

# Keep kids learning

Dear Parents/Caregivers

This student work pack is a resource for you to support your child's learning from home during this time. We know that every child is unique in their learning journey as they have different interests and strengths. Families can use these packs in different ways to suit their needs.

These learning materials can be used when and as you think best for your child. There is no requirement for students to complete everything contained within the pack, or to do the activities in any order.

To assist parents/caregivers to use these materials, we have divided the materials contained within the pack into ones to use daily:

1. English - especially reading with your child
2. Maths - many can be done actively, with materials around your home
3. Wellbeing – we know it is so important at this time to keep students healthy and work on their strengths

There are also other learning areas you can use as projects or fun activities with your child:

1. Arts
2. Humanities and Social Sciences
3. Science

If you would like to ask about these activities, you can email us on [homelearning.doe@nt.gov.au](mailto:homelearning.doe@nt.gov.au)

There are also a number of online educational resources and activities that you may like to use with your child. Please use the following internet address <https://nt.gov.au/learning-together> to access these materials.

Thank you

We acknowledge and thank our state and territory government colleagues for their materials contained in this pack

## Literacy

Children learn by copying adults. Learning with you and other family members in a fun way is important. They also learn by playing and doing things themselves and with other children. They learn to talk by listening and they learn about reading through listening and by practising. Mistakes are part of their learning. Encourage your child to listen, talk, read, write, think, view and problem solve. To support your child's learning through talking: avoid interrupting, listen to the whole of what they are communicating and give positive messages to show that you are interested (nodding, smiles, gestures). It is also so important to read, write and talk in your home language as well as in English.

There are activities and ideas for your children to do to support their learning through reading, talking and writing. Many of the activities encourage students to work independently but others can involve family participation and assistance.

The *Literacy and Numeracy ideas for Middle Years* document has general activities for numeracy and literacy that students can do at any time. Many of them are ones that would be effective at the end of the day to wrap up reading or other language work students have been doing during the day.

Document title	Use with	Do
<i>Australian Identity</i>	This worksheet should be done first as it sets the context of 'Australian Identity' for other texts that will be used.	Complete the worksheet
<i>We will be Martians</i>	<i>Read and Interpret 'We will be Martians'</i>	Read the 'We will be Martians' article then complete the activities on the worksheet.
<i>Analysis of an image</i>	The worksheet is independent of other materials.	Do the activities on the worksheet; use the scaffold for analysis of the image. Once the worksheet and scaffold notes are complete, edit and draft the notes into a refined response.
<i>Comprehending 'True Blue'</i>	<i>True Blue lyrics</i>	Work through the activities as described in the worksheet instructions.
True Blue evaluative language	<i>True Blue lyrics</i>	Work through the questions as described in the worksheet instructions.
<i>Time Travel possible</i>	<i>Using the QAR guide</i>	Read the 'Time travel possible?' article then answer the questions on the QAR guide sheet
<i>Glossary</i>	The glossary will be a handy reference when working with any of the other texts and worksheets	Use when needed to explain unfamiliar terms.

LITERACY AND NUMERACY IDEAS FOR YEARS 7-9

<p><b>GOOD LISTENERS AND SPEAKERS:</b> Make a dot point criteria list each for ‘What good speakers do’ and ‘What good listeners do. Think of people you know to be good speakers and/or listeners. What do they do and how would others recognise them as a good speaker or listener?’</p>	<p><b>READING LOG:</b> Draw up a reading log where you can keep a weekly record of the material you read and your reflections on what you read. Use your own way to log your reading or just use the headings: <i>Date Title Type of text How long I read</i> Your reflection could just be a sentence or two about what you thought of the text or you could write: <b>3 facts</b> from what you read <b>2 comments</b> or opinions about what you read <b>1 question</b> you would like to ask about the reading</p>	<p><b>FAMILY JOKE BOOK:</b> Create a family joke book that you illustrate with family photos, hand drawings or even images cut out of magazines. Have your family members tell you some of their favourite jokes, then write them down using punctuation that shows how the joke should be told. (eg exclamation marks for punchlines and parts that need to be louder; capital letters or bold for words that need to be emphasised or shouted; commas to show where to slow down or pause   the telling of the joke)</p>
<p><b>INTERVIEW:</b> Interview a family member or possibly a neighbour (even if by phone or email). Be clear about what topic(s) you will interview about and draft at least ten questions for the interview. Make sure the subject of your interview is comfortable with the topic you have chosen. Possible interview topics:</p> <ul style="list-style-type: none"> <li>• first job; life dreams; biggest life influence</li> <li>• how reading (or writing, speaking, listening) is used in daily working and/or personal life</li> <li>• sports; how friendships impact on your life</li> </ul>	<p><b>PREDICTION:</b> If you have a selection of books at home, you can practise <i>predicting</i>. They might be books that belong to other members of your family. This doesn’t mean you have to read them all, just look at the cover of each book and predict what kind of book it will be. If it is a novel, what might happen in the story? If it is non-fiction, what are some of the questions the book might answer?</p>	<p><b>KEYBOARDING AND HANDWRITING SPRINTS:</b> Have daily practices of both keyboarding and handwriting. These should be sustained 10 minute ‘sprints’ where you write or type as quickly and accurately as you can. At the end of each timed sprint, see how many words you wrote and how many spelling or typographical errors. If you divide the number or mistakes you made by the number of words you wrote then multiply by 100, you can track whether you increase your %</p>
<p><b>TOWN LIBRARY:</b> What are the things your local/town library offers that your school library does not? Speak to the town librarian to ask what they see as the biggest differences between a school and town library.</p>	<p><b>READING PATHS AND NAVIGATION:</b> If magazines and newspapers are in your home, find out the different reading paths and navigations that people in your home take. Ask two or three people in your house to talk you through where they start and end in reading a newspaper or magazine. Which sections do they begin and end with and why? Which sections (if any) do they leave out and why?</p>	<p><b>INTERVIEW ARTICLE:</b> Use the answers you gathered in the interview activity to write a biographical text, magazine article or webpage based on the person you interviewed.</p>
<p><b>WHAT’S THE BIG IDEA?</b> Keep a section of your workbook or reading log called ‘Big ideas’. As you read texts, articles, chapters etc, write down what the main idea is. You can start by labelling each paragraph with one word that captures the main idea then moving to what the overall main ideas of the text are.</p>	<p><b>WRITE YOUR OWN QUESTIONS:</b> Choose a text that you have been reading. Write up to 10 questions on the text. You can also write ten statements related to the text that can only be answered ‘yes’, ‘no’ or ‘can’t tell’. You can answer them all if you like; but the value is in writing the statements and questions which often takes closer reading than when you are answering them.</p>	<p><b>FIVE TO REMEMBER:</b> Writing in an interesting, precise or descriptive way depends on having a good vocabulary and knowing how to use it. In all the reading, listening and viewing you have done today, write down five words that you think are important for you to remember and use beyond today.</p>

<p><b>SENTENCE HUNT:</b> In books, magazines or newspapers you have at home with you, choose a couple of pages to use for a sentence hunt. In hunting through the sentences on your chosen pages see how many different sentence <b>types</b> you can find (statement, question, exclamation, command); how many different ways you can find that have been used to <b>start</b> sentences; how many different sentence <b>structures</b> you can find.</p>	<p><b>PUNCTUATION HUNT:</b> Choose a page from a text you are reading. What are all the punctuation marks in it? Divide the punctuation marks you can see into those that mark the beginning or ending of a sentence; and those that are used to organise or create meaning within sentences. Can you find where a punctuation mark (eg comma) has been used in different ways in a text?</p>	<p><b>VOCABULARY ALPHABET CHART:</b> Divide an A4 sheet of paper into four columns and three rows. Label the cells as A-B; C-D; E-F; G-H; I-J; K-L; M-N; O-P; Q-R; S-T; U-V-W; and X-Y-Z. Keep track of new words you learn by adding them to your vocabulary alphabet chart</p>
<p><b>ANOTHER TITLE:</b> You can reinforce your understanding and comprehension of a text by trying to give it another title. Think about the key ideas in the text and create another title for the text. See how many different appropriate titles you can create. Then place these titles in order from what you consider to be the best title. Explain why it is the best title for the text compared to the others.</p>	<p><b>WORD WIZARDS:</b> As you are reading, viewing or listening to texts, you will come across new and interesting words. Aim to notice two new words a day and create word cards for them so you can share the words back at school. To create a word card, divide a card in four. In the top left quarter, write the word correctly spelled; in the top right quarter draw a picture of the word's meaning or use it in a sentence. In the bottom left corner write what the word means; in the bottom right corner, write what it does NOT mean.</p>	<p><b>NUMERACY COLLECTION:</b> From old textbooks, tests, workbooks, magazines, newspapers and other resources, make a collection of maps, diagrams, tables, graphs and charts that present information in numerical or picture form. You could look in advertisements as well as the nutritional information on food packaging.</p>
<p><b>QUESTIONS NOT ANSWERS:</b> Choose a graph or table from your 'numeracy collection'. Instead of answering questions, you are going to write some:</p> <ul style="list-style-type: none"> <li>• Write a question that requires a calculation to answer</li> <li>• Write a question that will require conversion of units to answer</li> <li>• What is the hardest question you can think of to ask about this?</li> </ul>	<p><b>TURNING THE TABLES:</b> Using one of the tables from your numeracy collection:</p> <ul style="list-style-type: none"> <li>• What are all the questions that could be answered by the information in the table?</li> </ul>	<p><b>FINDING YOUR WAY WITH MAPS:</b> Using one of the maps from your numeracy collection, write a series of statements about the map. These statements are ones that other people could say 'true', 'false' or 'can't tell' when they look at the map.</p>

# Australian identity

1. In the space provided below, describe what it means to you to be Australian. You can consider:

- where you live
- the kinds of activities you enjoy (for example, sports, music, television, books)
- places you visit on holidays
- your family history and languages spoken at home
- your favourite foods
- any other aspects that make you who you are.

An example has been provided for you.

I live in Queensland, which is perfect for going to the beach and having fish and chips for lunch, which we do a lot over the summer holidays. My grandmother is Polish and lives with us, so we speak Polish at home. My family follow some Polish traditions (we always eat *faworki* and celebrate our Name Day) but we also love a good Aussie barbecue. My favourite foods are Thai or Italian. I love listening to rock music, going to the cricket, and I watch *Neighbours* every night. My favourite book is *Lord of the Rings* and I would love to visit New Zealand, where the *Lord of the Rings* movies were made.

Now it's your turn!

## We will be Martians in 2025

If you tilt your head and peer skyward on the right night, at the right time, you'll see it — an orange-red orb shimmering against the silvery brilliance of the Milky Way. This scarlet sphere has fascinated humans since time immemorial. The Egyptians gave it its earliest recorded name. They called it 'Har decher' or, 'the red one', as it hung above the pyramids and pharaohs. The Romans gave it a more familiar title. They named it Mars, after their god of war, its crimson presence a reminder of blood spilt in war and conquest. Yet in 2025, and beyond, it may receive yet another name — home.



NASA, ESA, and The Hubble Heritage Team (STScI/AURA) <http://hubblesite.org/newscenter/archive/releases/solar%20system/mars/2005/34/image/h/%20%7CAuthor%20=NASA%20%7CDate%20=2005>

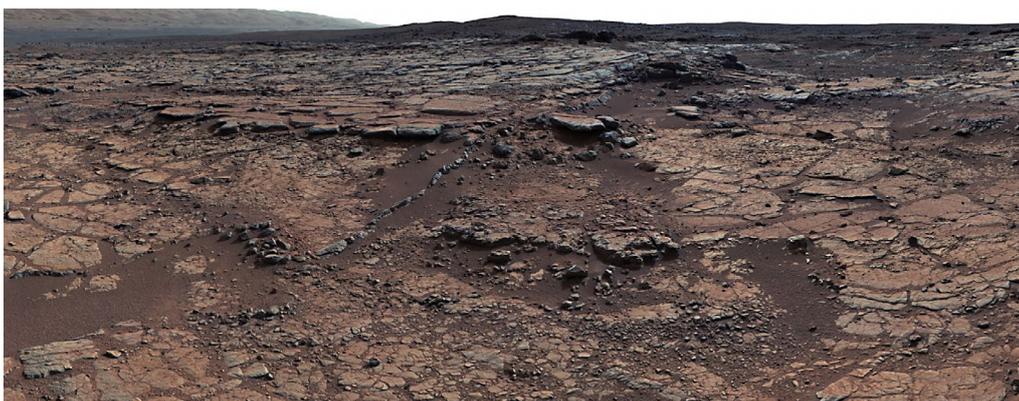
There are regular people, like you and me, who are likely to find themselves living on Mars just 12 short years from now. The Mars One Project, launched in April 2012, has startlingly announced that it aims to establish a human colony on the red planet by 2025. The price-tag of this ambitious venture is currently projected at \$6 billion and is very likely to rise. How the \$6 billion is to be generated is very interesting, indeed.

The Mars One Project aims to foot the bill of interstellar travel and trans-lunar planetary colonisation with the profits of a reality television show that documents the entire journey, from trying on spacesuits to activating booster cores outside of Earth's orbit. The television series promises to be the most ambitious television show of all time. It has all the right ingredients. Visualise a mixture of *Big Brother*, *The Truman Show*, and the delightful YouTube videos recently posted by Commander Hadfield of the international space station and you'll have an idea of the type of production this could be. There is one slight catch. The stars of this show will receive a one-way ticket to Mars. This hasn't stopped hundreds of thousands of hopeful interplanetary explorers applying to be one of four who will bravely go where no-one has gone before. Sounds amazing, doesn't it? What could possibly go wrong?

A lot. Loads. Heaps. Plenty. Tons. Oodles. Stacks.

Travelling to Mars will certainly not be easy. Not by a long shot. There are a range of issues that the Mars One team must overcome to ensure that humans are able to step foot on the red planet, and keep those feet there.

First of all, Mars is not a hospitable planet. It is mostly very cold, due to its distance from the sun and elongated, elliptical orbit that sees its mid-latitudinal regions averaging just above 0 °C on a hot summer's day and a fresh minus 90 °C on a summer's night. To put things in perspective, this would be like equatorial countries such as Indonesia and Somalia resembling Antarctica in the peak of summer. The hunk of oxidised, rust-coloured rock has some fairly unpleasant weather too, with Mars home to the most brutal dust storms in the solar system. The wild, raging storms can blanket the distant planet in a deep layer of rusty red dust for months at a time. Best wear something warm.



No place like home. The surface of the Red planet

NASA/JPL-Caltech/MSSS, <http://www.nasa.gov/content/yellowknife-bay-formation-on-mars/>



Secondly, we can't be sure of the physical impact of the Martian environment on human beings. In addition to the poor weather, the carbon dioxide in the atmosphere means humans can't breathe on its red surface. Pioneers will have to spend a lot of time indoors and they will be restricted to spacesuits for any outdoor activities. The paper-thin Martian atmosphere is also relentlessly bombarded by cosmic rays. Scientists are yet to complete long-term studies on the effects of cosmic radiation on humans, but the hypothesis is that intergalactic radiation isn't very pleasant. Scientists believe galactic particles may shred DNA, interrupt cell growth, cause cancer and possibly bring about mutations. Perhaps it would be wise to create space suits for our brave Mars colonists featuring an extra sleeve or pant leg for the potential growth of mutant limbs, or tentacles. What's more, it is highly likely that prolonged effects of a low-gravity environment could have negative effects on people. On Mars, the surface gravity is only around 38 per cent. There you would be almost three times lighter than you would be on Earth and able to leap about three times higher. It sounds like the miracle weight-loss cure we've all been waiting for, doesn't it? Or an opportunity to play basketball and slam-dunk like they do in the NBA? Unfortunately, the low gravity is likely to result in loss of bone strength and cause severe muscle degradation in a colonist's legs and back, with parts of the body withering away from lack of proper use.

It probably sounds like the Mars One mission is doomed to certain failure. It isn't. It could work.

In our favour, we definitely have the technological know-how. Most significantly, we have made radical leaps in space flight technology. We have come a long way since the Mars Mariner first orbited Mars in 1962. Presently, we can launch across 483 million kilometres of deep space and steer landing craft onto a small, remote target with admirable precision. The Rover missions of 2013 certainly demonstrate our ability to successfully transport highly valuable, fragile equipment and then carry out prolonged, complex operations on the distant planet. SpaceX, a company working closely with the Mars One Project, is deep in development of the Falcon Heavy rocket, which will have double the lift capacity of the Delta IV Heavy rockets that have recently powered the successful Mars Rover missions undertaken by NASA. The Falcon Heavy will also function at a fraction of the cost. Entrance descent and landing procedures (EDL) are at the point where space flight engineers are certain that EDL systems on future Mars landers will be able to safely guide humans onto the red planet. Also, the NASA Lunar Architecture Team has made great advances in developing pressurised habitation modules similar to the ones our brave explorers could inhabit. In fact, the Mars One Project is so confident that they have the know-how to put people on Mars that they plan an unmanned test run in 2018. The test run will be a dress rehearsal for the human mission of 2025 and will work on setting up basic necessities such as shelter, power and water systems, which will be essential in the eventual colonisation of Mars.

It remains to be seen whether the radical optimism of the Mars One Project is warranted. Whether you believe the mission to Mars is doomed to failure or it will be the first step towards interplanetary colonisation is irrelevant. The project sparks the imagination. It reminds us of the limitless human capacity to dream the wildest of dreams and realise the greatest of ambitions. Maybe it is a little crazy, but I'm sure that many people thought Cook or Columbus were a little mad, when they took their ships, against all odds, into new worlds — into new worlds that we now call 'home'.

Student name:



## Reading and interpreting 'We will be Martians in 2025'

Read the article 'We will be Martians in 2025' and complete the following table by indicating whether each statement is True or False.

You will need to provide evidence from the text to support your answer.

<b>Level 1 — Literal</b>			
Reading 'on the lines'. The answer is there in the text. The author said it. (QAR — In the text — Right There and Think and Search)			
<b>Statement</b>	<b>True</b>	<b>False</b>	<b>Evidence</b>
a. The Mars One Project will be a failure.			
b. The Mars One Project is going to be the subject of a film.			
c. The Mars One Project aims to establish a human colony on Mars by 2025.			
<b>Level 2 — Inferential</b>			
Reading 'between the lines'. Search for clues in the text. The author meant it. (QAR — Author and You)			
<b>Statement</b>	<b>True</b>	<b>False</b>	<b>Evidence</b>
a. The author admires the ambitions of the Mars One Project.			

Student name:

Statement	True	False	Reasons
b. The author thinks living on Mars would be wonderful.			

**Level 3 — Evaluative**

Reading 'beyond the lines'. Make connections beyond and back to the text. The author would agree with it. (QAR — Author and You and On Your Own)

Statement	True	False	Reasons
a. I would like to be a part of the Mars One Project and be one of four people to colonise Mars.			

How was your student able to complete the activity?

- No assistance required   
  Some assistance required   
  A lot of assistance required   
  Not able to do this task

Comments:

## Analysis of an image

- The following image is an entry into the Australian poster competition of 2006. Consider the image and the notes in the table below that summarise observations about the use of visual features to communicate meanings in the construction of the image.



Lewis, Andy 2007, Australian poster annual, <http://www.flickr.com/photos/lwnski/401597334/in/photostream/>  
CC BY-NC-SA <http://creativecommons.org/licenses/by-nc-sa/2.0/deed.en>

Visual features	Australian poster
<b>Colour</b>	Red, white and blue — the traditional colours of the Australian flag. Black used to indicate facial features.
<b>Symbol</b>	This image makes use of the iconic Australian flag. It asks a question about the tolerance of Australians. There is also clever suggestiveness in the way the flag is drawn symbolically to represent a Muslim woman.
<b>Objects within the frame</b>	A female face — large eyes and side smile but few other facial features, head covered in an Australian flag wrapped in the style of the traditional hijab often worn by Muslim women.
<b>Positioning within the frame</b>	The image is centred within the frame, face in the upper section with the flag occupying the majority of the frame. Text in small font under image.
<b>Text</b>	The only text here identifies that the image was created as an entry in the Australian poster competition.
<b>Style</b>	This is a cartoon, non-realistic image — not closely linked to a real person.

2. The notes recorded in the table have been used to plan a persuasive analysis about the use of visual features in the image to convey ideas to the audience. Read the analysis in the table.
3. Annotate the analysis, identifying text structures and effective language features in the appropriate columns:
  - text structures: hook, introduction, body, conclusion, sentence structure, grammatical theme, topic sentence
  - language features: evocative vocabulary, metaphors, allusions, metonymy, specialised vocabulary of visual language, noun groups, abstract nouns, modal verbs, adverbs, repetition, evaluative language, language of comparison – cohesion.

Text structures	Australian poster analysis	Language features
	<p><i>It has been said that an image can speak a thousand words. On the surface this image, an entry into the Australian poster competition of 2006, appears to simply represent a woman who has wrapped an Australian flag around her head. But it has deeper meaning; as I understand the text, it is making commentary on Australian prejudices, particularly about the relationship between Islamic Australia and mainstream attitudes to cultural practices such as women wearing hijabs.</i></p> <p><i>The text relies on symbolic interpretations of objects within the frame to help convey its message. The woman is cleverly and minimally drawn to look Muslim, and has wrapped herself in the iconic Australian flag. The flag is positioned around the woman to resemble a hijab. To me this implies that we need to forget the woman's ethnicity or religion and focus on the Australian right to freedom of speech, worship and multiculturalism. Australia is meant to be a democracy that guarantees those rights. Just as the woman has embraced the Australian flag, Australians should embrace this multicultural woman. I also like the slightly mischievous expression in the woman's face – to me, that larrikin quality is very Australian.</i></p>	

Text structures	Australian poster analysis	Language features
	<p><i>The artist uses many of the devices that a painter or photographer might use. In fact, anyone looking at the poster would have their eyes drawn up to focus on the woman's face by virtue of the positioning. The text does not intrude on the main message of the image; it simply exists to let the reader know why the image was drawn and to remind us this is a submission in a nation-wide competition. I think the style of the image is deliberately not realistic. The cartoon style helps distance the message from real examples of people; if a real photograph had been used, people could have focused more on the real person and not the idea.</i></p> <p><i>The entire image conveys the powerful message that the artist wants Australians to remember their democratic ideals and traditional values of mateship and giving people a fair go. The image skilfully reminds us that people who've migrated to Australia (which includes most of us) are, first and foremost, Australians and that, as such, we should welcome people from many different countries and cultures.</i></p>	

4. Evaluate the effectiveness of the persuasive analysis above, using the table below to record your observations.

	Evaluation
<p><b>Hook</b></p> <p>Is there an engaging opening statement? For example:</p> <ul style="list-style-type: none"> <li>• a quote</li> <li>• a definition</li> <li>• statistics</li> <li>• a short anecdote</li> <li>• other</li> </ul>	
<p><b>Text structures</b></p> <p>How effective are the text structures in the analysis? For example:</p> <ul style="list-style-type: none"> <li>• sentence structure</li> <li>• grammatical theme</li> <li>• topic sentences</li> <li>• repetition</li> <li>• nominalisation</li> <li>• abstract nouns</li> </ul>	
<p><b>Language features</b></p> <p>How effective are the language features in the analysis? For example:</p> <ul style="list-style-type: none"> <li>• evocative vocabulary</li> <li>• metaphors</li> <li>• allusions</li> <li>• metonymy</li> <li>• specialised language about visual texts</li> <li>• noun groups</li> <li>• modal verbs</li> <li>• evaluative language</li> <li>• adverbs</li> <li>• language of comparison</li> </ul>	

5. Evaluate the effectiveness of your own persuasive analysis, using the table below to record your observations.

Evaluation	
<p><b>Hook</b></p> <p>Is there an engaging opening statement? For example:</p> <ul style="list-style-type: none"> <li>• a quote</li> <li>• a definition</li> <li>• statistics</li> <li>• a short anecdote</li> <li>• other</li> </ul>	
<p><b>Text structures</b></p> <p>How effective are the text structures in the analysis? For example:</p> <ul style="list-style-type: none"> <li>• sentence structure</li> <li>• grammatical theme</li> <li>• topic sentences</li> <li>• repetition</li> <li>• nominalisation</li> <li>• abstract nouns</li> </ul>	
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# 'True Blue'

## lyrics by John Williamson

Hey True Blue, don't say you've gone  
Say you've knocked off for a smoko  
And you'll be back later on  
Hey True Blue, Hey True Blue.

Give it to me straight  
Face to face  
Are you really disappearing,  
Just another dying race,  
Hey True Blue.

True Blue, is it me and you?  
Is it Mum and Dad, is it a cockatoo?  
Is it standing by your mate  
When he's in a fight?  
Or will she be right?  
True Blue, I'm asking you ...

Hey True Blue, can you bear the load?  
Will you tie it up with wire,  
Just to keep the show on the road?  
Hey True Blue, Hey True Blue, now be  
Fair Dinkum.

Is your heart still there?  
If they sell us out like sponge cake  
Do you really care?  
Hey True Blue.

True Blue, is it me and you?  
Is it Mum and Dad, is it a cockatoo?  
Is it standing by your mate  
When he's in a fight?  
Or will she be right?

True Blue, I'm asking you ...

True Blue, is it me and you?  
Is it Mum and Dad, is it a cockatoo?  
Is it standing by your mate  
When he's in a fight?  
Or will she be right?  
True Blue ... True Blue.

### Smoko

*To 'knock off for a smoko' is to have a break for a coffee, tea or cigarette.*

### Fair dinkum

*Virtually the same as 'True blue' — honest, reliable, trustworthy; someone who has embraced Aussie attitudes to everything, especially mateship. 'Are you fair dinkum?' means 'Are you telling the truth?'*

### True blue

*Steadfast loyal Australian who displays the Aussie ideals of a fair go for all, mateship, having a go and solving problems.*





2. John Williamson's song 'True Blue' represents Australia as a fair country where people are resilient, hardworking, honest and true. Consider whether you think the following groups of people are represented in the song lyrics:
- people of all ages — young to older
  - people from all areas of Australia — the city and rural and remote communities
  - males and females
  - people from a diverse range of jobs — physical labour, office work, professional
  - people who were born in Australia and those who arrived as migrants
  - people from different cultural backgrounds.
- a. Which of the viewpoints of Australians listed above would you argue are represented in the text? Add these to the left column of the table below and use a quote from the song lyrics as supporting evidence.
- b. Which of the viewpoints of Australians listed above would you argue are not represented in the text? Add these to the right column of the table. Justify your answer.

Whose viewpoint <u>is</u> represented in the text?	Whose viewpoint <u>is not</u> represented in the text?
<p><i>For example:</i></p> <ul style="list-style-type: none"> <li>• males and females</li> </ul> <p><i>Supporting evidence:</i></p> <ul style="list-style-type: none"> <li>• the song mentions supporting your mates if they are in a fight</li> </ul>	

Whose viewpoint <u>is</u> represented in the text?	Whose viewpoint <u>is not</u> represented in the text?

Reference: True Blue (John Williamson) © 1982 Emusic PTY LTD.

# Evaluative language devices: 'True Blue'

Read the song lyrics for John Williamson's 'True Blue' and answer the following questions about the use of evaluative language devices to express ideas about Australia's peoples and cultures.

