

The

word



on



cars



A literacy and numeracy unit

The Word on Cars

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The Word on Cars

Overview of topic

The purpose of this topic is to develop numeracy and literacy skills through content focused around the topic of cars. The context of cars and driving is particularly relevant and popular with young adults who are at the age where they are learning to drive or are beginner drivers, and also possibly thinking about buying their own car, but it is a topic that is often of interest to many adults. From a wider community perspective there is also the issue of safe driving, including saving people's lives or avoiding injury from car accidents. On top of this there are areas such as the costs of purchasing, running and maintaining a car; accident rates, safety of cars, safe driving, alcohol and drugs; and using maps, street directories satellite navigation systems.

A range of activities, handouts and resources are presented in this Unit to support delivery and assessment of this topic which focuses in on the topic of buying and running a car. The content provides an introduction to the topic and the associated activities should be regarded as flexible, with teachers selecting, adapting and extending them to the needs of their particular learners.

This topic provides a range of learning and assessment activities to meet the learning outcomes of a number of literacy and numeracy units from the Certificates in General Education for Adults. The focus in the materials is on 21771VIC Certificate I in General Education for Adults (Introductory), and Elements of the following Units can be covered:

- VBQU127 Work with time, money and directions in simple everyday situations
 - Element 1: Work with money in simple, everyday situations
 - Element 2: Work with time in simple, everyday situations.
 - Note: Element 3: Give and follow simple oral directions See page 14.

- VBQU129 Work with simple numerical and statistical information:
 - Element 1: Work with simple numerical information in familiar texts
 - Element 2: Work with simple, familiar tables and graphs.
- VBQU119 Engage with simple texts for personal purposes
- VBQU122 Engage with simple texts to participate in the community
- VBQU123 Create simple texts for personal purposes
- VBQU126 Create simple texts to participate in the community

Although the activities, handouts and resources are mainly presented at CGEA Certificate 1 Introductory level (ACSF and NRS level 2) it is anticipated that teachers may want to customise the materials for learners operating at different levels. It is likely that this unit may enable learners to demonstrate outcomes at other CGEA levels, especially at the Certificate 1 level. Therefore Elements of the following units from the 21771VIC Certificate I in General Education for Adults may also be covered:

- VBQU139 Work with time, money and directions in familiar situations
- VBQU141 Work with numerical and statistical information in familiar situations
- VBQU132 Engage with texts of limited complexity for personal purposes
- VBQU135 Engage with texts of limited complexity to participate in the community
- VBQU136 Create texts of limited complexity for personal purposes
- VBQU138 Create texts of limited complexity to participate in the community

It also means that the unit is suitable for mixed level classes.

CGEA and ACSF/ NRS mapping

The table identifies the relationship of the elements and performance criteria of these units to the performance indicators of the ACSF and the NRS.

Employability skills

The activities described in this unit relate to employability skills. These have been linked directly to the learning and assessment activities within the unit. Employability Skills have been a part of the delivery and assessment of Language, Literacy and Numeracy courses for a number of years. They are also referred to as generic skill, life skills, key competencies and lifelong learning skills. Development of Employability Skills enhances students' opportunities to participate more fully in the community and in further education, as well as developing the skills that employers have nominated as being critical. It is a common understanding that Employability Skills are best developed in context so it is important to identify how and when these skills can be developed. It is also critical that teachers are explicit about the development of these skills so that students can develop the knowledge and learn how to apply Employability Skills in the appropriate context.

In the table below we have identified opportunities for students to develop and demonstrate Employability Skills. However, it is important that teachers use these opportunities to incorporate the teaching and assessment of Employability Skills. For example, a particular activity might suggest that students work in teams. In this instance teachers need to explicitly address the skills of being a good team member so that students understand this skill and learn when it might be put to good use.

For more information on identifying and applying Employability Skills in Language Literacy and Numeracy teaching please see *Making the Link Employability Skills and Further Education Casarotti, N, 2007, Commonwealth of Australia*

Delivery

The delivery of this unit is flexible. It may be co-delivered with other units, for example: VBQ133/VRQ137, Engage / Create texts of limited complexity for learning purposes; and could also be integrated and developed as part of VBQ131 Plan and undertake a project.

Assessment

The assessment for this unit has been integrated with delivery. Learners will build a portfolio of tasks and activities which are part of class work and which can be related to the CGEA elements. This can be seen in Table 2: Summary of activities and assessment.

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Table 1 CGEA – ACSF/NRS mapping grid

CGEA Element	ACSF levels and indicators	NRS levels and indicators	Imported units
<i>VBQU127 Work with time, money and directions in simple everyday situations</i>			
Element 1: Work with money in simple, everyday situations	2.09. Identifies and comprehends relevant mathematical information in familiar activities or texts	1.10 Locates simple key mathematical information in a familiar real life activity or text.	
Element 2: Work with time in simple, everyday situations	2.10. Selects and uses appropriate familiar mathematical problem solving strategies to solve problems in familiar contexts	1.11 Recognises and uses straight forward mathematical actions which relate to immediate contexts.	
Element 3: Give and follow simple oral directions (Note: not covered explicitly in this Unit)	2.11 Uses informal and some formal oral and written mathematical language and representation to communicate mathematically	1.12 Uses rough estimation and prior experience to identify purpose and check reasonableness of the process and outcomes of a mathematical activity. 1.13 Uses everyday informal oral language and representation including familiar symbols and diagrams to communicate mathematically.	
<i>VBQU129 Work with simple numerical and statistical information</i>			
Element 1: Work with simple numerical information in familiar texts	2.09. Identifies and comprehends relevant mathematical information in familiar activities or texts	1.10 Locates simple key mathematical information in a familiar real life activity or text.	
Element 2: Work with simple, familiar tables and graphs.	2.10. Selects and uses appropriate familiar mathematical problem solving strategies to solve problems in familiar contexts	1.11 Recognises and uses straight forward mathematical actions which relate to immediate contexts.	
	2.11 Uses informal and some formal oral and written mathematical language and representation to communicate mathematically	1.12 Uses rough estimation and prior experience to identify purpose and check reasonableness of the process and outcomes of a mathematical activity. 1.13 Uses everyday informal oral language and representation including familiar symbols and diagrams to communicate mathematically.	
<i>VBQU119 Engage with simple texts for personal purposes</i>			
1 Locate specific information in simple personally relevant texts	2.03 Identifies and interprets relevant information within familiar contexts	2.1 Reads and interprets short simple texts on a personally relevant topic.	
2 Read and interpret short, explicit personally relevant texts	2.04 Uses a number of reading strategies to identify and locate relevant information within familiar text types	2.2 Locates specific information relating to familiar contexts in a text which may contain data in simple graphic, diagrammatic, formatted or visual form.	

Table 1 CGEA – ACSF/NRS mapping grid – continued

CGEA Element	ACSF levels and indicators	NRS levels and indicators	Imported units
<i>VBQU122 Engage with simple texts to participate in the community</i>			
1 Locate specific information in simple relevant community texts	2.03 Identifies and interprets relevant information within familiar contexts	2.1 Reads and interprets short simple texts on a personally relevant topic.	
2 Read and interpret short, explicit texts to participate in the community	2.04 Uses a number of reading strategies to identify and locate relevant information within familiar text types	2.2 Locates specific information relating to familiar contexts in a text which may contain data in simple graphic, diagrammatic, formatted or visual form.	
<i>VBQU123 Create simple texts for personal purposes</i>			
1 Describe simple text types relevant to personal need	2.05 Conveys intended meaning on familiar topics for a limited range of purposes and audiences	2.3 Writes about a familiar topic using simple sentence structure and joining ideas through conjunctive links where appropriate	
2 Prepare simple text for personal use	2.06 Produces familiar text types using simple vocabulary, grammatical structures and conventions	2.4 Completes forms or writes notes using factual or personal information relating to familiar contexts	
3 Produce simple personal text			
<i>VBQU126 Create simple texts to participate in the community</i>			
1 Describe simple text types useful to communicate in the community	2.05 Conveys intended meaning on familiar topics for a limited range of purposes and audiences	2.3 Writes about a familiar topic using simple sentence structure and joining ideas through conjunctive links where appropriate	
2 Prepare for creating simple community text	2.06 Produces familiar text types using simple vocabulary, grammatical structures and conventions	2.4 Completes forms or writes notes using factual or personal information relating to familiar contexts	
3 Produce simple community text			

Table 2: Activity, assessment and outcome guide

The table below shows how the activities and assessments have been designed to meet the outcomes of the two units.

Activities	Assessment	CGEA performance criteria	Employability skills
<i>Activity 1: The words on cars</i>			
Part A Whole Group discussion	Mainly a teaching learning activity about reading and writing.	VBQU119	Communication
Part B Small Group discussion		<ul style="list-style-type: none"> • 1.1, 1.2, • 2.1, 2.2, 2.3, 2.4 	Teamwork
Part C Whole Group discussion	Creating and engaging. Observation. Use checklists	VBQU123	
<i>Handout 1. The word on cars – Your favourite car</i>		<ul style="list-style-type: none"> • 1.1, 1.2, 1.3 • 2.1, 2.2, 2.3, • 3.1, 3.2, 3.3 	
<i>Handout 2. The word on cars – Words you meet</i>			
<i>Activity 2: The numbers on cars</i>			
Part A Whole Group discussion	Working with simple numerical and statistical information	VBQU129	Part A
Part B: Individual activity – Speeds	Observation. Use checklists	<ul style="list-style-type: none"> • 1.1, 1.2, 1.3, 1.4 	Communication
<i>Handout 3. The numbers on cars – Number 1</i>	- collect materials: Handout 4. The numbers on cars – number 2	VBQU122	Problem solving
<i>Handout 4. The numbers on cars – number 2</i>		<ul style="list-style-type: none"> • 1.1, 1.2, 1.3 • 2.1, 2.2, 2.3, 2.4, 2.5 	Planning and organising Learning Technology
			Part B
			Communication
			Initiative and enterprise
			Planning and organising Learning Technology

<p><i>Activity 3: Your favourite car</i></p> <p>Part A: Whole Group discussion</p> <p>Part B: Pair and individual work</p> <p>Developing and undertaking a survey</p> <p>Collating, recording and analysing data</p> <p>Developing a report and/or undertaking a presentation</p> <p><i>Handout 5. The numbers on cars – number 3</i></p> <p><i>Handout 6. Your favourite car: Survey question and answers</i></p>	<p>Creating and engaging – Observation – use checklists; collect materials developed and use checklists.</p> <p>Working with simple numerical and statistical information:– collect materials: the survey tool, the results, analysis and report – use checklists and Observation sheets.</p> <p>Collect materials: <i>Handout 5. The numbers on cars – number 3; Handout 6. Your favourite car: Survey question and answers</i></p>	<p>VBQU129</p> <ul style="list-style-type: none"> • 1.1, 1.2, 1.3, 1.4 • 2.1, 2.2, 2.3 <p>VBQU126</p> <ul style="list-style-type: none"> • 1.1, 1.2, 1.3 • 2.1, 2.2, 2.3, 2.4 • 3.1, 3.2, 3.3 	<p>Communication</p> <p>Learning</p> <p>Problem solving</p> <p>Teamwork</p> <p>Technology</p>
<p><i>Activity 4: Time counts</i></p> <p>Part A: Whole Group discussion</p> <p>Part B: Pair and individual work</p> <p><i>Handout 7. Parking times</i></p> <p><i>Handout 8. Telling the time</i></p> <p><i>Handout 9. Matching times</i></p>	<p>Work with time, money and directions in simple everyday situations:</p> <p>Use an observation checklist for observing participation in class discussions and activities.</p> <p>Collect any extra worksheets undertaken in class.</p> <p>Collect materials: <i>Handout 7. Parking times; Handout 8. Telling the time; Handout 9. Matching times.</i></p>	<p>VBQU127</p> <ul style="list-style-type: none"> • 2.1, 2.2, 2.3 2.4 <p>VBQU122</p> <ul style="list-style-type: none"> • 1.1, 1.2, 1.3 • 2.1, 2.2, 2.3, 2.4, 2.5 	<p>Communication</p> <p>Learning</p> <p>Problem solving</p> <p>Teamwork</p> <p>Technology</p>

Table 2: Activity, assessment and outcome guide – continued

The table below shows how the activities and assessments have been designed to meet the outcomes of the two units.

Activities	Assessment	CGEA performance criteria	Employability skills
<i>Activity 5: Buying a car</i>			
Part A: Whole Group discussion	Work with Simple numerical and statistical information and Work with time, money and directions in simple everyday situations: Use an observation checklist for observing participation in class discussions and activities. Collect any extra activities and worksheets undertaken in class.	VBQU129 <ul style="list-style-type: none"> 1.1, 1.2, 1.3, 1.4 2.1, 2.2, 2.3 2.4 	Communication
Part B: Pair or Individual research and writing			Learning
Part C:: Group and individual activity		VBQU127 <ul style="list-style-type: none"> 1.1, 1.2, 1.3, 1.4 	Planning and Organising
<i>Handout 10. Buying a car</i>		VBQU122 <ul style="list-style-type: none"> 1.1, 1.2, 1.3 2.1, 2.2, 2.3, 2.4, 2.5 	Problem Solving
<i>Handout 11 Reviewing a car</i>	Collect materials: <i>Handout 10. Buying a car</i> . Creating and engaging - learners read a review of a car and write a brief report or review. Use observation – use checklists and collect materials developed. This Activity also meets many of the requirements for VBQU118 Conduct a project with guidance and this can be assessed using the above processes and materials too.	VBQU126 <ul style="list-style-type: none"> 1.1, 1.2, 1.3 2.1, 2.2, 2.3, 2.4 3.1, 3.2, 3. 	Self Management Technology

<p><i>Activity 6: Running Costs</i></p>	<p>Part A Whole Group discussion Part B: Group and individual activity <i>Handout 12. Filling it up – fuel costs</i> <i>Handout 13. Matching prices</i> <i>Handout 14. Working it out – Calculations</i></p>	<p>Work with Simple numerical and statistical information and Work with time, money and directions in simple everyday situations: Use an observation checklist for observing participation in class discussions and activities. Collect any extra activities and worksheets undertaken in class. Collect materials: <i>Handout 12. Filling it up – fuel costs; Handout 13. Matching prices; Handout 14. Working it out – Calculations.</i></p>	<p>VBQU129 • 1.1, 1.2, 1.3, 1.4 VBQU127 1.1, 1.2, 1.3, 1.4 VBQU119 • 1.1, 1.2, 1.3 2.1, 2.2, 2.3, 2.4, 2.5</p>	<p>Communication Learning Planning and Organising Problem Solving Technology</p>
<p><i>Activity 7: Solving together</i></p>	<p>Part A: Small group activity. Co-operative logic problems. <i>Handout 15. Car Co-operative logic I</i> <i>Handout 16. Car Co-operative logic II</i></p>	<p>Use and observation checklist for observing participation in: <i>Handout 15. Who bought which car? Car Co-operative logic I; Handout 16 How long to work? Co-operative logic II</i></p>	<p>VBQU127 • 2.1, 2.2, 2.3 VBQU119 • 1.1, 1.2, 1.3 • 2.1, 2.2, 2.3, 2.4, 2.5</p>	<p>Problem Solving Planning and Organising Self Management Learning</p>

Activities

The following activities are designed to develop numeracy and literacy skills through content focused around the topic of cars. There are group and individual activities so that learners can benefit from the perspectives of others while also being able to develop a personal response to the topics.

It is anticipated that teachers will adapt the activities and questions as appropriate to the learner group that they are working with. The questions and activities are suggestions only and teachers need to shape the discussion and activities in a way that respects individual learners. Activities may be omitted at the discretion of the teacher, provided enough material is included to allow formative and summative assessment of numeracy and literacy outlined in the units above.

Covering Element 3: Give and follow simple oral directions

In relation to Element 3: Give and follow simple oral directions of VBQU127 Work with time, money and directions in simple everyday situations although it is not covered in this resource it can easily be incorporated into the work of this Unit. Using directions is a key aspect of driving cars and a few extra activities would enable the skills to be developed and assessed. The requirement of this element is to cover the location and direction skills orally, and hence it is not as easily covered via a written resource such as this one.

Preparation and resources

Students will need a ring binder, plastic slips and access to the handouts related to the learning activities for this unit. Access to the internet will facilitate engagement in these activities, however if this is not available, learners may complete the unit using the handout material supplemented by other sources of information such as newspapers and magazines.

◆ Activity 1: The words on cars

The purpose of this activity is to encourage learners to think about cars and driving, and to use it as an introduction to the topic.

Part A: Whole Group discussion

Introduce to the group that you are going to do some work based around the theme of cars. Start with a whole group discussion or brainstorm about cars. Use the whiteboard to document and write up the range of topics related to cars. The idea is to give students an idea of how much is related to owning, driving and running a car. Even if students don't own a car or drive, cars have an impact on everyone through roads, car accidents, pollution and so on. Here are some areas that you might like to try to include in the brainstorm:

- Getting your licence
- Buying a car
- Running a car
- Driving a car
- Road accidents
- Drink driving.

Under each of these categories or topics there will be a wide range of sub themes or issues that you can discuss and document. You may discover there are too many different car related themes to cover sensibly in a short teaching Unit like this, but it does allow you the flexibility of choosing what students might be interested in. This Unit only covers a small number of these potential areas, but you could take it into different areas depending on the interests of your group of learners.

After the discussion say that you are going to look at just some of these areas. But this would also provide some potential for other work.

You may need to ask prompting questions such as:

- Who drives a car?
- What car do you drive? How did you decide what car to buy?
- What expenses are there related to driving cars?
- What do you do when you drive a car? What actions do you take?
What do you have to know to drive a car?

- What do you have to do to get your licence? What knowledge and skills do you need to drive a car?
- What dangers are there about driving a car?
- What impacts do cars have on our lives? On the community? On the environment?

Part B: Small Group discussion

Ask the students what their favorite car (or other vehicle) is. Divide the learners up into small groups of 2 to 4 learners and ask them to consider the following questions (these are available on *Handout 1. The word on cars – Your favourite car*):

- What is your favourite car? If you don't have a favourite car – why not?
- Why is it your favourite car?
- Have you owned this car?
- What size engine does it have? Does it use a lot of petrol or not?
- Is it a good car to drive?
- Where is the car made –in Australia? Overseas?
- Is it a very popular car or not?

Ask the students in their groups to complete the two sentences on *Handout 1. The word on cars – Your favourite car*:

- ... is my favourite car because ...
- ... is a great car to drive because it ...

Groups may need to reach consensus in order to prioritise their favourite car. Ask each group to nominate who will read out their responses to the whole class.

Part C: Whole Group discussion

After the small groups have had time to discuss the questions and why they have chosen their particular car (or not) and completed the questions on Handout 1, get the whole group together and take it in turns to get each learner to report back with their responses.

One issue with cars and driving is that there are specific words that are used in talking and writing about cars. There will be specific technical words (e.g. transmission, clearway) alongside abbreviations, slang and jargon words or phrases (e.g. 4WD, wheelie,) that students who are unfamiliar with cars will most likely not understand and that some

students may be familiar with orally but not in writing. Discuss with the group what words they know that are specific to talking about cars and driving and show them how they are spelt. You can use *Handout 2. The word on cars – Words you meet* as a worksheet for students to keep a record of such words and phrases and research and write them down with explanations as they come across them.

◇ Activity 2: The numbers on cars

Similarly, we use a wide range of numbers when we talk about cars and driving. This activity addresses the issue of needing an understanding of numbers in relation to cars and driving. This includes having an understanding of numbers in relation to the following:

- being able to read and understand numbers in order to interpret numbers that indicate distances, speeds, alcohol consumption, safety features of cars, etc.
- being able to know what speed means, for obeying speed limits and safe driving behaviour
- concepts and calculations with time for reading and obeying parking restrictions, clearways, etc.

Part A: Whole Group discussion

Pose to the group that we use quite a range of different areas of mathematics and numbers when we talk about cars and driving.

Use the whiteboard to document and write up the range of numbers related to cars – write up the area (eg driving speeds) and the numbers related to that area (eg 50, 60, etc). Here are some areas that you might like to try to make sure are included in the discussion:

- driving speeds
- speed limits
- parking times
- size of engines
- costs of cars
- driving distances.

Make sure students understand the range of numbers (including the speeds and times) that are being discussed. You may need to do some teaching about the concepts and numbers concerned if they do not understand the numbers. You can use *Handout 3. The numbers on cars – Number 1* as a handout for the students to look at and add to as the group, or they, think of more numbers.

Part B: Individual activity – Speeds

One particularly important set of numbers for learners (and drivers) to know about is speeds. *Handout 4. The numbers on cars – number 2* can be used as an activity to get students to show their knowledge and

understanding of not only some common numbers, but also about some common (and uncommon) speeds. This could also be extended into an investigation of other speeds – eg how fast can an emu or kangaroo run? What is the fastest animal and what is their top speed?

◇ Activity 3: Your favourite car

The purpose of this activity is for the learners to undertake a survey. Using surveys is quite a good way to commence a topic – it gives students a chance to familiarise themselves with the topic and set the scene, as well as using and demonstrating a range of both literacy and numeracy skills.

Part A: Whole Group work

Model the task of undertaking a survey and collating and reporting on the results using the group's answers to what their favorite car was in Activity 1. Write up all their answers as if you had undertaken the survey – including the raw data and work with them through the various stages of collating, graphing and reporting on the results, including:

- Collating their answers into a table
- Plotting the data onto a graph – you could use graph paper, pre-prepared grids or pie chart templates, and/or eventually put the data into *Excel* or *Word* to produce the graph. [The level to which you do this will depend on what level of the CGEA or ACSF you are expecting your students to work at – you can always model a higher standard but only assess to the required level, or add in an appropriate level of support. [Remember that at the 21771VIC Certificate I in General Education for Adults (Introductory) or ACSF 2 level the learner is not expected to create tables and graphs independently– you can explicitly model, scaffold and support them to do this.]
- Modeling the writing of a report about the data and the results. Think about answering questions with the learners like:
 - Which car was the most popular? By how much?
 - Was the result what they expected or not?
 - Why they thought that was chosen as the most popular car?You could model the report in a number of ways: eg as a poster, as a PowerPoint, or as a talk supported by the data and graph.

Part B: Pair and individual work

Ask the students to work in pairs if possible although it could be done individually to undertake their own survey about interviewing people about their favourite car. [This could be a different question if they don't drive cars, such as what people's favourite form of transport is,

including cars and all other forms of transport – motor bikes, bicycles and public transport.]

Use *Handout 5. The numbers on cars – number 3* as the structure for the students to undertake the survey. Important points to remember to make clear to the students are:

- Deciding what question they are going to ask and prepare a questionnaire sheet that they can record people's answers on (they will need to type up their own sheet based on the sample provided in *Handout 6. Your favourite car: Survey question and answers*)
- Try to get students to survey at least 20 different people, depending on the situation, but try to make it a minimum of 10 different responses
- Collating their answers into a table – you can support them in doing this, especially at the 21771VIC Certificate I in General Education for Adults (Introductory) ACSF 2 level.
- Plotting their data onto a graph – as mentioned already you would need to help them in this aspect, especially if you want them to use *Excel* or *Word*
- Writing up a brief report about their data and what their results were. They can produce their report in whatever way they like: eg as a brief one page summary or poster, as a PowerPoint with a few slides, or as a talk supported by their data.

You should tell students that you will be collecting their work – their raw data, their collated results and any graphs and presentations they use as evidence for their assessment.

◇ Activity 4: Time counts

This activity is about making sure students are able to estimate and tell with time, especially in terms of parking times, including Clearway times. This has an impact not only on the hip pocket in terms of potential fines but also in terms of safety due to wanting to keep traffic clear and safe at times when roads are busy and crowded. If you are delivering this unit in regional or remote areas, this activity may not be appropriate.

Part A Whole Group work

In this activity you will need to point out what part time plays in driving a car. This can include:

- parking times – in commercial car parks, street meter parking, etc.
- the time it takes for you to travel from one place to another
- driver fatigue – how long people can drive for without it impacting on their driving skills

parking times

Highlight the importance of knowing about time and being able to calculate with time when you park your car. Talk about parking restrictions, fines, and safety aspects in terms of Clearways.

Check that students can tell the time and do some basic calculations with time. [These do not need to be formal calculations with time.] Show them how to count forwards informally with time to both calculate when adding on times (e.g. how long will it be in one and half hours from now) and in subtracting times (how long is it from now until such and such a time). You can use these types of examples:

- Parking restrictions and signs (See *Handout 7. Parking times* for some ideas) to pose scenarios and questions to the group. Learners could work in small groups to solve the problems and work together so they can support and explain it to each other.
- Give a specific time of the day and ask students to add on (count forward) a certain number of hours and/or minutes (use both hours and minutes and common fractions of hours)
- Give them a specific time of the day and ask them how many hours and minutes left until a particular time.

Part B: Individual or pair work

Provide individual or pair work for practice and reinforcement and also leading on to the provision of assessment tasks for Element 2: Work with time in simple, everyday situations in the VBQU127 Work with time, money and directions in simple everyday situations Unit of the CGEA.

You could use the following Handouts as support for further practice or as assessment tasks:

- *Handout 7. Parking times*
- *Handout 8. Telling the time*
- *Handout 9. Matching times.*

Note: There are numerous time calculations and processes explained along with activities and exercises in the resource *The Value of Time: Numeracy for workers in manufacturing* by Ruth Goddard and Margaret Regan. Available from the Centre for Adult Education (CAE): <http://www.cae.edu.au>

◆ Activity 5: Buying a car

There is the potential for a lot of reading, writing and numeracy work related to buying a car. It could be linked in to a more major project, and hence would be able to be taught and assessed against VBQU118 Conduct a project with guidance. Here it is treated as a small project that learners could do individually or in pairs.

Note: For a range of related and extension ideas and suggestions related to buying a car, and the costs of running car, see Car Costs II: A numeracy and maths workbook by Tout, Dave. Available from the Centre for Adult Education (CAE): <http://www.cae.edu.au>

Part A: Whole Group discussion

Discuss with the whole group what you need to do when you want to buy a car. You could pose questions such as:

- What decisions do you have to make when you buy a car?
- Can you afford to buy your dream car, or will you have to settle for something less?
- How do you decide how much you can spend?
- How do you find the car?
- What do you take into account in deciding which car to buy and from whom?
- What other costs do you have to pay for when you buy a car?

Part B: Pair or Individual research and writing

Pose to the group that they are to imagine that they are going to buy a car (it could be new or second hand). Get them to decide if they want to work alone or with a partner and once organised, ask them to think about and discuss questions such as:

- How much are you going to spend?
- What type and model of car would you like to buy?
- Where will you find out about cars to buy?

You may need to show them examples of where they can find out about cars and where they can buy them from: the internet, car magazines or newspapers.

You may need to explain some words (e.g. warranty) and to demonstrate how to use any internet sites as they can be quite complex in terms of searching and navigating.

Handout10. Buying a car provides the learners with some questions to answer as they undertake this task.

Part C: Group and individual activity

Bring in a copy or two of reviews of cars from a newspaper, from the internet or a magazine (Automotive association magazines are quite good for finding examples of car reviews) and use these as the basis of a discussion about how car reviews are written and constructed. For this level, it would be best to find shorter examples, as some reviews can be very long and comprehensive.

Talk about the features of such texts. This should include discussion about:

- The title
- The length of sentences
- Use of direct quotes
- Use of context specific words
- Use of oral speech (not written speech) for reading.

Ask the learners to read a review of a car they like from the materials you bring in or let them find their own.

Based on the information and the reviews they have, ask the learners to write a brief report or review (e.g. like a short piece in a newspaper) on their opinion about their chosen car. They can hand write the report if they want, but it would be good if you encouraged them to use a computer to write and print out their report.

There are some guidelines available on *Handout 11 Reviewing a car*.

When everyone has completed and written their reports you can ask each student to give a brief report to the group about their review.

◇ Activity 6: Running costs

Part A: Whole Group work

In this activity there is the opportunity to look at some of the other costs related to buying, owning and running a car. These are many costs such as:

- getting a driver's licence and learner's permit
- annual registration costs
- insurance costs
- fuel (petrol, diesel or gas)
- regular services
- new parts such as batteries, tyres
- repairs following either mechanical problems or following a crash.

Unfortunately, as you may have discovered in the brainstorm in Activity 1, there are too many different costs to cover easily in a short (and sensible) teaching time. Discuss with the whole group the different costs of running a car and see what costs they know about. See if they have some areas they would like to investigate and work on together. Some examples are provided in the next session.

Part B: Group and individual activity

In this section there are three sample worksheets that you could use in small group or individual activities:

- *Handout 12. Filling it up – fuel costs*
- *Handout 13. Matching prices*
- *Handout 14. Working it out – Calculations.*

You could use these as assessment tasks, but you would need to do some pre-teaching and modeling of the tasks prior to requiring the students to undertake the task as a formal assessment task. You could ask students to collect information related to car costs (eg bring in advertising brochures and magazines about cars and car parts) and use these as the basis for some class work on costs.

Note: For a further and more comprehensive range of related and extension ideas and suggestions and supporting teaching ideas related to buying a car, and the costs of running car, see Car Costs II: A numeracy and maths workbook by Tout, Dave. Available from the Centre for Adult Education (CAE): <http://www.cae.edu.au>

◆ Activity 7: Solving together

Co-operative logic problems are an excellent way to encourage students to think mathematically, to problem solve, and to share their mathematical knowledge and language. And they have fun doing it.

You can use the co-operative logic problems at any time during the Unit, although it might be best to wait until you have introduced some of the mathematical skills and knowledge to make sure the students have the required knowledge to solve the tasks.

Part A: Small group activity Co-operative logic problems

Included here are two examples based on cars. The activities encourage students to talk about the maths involved and to share and explain their understandings. It enables you to observe and check the knowledge levels of the students.

You need to photocopy each of the pages on *Handout 15. Car Co-operative logic I* and *Handout 16. Car Co-operative logic II* preferably onto coloured card and cut them out and store each set in an envelope or clip lock bag. You need to have enough sets for each group of 4 to 6 students.

Students work in small groups of 4 to 6 to jointly solve the problem they are given. You need to explain that the aim is to solve the problem by working together co-operatively. Each student is to read out their clue to the group and they then discuss what that means and use the cards to find a solution that satisfies everyone's clues.

If you have students who have difficulty reading the clues by themselves you can get students to work in pairs with one stronger reader partnering with a student who is not so strong. They can read the clues together, share the clue and jointly help solve the problem.

