

### My Wheels Activities

**My Wheels** contains 24 current activities that let your students do so much more than just read and answer questions. They'll use their math skills, thinking skills, writing skills and creative skills while they learn about owning, insuring and operating a vehicle.

The activities are divided into the following five categories:

- Buying Wheels
- Buying Auto Insurance
- The Cost Of Gasoline
- You Decide
- Be Creative

Each activity includes one or more reproducible student pages and a teacher's key with answers, suggestions and step-by-step math solutions where appropriate.

Listed below and on the following pages are detailed descriptions of each activity.

### My Wheels Assessment

**An Assessment** is also included that can be used as a pre-test as well as a post-test to evaluate what your students have learned and to identify those areas that might require additional instruction.

The assessment includes:

- 20 True or False questions
- 5 multi-step math problems
- 5 multiple choice auto insurance questions

### Activity Descriptions

#### Category 1: Buying Wheels

##### **Amanda's New Car**

Students will calculate the driving range, average price and fuel savings per month for 7 new fuel efficient cars. They will explain the advantages and disadvantages of each and determine which one they believe Amanda should buy.

##### **Gary Benson's Commute**

Students will explain what they think is good and bad about six vehicles Gary is considering buying. They will calculate his monthly costs to own each of the six vehicles. They will rank the six vehicles from best to worst choice and explain why.

##### **Should The Johnsons Buy A New Prius?**

Students will calculate the financial costs and savings to a family buying a new Toyota Prius or driving their 2004 Trailblazer based on different miles driven and different gas prices. They will answer accompanying questions.

##### **What Should Tasha Do?**

Students will explain what they believe is good or bad about three strategies Tasha is considering to buy a car of her own. They will list 25 things they think Tasha should check out on a used car. They will calculate Tasha's costs to both buy and lease a new subcompact car.

##### **What Should Rachel Do?**

Students will explain what they believe are the advantages and disadvantages for Rachel of buying an all electric car. They will decide if she should wait to buy until the all electric is available next year or buy another car now.

### Category 2: Buying Auto Insurance

#### Getting Covered

Students will read eight auto insurance situations and decide which coverages would be used. Explanations of each coverage are provided.

#### Gary's Auto Insurance

Students will use a list of Gary's auto insurance coverages and premiums to answer a series of questions and complete calculations concerning his insurance costs.

#### Maria's Auto Insurance

Students will use a list of Maria's auto insurance coverages and premiums to answer a series of questions and complete calculations concerning her insurance costs.

#### The Porter's Auto Insurance

Students will use a list of the Porter's auto insurance coverages and premiums to answer a series of questions and complete calculations concerning their insurance costs.

#### Teen Auto Insurance Premiums

Students will calculate the increase in car insurance premiums based on different types of driving violations. They will calculate the increase in the consumer price index (CPI) for car insurance from 2000-2009. They will use a word list to complete a series of 18 statements about teen driving.

### Category 3: The Cost Of Gasoline

#### U. S. Gasoline Prices 2001-2009

Students will use a table listing the average price of unleaded gas in each state from 2001-2009. They will graph the change in gasoline prices in their state from 2001-2009 and calculate the changing cost of driving 350 miles. They will explain how they and their families have adjusted to rising gasoline prices.

#### What Should They Do?

Students will read three real life situations and explain what they believe each driver should do to adjust to the rising price of gasoline.

### Category 4: You Decide

#### The Legal Driving Age

Students will explain why they are for or against legislation that would require proof of high school graduation or age 18 as the minimum requirement for obtaining a driver's license.

#### Ban The Gasoline Engine

Students will explain why they are for or against legislation that would ban all vehicles with gasoline engines after the year 2020.

#### Ban Cell Phones While Driving

Students will explain why they are for or against legislation that would ban the use of cell phones while driving.

#### Stop Driving At Age 80

Students will explain why they are for or against legislation that would require everyone to stop driving at age 80.

#### Take The Bus?

Students will explain why they agree or disagree with each of 8 different strategies the government could use to decrease our dependence on foreign oil and decrease transportation-related greenhouse gas emissions.

#### Cash For Clunkers

Students will analyze the statistics from the government's "Cash For Clunkers" program in 2009 and explain how manufacturers, car dealers and car buyers benefited from the program. They will explain why they believe the program was good or bad for the economy.

### Category 5: Be Creative

#### **The World's Greatest Commuter Car**

Students will create the world's greatest commuter car based on a list of specifications dealing with affordability, practicality, functionality, safety and fuel efficiency. They will draw a design of the car and then label and list the car's various features.

#### **Drive Defensively**

Students will design a poster for high school students that illustrates the theme "Drive Defensively". They will write a one-minute radio commercial to convince high school students to "Drive Defensively".

#### **Lights, Camera, Action #1**

Students will play the role of a staff writer for the educational TV series "Living Today". They will storyboard an upcoming episode about buying a used car.

#### **Lights, Camera, Action #2**

Students will play the role of a staff writer for the educational TV series "Living Today". They will storyboard an upcoming episode about buying a new car.

