

Lab Framework

Text: Cord Applied Math

Unit number and title: Unit 17 Graphing Data

Short Description: Plot prices from 1940 to 2000 and how those prices affect them.

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Lab Title

Ever Changing Prices

LAB PLAN

TEACHER: Teacher Prep/ Lesson Plan

- **Lab Objective**

Graph data as points on a graph.

Graph prices

Find the slope of a graphed line

Interpret data from data

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

Problem solving, estimating, using charts, graphs, tables, plotting information

- **Vocabulary**

Origin, quadrant, range, slope, x-axis, y-axis

- **Materials List**

Printed copy of prices from 1940-2000 (attached to this file)

Pencils

Graph paper

Ruler

- **GLEs (State Standards) addressed**

Math:

1.2 Understand and apply concepts and procedures from data

2.2.1 Select and use relevant information to construct solutions

3.1.1 Analyze, compare, and integrate mathematical information from multiple sources.

3.3.2 Evaluate reasonableness of results.

Reading:

2.1 Demonstrate evidence of reading comprehension.

2.2 Understand and apply knowledge of text components to comprehend text/data.

Writing:

1.2 Gathers, analyzes, synthesizes, and organizes information from a variety of sources.

2.2 Writes for different purposes

3.3.1 Uses legible handwriting

3.3.2 Spells accurately in final draft.

- **Leadership Skills**
 - Student works cooperatively in teams to reach common goal.
 - Student will demonstrate social responsibility in classroom (teamwork, appropriate voice volume.)
 - Students will complete task on time.
 - Students will be involved in using critical thinking skills to make predictions.
- **SCAN Skills/Workplace Skills**
 - Students will demonstrate employability skills by attending class and being on time.
 - Communicate with others using respect and appropriate language for classroom.
 - Students will complete tasks and leave work area clean.
- **Set-up information**
- **Lab organization**(-Grouping/leadership opportunities/cooperative learning expectations; -**Timeline required**)
 - One class period
 - Cooperative learning working in groups of 3
 - Communication and math skills
- **Teacher Assessment of student learning** (scoring guide, rubric)
 - All students participate in activity
 - Students communicate their conclusions from data
 - Students write how prices and their future buying power relate to them now and in the future.
- **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
 - reflect on prices in the past and prices in their future
- **Optional activities**
 - Plot earnings for 3 occupations in same career path using 2000 information. (high school education, associate degree, bachelor's degree)
 - Plot car and housing prices.
 - Compare job earnings and cost of car/house
- **Career Applications**
 - Health—plot heart pulse without exercise and with exercise
 - Technology—able to plot information in excel and label graphs
 - Career research—plot income from several occupations for several education levels: on the job training, community college education, university education.
 - General—make relationships between education and future earning and buying power.

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Price list from 1940 – 2000

1940 Prices	US President
Bread: \$0.08/loaf	Franklin D. Roosevelt
Milk: \$0.51/gal	US Vice President
Eggs: \$0.59/doz	John N. Garner
Car: \$810	Academy Award Winners
Gas: \$0.18/gal	Best Picture: <i>Rebecca</i>
House: \$6,558	Produced By Selznick International
Stamp: \$0.03/ea	Best Actor: James Stewart
Avg Income: \$1,906/yr	in <i>The Philadelphia Story</i>
Min Wage: \$0.30/hr	Best Actress: Ginger Rogers
DOW Avg: 131	in <i>Kitty Foyle</i>
1950 Prices	US President
Bread: \$0.14/loaf	Harry S. Truman
Milk: \$0.82/gal	US Vice President
Eggs: \$0.70/doz	Alben W. Barkley
Car: \$1,750	Academy Award Winners
Gas: \$0.27/gal	Best Picture: <i>All About Eve</i>
House: \$14,500	Directed By Joseph L Mankiewicz
Stamp: \$0.03/ea	Best Actor: Jose Ferrer
Avg Income: \$3,815/yr	in <i>Cyrano De Bergerac</i>
Min Wage: \$0.75/hr	Best Actress: Judy Holliday
	in <i>Born Yesterday</i>
1960 Prices	US President
Bread: \$0.20/loaf	Dwight D. Eisenhower
Milk: \$1.04/gal	US Vice President
Eggs: \$0.90/doz	Richard M. Nixon
Car: \$2,275	Academy Award Winners
Gas: \$0.31/gal	Best Picture: <i>The Apartment</i>
House: \$18,500	Directed By Billy Wilder
Stamp: \$0.04/ea	Best Actor: Burt Lancaster
Avg Income: \$6,227/yr	in <i>Elmer Gantry</i>
Min Wage: \$1.00/hr	Best Actress: Elizabeth Taylor
	in <i>Butterfield 8</i>
1970 Prices	US President
Bread: \$0.24/loaf	Richard M. Nixon
Milk: \$1.32/gal	US Vice President
Eggs: \$1.16/doz	Spiro T. Agnew
Car: \$3,542	Academy Award Winners
Gas: \$0.36/gal	Best Picture: <i>Patton</i>
House: \$26,600	Directed By Franklin Schaffner
Stamp: \$0.06/ea	Best Actor: George C. Scott
Avg Income: \$11,106/yr	in <i>Patton</i>
Min Wage: \$1.60/hr	Best Actress: Glenda Jackson

