

Shop till You Drop

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Overview

Topic: Great Depression, Economics, Presenting Data, Graphs and Problem solving. This lesson allows students to relive the Great Depression by simulating a family budget. Based on comparable incomes and prices of the 1930s "families" will shop till they drop to survive the Great Depression. A problem-based learning activity is presented that may also be used as a team teaching or interdisciplinary unit.

Length of Lesson

135 minutes

Instructional Video/Technology

Math Vantage #13, Data: How Do You Show It? 
Overhead projector

Learning Objectives

The student will be able to:

- solve real world problems involving circle graphs
- organize data using the concept of percent
- make inferences and predictions based on the analysis of a set of data that the student collects
- collect, organize and display data with tables, charts and graphs
- extrapolate from circle graphs; extrapolate from tables
- read and interpret tally charts

(This lesson addresses Va. SOLs Math 7.5 A, 7.20 A, 7.21 A, B, E, F, G and Science PS.1, LS.11, Social Studies 7.5 A, B, D and COSKL 7.5 G, 7.8)

Materials

- 2 overhead transparencies and 6 different colored pens
- 1 to 4 calculators per group
- 2 to 4 copies of "Shop till You Drop" packet per group. (attached) Packet includes the following:
 - a) Rules for Shopping
 - b) Average Annual Incomes 1932-1934
 - c) Price/Shopping Lists for 1932-1934
- colored chalk for board work
- overhead with write-on transparencies and colored overhead pens
- Activity sheet titled "How to Show Data" (1 per student) (attached)

Pre-Viewing Activities

1. After the students are in cooperative groups, have each group guess at the prices of the following items based on their ideas of prices from the 1930s. Remind students the country was in an economic Depression with a high unemployment rate.

- | | |
|-------------------|-----------------------------|
| a) new car | e) small box of Corn Flakes |
| b) mink coat | f) dozen eggs |
| c) gas per gallon | g) gallon of milk |
| d) toothpaste | h) pound of butter |



Thirteen-Whet

2. Distribute a packet of handouts and calculators to each group. Have group compare their guesses and the price list for 1932-1934 and discuss the differences.

3. Write the title of the video “Data: How Do You Show It?” on the board or overhead. Have students create a web or brainstorming web of ideas on how to show data and write them on the overhead or board.

Focus for Viewing

Have students focus on the importance of choosing a method of presenting data that is clear and easy to understand. Ask: What types of methods have you used to present data to others? Have students list and describe methods. Why did you choose that method? Tell students they will view a video showing several methods of presenting data. Tell students to watch the video to understand the types of methods used and why some graphs or charts are better for certain types of data.

Pause vs. Stop

When using a video interactively with students, teachers need to decide when to use **PAUSE** and when to use **STOP**. **PAUSE** the video when the anticipated discussion or activity will take less than two minutes. **STOP** for longer periods. Pausing for too long at one time can cause video heads on the VCR to become clogged which may require cleaning to correct.

Viewing Activities

1. **Focus:** The first type of graph we will see will be line graphs. You should be able to tell me why you would use a line graph. Distribute the activity sheet titled, “How to Show Data.” **START** the video *Math Vantage #13* where Ellen Withrow says “A picture is worth a thousand words . . .” **PAUSE** after the line graph display, when Ellen says “And there you have a line plot.” Ask: Why would you want to use a line plot? How do you display data using a line plot?

2. **Focus:** The next graph will be a bar graph. Watch for the reasons why a bar graph may be better than a line plot. **RESUME** the video with the bar graph segment. **PAUSE** when Ellen says “Both line plots and bar graphs are good ways to show things.” Ask: How is data displayed using a bar graph? Why might a bar graph be better to use in some instances than a line plot? What is the difference between the line graph and bar graph?

3. **Focus:** Watch for the name of another type of graph. When is it used? **RESUME** the video when Ellen says “People in the entertainment industry . . .” **PAUSE** after the circle graph is completed on the screen, and Ellen says “You can see and compare . . .” Ask: What kind of data can be shown using a circle graph? Why are circle graphs used? Ask: How were percentages used on the circle graph?

