Neon: It's a Gas! Teacher's Guide

Middle School Mathematics and Social Studies

Introduction

Neon: It's a Gas! introduces students to the cost of making and marketing neon signs. Students will research businesses along Route 66, determine what types of signs would be beneficial to the businesses, determine the costs to make signs, and decide how much profit they would like to make on each sign. Students will design and produce a brochure to sell neon signs to businesses along Route 66.

Student Outcomes

- Understand the design of neon signs.
- Analyze the role of neon signs along Route 66.
- Compute the cost of neon signs for different years.
- Synthesize price information to ensure an adequate profit will be achieved.
- Integrate the information they have learned about neon signs to create a sales brochure.

Technology Usage

- Desktop Publishing Software
- Internet and email access

Tasks

1. Students research businesses that existed along Route 66 in New Mexico from 1927 to 1989.
2. Students analyze which businesses used neon signs and how that helped/didn’t help those businesses.
3. Students research the cost of making neon signs in the years before 1989. Gather comparisons from different years.
4. Students research the costs of making neon signs today.
5. Students graph the cost comparisons in a spreadsheet.
6. Students gather safety information on neon, glass, and other materials used in making neon signs.
7. Students design neon signs. They decide shape, messages, colors, sizes, costs, safety tips, and profit margin.
8. Using some type of draw program, students create their design.
9. Students create color brochures that advertise their signs.
Presentation
Final projects are dependent on technology resources available. Any desktop publishing or word processing software can be used to produce the brochure. When all groups have finished their brochures, allow time for groups to look at each other’s work.

Resources
The Inflation Calculator http://www.westegg.com/inflation has a calculator where students can input the year and price of an item and the calculator will compute how much the item will cost in a different year.

Facts About Neon Signs http://www.neoncentral.com This site provides information on how a neon sign works, including information on the different gases used in neon signs. Pricing information of neon signs is also provided.

The History of Neon Signs http://inventors.about.com/library/weekly/aa980107.htm


Neon Signs Pricing and Ordering http://www.neonsign.com/price.htm

Neon signs found along the historic Nob Hill district http://www.collectorsguide.com/ab/abfa03.html

Neon signs found in New Mexico. http://absolutelyneon.com/
Assessment
Evaluate each sales brochure on content, accuracy, and aesthetics.

<table>
<thead>
<tr>
<th>Skill development</th>
<th>Not Yet</th>
<th>Almost</th>
<th>Meets Standard</th>
<th>Exceeds Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td></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>
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</table>

Content Standards and Benchmarks

New Mexico Content Standards and Benchmarks
http://www.cesdp.nmhu.edu/standards/index.htm
National Educational Technology Standards [cnets.iste.org]

Mathematics: Benchmarks 5-8
7) Students will understand and use computation and estimation.
9) Students will understand and use measurement.

Social Studies: Benchmarks 5-8
5) Students will know and understand relationships and patterns in history in order to understand the past and present and to prepare for the future.
11) Students will know and understand the diverse, dynamic and ever-changing nature of culture.

Science: Benchmarks 5-8
7) Students will know and understand the properties of matter.

Credits
Anita McCorkle, Barbara Kuhns

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