

# My Dream Car

**Grade:** Seventh through Twelfth Grade

**Subjects:** Language Arts, Science, Environmental Science, Social Studies/Economics, Math

**Objectives:** Students realize the need for alternative fuel and explore why it is important for Iowans to use alternative fuels.

## **Standards:**

- Utilizes print and electronic resources to generate data. Demonstrates proper grammar and usage. Cites research using the MLA guidelines. Effectively presents to an audience.
- Identifies energy sources.
- Interprets environmental factors that impact our ecosystem.
- Explains how supply and demand affect our economy.
- Reads and explains charts, tables and graphs.

## **Multiple Intelligence:**

- Linguistic: Write a paragraph describing your dream car.
- Logical-Mathematic: Research alternative fuels.
- Visual-Spatial: Create a poster promoting your alternative fuel option.
- Bodily Kinesthetic: Report data using human graphs.
- Interpersonal: Work as a team to present your alternative fuel option.
- Intrapersonal: Reflect on why alternative fuels are important to Iowa.
- Naturalist: Learn about fuels made from Iowa agriculture.

## **Procedure:**

Begin the lesson with the “My Dream Car” activity. Have students write a paragraph (5 to 7 sentences) describing the dream car they plan to own when they are older and why it’s their favorite car.

## **Time-Share-Pair:**

1. Teacher places pictures of four different types of vehicles – one in each corner of the classroom. Four originals have been provided for you: SUV, truck, compact car and sports car. Students pick one of the four as their favorite. Students go to the corner where their favorite vehicle is posted.
2. Students pair with one other person in their corner.
  - a. Establish an “A” and “B” person.
  - b. “A” talks for one minute about why he/she chose \_\_\_\_\_ as their favorite while “B” listens.
  - c. Reverse roles.
3. One pair joins another in the same corner. “A” in one pair introduces partner to the other two, and shares what “B” told him/her about why s/he made the particular choice s/he made. “A” in the other pair does the same (introduction and sharing). Then “B” (in the first pair) shares and finally “B” in the second team.
4. Teacher calls on the people in one of the corners to share the various reasons members of the group had given for his/her selection and the amount of fuel their vehicle uses. Students are individually asked to



AG IN THE CLASSROOM

share reasons given by someone else in their group (partner or another pair). Have students share which type of vehicle would use the most gas and which would use the least.

5. Rally robin with your original partner – what reasons were just given? Name all the ones you can remember. (*Excellent strategy to help stretch students who are not highly auditory.*)

Notice the amount of “cars parked in each stall.”

### **Human Graphing :**

1. **Bar Graph** - Have one student in each group hold that group’s vehicle and the others in that group form a line behind the person holding the item. The last person in line will have his/her back against the wall; the other group members will line up one-by-one, facing away from the wall, with the person in the front of the line holding the word/picture. Have the other groups form lines in the same manner along the same wall. See diagram for a graphic representation of the formation of lines. Explain that the class has created a bar graph that expresses students’ preferences. Point out that a graph is a picture that represents facts.
2. **Line Graph** – Hand the first person in the first row the end of a ball of string or roll of crepe paper. Walking in front of each row, have the first person take hold of the string of paper, ending with the person at the front of the 4<sup>th</sup> row. Ask the class what graph they have now formed: a line graph. Make sure students understand that the bar graph and line graph both represent the same information
3. **Pie/Circle Graph** – Have students in each line join hands. Form a circle beginning with the students in the first line. As the teacher marches in a circle the students in each line take the hand of the last person in the line ahead of them. Once all four groups/lines are in the full circle, have students drop their hands. The person holding the word/picture lays it on the floor in the middle of their group such that everyone in the circle can see it. The teacher moves to the center of the circle holding four pieces of string/crepe paper. The first person in each group goes to the teacher and takes the end of one piece of string/paper and then returns to his/her place in the circle. Clarify with class that each of the graphs created represents the same findings; these are merely three different methods to depict that data.

### **Discussion/Research:**

Bring the students together and discuss the following questions:

1. What makes our vehicles run?
2. What is gasoline and where does it come from?
3. What would happen if we could no longer get petroleum from the Middle East?
4. How would we fuel our cars?
5. Name some other fuels for making our cars run or what we like to call “alternative fuels?”
6. Where do these alternative fuels come from?

Explain to students that they will be researching these alternative fuels. Have student research and answer questions using the Research Fact Sheet hand-out.

Put students in groups of 4-5 students and have them discuss their findings with their group. Have them put together an informational poster according to the poster rubric (attached), explaining where alternative fuel comes from and the benefits for using alternative fuel. Have each group display their poster and share their findings, explain why they feel alternative fuel is beneficial and the importance for the future.

Last, have each student write a one-page essay about alternative fuel and our future. Explain why it is important people begin to think seriously about alternative fuel.