4. Watch the video and look for information we might not have mentioned. **RESUME** video after MRI segment, when Ellen says “. . . cutting a loaf of bread into segments . . .” Have students raise hands if they see information. Pause the video and write on the overhead. **STOP** the video when Ellen says, “there are many ways . . .” Ask: Name the 3 methods we just viewed of how to display data. Which method would be the best for displaying “Shop till You Drop” data by family and by class? Explain why that method would be the best. Are there any other methods that might work? Explain. What types of data might you show about your family? (example: percent of income spent on food, clothes, or other items)

Post-Viewing Activities

1. Cooperative Activity: Each group will be a “family” unit. Groups will choose a family name, identify the parents and children. Begin the activity. The teacher will choose jobs for groups by highlighting incomes in group packet or allow students to draw incomes from a hat.

- Divide class into groups of 4 and review cooperative group rules and jobs.
- Review “Shop till You Drop” Rules for Shopping. Families must show all work and explain all choices.

- c) Work will be collected at the end of each class period in the Family Album.
- d) Students will design and create a circle graph to show which percentage of money was spent for food, clothing, shelter, and other items.
- e) Upon completion each Family will present the group's budget and survival plan to the class. The group will explain choices and address class questions of group's data.

2. Comparing Data Discussion: Display all circle graphs to the class for discussion comparing amount spent on various items by each group. Could the individual groups have survived if one parent died? If a parent lost their job? Which groups may have survived if the above had happened? What strategies did a group use to protect itself from joblessness and homelessness? Was money saved? If so, how much?

3. After each group has completed their presentation of data, if time permits, design a class display of data using a bar graph or circle graph to compare the groups allotments for food, clothing and shelter using the overhead projector.

Assessment

- 1.** After groups complete activity and group graph, have the class compile data choosing a type of graph to compare their families' data.
- 2.** Have students design a class graph comparing the following data: monthly incomes, food, clothing, shelter, savings, luxury items (i.e. cars, appliances).
- 3.** Discussion: Ask: Which of the families was most likely to have survived the Depression? How did you arrive at this conclusion? Explain contributing factors to predict survival of the family. Remember you can write your own story explaining your survival.

Action Plan

- 1.** Contact a local bank or financial institution to invite a loan officer to visit your class and explain

credit ratings and financing.

2. Contact a local library, college or museum to invite a speaker to visit your class and explain the hardships people in your area faced during the Depression and compare their strategies to those developed by the class.

3. Contact a hospital and invite a nutritionist to speak on diet habits from the past to present.

4. Contact the recycling center to invite a speaker to visit the class and explain the principles of recycling and types of recycling available.

5. Have students use the internet to further supplement their knowledge of the Depression. Start with the following web sites.

<<http://www.personal.psu.edu/users/b/a/bas/184/index.html>>

<<http://www.infoplease.com/ipa/a0001519.html#1519>>

If time allows, let students use the available internet search engines to locate additional web sites associated with the Depression.

6. Have the students interview people who lived through the Depression. Collect their accounts in an oral history archive for your school's library.

Extensions

Social Studies/History: Have students research life during the Depression in various regions of the United States. Examine the effect of the Great Depression on diverse groups. Describe the business failures, unemployment, and poverty during the Great Depression. SOL 7.5 A, B, C

Computer Skill: Have students develop narratives, expository, persuasive and technical writings based on the Great Depression.

Science: Have students discuss health concerns based on diet and food variables of the 1930s. Have students research recycling and types of materials that may have been recycled during the 1930s.

Technology: Have students create a graphic display, power point or slide show presentation. Check for further information about the Depression on the World Wide Web.

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Activity #1

HOW TO SHOW DATA

LINE

- 1.
- 2.
- 3.

BAR

- 1.
- 2.
- 3.

CIRCLE

- 1.
- 2.
- 3.

SHOP TILL YOU DROP

Rules for Shopping

1. Add the group's income(s) to determine the TOTAL annual income.
 - a) Divide the TOTAL annual income by 12 to find the group's MONTHLY income.
 - b) The MONTHLY income will be the amount the group may spend.

2. The group must plan:
 - a) Food: grocery lists with the amount of a specific item and cost (example: 2 pounds sugar @ .05 per pound $2 * .05 = .10$). Tally group's grocery bill for the month. Challenge--plan weekly menus for all meals for a month.
 - b) Clothes: buy each member of the "family" clothes for the month (example: men will need clothes for work and when they return from work, women will need at least two dresses, children 2 changes of clothes).
 - c) House: Choose a home from the real estate section of the Shopping List. To find the monthly payment take the total cost of the home and divide by 15 years or 30 years. Once the group has that figure divide by 12 to determine the monthly payment.
 - d) Car: Should the family desire a car, shop the automotive section of the Shopping List. Take the cost of the car and divide by 2 - 5 years depending on your need (example: $\$548 / 4 = \145). Take the answer and divide by 12 to determine the monthly payment.

