

## Lab Framework

**Text:**CORD Classic

**Unit number and title:**Unit 5: Dealing with Data

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### Lab Title

## How Gross is your MPG?

**Contact Information:** makers@egreen.wednet.edu

**Short Description:** Given a list of car weight and MPG or miles per gallon, students will construct a line chart, record the data, and graph results.

### LAB PLAN

**TEACHER:** Teacher Prep/ Lesson Plan

- **Lab Objective**

The student will be able to select data to make a line chart

- **Statement of pre-requisite skills needed** (i.e., vocabulary, measurement techniques, formulas, etc.)

determining necessary data points

transfer data to a graph

- **New Vocabulary**

collect

data

graph

table

Miles per gallon MPG

Gross weight

Gross

- **Materials List**

lab sheet

pencil

- **GLEs addressed**

Math:

4.1 Gather information

4.2 Organize, represent and share information

Reading: 3.2 Read to perform a task

Writing: 1.2 Listen and observe to gain and interpret informaion.

1.3 Check for understanding by asking questions and paraphrasing.

- **Leadership Skills**

**Group skills: The student will communicate, participate, and work individually or in small groups to reach a common goal**

- **SCAN Skills**

Math:

Performs basic computations

Uses basic numerical concepts

Uses table, graphs to convey quantities

Writing:

Records information completely and accurately

- **Set-up information**
  - Divide students into groups of 4 or 5 or allow to work individually
  - Fill out group chart construct the graph
  - Briefly discuss the lab.
- **Lab organization**(-Grouping/leadership opportunities/cooperative learning expectations; -**Timeline required**)
  - 55 minutes
  - Group recorder if needed
- **Teacher Assessment of student learning** (scoring guide, rubric)
  - Teacher observation
  - Grading lab sheets
- **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
  - Observing relationship of gross weight versus MPG
  
- **Optional activities**
  - Car buying tactics and interest rates
- **Career Applications**
  - Purchasing decisions by industrial buyers
  - trucking companies and operating costs
  - Construction industry use of vehicle for hauling vs customer service

**LAB TITLE: How Gross is your MPG?**

**STUDENT INSTRUCTIONS:**

- **Statement of problem addressed by lab**  
The student will be able to collect data and transfer to a graph format.
  
- **Grouping instructions and roles**
- Groups of 4  
one recorder
  
- **Procedures** – steps to follow/instructions
- Students will collect data points by visiting their choice of websites such as National Car and Traffic Safety Institute, Edmunds Car buying, or dealer sites.
- They will organize a chart
- Enter them on a line graph
- Briefly discuss the lab.
  
- **Outcome instructions**  
Students will find the data points, then they will fill out their charts and graphs and then write a summary of the findings
  
- **Assessment instructions** (peer-teacher)
- Teacher observation  
Grading lab sheets

## Lab Data Collection

**Student:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Unit:** \_\_\_\_\_ Unit 5 : Dealing with Data \_\_\_\_\_

**Lab Title:** How Gross is your MPG?

**Criteria:** Write the problem/objective in statement form

**Data Collection:** Record the collected/given data

Example:

Car	Model and type	Gross weight	Miles per gallon
Subcompact			
Compact			
Sedan			
Luxury Vehicle			
Truck			
Suv			

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

**Summary Statement:**

**Other Assessment(s)**

Graph your results here: