

Teacher Guide for ASK, *The Challenge of Cars*

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Betty Lou Askin, a retired educator who lives in Toronto Ontario, prepared this guide.

Scoops (page2)

- This article informs us about space, another place that needs our attention concerning the preservation of the environment. In small groups, prepare a list of ideas that might help prevent further pollution of space. Also, list ideas to help clean up the current garbage that is floating in space.

Move Over, Rover (pages 2-3)

- In your own words, describe the first experiment.
- What was the result of the second experiment?
- Explain the meaning of the zebra's words in the picture.

A Meal for a Moth (page 3)

- What is a **proboscis**?
- Why are the scientists surprised that a moth would choose a bird of prey?
- Why do you think that the moth uses a creature to get its water and salt? Why not drink from the sea?

Nestor's Dock (pages 4-5)

- Before viewing/reading this article, ask the students for a meaning to the word "grassoline".
- Do you believe that it is possible to run a car on grass? Explain your answer.
- As a class, brainstorm other possible fuels for future use in cars.
- Ask the students to create a comic strip or story about using one of the suggested fuels in the previous question.
- Ask the students to interpret the humor in this article.

The Need for Speed (pages 6-13)

- Prior to reading this article develop a KWL Chart (What I Know, What I Want to Know, What I Learned) about NASCAR and Formula One.
- Describe the shape of a racecar.
- Explain downforce.
- What are cylinders and pistons?
- Explain why racecars are so noisy.
- Use your own words to tell why it is safe within a NASCAR.
- Describe why a driver is safe inside a Formula One car.
- Provide information about the tires used by racing cars.
- Creative Work:
 1. Create a brochure to sell the safe suits and helmets for racers.
 2. Design a racing car using art material. Write a newspaper article to describe your car.
 3. Write an interview with a racing car driver.

Hmmmming Along (page 8)

- Outline the progression of man's transportation ideas.

- Use your own words to explain how an internal combustion engine works.
- Look at the pictures in this article and complete the following chart.

What I see.	What I hear.	What I smell.	What I feel.

The Wheels of Invention...Keep on Rolling (pages 14-16)

- Divide the class into 8 groups. Assign one of the dated columns to each of the groups. Ask the groups to complete the following:
 1. Read and discuss the information.
 2. Make a summary report about your reading on large chart paper.
 3. Create pictures to accompany your report.
 4. Make a presentation to the rest of the class using your work.
- Ask each student to choose one of the time periods and inventions. Have them explain why they would have wanted to experience that particular invention.
- Let the students design a vehicle that might have fit somewhere in the past using ideas from the article.

Dressed to Drive (Takeout pages)

- Explain why the lady in the car looks the way she does.
- Think-Pair-Share: Ask the students to pair up with another classmate. They are to read and discuss this article and the pictures. When they have completed this task, hold a class discussion about what they have read and their impressions.

Are We There Yet? (pages 17-21)

- Describe the first American automobile.
- Explain why cars created chaos.
- What were the first rules developed in 1908?
- Tell about the first traffic lights.
- Explain the chaos for drivers outside of the cities.
- Ask the students to make a list of the new rules developed by the Bureau of Public Roads.
- What inspired Dwight Eisenhower?
- Describe the experiments that were conducted to find the right way to build a highway.
- Describe obstacles that the engineers faced while building the interstate system.
- Ask the students to complete the following chart.

Positive Things About Cars	Negative Things About Cars	Ideas to Remedy the Negative Things

Dream Cars (pages 22-23)

- Ask the students to create a brochure to advertise one of the cars in this article. They should write script and draw pictures in their ad.

Without Gas (pages 24-29)

- What is the purpose of the October's race in Australia?
- Explain why it is important to find others fuels for cars besides gasoline.

- How does a solar panel work?
- Describe the problem with solar power for cars.
- Explain why ethanol might be a solution for car fuel.
- Describe the bad news about ethanol as fuel.
- Why does hydrogen sound like a possibility?
- What does the word **hybrid** mean? A hybrid car?
- Explain why fossil fuels are being depleted.