## Colloquialisms

1. Identify the meanings of some everyday colloquial expressions in the song.

Everyday expressions in the song	My interpretation of the meaning of everyday expressions
true blue	
smoko	
fair dinkum	
give it to me straight	
face-to-face	
will she be right	
bear the load	
keep the show on the road	
standing by your mate	

2. How does the use of colloquial language in 'True Blue' represent Australian people and culture?

3. Sometimes spelling is used creatively in texts for particular effects. What is the term 'smoko' an abbreviation for? What does it mean?



### Rhetorical questions

9. Identify what the author means when he asks True Blue the following rhetorical questions:

a. 'Can you bear the load?' (Consider, what load might the author be thinking of?)

b. 'Is your heart still there?'

c. 'True Blue, is it me and you?'

10. Why is the author or singer asking all these rhetorical questions of True Blue?

11. How does the use of rhetorical questions in the song work to create a representation of Australia's people and their cultural attitudes and behaviours?

Reference: True Blue (John Williamson) © 1982 Emusic PTY LTD.

# Oxford physicist says time travel is possible

Sunday 19 December 1999

By Charles Arthur, Technology Editor

Is time travel possible? It certainly is, according to Dr Neil Johnson, a physics lecturer at Oxford University who insists that a world previously confined to the pages of H G Wells is more than mere fiction.

Dr Johnson has just finished taping this year's prestigious series of five Royal Institution lectures, which will be broadcast to the nation from Boxing Day onwards.

The talks, titled 'Time's Arrow', incorporate a huge journey around the complex topic of quantum physics — in language that schoolchildren could understand — and involve dispatching atomic clocks for round-the-world trips and being revisited by a whiskery vision of his future self, courtesy of the BBC's makeup department.

The key to time travel, explains Dr Johnson, is understanding that our intuitive view of the world is actually quite wrong. In everyday life, we usually go along with the view promulgated by Sir Isaac Newton in the 17th century, which is that the speed of everything, even light, is relative.

'Einstein said that it's the speed of light which is absolute, and motion which is relative,' explains Dr Johnson. 'Where Newton said that time is the same for everybody, Einstein said that time depends on what you are doing.' Thus if you are running up and down the room, you age more slowly than if you simply sit slumped in your chair.

The two clocks that demonstrate this effect in the lectures are paired atomic clocks, accurate to a second every few million years. One travelled to Shanghai and back while the other stayed in London — creating what Dr Johnson calls 'a time warp' of a few billionths of a second.

That's one sort of time travel; but a growing number of scientists, including Dr Johnson, now agree that real time travel — the sort of thing that H G Wells wrote about in his novel *The Time Machine* — is possible.

That's the good news; the bad news is the conditions required to make it happen. Those same scientists who now agree that time travel is possible also agree that you probably wouldn't like to experience it.

The key is 'wormholes', which — they hypothesise — could be formed when black holes collapse.

A black hole is the leftover of a huge star that collapses on itself until the force of gravity becomes so great that not even light (which, as Einstein but not Newton realised, must be affected by gravity) can escape. If the black hole collapses on itself further, it might connect with another part of the universe, where instead of sucking in matter, it would spew it out.

So not only would you have to go through a black hole and then be spat out of the other end, you would have to go through the correct part, the wormhole. But in a black hole, which might be miles wide, a wormhole would — according to the mathematics — be only a billionth of a trillionth of a trillionth of a centimetre wide.

And one of the best arguments that time travel, at least in a reasonable form like Wells' time machine, is not possible is the simple and logical one: we have not — as far as we can tell — been visited by anyone from the future.

Arthur, C, 'Oxford physicist says time travel is possible' *The Independent*.  
<http://www.independent.co.uk/news/science/ox-ford-physicist-says-time-travel-is-possible-738750.html>

# Using the QAR guide

Read the article on **Sheet 3 — Oxford physicist says time travel is possible.**

For each question below:

1. Decide on the *type* of question it is and write it into the left-hand column. (Right there, Think and search, Author and you, On your own).
2. Answer the question in the right-hand column.

### QAR Question–answer relationship

‘In the book’ questions	‘In your head’ questions
Right there	Author and you
Think and search	On your own

	Is the subject matter of this article credible? Explain.
	Write an explanation for the word <i>promulgated</i> as used in paragraph 4 of the text.
	What is a black hole?
	According to the article, is it possible for a human to travel through a wormhole? Explain.
	What is one of the arguments that was put forward to claim that time travel is not possible?
	The article was written in December 1999. Should this alter the reader’s attitude towards the content in the article? Explain.

# English glossary Year 9 Unit 1

Term	Meaning
abstract noun	<p>words that name intangible[s] things such as democracy, courage, success, fact and idea. </p> <p>'Intangible' means you cannot touch it; it is not physical in nature.</p> <p>In contrast, <b>concrete nouns</b> are physical objects, such as <i>man, woman, boy, girl, diamond, car</i> and <i>window</i>.</p>
adverb	<p>a word class that may modify a verb (for example, 'beautifully' in 'She sings beautifully'), an adjective (for example 'really' in 'He is really interesting') or another adverb (for example 'very' in 'She walks very slowly'). In English many adverbs have an -ly ending </p>
aesthetic value	<p>relates to a sense of beauty or an appreciation of artistic expression. </p> <p>Aesthetic value is created in texts through choices of language features and text structures. In spoken texts, the speaker's interaction skills also create the aesthetic value of the text.</p>
allusion	<p>an indirect reference to someone or something that conveys or enhances a particular meaning. Allusions usually refer to literary works, social and historical events or people, for example, 'The footballer's Herculean efforts were appreciated by the fans.'</p>
audience	<p>the intended group of readers, listeners or viewers that the writer, designer, filmmaker or speaker is addressing </p>
camera angle	<p>the angle at which the camera is pointed at the subject. Vertical angle can be low, level or high. Horizontal angle can be oblique (side on) or frontal </p> <p>a high angle: camera is tilted downwards at the subject. The subject appears powerless or inferior</p> <p>a low angle: camera is tilted upwards at the subject. The subject appears imposing or powerful</p> <p>eye-level point of view: the subject appears to be equal</p>
cohesion	<p>grammatical or lexical relationships that bind different parts of a text together and give it unity. Cohesion is achieved through various devices such as connectives, ellipses and word associations (sometimes called lexical cohesion). These associations include synonyms, antonyms (for example, 'study/laze about', 'ugly/beautiful'), repetition (for example, 'work, work, work – that's all we do!') and collocation (for example, 'friend' and 'pal' in, 'My friend did me a big favour last week. She's been a real pal.') </p>
colloquialism	<p>an informal word or phrase that is used more often in conversation than in formal speech or writing</p>
culture	<p>the beliefs, customs, practices and social behaviours of a group, nation or people</p>



Term	Meaning
evaluative language	<p>positive or negative language that judges the worth of something. It includes language to express feelings and opinions, to make judgments about aspects of people such as their behaviour, and to assess the quality of objects such as literary works. Evaluations can be made explicit (for example, through the use of adjectives as in: 'She's a lovely girl', 'He's an awful man', or 'How wonderful!'), however, they can be left implicit (for example, 'He dropped the ball when he was tackled', or 'Mary put her arm round the child while she wept.')</p> <p>Language that seeks to persuade readers' attitudes either positively or negatively about:</p> <ul style="list-style-type: none"> <li>emotions, feelings or opinions (language of Affect)</li> <li>aspects of people such as their behaviour (language of Judgment)</li> <li>the quality of objects such as art or literary works (language of Appreciation)</li> </ul>
evocative language	words or phrases that are designed to evoke an emotional response from the reader
extended metaphor	a metaphor that goes beyond a single phrase or sentence
framing	the way in which elements in a still or moving image are arranged to create a specific interpretation of the whole. Strong framing creates a sense of enclosure around elements while weak framing creates a sense of openness
grammatical theme	the first part of the sentence, including every word up to the first verb. It indicates which message is given prominence in a sentence. While a topic sentence serves as a text structural device to signpost points raised in a paragraph, the text that comes in the grammatical theme position of a sentence works to indicate what is most important and may influence audience response.
icon	an important symbol for a group, people or culture
juxtaposition	the placement of two or more ideas, characters, actions, settings, phrases, or words side-by-side for a particular purpose (for example, to highlight contrast or for rhetorical effect)
living language	a language that is constantly evolving and changing due to the way it is used and preserved
metaphor	when one thing is said to be something that it is not. It is not meant to be taken literally. A connection is made from one object, person, place or event to another, which can help the reader apply qualities of one to the other to provide insight or new knowledge. For example: 'her heart of stone'