#### **Fixing A Flat**

Students will write a set of step-by-step instructions describing how to change a flat tire for a person who has never changed a tire before.

#### **The Think Tank**

Students will work together as a team to take a survey of student drivers age sixteen to eighteen and report on their findings. Each student on the team will be assigned different tasks such as designing survey questions, creating charts and graphs, writing a report or presenting the findings to the class.

Amanda's New Car



Amanda graduated from tech school in June. After nearly three months of job hunting, she finally landed a full-time job in her field. Now that she has an income and a 15-mile commute to work, she wants to buy a new, fuel efficient car. She has been driving a ten-year-old SUV that her parents gave her. She's tired of getting 18 miles to the gallon and having constant mechanical problems.

Amanda has looked at new small cars online. The chart below lists eight cars she is considering. It includes the seating capacity, miles per gallon (MPG), fuel capacity, cargo space and price range.

1. Compute the driving range of each car using the average combined MPG and the fuel capacity.
2. Compute the average price of each car from the price range given. (We'll assume this price would include the features Amanda would want should she decide to buy the car.)

| Type of Car  | Seating | MPG City/Hwy | Fuel Capacity (gallons) | Driving Range | Cargo Space (cubic feet) | Price Range       | Average Price |
|--------------|---------|--------------|-------------------------|---------------|--------------------------|-------------------|---------------|
| Ford Focus   | 5       | 25/35        | 13.5                    | _____         | 13.8                     | \$15,995-\$19,180 | _____         |
| Smart ForTwo | 2       | 33/41        | 8.7                     | _____         | 7.8                      | \$11,900-\$20,990 | _____         |
| Toyota Yaris | 5       | 29/36        | 11.1                    | 361*          | 9.3                      | \$12,205-\$13,305 | \$12,755*     |
| Mini Cooper  | 4       | 28/37        | 13.2                    | _____         | 5.7                      | \$19,200-\$31,450 | _____         |
| Honda Fit    | 5       | 28/37        | 10.6                    | _____         | 20.6                     | \$14,900-\$19,110 | _____         |
| Toyota Prius | 5       | 51/48        | 11.9                    | _____         | 21.6                     | \$22,000-\$27,270 | _____         |
| Suzuki SX4   | 5       | 22/29        | 11.0                    | _____         | 16.0                     | \$16,099-\$19,899 | _____         |
| Chevy Aveo   | 5       | 27/34        | 12.0                    | _____         | 12.4                     | \$11,965-\$16,600 | _____         |

\*  $29 + 36 = 65$     $65 / 2 = 32.5$     $32.5 \times 11.1 = 361.75 = 361$  miles  
 $\$12,205 + \$13,305 = \$25,510$     $\$25,510 / 2 = \$12,755$

| Type of Car  | Average MPG | Fuel Cost Per Month | Savings Per Month |
|--------------|-------------|---------------------|-------------------|
| Ford Focus   | _____       | _____               | _____             |
| Smart ForTwo | _____       | _____               | _____             |
| Toyota Yaris | 32.5*       | \$69.30*            | _____             |
| Mini Cooper  | _____       | _____               | _____             |
| Honda Fit    | _____       | _____               | _____             |
| Toyota Prius | _____       | _____               | _____             |
| Suzuki SX4   | _____       | _____               | _____             |
| Chevy Aveo   | _____       | _____               | _____             |
| Old SUV      | 18.0        | _____               | _____             |

\*  $29 + 36 = 65$     $65 / 2 = 32.5$     $820 / 32.5 = 25.23 = 25.2$  gallons  
 $25.2 \text{ gallons} \times \$2.75 = \$69.30$

3. Amanda commutes 30 miles to work each day (round trip). Assume she drives an average of 820 miles a month including her commuting. Compute her total fuel cost per month for each car and her old SUV using a fuel cost of \$2.75 a gallon.
4. Compute the amount she would save on gasoline each month for each car compared to her fuel cost if she drives the old SUV.
5. Is there any advantage to keeping the SUV?

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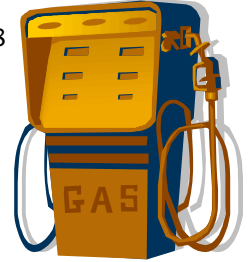
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What Should They Do?

1. *The rising price of gasoline is affecting people in different ways. Read the following real life situations and explain what you believe the drivers should do as they try to adjust to the rising price of gasoline.*

Bill lives and works in the same small town. He drives an SUV that is paid for, but gets only 18 miles to the gallon.



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Aaron will graduate from college in May and has accepted a new engineering job which is a twenty minute drive from his apartment. He has been driving an old car that is on its last leg and is anxious to buy his first new car.

Sample

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Moesha lives in Rock Island, Illinois and drives 110 miles round trip each day to her job as a branch manager in Sterling, Illinois. Her husband works in Rock Island and they have one child in second grade and one preschooler. She drives a car that gets 28 miles to the gallon and has two years of payments left.

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