3. All shopping is to be itemized and deducted from the monthly income. Each group member should shop for their own clothing. Remember to write a brief explanation for the choices the group makes. Explain the group's position and rationale for selected items. The "Family" Album will contain the group's story for survival so be creative and role play through the Depression. The group must determine if it could or could not survive the Depression and why. Groups will present data in graph and chart format to class explaining their plan.

Average Annual Incomes 1932 - 1934

AIRLINE PILOT	\$7,790.00
AIRLINE STEWARDESS	\$1,490.00
APARTMENT HOUSE SUPERINTENDENT	\$1,490.00
BITUMINOUS COAL MINER	\$725.00
BUS DRIVER	\$1,375.00
CHAUFFEUR	\$625.00
CIVIL SERVICE EMPLOYEE	\$1,285.00
COLLEGE TEACHER	\$3,115.00
CONSTRUCTION WORKER	\$900.00
DENTIST	\$2,390.00
DEPARTMENT STORE MODEL	\$935.00
DOCTOR	\$3,380.00
DRESSMAKER	\$785.00
ELECTRICAL WORKER	\$1,560.00
ENGINEER	\$2,500.00
FIRE CHIEF (city of 30,000 to 50,000)	\$2,080.00
HIRED FARM HAND	\$215.00
HOUSEMOTHER-BOY'S SCHOOL	\$775.00
LAWYER	\$4,220.00
LIVE-IN MAID	\$265.00
MAYOR (city of 30,000 to 50,000)	\$2,320.00
PHARMACEUTICAL SALESMAN	\$1,520.00
POLICE CHIEF (city of 30,000 to 50,000)	\$2,640.00
PRIEST	\$835.00
PUBLIC SCHOOL TEACHER	\$1,230.00
PUBLICITY AGENT	\$1,810.00
RAILROAD EXECUTIVE	\$5,065.00
RAILROAD CONDUCTOR	\$2,730.00
REGISTERED NURSE	\$940.00
SECRETARY	\$1,042.00
STATISTICIAN	\$1,822.00
STEELWORKER	\$423.00
STENOGRAPHER-BOOKKEEPER	\$940.00
TEXTILE WORKER	\$440.00
TYPIST	\$625.00
UNITED STATES CONGRESSMAN	\$8,665.00
WAITRESS	\$522.00

SHOPPING LIST: 1932 - 1934

Groceries

MEAT AND POULTRY

Sirloin Steak (per lb.)	\$0.30
Round Steak (per lb.)	.25
Veal (per lb.)	.12
Spring Chicken (per lb.)	.08
Chicken (per lb.)	.24
Hens (per lb.)	.08
Roosters each	.20
Turkey (per lb.)	.12
Duck (per lb.)	.08
Duck, Dressed (per lb.)	.12
Pork (per lb.)	.12
Pork Chops (per lb.)	.22
Leg of Lamb (per lb.)	.24
Ham (per lb.)	.30
Bacon (per lb.)	.24
Sausage (per lb.)	.13
Rib Roast (per lb.)	.24

FRUITS AND VEGETABLES

Red Apples (per lb.)	\$0.15
Potatoes (per lb.)	.05
Oranges (per dozen)	.25
Onions (per lb.)	.04
Dried Apricots (per lb.)	.12
Dried Prunes (per lb.)	.10
Lemons (per dozen)	.18
Bananas (per lb.)	.08

DAIRY PRODUCTS

Milk (per gallon)	\$0.40
Swiss Cheese (per lb.)	.30
Cheese (per lb.)	.25
Eggs (per dozen)	.15
Butter (per lb.)	.30
Margarine (per lb.)	.15

CANNED GOODS

Cream Corn	\$0.12
String Beans	.12
June Peas	.15
Sliced Peaches	.30
Baked Beans	.12

Jams	\$0.15
Oysters	.22
Salmon (16 oz.)	.20
Green Turtle Meat	2.80
Sardines in Oil	.08
Tomatoes (16 oz.)	.10