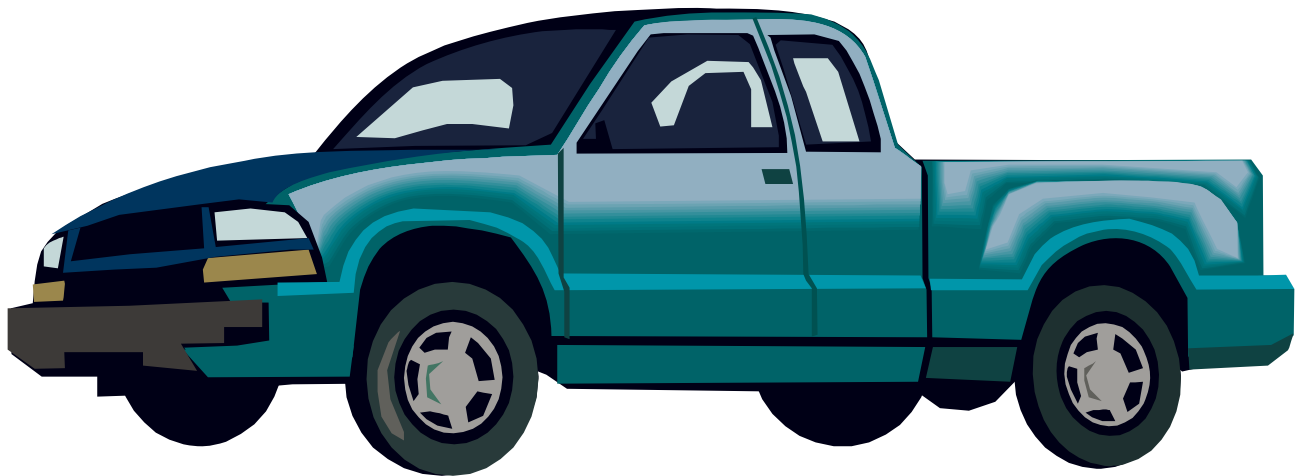


# SUV

(Sports Utility Vehicle)



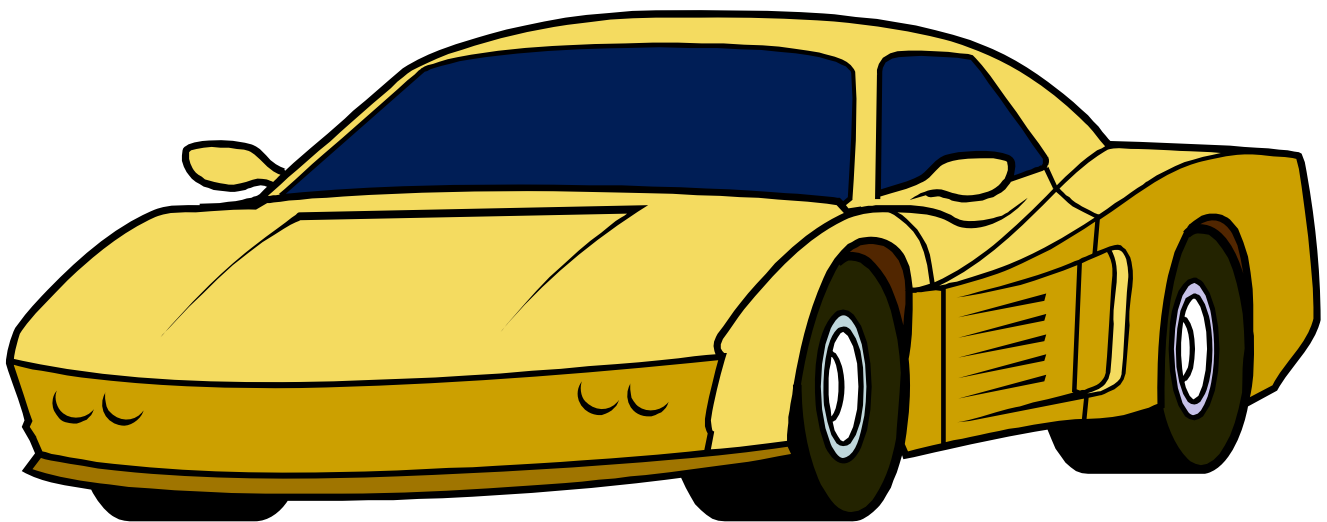
# Truck



# Compact Car



# Sports Car



*To be used with:*  
My Dream Car

Name: \_\_\_\_\_

**Research Fact Sheet: Alternative Fuels**

1. What are alternative fuels? \_\_\_\_\_  
\_\_\_\_\_
2. List some major alternative fuels: \_\_\_\_\_  
\_\_\_\_\_
3. In 1992, U.S. Congress passed a law called: \_\_\_\_\_
4. What is ethanol? \_\_\_\_\_  
\_\_\_\_\_
5. Name some commodities used to make ethanol: \_\_\_\_\_  
\_\_\_\_\_
6. What is biodiesel? \_\_\_\_\_  
\_\_\_\_\_
7. Name some commodities used to make biodiesel: \_\_\_\_\_  
\_\_\_\_\_
8. FFV (flex fuel vehicles) are specially designed to run on: \_\_\_\_\_
9. E-85 means: \_\_\_\_\_
10. B-10 means: \_\_\_\_\_
11. What is biomass? \_\_\_\_\_  
\_\_\_\_\_
12. What is the impact on Iowa's economy as a result of alternative fuels? \_\_\_\_\_  
\_\_\_\_\_
13. How would ethanol and biodiesel strengthen our nation's economy and security? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_





*To be used with:*  
My Dream Car

Name: \_\_\_\_\_

### **Poster Rubric**

Work together as a group to design and create a poster that will inform the public about the need for alternative fuel in Iowa. Make sure your poster is colorful, neat, eye-catching and interesting with facts you have collected from your research.

Create a poster with your group that displays the following:

- |  |           |
|--|-----------|
| 1. A catchy title for your poster promoting alternative fuel.                      | 20 points |
| 2. Pictures of the commodity(s) used to make ethanol.                              | 20 points |
| 3. Pictures of the commodity(s) used to make biodiesel.                            | 20 points |
| 4. A slogan to convince the public to change to an alternative fuel.               | 20 points |
| 5. Use of color, graphics and layout skills to make your group's poster stand out. | 20 points |

100 points

