Route 66 - RETA Curriculum Guide

The Cost of Getting Your Kicks on ‘66

High School and Middle School Math and Social Studies

Introduction
The Cost of Getting Your Kicks on ‘66 uses math skills applied to real world situations. Students investigate a car model for a particular year. Using ratios, students compare a variety of factors that define a standard of living, for example average yearly income and the cost of a new car. This lesson also asks students to use graphing software to illustrate the price of gas in the last fifty years.

Student Outcomes
Students will
• Interpret, analyze and evaluate data related to cars;
• Infer conclusions about the data and graphs;
• Refine writing, speaking, listening and presentation skills using oral and visual communication tools; and
• Construct line graphs.

Technology Usage
• Graphing software
• Presentation software

Materials
• Graphing software
• Presentation software
Preparation

- Prior to this lesson talk to your students about the lesson's general concept. Many students may have family photos that may be used in their presentation.
- Become familiar with the Internet resources, and bookmark any you feel are especially useful to your students.
- Understand how to use the presentation software available and, if necessary, how to scan and digitize an image.

Tasks

1. Elicit students’ prior knowledge on cars. Create a semantic map from the responses.
2. Pair students or arrange into groups. Each member selects a different car and year within one decade. (For example, 1953, '55, '57 and '58).
3. Each group creates a data chart with the following information:
   a. Original price of the car
   b. Miles per gallon car
   c. Price of a gallon of gas
   d. Average yearly income
4. Students calculate
   a. The cost to drive Route 66 in New Mexico in their chosen car during the year it was manufactured.
   b. The cost to drive a 2000 model car in the year 2000. Compare the cost of driving across Route 66 in New Mexico in each car and year.
   c. A comparison of prices from the past with today’s prices. They may use a cost of living factor or The Inflation Calculator (http://www.westegg.com/inflation/) to determine the cost of driving the chosen car in 2000 with cost of a 2000 model car in a previous year. For example: Using the Inflation Calculator, a pair of jeans that costs $35.00 today, might have sold for about $5.63 in 1954!
5. Students may create a variety of comparisons to help understand the cost of living. For example:
   a. Determining ratio to illustrate the cost of a new car to the average salary. Compare the different years within your group.
6. Groups create a presentation of their findings to share with your class.

Presentation

This lesson lends itself to presentations. Groups will have very interesting data. Plan with students a variety of presentation audiences such as parents, other classes and school-wide audiences.
Extension
Interesting questions that could be put into the presentations:

- Describe your car and why it appeals to you. Is it the style, the design? Perhaps it has unique features not commonly found on other models.
- Why is your car no longer made? Who is credited for the design? Did the designer or design team get recognition for other car model designs?
- What factors are used in finding the average salary vs. finding the average yearly income?

Examples of comparisons (ratios):

- Compare the average yearly salary to the price of your car in the chosen year with data for 2000.
- Compare the cost of driving a 2000 model car down route 66 in 2000 and in a chosen year.
- Compare the average salary in the chosen year to the average income in 2000.
- Compare the inflation rate with average salary for a chosen year and the year 2000. Did they increase by the same amount?

Find the mean, median, and mode for the following data: cost of driving for all cars your group studied, gas mileage for all cars in your group, inflation rate for each year studied, and the price of cars in 2000.

Resources

American Cultural History – The Twentieth Century: http://www.nhmccd.edu/contracts/lrc/kc/decades.html
The purpose of this site is to present web guides for the twentieth century decades. This site lists average yearly cost of living, trivia and links to ideas, concepts and examples.

Corvette Chronicles covers the years '53-'67 with important news events, car tidbits, average cost of a car, average cost of living, home prices and gas prices.

Driving Vacations through the Ages - http://www.msnbc.com/modules/summer_driving/decades/default.asp?cp1=1
Original prices of cars, travel expenses and vacation spots through the decades.

Early car experiences.

Muscle cars, Woodies, & Corvettes.

The beginning of the American Automobile Association.
Find out how much a dollar was worth in the past.

The Inflation Calculator - http://www.westegg.com/inflation/
Compare the value of today’s dollar with a year in the past.

New Mexico’s Route 66 - http://www.newmexico.org/ScenicAttractions/route66/rt66map.html
Map of Route 66 in New Mexico

Derks, Scott, *The Value of a Dollar*. Detroit: Gale Research, Inc. 1994. What things have cost and how much money people have had to buy them.” Includes reproductions of ads, news accounts and summaries of political influences.

Rubric The Cost of Getting Your Kicks on 66

Assessment

<table>
<thead>
<tr>
<th></th>
<th>Not Yet</th>
<th>Almost</th>
<th>Meets Standard</th>
<th>Exceeds Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skill development</td>
<td>Little evidence of applying strategies appropriate to the project</td>
<td>Exhibits strategies appropriate to the project, with some weakness</td>
<td>Exhibits strategies appropriate to the intent of the project</td>
<td>Strategies meets standard plus highly sophisticated technique</td>
</tr>
<tr>
<td>Communicates problem solving approaches</td>
<td>Little use of media to support main points of presentation</td>
<td>Minimal use of media, graphs, etc to support main points of presentation</td>
<td>Use of media supports main points of presentation</td>
<td>Use of media, graphs, etc meets standard plus yields additional insight</td>
</tr>
<tr>
<td>Reflection and Critique</td>
<td>No evidence of reflection or critique</td>
<td>Some evidence of reflection or critique</td>
<td>Written evidence of reflection of critique</td>
<td>Thorough use of reflection and critique</td>
</tr>
<tr>
<td>Approach to Work</td>
<td>No evidence of working through problems or creatively generating ideas</td>
<td>Some evidence of working through problems or creatively generating ideas</td>
<td>Evidence of both working through problems and creatively generating ideas</td>
<td>Meets standard plus extraordinary effort.</td>
</tr>
</tbody>
</table>

NM Content Standards and Benchmarks

Mathematics
Content Standard 1B Students will formulate problems from community mathematical situations.
Content Standard 1C Students will develop and apply strategies to solve a wide variety of problems with an emphasis on multi-step and non-routine problems.
Content Standard 2C Students will create and use a variety of media and methods to communicate mathematical concepts, thoughts, and problem solutions including charts, slides, graphs, maps, drawings, pictures, sound recordings, video, e-mail, and others.

Language Arts
Content Standard 1: Students will understand and use Language Arts for communication. Benchmark: 5-8

Credits
Thanks to Anita McCorkle & Linda Pickett for their feedback and editing assistance.