1980 Prices	US President
Bread: \$0.51/loaf	Jimmy Carter
Milk: \$1.60/gal	US Vice President
Eggs: \$1.33/doz	Walter F. Mondale
Car: \$7,574	Academy Award Winners
Gas: \$1.22/gal	Best Picture: <i>Ordinary People</i>
House: \$76,400	Directed By Robert Redford
Stamp: \$0.15/ea	Best Actor: Robert De Niro
Avg Income: \$23,974/yr	in <i>Raging Bull</i>
Min Wage: \$3.10/hr	Best Actress: Sissy Spacek
	in <i>Coal Miner's Daughter</i>

1990 Prices	US President
Bread: \$0.69/loaf	George Bush
Milk: \$2.15/gal	US Vice President
Eggs: \$1.30/doz	J. Danforth Quayle
Car: \$15,472	Academy Award Winners
Gas: \$1.22/gal	Best Picture: <i>Dances With Wolves</i>
House: \$149,800	Directed By Kevin Costner
Stamp: \$0.25/ea	Best Actor: Jeremy Irons
Avg Income: \$42,652/yr	in <i>Reversal Or Fortune</i>
Min Wage: \$3.80/hr	Best Actress: Kathy Bates
	in <i>Misery</i>

2000 Prices	US President
Bread: \$0.93/loaf	Bill Clinton
Milk: \$2.78/gal	US Vice President
Eggs: \$1.25/doz	Al Gore
Car: \$20,664	Academy Award Winners
Gas: \$1.57/gal	Best Picture: <i>Gladiator</i>
House: \$206,400	Directed By Ridley Scott
Avg Income: \$65,500/yr	Best Actor: Russell Crowe
	in <i>Gladiator</i>
	Best Actress: Julia Roberts
	in <i>Erin Brockovich</i>

LAB TITLE: Rising Prices and You

STUDENT INSTRUCTIONS:

- **Statement of problem addressed by lab**
Will your future career allow you to purchase products you desire?
- **Grouping instructions and roles**
Students get into groups of 3
Reader—reads information from years 1940-2000
Recorder—plots information on graph paper
Quality control—verifies accuracy of data on graph
- **Procedures – steps to follow/instructions**
Reader—reads Average Income from years 1940-2000
Reader—reads Car prices from years 1940-2000
Recorder—plots prices on graph paper
Quality control—verifies accuracy of data on graph
--draws lines to connect data on graph
- **Outcome instructions**
Students will visually see the slope of increases in average income and car prices
Students can make connections to their life and state their thoughts in sentence format.
Ask for volunteers from the class to express their thoughts or surprises from this activity.
- **Assessment instructions (peer-teacher)**
Teacher observes students as they work on task.
Teacher collects papers from groups and checks for completeness of task.

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Lab Data Collection

Student: _____ Date: _____

Unit: 17 Graphing Data

Lab Title: Rising Prices and You

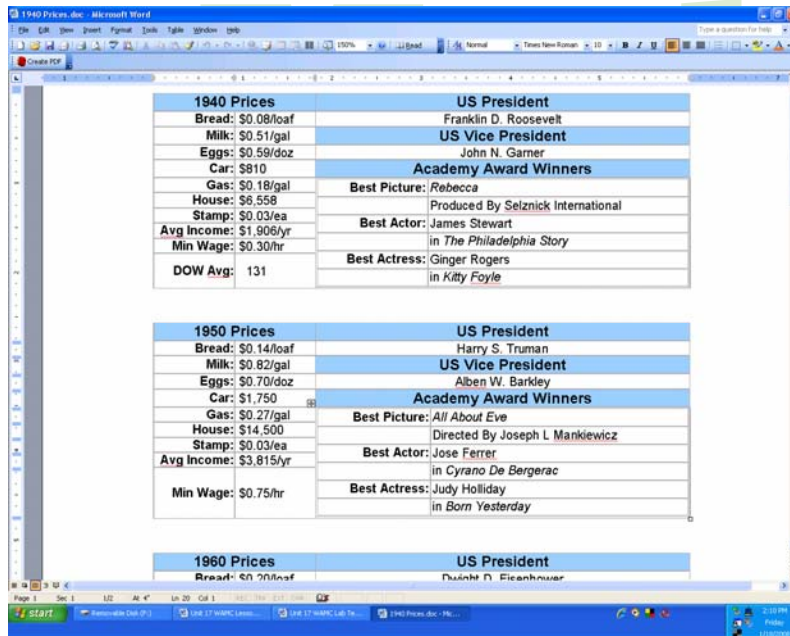
Criteria: Write the problem/objective in statement form
Will your future career allow you to purchase products you desire?

Data Collection: Record the collected/given data

Record and label average income (1940-2000) on graph

Record and label car prices (1940-2000) on graph

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



The screenshot shows a Microsoft Word document with a table containing data for 1940 prices and Academy Award winners. The table is organized into two columns. The left column lists various goods and their prices, while the right column lists the US President, US Vice President, and Academy Award winners (Best Picture, Best Actor, Best Actress) for that year.

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1960 Prices	US President
Bread: \$0.20/loaf	Dwight D. Eisenhower

Example of
handout
included in
this file.

Summary Statement:

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Other Assessment(s)