Term	Meaning
metonymy	the use of the name of one thing or attribute of something to represent something larger or related (for example, using the word ‘Crown’ to represent a monarch of a country; referring to a place for an event, as in ‘Chernobyl’ when referring to changed attitudes to nuclear power, or a time for an event, as in ‘9/11’ when referring to changed global relations) 
modal verb	a verb that expresses a degree of probability attached by a speaker to a statement (for example ‘I might come home’) or a degree of obligation (for example ‘You must give it to me’) 
myth	a popular belief that has become associated with something else
nominalisation	<ul style="list-style-type: none"> <li>• a process for forming nouns from verbs (for example, ‘reaction’ from ‘react’ or ‘departure’ from ‘depart’) or adjectives (for example, ‘length’ from ‘long’, ‘eagerness’ from ‘eager’)</li> <li>• a process for forming noun groups/phrases from clauses (for example, ‘their destruction of the city’ from ‘they destroyed the city’)</li> <li>• nominalisation is a way of making a text more compact and is often a feature of texts that contain abstract ideas and concepts </li> </ul>
noun group/ phrase	<p>consist of a noun as the major element, alone or accompanied by one or more modifiers. The noun functioning as the major element may be a common noun, proper noun or pronoun. Expressions belonging to a range of classes may function as modifiers:</p> <ul style="list-style-type: none"> <li>• those that precede the main noun include: <ul style="list-style-type: none"> <li>◦ determiners (for example, ‘the car’, ‘a disaster’, ‘some people’, ‘many mistakes’)</li> <li>◦ possessive noun groups/phrases and pronouns (for example, ‘the old man’s house’, ‘Kim’s behaviour’, ‘my father’)</li> <li>◦ numerals (for example, ‘two days’, ‘thirty casualties’, ‘a hundred students’)</li> <li>◦ adjectives (for example, ‘grave danger’, ‘a nice day’, ‘some new ideas’, ‘poor Tom’)</li> <li>◦ nouns (for example, ‘the unemployment rate’, ‘a tax problem’, ‘a Qantas pilot’)</li> </ul> </li> <li>• those that follow the main noun usually belong to one or other of the following classes: <ul style="list-style-type: none"> <li>◦ prepositional phrases (for example, ‘a pot of tea’, ‘the way to Adelaide’, ‘work in progress’)</li> <li>◦ subordinate clauses (for example, ‘the woman who wrote it’, ‘people living near the coast’) </li> </ul> </li> </ul>
placement	in a photograph, artwork, film or video shot, meaning is imparted by an object’s position, for example: centre, left, right, bottom, top, foreground, mid-ground, background and whether the objects are close together or far apart.



Term	Meaning
repetition	words or ideas deliberately repeated for effect. When something is repeated it is easier to remember and makes a deeper impact. Repetition also links ideas in a text and acts as a cohesive device. If the main idea or message is repeated throughout the text, the audience receives one clear, cohesive message. This is a persuasive text structure.
representation	where words, images or symbols serve to express or stand for something else such as a person, thing or idea
rhetorical question	a question that is asked to provoke thought rather than require an answer 
salience	a strategy of emphasis, highlighting what is important in a text. In images, salience is created through strategies like placement of an item in the foreground, size and contrast in tone or colour. In writing, salience can occur through placing what is important at the beginning or at the end of a sentence or paragraph or through devices such as underlining or italics. 
shot size	each shot size emphasises certain elements of a scene and can be used to prompt audiences into accepting particular meanings, for example, close-up, medium, long shots
slang	a more informal version of colloquial language
stereotype	when a person or thing is judged to be the same as all others of its type. Stereotypes are usually formulaic and oversimplified. 
symbol	a word or image that signifies something other than what it literally is, and communicates meaning through the thoughts and feelings associated with them. For example, the dove is seen as a symbol of peace.
symbolism	the use of symbols to give an object a deeper or more abstract meaning than that which is represented at face value. For example, the symbol of a fractured heart may symbolise love gone awry.
visual features	visual components of a text such as placement, salience, framing, representation of action or reaction, shot size, social distance and camera angle 

## Numeracy

The Mathematics activities in this book support the Australian Curriculum and are targeted towards your child's year level.

### How can I support my child?

Encourage them to repeat and practice their maths activities. Go through their work with them.

Think about ways that you can bring maths into real life experiences. This can be done by putting socks in pairs, setting tables, gardening, cooking and games. Count with your child, add things up, look at patterns. For example, look at the patterns in an artwork, count natural things such as shells, leaves or animals. Put different kinds of natural things into groups. Order objects by size. For example, collect rocks or bush tucker and put them into order from small to big.



Student name:

--

d. What will I pay for  $\frac{1}{2}$  kg of glass pearl (cream) beads?

2. Express the following patterns as an algebraic equation:

a.

$x$	1	2	3	4
$y$	5	10	15	20

Equation:

b.

$x$	1	2	3	4
$y$	1	4	7	10

Equation:

c.

Taxi fare

<i>distance (km)</i>	1	2	3	20
<i>cost (\$)</i>	7.20	9.40	11.60	

Equation:

d. Calculate how much it would cost to travel 20 km with this taxi service. Enter your answer in the table above.

Student name:



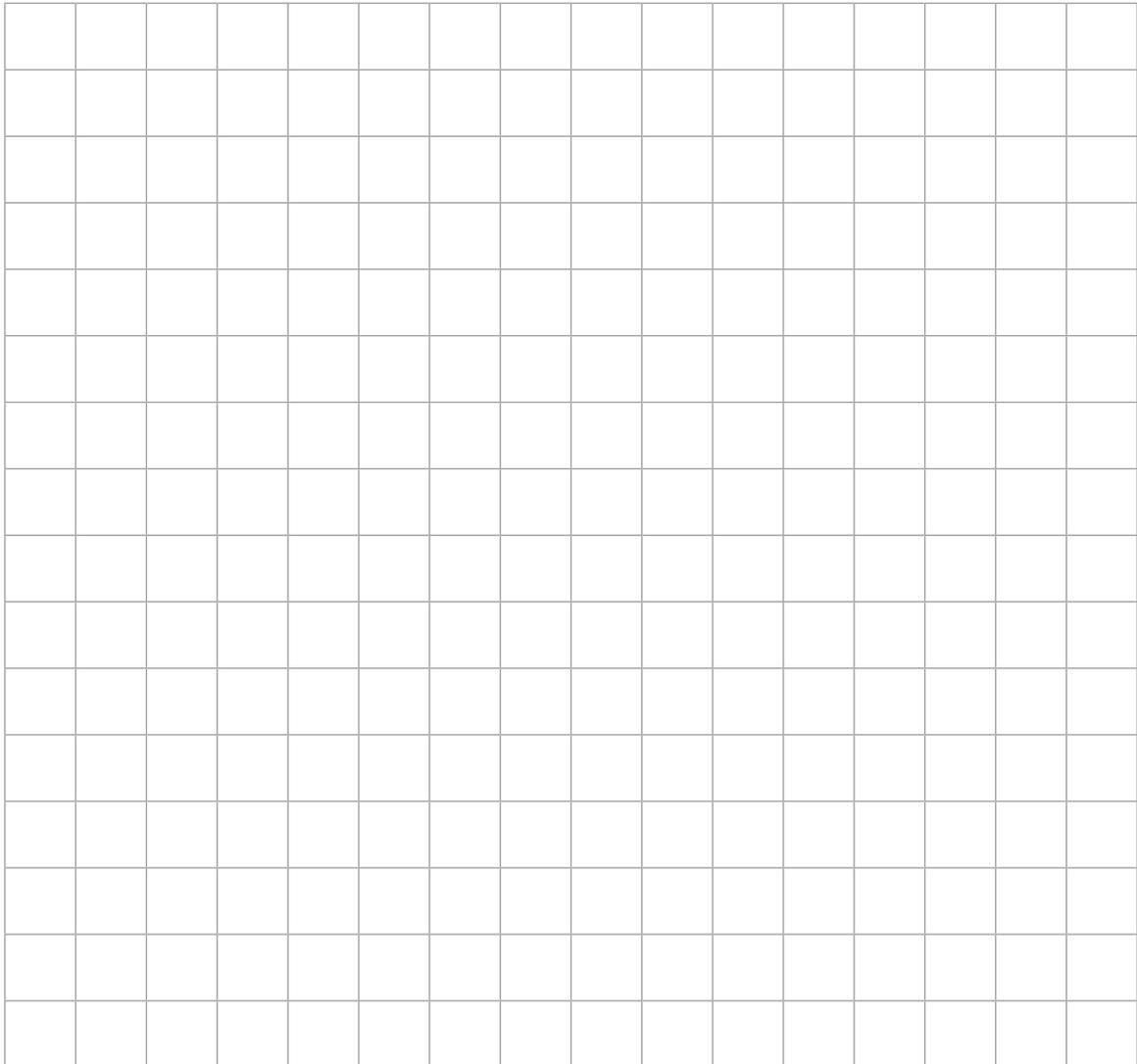
3. Four online music suppliers have the following download and streaming rates:

Supplier	Download	Streaming
FunkTown	128 KB/s	n/a
Marone	192 KB/s	192 KB/s
Pearls	192 KB/s	160 KB/s
Music rhapsody	160 KB/s	128 KB/s

- a. How long will it take to download a song from Pearls if the song takes up 4 500 kB?
- b. How long would it take if I chose streaming?
- c. Sue wants to download three songs: one of 4 000 KB, one of 4 300 KB and one of 5 100 KB. How much time will she save if she uses Marone rather than Music rhapsody?