STAPLES

Bread (20 oz. loaf)	\$0.08
Coffee (per lb.)	.22
Tea	.35
Cocoa (per lb.)	.28
Macaroni	.12
Sugar (per lb.)	.28
Salt (per lb.)	.05
Baking Powder	.12
Baking Soda	.08
Gelatine	.18
Corn Flakes (8 oz.)	.10
Rice (per lb.)	.08

Clothing

WOMEN'S

Mink coat	\$590.00
Leopard coat	95.00
Cloth coat	7.00
Raincoat	2.70
Wool dress	2.00
Wool suit	3.95
Wool sweater	1.70
Silk stockings	.75
Leather shoes	1.80
Reptile leather shoes	6.25

MEN'S

Overcoat	\$12.00
Wool suit	10.25
Trousers	2.25
Shirt	.50
Pullover sweater	2.00
Silk necktie	.60
Suede hunting shirt	2.95
Calfskin riding boots	9.75

SHOPPING LIST: 1932 - 1934

Clothing cont.

MEN'S

Golf suit	\$21.00
Tuxedo	28.00
Stetson hat	5.25
Shoes	3.90

Health and Beauty

Witch Hazel	\$0.22
Aruica Salve	.08
Bromo Seltzer	.12
Cough Syrup	.26
Corn Plasters	.12
Castoria	.38
Hair Balsam	.45
Tooth Paste (large)	.30
Tooth Brush	.15
Razor Blades (10)	.50
Coty Face Powder	1.55
L'Aimant Perfume (1/4 oz.)	1.05

Real Estate

Modern house, 6 rooms 2-car garage, Detroit	\$2,801.00
English cottage, 8 rooms 3 baths, 1 ballroom, Seattle	4,255.00
Italian villa, 12 rooms Westchester, N.Y.	17,010.00
Spanish stucco, 7 rooms Beverly Hills	5,010.00

Household Items

Silver plate flatware, 26 piece	\$5.00
Double-bed sheets	.70
Bath towel	.25
Wool blanket	1.10
Linen tablecloth	1.10
Wool rug (9' x 12')	6.00

Furniture

Dining room set, 8-piece	\$46.75
Bedroom set, 3-piece	50.00
Lounge chair	19.98
Double bed and spring mattress	14.98
Bridge table	1.05
Colonial walnut secretary	55.00
Mahogany coffee table	10.80
Chippendale mahogany sofa	140.00
Louis XV walnut dining table	125.00
Wing chair	40.00
Grand piano	398.00

Appliances

Electric iron	\$2.10
Electric coffee percolator	1.40
Electric mixer	9.90
Vacuum cleaner	18.80
Electric washing machine	47.90
Gas stove	23.98
Electric portable sewing machine	25.00
Copper lamp	2.00

Toys

Doll carriage	\$5.00
Sled	1.48
Tricycle	4.00
Two-wheeled bike	11.00
Fielder's glove and ball	1.30
Catcher's mitt	1.20
Leather basketball	1.10
BB air rifle	.80

Miscellaneous

Dental filling	\$1.10
Cultivated Oriental pearls	38.00
Cigarettes	.18
Cigarette lighter	.40
Pipe	.85
Alarm clock	2.10

SHOPPING LIST: 1932 - 1934

Miscellaneous cont.

Fountain pen	\$1.05
Briefcase	1.10
Console radio	50.00
Electric shaver	15.10
Desk typewriter	20.00
Movie camera, 8 mm.	29.75
Kodak Box Brownie	2.55
Automobile tire	6.25
Gasoline (per gallon)	.20

Automobiles

NEW

Pontiac coupe	\$587.00
Chrysler sedan	990.00
Dodge	597.00
Studebaker	842.00
Packard	2,152.00
Chevrolet half-ton pickup truck	652.00

USED

Lincoln '27	\$130.00
Studebaker '30	202.00
Ford '29	58.00

Travel

AIR

New York to Chicago round trip	\$86.35
Chicago to Los Angeles round trip	208.00

RAIL

Chicago to San Francisco round trip 16 days in San Francisco	\$80.75
New York City to Scarsdale, N.Y. monthly commuter ticket	10.40

SEA

Tour of Europe 60 days, 11 countries	\$500.00
Bermuda-Havana-Nassau cruise 10 days	115.00
Around the world 85 day, 14 countries	750.00
San Francisco to Hawaii round trip	225.00
New York to California via Panama Canal	125.00