ex. All grade 9 students from one school)

Example #1: Lebron is in charge of organizing the next dance. He wants to know more about the type of music that is popular with the student body. In your groups, explain why your method of sampling is best.

Group #1 – Census or Sample?

Group #2 – Simple Random Sample

Group #3 – Systematic Sample

Group #4 – Stratified Random Sample

Example #2 – How could you survey your school population to determine the most common type of vehicle that students drive?

How do we know when to use which sampling method?

The most important consideration when deciding on a sampling method is whether or not the technique is likely to produce bias.

What is a sample bias?

What is an example?

Are the following bias or unbiased? If biased, state the reasons why and how you could make the sample unbiased.

#1 – Studying the eating habits of all the members of a community by asking people as they exit McDonald's.

#2 – One hundred smokers are surveyed if they would support non-smoking legislation.

#3 – Grade twelve students need to determine a theme for graduation. The graduation team decides to take a random sample of all students in the school. They question every tenth person on an alphabetical list of students in the school.

STOP HERE! Practice Exercises Handout.

Table of Values

We talked about the acronym C.O.D.A before and know how to **C**_____ the data. Next we need to be able to **O**_____ the information for the purpose of reporting and for the next step of **D**_____.

The data collected from the experiments or surveys must be recorded in some manner, which can then be displayed and analyzed. One of the best ways to organize or group data is to create a _____.

A table of values will give you a good indication of how the values are correlated.

In such tables, the first column or row contains the independent or manipulated data (why is this called the manipulated data?). The second column or row contains the dependent variable. All units are written in brackets after the column heading.

Ex.

?	?

Or

?		
?		

Example #1: A hockey coach is interested in seeing if there is any relationship between the number of shots that a hockey player takes on goal and the number of goals scored.

- a) Formulate at least two hypotheses about the number of shots taken on goal and the actual number of goals scored by a hockey player.

- b) How could the data be collected?

c) Display the data in a table of values:

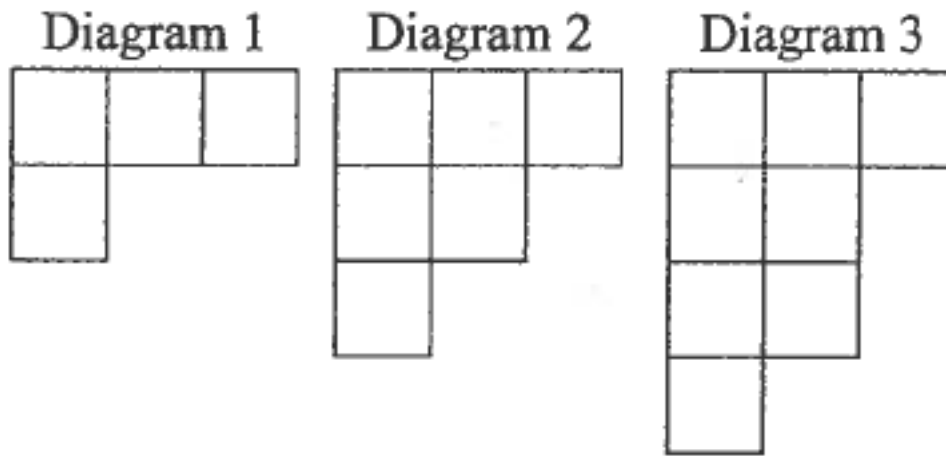
Player	Shots	Goals
1	10	3
2	8	2
3	7	1
4	13	5
5	15	5
6	12	4

d) Describe the relationship between the two variables

Tables of Values are used to record data for patterns as well. To make a table of values from patterns, we can follow a three-step process:

- i) ?
- ii) ?
- iii) ?

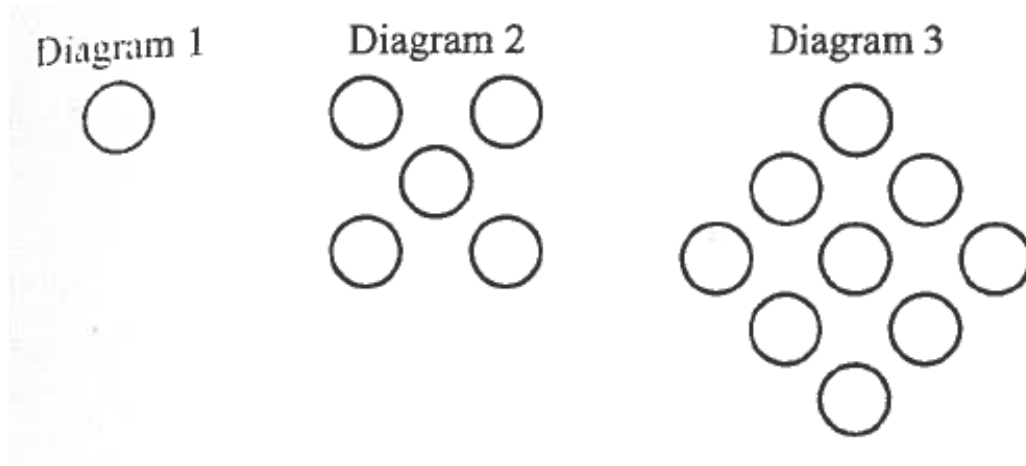
Example #2: Use the diagrams below to answer the following questions:



- a) Complete the table of values, for up to eight diagrams, relating the diagram number with the number of squares in the pattern.

- b) Describe how the variables change in relation to each other

Example #3: Use the diagrams below to answer the following questions:



- a) Complete the table of values, for up to eight diagrams, relating the diagram number with the number of squares in the pattern.

- b) Describe how the variables change in relation to each other