Co-operative logic problem II could be used as an extension activity for stronger learners e.g. Certificate I /ACSF 3

Instructions for students

- Empty the contents of the envelope or bag on to the table
- Place the Question card on the table along with the names of the people, cars, means of transport, etc.
- Share out the clue cards so that everyone has at least one clue card

- Now take it in turn to read out your clue to the rest of the group and work together to discuss the problem and try to find an answer that you all agree with. It may take quite a few times for you to read out your clue to the group to make sure everyone is happy that their clue is satisfied and everyone agrees with the solution.

Appendix I: Resources to support the completion or extension of this unit

Car related literacy and numeracy resources

Hagston, J., Kindler, L., & Tout, D, *Victorian Certificates of Applied Learning (VCAL) Road Safety units*, VicRoads, Kew, 2006 (Available free from: <http://www.vicroads.vic.gov.au/vcal>)

Marr, Beth; Anderson, Chris; Tout, Dave, *Numeracy on the Line: Language Based Numeracy Activities for Adults*, National Automotive Industry Training Board, Victoria, 1994

Tout, Dave, *Car Costs II: A numeracy and maths workbook*, CAE, Melbourne, 2006

Tout, Dave (2006) 'Driving Away' in Tout, Dave & Motteram, Gary, 2006 *Foundation Numeracy in Context*, ACER Press, Camberwell, Victoria

Car and motoring organisations

In relationship to cars, there are usually many state and national bodies and organisations that offer a wide range of information about cars and travel. Such information is very valuable as the basis for researching and analysing information about cars and driving. As well they often offer specific resources, activities and support for schools and students.

State motoring organisations

In Australia, there are state motoring organisations which provide a range of information about cars – including running costs, purchasing cars and safety issues.

A starting point for all State organisations is the Australian Automobile Association (AAA) at: <http://www.aaa.asn.au/>. They also hold national data on fuel prices etc.

Other State and Territory car organisations

Automobile Association of Northern Territory Inc. (AANT), NT: <http://www.aant.com.au/>

National Roads and Motorists' Association Ltd. (NRMA), NSW: <http://www.mynrma.com.au>

Royal Automobile Club of Queensland Ltd. (RACQ), Queensland: <http://www.racq.com.au/>

Royal Automobile Association of South Australia, Inc. (RAASA), SA: <http://www.raa.net/>

Royal Automobile Club of Tasmania Limited (RACT), Tasmania: <http://www.ract.com.au/>

Royal Automobile Club of Victoria (RACV), Victoria: <http://www.racv.com.au/>

Royal Automobile Club of Western Australia (Inc.), (RACWA), Western Australia: <http://rac.com.au/ecar/>

Some links about road safety and crash statistics

ANCAP: the Australian New Car Assessment Program: <http://www.aaa.asn.au/ancap.htm>

Arrive Alive!: <http://www.arrivealive.vic.gov.au/index.html>

Australian Road Assessment Program (AusRAP): <http://www.ausrap.org/ausrap/>

Australian Transport Safety Bureau: <http://www.atsb.gov.au/road/rsia/>

How safe is your car: <http://www.howsafeisyourcar.com.au/>

NRMA Shift website: www.shift.nrma.com.au

Road Safety site of the Australian Transport Safety Bureau (ATSB): <http://www.atsb.gov.au/road/road.aspx>

Royal Society for the Prevention of Accidents: <http://www.rospea.com/roadsafety/>

SaferRoads: <http://www.aaa.asn.au/saferroads/>

Transport Accident Commission (TAC) of Victoria Crash Database – at their Road Safety website at: <http://www.tacsafety.com.au/>

TAC Drivesmart website: <http://www.drivesmart.vic.gov.au/>

TAC Learner Logbook: <http://www.learnerslog.com.au/>

TAC Safety page: <http://www.tacsafety.com.au/>

Vehicle Road Test Report Directory: <https://www.aaa.asn.au/roadtests/>

World Health Organisation: http://www.who.int/world-health-day/2004/infomaterials/world_report/en/

Specific young driver information

Australian Transport Safety Bureau – Key Facts for New Drivers: http://www.atsb.gov.au/road/newdrivers/trainer_info.cfm

Youthsafe – Road Fatalities and injuries in young people: <http://www.youthsafe.org>

Other car and road related websites

Australia's Best Cars. Australia's Best Cars is the nation's most comprehensive and reliable consumer focussed testing and award program for new model cars.
<http://www.australiasbestcars.com.au/>

Fuel Consumption Guide. The Fuel Consumption Guide Database provides comparative data on the fuel consumption of many vehicles sold in Australia between 1986 and 2003. The database includes passenger cars and four-wheel drives, and light commercial vehicles up to 2.7 tonnes gross vehicle mass.
<http://www.greenhouse.gov.au/fuelguide/>

FuelTrac. FUELtrac focuses on the provision of a wide range of fuel related services to organisations throughout Australia and New Zealand.
<http://www.fueltrac.com.au/>

Motormouth. Motormouth provides up-to-date petrol prices across Australian States and Territories.

<http://motormouth.com.au/>

AustRoads. Austroads is the association of Australian and New Zealand road transport and traffic authorities and aims to improve road and road transport outcomes.

<http://www.austroads.com.au/>

National Transport Commission. The NTC mandate is to progress regulatory and operational reform for road, rail and intermodal transport in order to deliver and sustain uniform or nationally consistent outcomes

<http://www.ntc.gov.au/>

State Road Authorities:

New South Wales Roads and Traffic Authority: www.rta.nsw.gov.au

VicRoads: www.vicroads.vic.gov.au

Queensland Department of Main Roads: www.mainroads.qld.gov.au

Transport South Australia: www.transport.sa.gov.au

Western Australian Department of Main Roads: www.mrwa.wa.gov.au

Tasmanian Department of Infrastructure, Energy and Resources: www.dier.tas.gov.au

NT Department of Planning and Infrastructure: www.nt.gov.au

Australian Capital Territory Department of Urban Services: www.urbanservices.act.gov.au

New Zealand Ministry of Transport: www.transport.govt.nz

Other suitable numeracy resources

Goddard, R., Marr, B., Martin, J., 1991, *Strength in Numbers: A resource book for teaching adult numeracy*, Holmesglen College of TAFE, Holmesglen, Vic

Goddard, Ruth and Regan, Margaret, 1995, *The Value of Time: Numeracy for workers in manufacturing*, Council of Adult Education, Melbourne

Gunningham, Sue , 2006, *Cambridge Numeracy Workbook for VCAL*, CUP, Melbourne

Marr, B. & Helme, S., 1987, *Mathematics: a new beginning*, State Training Board, Victoria

Marr, B., Helme, S. and Tout, D., 2003, *Rethinking Assessment. Strategies for holistic adult numeracy assessment*, Language Australia, Melbourne

Marr, Beth; Anderson, Chris; Tout, Dave, 1994, *Numeracy on the Line: Language Based Numeracy Activities for Adults*, National Automotive Industry Training Board, Victoria

Thomson, Sue & Forster, Ian, 2006 *Access to Prevocational Maths*, Pearson Education Australia, Melbourne

Thomson, Sue & Forster, Ian, 2007 *Access to Prevocational Maths 2*, Pearson Education Australia, Melbourne

Tout, Dave & Motteram, Gary, 2006 *Foundation Numeracy in Context*, ACER Press, Camberwell, Victoria

Tout, Dave, 2007, *Having Fun with Maths: Activities and Games for Developing Maths Language and Skills*, Multifangled P/L, Yarraville

Vize, Anne, 2005, *Maths Skills for Living, & Maths Skills for Working*, Phoenix Education, Putney, NSW

Weber, Lauris, 2003, *The Language of Maths (Secondary Level)*, AEE Publishing, Queensland

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The word on cars – Your favourite car

In your group talk about your favourite car. Think about these questions:

- ◇ Why is it your favourite car?
- ◇ Have you owned this car?
- ◇ Is it a good car to drive?
- ◇ What size engine does it have? Does it use a lot of petrol or not?
- ◇ Where is the car made? In Australia? Overseas?
- ◇ Is it a very popular car or not?

Complete the following sentences ready for you to read out to the rest of the class.

..... is
my favourite car because

.....
.....

..... is a
great car to drive because it

.....
.....

The word on cars – Words you meet

You will come across a number of words, terms or abbreviations that are used in talking about cars. Some are given below.



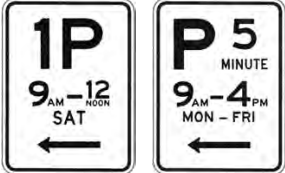

Add in any new ones you meet and write a short explanation. You can use a dictionary to help you, or ask friends, family or your teacher/tutor.

Word or term	Explanation
Engine capacity	The size of a car's engine
Transmission	The type of gears in a car - like manual or automatic
Fuel consumption	How much petrol a car uses.
Speed limit
Clearway
4WD
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

Handout 3







The numbers on cars – Number 1

Numbers are often used when reading or talking about cars. Some examples are given below. Add in any new ones you meet.

Numbers	Where used	Units	Illustration
40, 50, 60, 80, 100, 110	Driving speeds - shown on a speedometer in a car	Kilometres per hour (kph)	
40, 50, 60, 80, 100, 100	Speed limits - the highest speed you are supposed to drive at.	Kilometres per hour (kph)	
Times - 1 hour, 5 minutes, etc.	Parking times	Hours or minutes	
4, 6, 8, 1230 cc, 1255 mm, 2760 cc, 3.3 litre, etc.	Specifications of cars e.g.: Number of cylinders; Size of engine (capacity); Stroke; Power; Transmission Length, Width and Height	Millimetres (mm); cubic centimetres (cc); litres (L)	
.....	
.....	
.....	
.....	

The numbers on cars – number 2

The speed when you drive cars is very important. Speed is measured in kilometres per hour (kmh or sometimes kph). Use arrows to join together the matching speeds – how fast the different things normally travel.

4 kmh		Car on local road
25 kmh		Car on highway
50 kmh		Person walking
100 kmh		Aeroplane
250 kmh		Racing car
600 kmh		Cyclist

Handout 5

The numbers on cars – number 3

You are to undertake a survey about people's favourite cars.

You need:

1. A simple question to ask. You could ask: "What is your favourite car?" Ask people to tell you the make and the model of the car they like (eg Ford Falcon)
2. You could decide on a different question - but check it with your teacher or tutor before you write it up.
3. Type up a sheet with the question on it. You need this so that you can record people's answers (a sample you can use is on the next page).
4. Ask at least 10 different people to tell you their answer.
5. Put all your answers together into a table.
6. Plot your data onto a graph - you could use **Excel** or **Word**. Ask your teacher or tutor for help or advice if you want.
7. Write up a report about your data and what the results were. Think about answering questions like:
 - ◇ Which car and which model was the most popular?
 - ◇ Is this what you thought might be the most popular car?
 - ◇ Are you surprised by their choices? Why? Why not?

You can produce your report in whatever way you like: e.g. as a poster, as a PowerPoint, or as a talk supported by your graph.

Handout 7

Parking times

Answer the following questions about Parking and Clearway signs and times.

Sign/information

Question



How long can you park here on a Saturday morning between 9 am and 12 pm?

.....



How many hours are you not allowed to park in the Clearway on this road on Mondays to Fridays?

.....



How long can you park here on a Tuesday between 9 am and 4 pm?

.....



If your watch shows this time in the afternoon and you are parked in the Clearway area, how long have you got before you have to go and move your car?

.....

Telling the time

Complete each of the times below. The first one is done as an example.

11.15 AM

Quarter past eleven in the morning

2.30 PM

.....

9.00 AM

.....

4.45 AM

.....

7.00 PM

.....

10.15 PM

.....

8.20 AM

.....

9.50 PM

.....

Handout 9

Matching times

Use an arrow to join together the matching pairs of digital and analogue times.

11.15



01.00



12.45



10.45



06.45



07.30



Buying a car

Imagine that you are going to buy a car (it can be new or second hand).

Think about questions like:

- ◇ How much do you have to spend?
- ◇ What type and model of car would you like to buy?
- ◇ What do you like about this car? Why?

You could use the internet, car magazines or newspapers to find a car you'd like to buy. Talk to your teacher about how you can find out answers to these questions.

What car would you buy?

Once you find the car you want to buy, answer the following questions about it.

Brand:

Model:

Year:

Cost: \$

Colour:

Number of kilometres:

Style of car (sedan, hatchback, wagon, etc.):

Number of doors:

Number of cylinders:

Size of engine (capacity):

Transmission:

Length of warranty:

Any other important specifications about your dream car?

.....

.....

.....

Write about some of the features of the car that you like:

.....

.....

.....

Reviewing a car

Read a review of a car you like. It can be from a newspaper, from the internet or magazine. Your teacher may provide you with some examples to read. Also find out other information about the car from the car maker (the internet is the best for finding out this information.)

Based on the information and the reviews you have, write a brief report (e.g. like a short piece in a newspaper) on your opinion about the car. You can hand write the report if you want, but it would be good if you could use a computer to write and print out your report.

Use the following as guides for writing (depending on your level of study).

CGEA I Introductory Level

- ◇ Use capital letters and full stops
- ◇ Write at least one paragraph
- ◇ Check your spelling (spell check, dictionary, teacher help, class mates)
- ◇ Think about who you are writing for - make your report interesting as well as giving the reader some information
- ◇ Plan your writing so that the reader can follow it from the beginning, through the middle and to the end.

CGEA I Level

- ◇ Use some of the "jargon" words that are used when talking about cars
- ◇ Think about using some direct words (quotes) from a person - e.g. someone who has driven the car
- ◇ Write at least three paragraphs and organise your writing with a beginning, a middle and an end
- ◇ Use a spell check or a dictionary for checking your spelling
- ◇ Think about the reader (the audience). Are you wanting to inform them about the car, get them interested, or maybe persuade them to buy that car
- ◇ Proof read your report and make changes and corrections.

Handout 12

Filling it up – fuel costs

One major 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.

Brand of fuel (Company name eg.: Shell)	Type of Fuel	Cost per litre
.....	Petrol: Name .....	.....
	Petrol: Name .....	.....
	Gas	.....
	Diesel	.....
.....	Petrol: Name .....	.....
	Petrol: Name .....	.....
	Gas	.....
	Diesel	.....
.....	Petrol: Name .....	.....
	Petrol: Name .....	.....
	Gas	.....
	Diesel	.....
.....	Petrol: Name .....	.....
	Petrol: Name .....	.....
	Gas	.....
	Diesel	.....

Matching prices

Use a line to join together the prices with the matching item.

\$5.00



Car tyre

\$20.00



Spark plug

\$75.00



2003 Porsche

\$125.00



1999 Pulsar

\$5,000



Car oil (5 litres)

\$40,000



Battery

Handout 14

Working it out - Calculations

Dan's Auto Supplies Dollar Day Sales



4 Car Mats
\$25 set



Seat covers
\$40 ea



Sun Screen
\$10



Roof bars
\$32 pair



Car Stereo
\$175 ea



Speakers
\$60 pair



4-Piece Ratchet set
\$50 set



Tool box
\$15 ea



GPS Navigation Set
\$195 set

Use the advertisement from **Dan's Auto Supplies** on the previous page to answer the questions below. You can do your working out any way you like:

- ◇ In your head
- ◇ With a pen and paper
- ◇ With a calculator.

It is always good to:

- ◇ Do an estimate, guess or rough calculation
- ◇ Work the answer out using two different methods - useful to check you are right
- ◇ After you get your exact answer check it against your guess or rough calculation.

Questions

How much would it cost to buy:

- ◇ The 4-piece ratchet set and the tool box?

Answer:

- ◇ The Car Stereo and one pair of speakers?

Answer:

- ◇ A sun screen; one pair of roof bars and one set of 4 car mats?

Answer:

If you had \$100 could you afford to buy:

- ◇ 2 Seat covers? Yes No

If you have enough money, about how much change would you get from the \$100?

.....

- ◇ One set of 4 car mats; and 2 Seat covers? Yes No

If you have enough money, about how much change would you get from the \$100?

.....

◇ A pair of roof bars; the 4-piece ratchet set and the tool box? Yes No

If you have enough money, about how much change would you get from the \$100?

.....

What is the difference in price between:

◇ The 4 Car mats and a Seat cover?

◇ The GPS Navigation set and the Car Stereo?

◇ The Roof bars and the 4-piece ratchet set?

How much would it cost to buy:

◇ Two sun screens?

◇ Two seat covers?

◇ Four Tool boxes?

How much would it cost to buy:

◇ Four sun screens?

◇ Two seat covers?

◇ Four Tool boxes?

If you had \$200 to spend at Dan's, what would you buy?

.....

.....

Why would you choose these items to buy?

.....

.....

.....

.....

Dan's Auto supplies has a special sale. They sell everything advertised at 50% off. How much would it cost at the sale to buy:

◇ The 4-piece ratchet set?

Answer:

◇ The roof bars?

Answer:

◇ One set of 4 car mats?

Answer:

Handout 15

Car Co-operative logic 1

Who bought which car?

Work out which car the four friends - Chris, Nick, Malia and Kate - bought.



<p>Toyota Corolla</p> <p>1985 model</p> <p>\$3500</p> <p>210 thousand kilometres</p>	<p>Ford Falcon</p> <p>1987 model</p> <p>\$4500</p> <p>175 thousand kilometres</p>	<p>Holden Commodore</p> <p>1983 model</p> <p>\$4900</p> <p>140 thousand kilometres</p>	<p>Mazda 626</p> <p>1986 model</p> <p>\$4000</p> <p>150 thousand kilometres</p>
Chris	Nick	Malia	Kate
Chris could only afford to spend \$4000 or less on a car		Chris wanted a car that was made after 1985	
Nick only wanted a car that had done 150 thousand kilometres or less		Malia wanted to spend between \$4500 and \$5000	
Kate wanted a Japanese brand of car - a Toyota or a Mazda		Malia wanted a car that had done less than 200 thousand kilometres	

Handout 16

Car co-operative logic II

How long to work?

Work out how long each of the four friends - Chris, Nick, Malia and Kate - take to get to work each morning. And also how they get to work.



Chris	Nick	Malia	Kate
Walk	Drive	Ride a bike	Ride a motorbike
15 minutes	45 minutes	1 hour	75 minutes
Chris had a short walk to work		Nick's trip was longer than Chris's	
Nick's trip was 15 minutes shorter than Malia's		Kate had the longest trip to work	
Malia liked riding her motorbike to work		Kate took more than an hour to get to work in her car	

Car co-operative logic II

Extra question

What time did they leave for work?

If they all arrive at work at 8.45 am.

What time did they each leave home?

Chris left home at:

Nick left home at:

Malia left home at:

Kate left home at:

