

# Buying a Car

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## *Sixth Grade STEM Startups*



**Developed by:**

The teachers, students, and mentors in the  
Gaming Research Integration for Learning Laboratory® (GRILL®) Summer 2015

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## 1. BUYING A CAR

### 1.1. INTRODUCTION

By the end of this project each student should have real-world knowledge of what is required to buy a car in the state of Pennsylvania. This project will focus on the following concepts previously learned:

- Rate
- Unit Rate
- Proportions
- Fractions/Decimals/Percentages

### 1.2. MATERIALS

Materials for each student include:

- Project Worksheet: “Buying a Car”
- Computer/Internet Access
- Vehicle Advertisements (Newspapers/Magazines)
- Poster Paper/Chart Paper
- Markers
- Calculators
- Glue/Glue Sticks
- Each student will display his/her poster of all of the necessary information, including a picture of the new car. A gallery walk of all completed projects will occur at the end of the project.

### 1.3. OVERVIEW

Congratulations! You are about to buy the car of your dreams. What will you choose? How much will it cost? Where will you find a loan to pay for the car? How about gas mileage? What will the state of Pennsylvania require you to do before you can drive it?

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#### 1.3.1. THE CAR

Browse through newspaper advertisements and/or vehicle magazines to find prospective vehicles that you would like to purchase. You may also use the internet to browse vehicles. Here are a few vehicle website to help you with your purchase:

- [www.edmunds.com](http://www.edmunds.com)
- [www.carmax.com](http://www.carmax.com)

Once you have located the car of your dreams, you must provide the following information in your project:

- Dealership Information
- Make/Model/Year
- Standard Features
- Options (if you are requesting any)
- Extra Cost for all additional Options
- Total Cost of your car

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### 1.3.2. GAS MILEAGE

You may use [www.fueleconomy.gov](http://www.fueleconomy.gov) to assist in finding out useful information regarding gas mileage of your vehicle.

- Find the gas mileage for your new car (miles per gallon / mpg). There will be two numbers; the “in town” mpg and the “highway” mpg (Ex: 20/27 mpg).
- Find the cost of gas for your car for one year.

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### 1.3.3. BANK LOAN

You may use [www.bankrate.com](http://www.bankrate.com) to assist in finding lenders and lending information for your new car.

- Name of Lending Company
- Interest Rate
- Monthly payment for a 60 month (5 year) loan
- Total cost of the loan (monthly payment x 60 months = total cost)
- Amount of interest paid (total loan cost – cost of car = interest)

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#### 1.3.4. PENNSYLVANIA MOTOR VEHICLE COMMISSION

Visit [www.dmv.state.pa.us](http://www.dmv.state.pa.us) to assist you with PA state laws required for vehicle purchases

List the amounts that you will pay for the following:

- PA State taxes
- Title
- Registration

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#### 1.3.5. VEHICLE INSURANCE

Find an insurance company to insure your new vehicle. You may look at any or all of the suggested sites to get the best rate:

- [www.geico.com](http://www.geico.com)
- [www.statefarm.com](http://www.statefarm.com)
- [www.progressive.com](http://www.progressive.com)

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#### 1.3.6. ONCE YOU HAVE FOUND AN INSURANCE COMPANY, PROVIDE THE FOLLOWING

- Company Name
- Payment Plan (Monthly, Quarterly, Biannually, Annually)
- Cost of car insurance for one year

#### 1.4. RUBRIC FOR BUYING A CAR

	Components	Points Earned	Comments
Calculations and	- The Car components - Gas Mileage	/20	

work	<p>components</p> <ul style="list-style-type: none"> <li>- Bank Loan components</li> <li>- Vehicle Insurance components</li> <li>-Dept. of Motor Vehicle components</li> </ul>		
Project Write-Up	- All components listed are included and explained with visuals, math work, and research (sections are broken down appropriately)	/20	
Solution Presentation	- Presentation of solution is prepared with visuals, is easy to follow, and lasts between 3-5 minutes	/10	
Assumptions	- Any assumptions or self-made criteria are listed	/5	
Grammar and Mechanics	<ul style="list-style-type: none"> <li>- Correct grammar and mechanics</li> <li>- Units are used appropriately</li> <li>- Layout is simple and easy to follow</li> </ul>	/10	
Works Cited Page	- All research used in project is found under Works Cited page and is consistent in format	/5	
Total		/70	

	Components	Points Earned	Comments
Math Work/Calculations	<ul style="list-style-type: none"> <li>-Student includes area of main pool</li> <li>-Student includes volume for each section and pool</li> <li>-Water not used from 10000ft<sup>3</sup></li> <li>-Cost of loungers</li> <li>-Total seating capacity</li> <li>-Cost of water slide(s)</li> </ul>	/25	
Project Model	<ul style="list-style-type: none"> <li>-Project includes all required dimensions for every pool, section, and optional add-on</li> <li>-Model is neat and visually appealing</li> </ul>	/20	
Research	<ul style="list-style-type: none"> <li>-Student provides sources that match costs of slide(s) and loungers</li> <li>-Student provides sources to meet safety standards</li> </ul>	/10	
Presentation	<ul style="list-style-type: none"> <li>- Student provides concise and detailed presentation (no more than 5 minutes)</li> </ul>	/5	
Total		/60	