Lab Framework

Text:CORD Classic
Unit number and title:Unit 5-Organizing Head Sizes
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Lab Title

Organizing Head Sizes

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Short Description: This lab will last for one day and will allow students to use their data skills that they have gained throughout this unit. Students will collect, organize, and interpret each students head size in the class on a chart, graph, etc it is their choice.

LAB PLAN

TEACHER: Teacher Prep/ Lesson Plan

- **Lab Objective**

  Students will be able to:
  - Recognize a problem that needs more data, and find a source for that data.
  - Collect the data you need to solve a problem/
  - Organize the data to help you solve the problem.
  - Interpret or use the data so you can solve the problem.
- **Statement of pre-requisite skills needed** (i.e., vocabulary, measurement techniques, formulas, etc.)

  Ability to measure using a flexible tape.

  Ability to use skills and vocabulary learned earlier in the unit.
- **New Vocabulary**

  Compare

  List

  Tally

  Tend

- **Materials List**

  Flexible measuring tape

  Worksheet

  Pencil
- **GLEs addressed**

  Math:

  1.1.1 Understand the concept and symbolic representation of real numbers, including rational exponents.

  1.1.2 Understand the meaning and relative values of real numbers.

  2.1.2 Analyze a situation and describe the problem(s) to be solved.

  4.2.1 Use symbols, diagrams, graphs, and words to clearly communicate mathematical ideas, reasoning, and their implications.

  Reading:

  1.3.1 Understand and apply new vocabulary.

  2.1.4 Understand how to use prior knowledge.

  2.3.2 Understand concept of categories.

  3.2.1 Understand that signs and labels convey information.

  Writing:

1.1.1 Analyzes and selects effective strategies for generating ideas and planning writing.

1.6.3 Uses knowledge of time constraints to adjust writing process.

2.2.1 Demonstrates understanding of different purposes for writing.

- **Leadership Skills**

  Group Skills

  2.1 The student will communicate, participate, and advocate effectively in pairs, small groups, teams, and large groups in order to reach common goals.

- **SCAN Skills**

Basic Skills

A. Locates, understands, and interprets written information prose and document–including manuals, graphs and schedules – to perform tasks

B. Learns from text by determining the main idea or essential message

C. Identifies relevant details, facts and specifications

D. Infers vocabulary, and judges the accuracy, appropriateness, style and plausibility of reports, proposals, or theories of other writers.

Arithmetic

A. Performs basic computations

B. Uses basic numerical concepts such as whole numbers and percentages in practical situations

C. Makes reasonable estimates of arithmetic results without a calculator

D. And uses tables, graphs, diagrams, and charts to obtain or convey quantities information

- **Set-up information**

  Here you are going to start by talking to the students about whether they have ever heard, from a scientific stand point, that a persons head size is contributed to intellegence. This should start getting students interested and ready for the lesson.

  Next you are going to introduce the lab, telling them we are going to collect, organize, and interpret class information regarding the head size of everyone in class.

  Before you start measuring you need to address the different kinds of graphs, tables, charts, etc. that are available to use. In addition, you will have the class figure out which they feel will give and show the best results for this particular lab.

  Students will take the flexible tape and start measuring each other head. Once they have figured out each others head size they will go up and graph it on the class board.

  Now students are going to take the information and have to figure out what the average size of everyones heads are in the class?, the difference between the largest and smallest heads? Whether based on the information shown do they feel it is true about the link between head size and intellegence?

  Finish up the lab by talking to the students about what they learned and refresh with them the importance that they should take from this lab.

- **Lab organization**(-Grouping/leadership opportunities/cooperative learning expectations; -**Timeline required)**

  This lab should take one full period about 55 min. depending on the ability of your students.

- **Teacher Assessment of student learning** (scoring guide, rubric)

  Teacher Observation

  Worksheet

  Participation

- **Summary of learning** (to be finished after student completes lab)
  -discuss real world application of learning from lab
  -opportunity for students to share/present learning
- **Optional activities**
  Exercise 19 dealing with pay and determining what they are going to earn by collecting, organizing, and interpreting data given. They will be able to really relate this to real life.
- **Career Applications**
  Scientists and researchers have to do a lot of different data collection, organizing, and interpreting to ultimately learn different outcome.

LAB TITLE: Organizing Head Sizes
STUDENT INSTRUCTIONS:

- **Statement of problem addressed by lab**
  You are going to take the information from measuring everyone's heads and have to figure out what the average size of everyone's heads are in the class?, the difference between the largest and smallest heads? Whether based on the information shown do they feel it is true about the link between head size and intelligence?

- **Grouping instructions and roles**
  You will be working as a class during the collecting and organizing of the data. Once this is complete you will then sit down and start interpreting the data based on the questions asked.

- **Procedures** – steps to follow/instructions
  Here you are going to start by talking about whether you have ever heard, from a scientific stand point, that a persons head size is contributed to intellegence. If you agree or disagree.
  You are going to discuss the different graphs, tables, charts, etc. that are available and which one will work best for measuring everyone in our classes heads.
  You will start measuring everyones heads in the class and post the results on the board.
  You are now going to take the information and have to figure out what the average size of everyones heads are in the class?, the difference between the largest and smallest heads? Whether based on the information shown do they feel it is true about the link between head size and intellegence?
  Finish up by talking about what you learned and refresh the importance that you should take from this lab.

- **Outcome instructions**
  You are going to have a class discussion about your final thoughts on this particular lab and whether you felt it was interesting and meaningful. In addition, you will also discuss whether you agree now based on the information you have collected if it is true that head size and intellegence are linked.
  Turn in you worksheet
  Clean up you area

- **Assessment instructions** (peer-teacher)
  You will be graded in various ways from teacher observations, participation, and completion and accuracy of worksheet.

Lab Data Collection

Student: _____ **Date:** _____

Unit: Unit 5

Lab Title: Organizing Head Sizes

Criteria: Write the problem/objective in statement form

Data Collection: Record the collected/given data

Calculations: Complete the given calculations to solve for an answer(s)

Summary Statement:

Other Assessment(s)