

# Car Costs

## A numeracy workbook

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Funded and supported by CAE and the RACV



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# Chapter 3. Running costs



This chapter talks about issues around the on-going costs of running a car. Apart from the cost of paying for the actual car, which we looked at in the last chapter, there are a number of other costs or charges that you need to keep paying for.

Some are annual costs that have to be paid each year (like insurance and registration), and others are more often and regular (like fuel and servicing the car), and then some may or may not happen at all (like repairs from a crash).

## Different types of costs and charges

What are some of these costs and how much are they? Complete the following table. Some are started for you, and you met some in the previous chapter. You may need to search for the information or talk to someone who already owns and drives their own car. They can probably tell you about these costs and charges.

Type of cost	How often do they need to be paid?	Cost (approx.)
<i>Insurance</i>	<i>Annual fee - but sometimes you can pay it monthly</i>	
<i>Registration</i>		
<i>Fuel/petrol</i>	<i>Depends on how far you drive and the fuel economy of the car</i>	<i>Could be from \$20 to \$50 per week?</i>



**Chapter 3: Running costs**

<i>Servicing</i>		
<i>Repairs</i>	<i>When accidents happen or when the car breaks down</i>	<i>Varies from a little (like a car battery of \$80) through to \$1,000s for major mechanical repairs or after an accident</i>

## Fuel

One major and on-going cost of running a car is the cost of the fuel it runs on. There are three common types of fuel cars use:

- Petrol
- Gas
- Diesel.



Find out about each of these fuels and complete the table below.

<b>Fuel</b>	<b>What vehicles use it? What are its advantages or disadvantages?</b>	<b>Cost per litre</b> (the range from cheapest to most expensive)
Petrol		
Gas		
Diesel		



### Investigation: The use of ethanol

In Australia over the last few years as petrol prices have risen a lot there has been interest and debate about the use of **ethanol** in petrol.

Research about Ethanol on the Internet and see what you can find out about it. Why do some people want to use it as a car fuel, and why do others not want it used? What are its advantages and disadvantages?

### How much fuel?

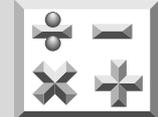
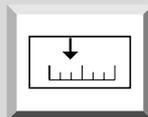
Do you know how much petrol a car fuel tank holds? Or how much it costs to fill up a car with fuel? Do the following worksheet which has some calculations about these costs for different cars.

### Worksheet A: Cost of filling up

In this activity on page 38 you will work out how much it costs to fill up an empty fuel tank for some different cars.

### Skills check: Metrics and multiplying numbers

Here you will be calculating with litres and dollars (decimal numbers) and using multiplying (with or without a calculator). For more information about these skills and using a calculator see Chapter 5: *Brush up your skills*.

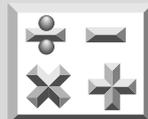


### Changes in the costs of fuel

The cost of fuel has changed fairly dramatically over the last decade or so. This is due to a range of factors.

### Investigation A: Petrol price changes

Undertake an investigation into changes in fuel prices. See page 39.



## Worksheet A: Cost of filling up

Here are some cars and the sizes of their fuel tanks. Find out how much a litre of petrol costs and use it to work out the cost of filling up an empty fuel tank for each of these cars – remember you will need to multiply the number of litres by the cost per litre (and remember petrol prices are given in cents, so it needs to be changed into dollars).

The first one is done as an example for you, and the last two are for you to find out about the size of other car’s fuel tanks – again, you could use your Dream Car and your Reality Car.

Car and fuel tank size (capacity) in litres	Current cost of petrol/fuel per litre	Cost to fill up an empty tank
<i>Hyundai Getz GL: 45 litres</i>	<i>119.9 cents</i>	<i>Cost = 45 × 119.9 c = 5395.5 c = \$53.96</i>
<i>Holden Commodore VZ: 75 litres</i>		
<i>Ford Focus CL: 55 litres</i>		
<i>Mazda Tribute: 61 litres</i>		



## Investigation A: Petrol price changes

Research how petrol prices have changed in your nearest capital city or location where data is available, and report on what you find.

The best place to start for researching about fuel prices is at the *Fueltrac* website that collects petrol price data in each capital city and other major regional centres around Australia. Links to this information is available from the AAA (The Australian Automobile Association) website at:

- [www.aaa.asn.au/](http://www.aaa.asn.au/)
- or try your local state automobile or motoring organisation.

The data is usually available as a downloadable file in *MS Excel* format.

Answer the following questions.

1. **How far back can you find records for petrol prices? Which year do they start from?**

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2. **In your analysis include a table of the appropriate data (or simply cut and paste the relevant information you want to research into a new Excel file)**

3. **Graph your data.**

The most appropriate graph for a comparative time analysis like this is a line graph. If you use *Excel*, you can use the *Chart Wizard* to produce the graph (see Chapter 5: *Brush Up Your Skills* for some support for plotting graphs, including using *Excel*).

4. **When were the prices of petrol the maximum?**

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5. **When were the prices of petrol the minimum?**

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**6. When did prices increase the most?**

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**7. Are there any patterns and trends in the petrol prices? Describe why or why not.**

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**Possible extension**

You could also compare the prices for different cities, states and territories.

**Note:** Remember if you need help with any of the maths involved in doing this investigation, you can:

- Refer to the sections at the back of the book in the chapter called *Brush up your skills*.
- Look for other useful books and resources including websites that are listed in the section called *Other resources*.
- Ask your teacher or tutor for some help.

