

Your group’s task is to recommend a vehicle to suit a specific buyer’s needs. You have six vehicles to choose from. Each vehicle uses a different energy source. After identifying key criteria for the buyer, you’ll recommend a vehicle appropriate for the buyer’s needs. At the end of the activity, share your recommendations with the class.

Background

Choosing a new vehicle involves weighing up a range of factors to find the vehicle that best fits your personal circumstances. Some factors you might think about are:

- costs purchase price, maintenance costs, fuel or energy costs, resale value
- safety braking, airbags
- style make, model, colour
- capacity passengers, cargo
- environmental issues CO₂ emissions, tailpipe air pollution

A vehicle’s technology influences many of these factors. Vehicles in this activity use different technologies and different energy sources for fuel. They include:

- two combustion engine vehicles: one using petrol, the other using diesel;
- one plug-in hybrid car with both a petrol combustion engine and an electric motor; and
- three cars using electric motors: a plug-in electric vehicle, a solar electric vehicle and a hydrogen fuel cell electric vehicle.

Step 1: Introduce the vehicles

Use the **Vehicle cards** distributed by your teacher to complete Table 1, matching vehicles with their features.

Table 1: Energy source and vehicle technology

FEATURE	VEHICLES WITH THIS FEATURE
combustion engine	
electric motor	
renewable energy source	
potentially renewable energy source	
non-renewable energy source	
no CO ₂ emissions from vehicle’s exhaust	

Step 2: Organise your group

Decide which person will be: **organiser**, **recorder** and **spokesperson**.

- The **organiser** facilitates discussion to decide which vehicle best fits each buyer.
- The **recorder** takes notes and records key points discussed and decisions made.
- The **spokesperson** presents their group's recommendations to the class.

Use these roles to help your group work efficiently and effectively through the activity.

Step 3: The buyer

Your teacher will allocate a **buyer** to your group.

Step 4: Choose the vehicle

1. Read about your **buyer**.
2. Identify key pieces of information to help you recommend a vehicle for that buyer and record these criteria for question 1 below.
3. Use information on **Vehicle cards**, and discuss which vehicle best fits your list of criteria.
4. Agree on the vehicle to recommend.
5. Record recommendation for question 2.
6. Record other vehicles you may like to recommend for question 3.

Questions

1. What key criteria does the vehicle need to meet?

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2. What vehicle do you recommend? Why?

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3. Are there alternative vehicles that meet most requirements? What are they?

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Step 5: Presenting to the class

Use your notes and prepare your spokesperson to report to the class about your buyer, the vehicle you recommend, and why you made this recommendation.

Notes

Vehicle Buyers

1. Summer – community worker

Summer is a community health worker who visits people in her local area. As part of her salary package, she can spend up to \$30 000 to purchase or lease a new car. Each day Summer drives up to 50 km, making home visits that last about an hour. Sometimes she has to carry equipment to a visit, but this fits easily into a standard car. Occasionally, she needs to drive a client to the doctor or hospital. Summer is allowed to drive her work car for personal use but when she does, she needs to pay for fuel.

2. Gary – fleet manager

Gary is fleet manager for a local council. He manages a large fleet of vehicles: cars, vans, utes, minibuses and buses, that serve a number of different purposes for the council. The majority of vehicles are leased and there's a regular 3-year turnover where vehicles are sold at government auctions. In the council's current 10-year plan, there's a strong focus on sustainability, cost reduction and environmental friendliness. This year the Mayor's car is up for renewal. Gary's been asked to put forward a proposal that meets the council's current focus.

3. Sanjay – property developer

Sanjay owns a new golf course and housing development in an upmarket inner city suburb. The development is designed to be environmentally friendly, sustainable and water smart, using leading-edge technology. Sanjay is looking for a car to advertise his golf course and promote his development. He's interested in technology and its benefits and has seen alternative fuel vehicles that he'd like to test drive. Money's no object, as long as his car makes a statement and raises his profile in the city. Sanjay plans to use the car to drive around the golf course and housing development, as well as inner city Perth.

4. Al – farmer

Al's a farmer and has a number of vehicles he uses for different purposes. He's looking to upgrade the work vehicle he uses most. He needs his work vehicle to be robust, reliable and cost effective. Al's interested in benefits of new technology and uses electricity generated from solar panels to power a back-up generator for the house and for water pumps around the farm. He stores both petrol and diesel in big tanks, as it's too far to go into town each time he needs to fill up. He's used to doing routine machine maintenance on vehicles and would expect to do this on his new vehicle, too. Al may drive up to 200 km a day in all weather conditions, over both rough and sealed roads. Usually it's just Al, his dogs and tools in the vehicle, though sometimes he takes a passenger along.

5. Mia – mum

It's predicted that petrol prices will increase dramatically over the next few years. Mia relies on her car to get to work, to take the kids to school and after school activities, and for grocery shopping. Her current car's comfortable to drive but uses a lot of fuel so it's expensive to run (she spends around \$100 a week on fuel). Because of this, Mia's been thinking about how she can reduce costs. She can cut down on driving if the kids take the bus to school and she uses public transport to get to work, but there are days when she needs to take the car to work in the city, a round trip of 70 km per day. Mia needs her new car to be safe and reliable, low maintenance, not too expensive, to have five doors and seat up to five people.