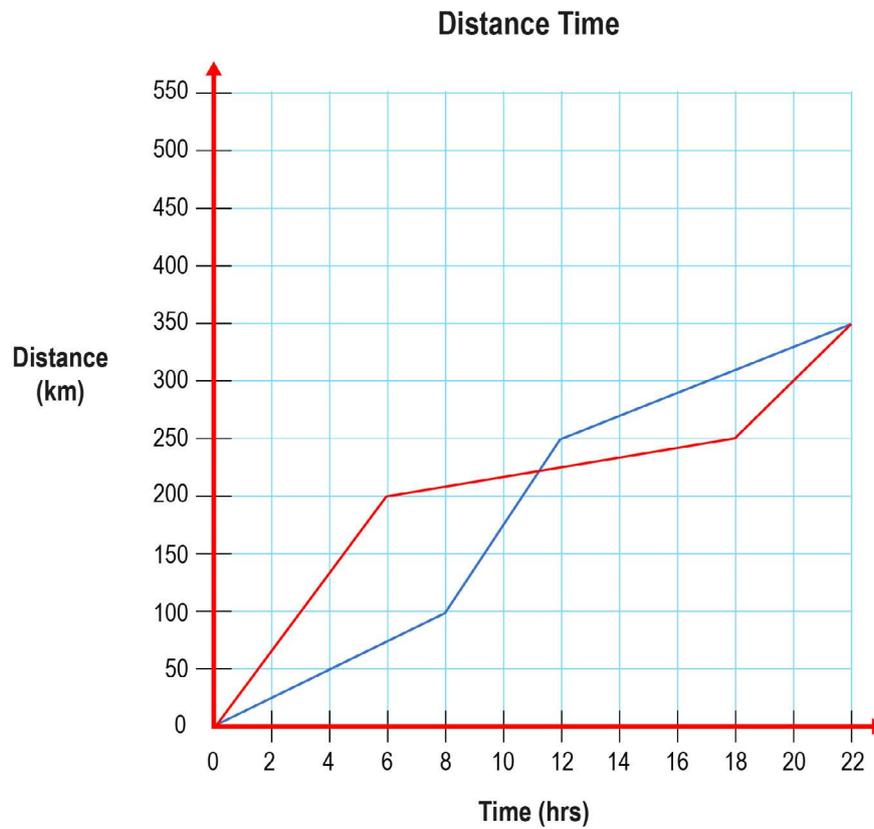
Student name:

d. Verify the answer to Question (c) by drawing a graph of the downloads.



Student name:

4. Two drones are tracking the movements of two army platoons over a 22-hour period. Their journeys are shown on the following graph.



- a. What are the three speeds at which the blue platoon travels?



Student name:

b. What is the slowest speed of the red platoon?

c. Which platoon reaches the highest speed?

d. What is the average speed of each platoon?

e. Does either platoon stop? How can you tell?

How was your student able to complete the activity?

No assistance required     Some assistance required     A lot of assistance required     Not able to do this task

Comments:

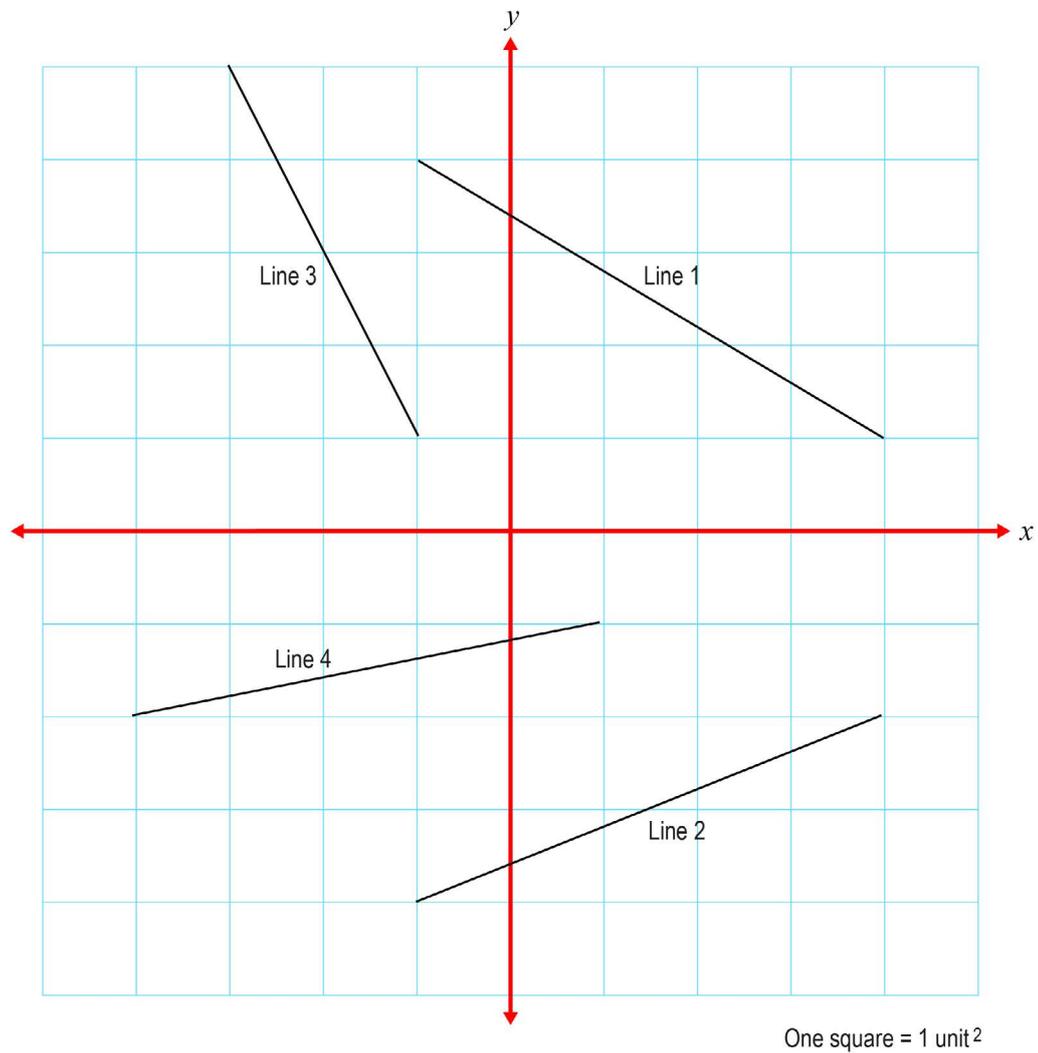
Student name:



Sheet

7

## How steep is it?



1. Consider the lines on the axes above. Without calculating:
  - a. Identify the lines that have positive gradients. Explain how you know this.
  - b. Identify the lines that have negative gradients. Explain how you know this.
  - c. List the order of 'steepness' of the lines from least steep to most steep.



Student name:

2. Calculate the gradient of each line. Show clearly how you are obtaining your solutions.
3. Consider the values you obtained for the gradients of each line in Question 2. Does this correspond to your initial answers for Question 1c?
4. Use the formula,  $\left(\frac{y_2 - y_1}{x_2 - x_1}\right)$  to find the gradient of the lines drawn between the following:
- a.  $(-5, 1)$  and  $(5, -4)$       b.  $(-4, -3)$  and  $(-1, 6)$       c.  $(1, 3)$  and  $(-1, 0)$

How was your student able to complete the activity?

No assistance required

Some assistance

A lot of assistance

Not able to do this task

Comments:

Student name:

--



## Expanding binomials

1. Expand the following binomials using the area model.

a.  $(x + 2)(x + 4)$


b.  $(k + 8)(k + 3)$


2. Expand the following binomials.

a.  $(x - 4)(x + 2)$

b.  $(g - 2)(g - 6)$

c.  $(2x + 3)(x + 7)$



Student name:

d.  $(3r + 2)(6r - 6)$

3. Three students tried to expand the following binomial:

$$(x - 5)(x + 4)$$

They each came up with a different answer.

Answer 1: $2x - 20$	Answer 2: $x^2 - 9x - 20$	Answer 3: $x^2 - x - 20$
---------------------	---------------------------	--------------------------

a. Which answer is correct?

b. Explain what type of errors were made by the other two students.

How was your student able to complete the activity?

No assistance required     Some assistance required     A lot of assistance required     Not able to do this task

Comments:

# Sketching parabolic functions

Sketch plots for the following functions:

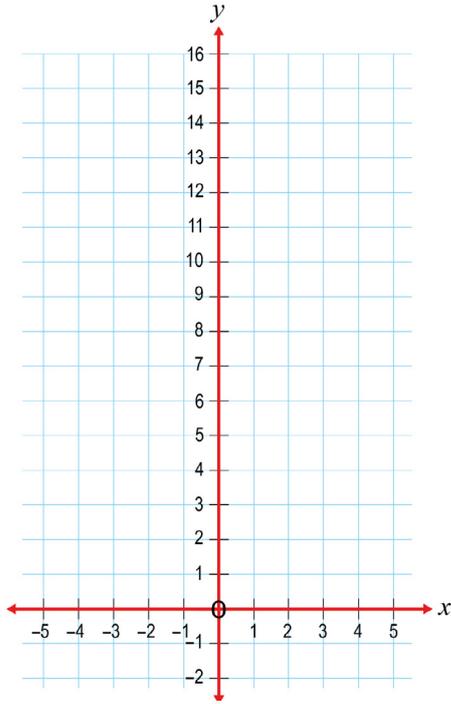
<b>Question 1</b>								<b>Question 2</b>							
$y = x^2 + 2$ for $-3 \leq x \leq 3$								$y = x^2 - 4$ for $-3 \leq x \leq 3$							
<b>x</b>	-3	-2	-1	0	1	2	3	<b>x</b>	-3	-2	-1	0	1	2	3
<b>y</b>								<b>y</b>							



**Question 3**

$y = x^2 + 2x$  for  $-3 \leq x \leq 3$

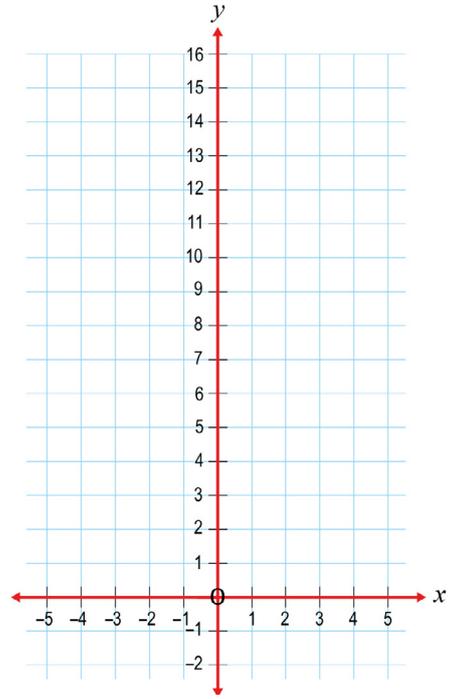
<b>x</b>	-3	-2	-1	0	1	2	3
<b>y</b>							



**Question 4**

$y = x^2 + 2x + 1$  for  $-3 \leq x \leq 3$

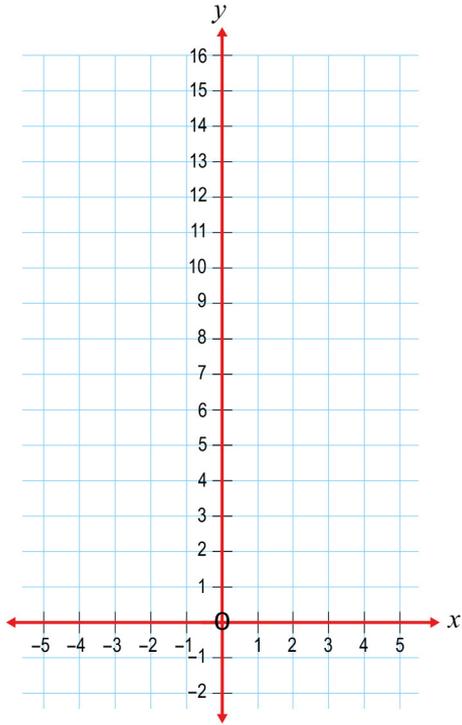
<b>x</b>	-3	-2	-1	0	1	2	3
<b>y</b>							



**Question 5**

$y = x^2 - x + 2$  for  $-3 \leq x \leq 3$

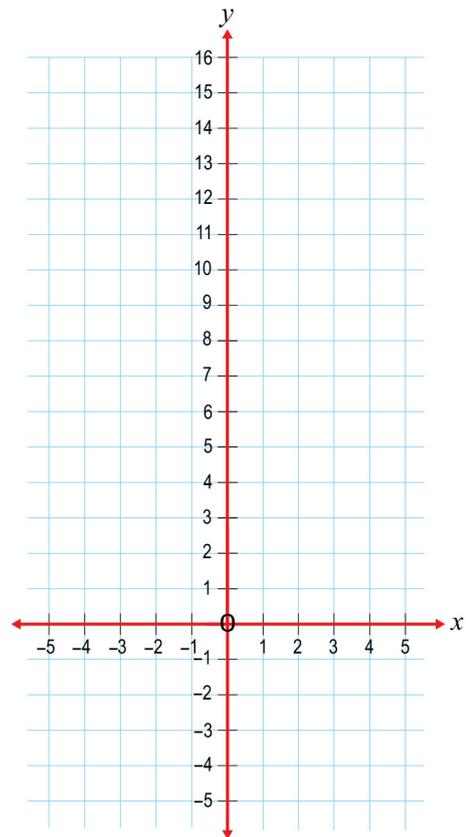
$x$	-3	-2	-1	0	1	2	3
$y$							



**Question 6**

$y = x^2 - 2x - 3$  for  $-3 \leq x \leq 3$

$x$	-3	-2	-1	0	1	2	3
$y$							



Student name:

## Sketching non-linear relations

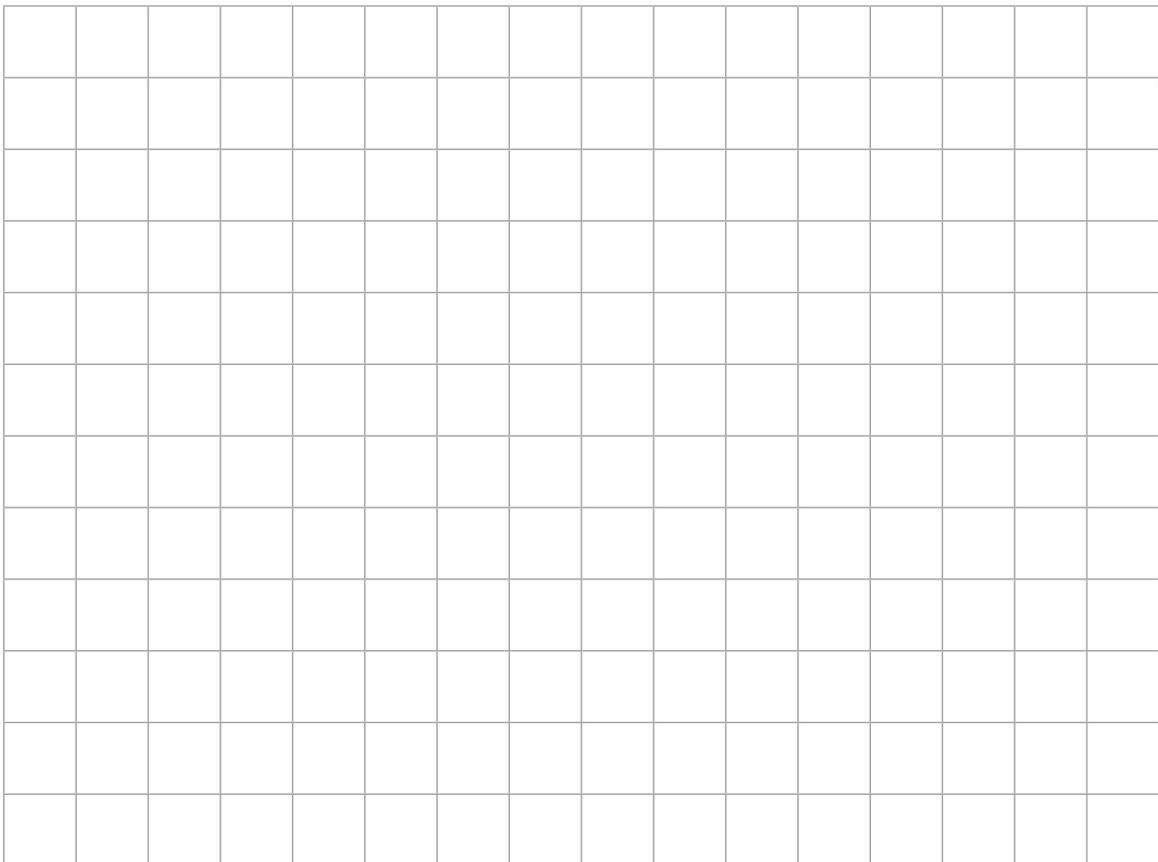
1. For the following function:

$$y = (x + 2)(x - 2)$$

a. Complete a table of values.

$x$	-3	-2	-1	0	1	2	3
$y$							

b. Sketch the plot on the grid below.



c. Identify and state the coordinates of the intercepts:

$x$ -intercept/s:

$y$ -intercept:

How was your student able to complete the activity?

No assistance required     Some assistance required     A lot of assistance required     Not able to do this task

Comments:

# Enlarging shapes

Enlarge the shapes below by the scale factor identified.

$k = 2$

$k = 5$

$k = 0.5$

**Note:** because the scale factor is  $0.5$  ( $\frac{1}{2}$ ), the image should be smaller.

Student name:



## Histograms and class interval size

### Exploring the effect of class interval size on the shape of distributions

The following set of data is the height in centimetres of 52 females who attended a summer camp.

Data is in ascending order in columns.

131	144	149	154	162	166	173	178
135	144	149	155	164	166	173	181
137	144	153	156	164	167	174	187
139	147	153	157	164	167	175	
140	147	153	158	165	167	175	
142	147	154	158	166	168	176	
142	148	154	160	166	168	177	

### Task A: Find the mean, median, mode and range

Mean:

Median:

Mode:

Range:

Describe which is the best measure of centre. Explain how you know.

Student name:

**Task B: Organise the height data into a frequency table, using a class interval of 10 cm, then construct a histogram**

**Frequency table 1 — Height (cm)**

Class interval (cm)	Tally	Frequency
130 to <140		
140 to <150		
150 to <160		
160 to <170		
170 to <180		
180 to <190		

**Histogram 1 — Height**



Student name:

Describe the shape of the distribution in **Histogram 1 — Height**.

**Task C: Organise the height data into a new frequency table using a class interval of 5 cm, then construct a histogram from this table**

**Frequency table 2 — Height (cm)**

Class interval (cm)	Tally	Frequency
130 to <135		
135 to <140		
140 to <145		
145 to <150		
150 to <155		
155 to <160		
160 to <165		
165 to <170		
170 to <175		
175 to <180		
180 to <185		
185 to <190		

Student name:

## Histogram 2 — Height



### Task D: Discuss your histograms

Describe the shape of the distribution in the second histogram.

Student name:



Sheet

6

It is revealed that the 52 females on summer camp were a mixture of Year 5 and Year 9 students. Which histogram do you think gives a better presentation of the distribution? How do you know?

Why is Histogram 2 shaped as it is? Explain.

How was your student able to complete the activity?

No assistance required     Some assistance required     A lot of assistance required     Not able to do this task

Comments:

# Investigating sex ratios: Australian 14-year-olds 1975–2012

The table below shows the estimated Australian populations of male and female 14-year-olds from 1975–2012. Complete the tasks in your Maths exercise book.

**Table 1.** Estimates of the Australian population of 14-year-olds, by sex.

Year	Number of males aged fourteen	Number of females aged fourteen	Sex ratio
1975	136 820	128 748	1.063
1980	126 166	120 606	
1985	147 646	141 776	
1990	129 508	122 948	
1995	131 407	125 094	
2000	137 326	130 919	
2005	145 558	137 919	
2010	146 062	138 282	
2011	143 992	136 823	
2012	143 823	136 050	

Data sourced from: Australian Bureau of Statistics, 3235.0 - Population by Age and Sex, Regions of Australia, 2012, <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/3235.0Main+Features12012?OpenDocument>  
CC BY 2.5 [creativecommons.org/licenses/by/2.5/au/](https://creativecommons.org/licenses/by/2.5/au/)

1. Complete the information for sex ratio: calculate the ratio of male to female 14-year-olds in Australia. Round the sex ratio values to three decimal places.
2. Calculate the mean and median sex ratio for this data.
3. Describe the trend in the sex ratio of Australian 14-year-olds since 1975.



4. Take the 2012 data from the table above and complete the relative frequency tables.

**Table 2.** Relative frequency of Australian 14-year-olds, by sex (2012).

	Frequency	Relative frequency
<b>Males aged 14</b>		
<b>Females aged 14</b>		
<b>Total aged 14</b>		

5. The table below shows the populations of Chinese residents aged 0–14 from the 2011 census. Complete the relative frequency column.

**Table 3.** Relative frequency of Chinese population aged 0–14, by sex

	Frequency	Relative frequency
<b>Males aged 0–14</b>	142 085 665	
<b>Females aged 0–14</b>	125 300 391	
<b>Total aged 0–14</b>	267 386 056	

Data sourced from: Central Intelligence Agency, "China: People and society", *The World Factbook*, <https://www.cia.gov/library/publications/the-world-factbook/geos/ch.html>

6. Determine the sex ratio for males to females using the data in Table 3.
7. Describe the potential social issues that China may face with this reported imbalance.
8. With a partner, discuss why China's sex ratio is higher than most other countries.

Student name:

## Two-dice probabilities

Use your experience of working with the **Learning object — Dice duels: Bike race** (TLF L2637) to complete the following tasks.

1. The number I chose was:
2. The number that won was:
3. Below are two arrays to show the sample space for two-dice chance experiments. In the first array, the paired outcomes are shown. In the second array, the sum of dice outcomes are to be completed. Some examples are filled in on this array to show you what to do.
4. Complete the second array by entering the sum of dice for the blank cells.

Two-dice array — paired outcomes						
	1	2	3	4	5	6
1	(1, 1)	(2, 1)	(3, 1)	(4, 1)	(5, 1)	(6, 1)
2	(1, 2)	(2, 2)	(3, 2)	(4, 2)	(5, 2)	(6, 2)
3	(1, 3)	(2, 3)	(3, 3)	(4, 3)	(5, 3)	(6, 3)
4	(1, 4)	(2, 4)	(3, 4)	(4, 4)	(5, 4)	(6, 4)
5	(1, 5)	(2, 5)	(3, 5)	(4, 5)	(5, 5)	(6, 5)
6	(1, 6)	(2, 6)	(3, 6)	(4, 6)	(5, 6)	(6, 6)

Two-dice array — sum of dice						
	1	2	3	4	5	6
1	2					
2					7	
3						
4		6		8		
5						
6						

Student name:

Use the arrays from the previous page to answer Tasks 5, 6, and 7 about the activity **Dice duels**.

5. Did every number have an equal chance of winning? Explain with examples.

6. If you were to run the activity again, which number would you choose?

Explain why.

7. Which number/s would you avoid and why?

Revisit the learning object (click on the link in Lesson 5) and click on the 'What's the theory?' button.

It will help you to complete Tasks 8 and 9.

8. Use the array to complete the frequency distribution table.

9. Draw a histogram on the grid to show the distribution of the data in the frequency distribution table.



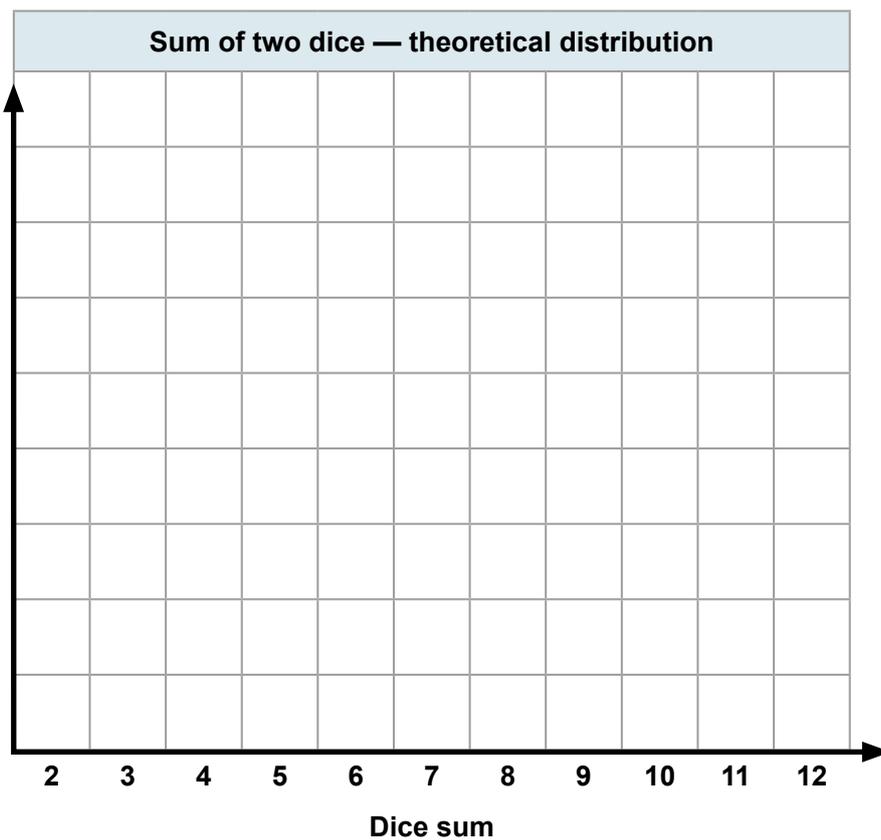
**Hot tip**

If necessary, refer to the term 'histogram' in the glossary.

Student name:



Dice sum	Frequency	Probability	Dice sum	Frequency	Probability
2		—	3		—
4		—	5		—
6		—	7		—
8		—	9		—
10		—	11		—
12		—			



10. Describe the shape of the distribution. Is it even or uneven? Is it symmetrical, skewed or bimodal? Explain.

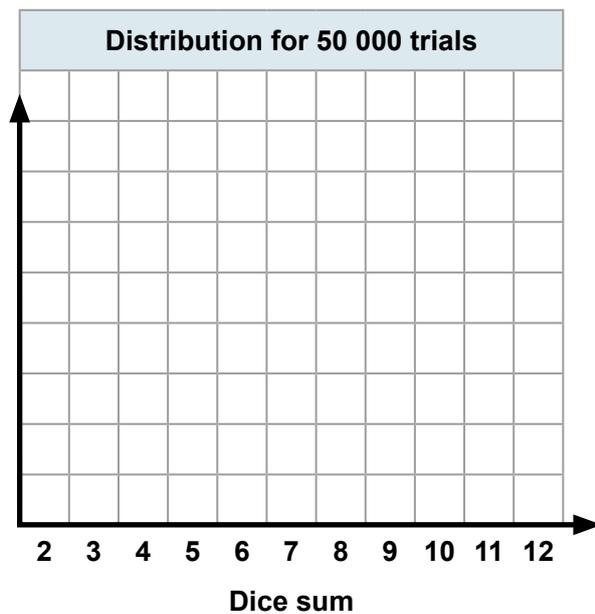
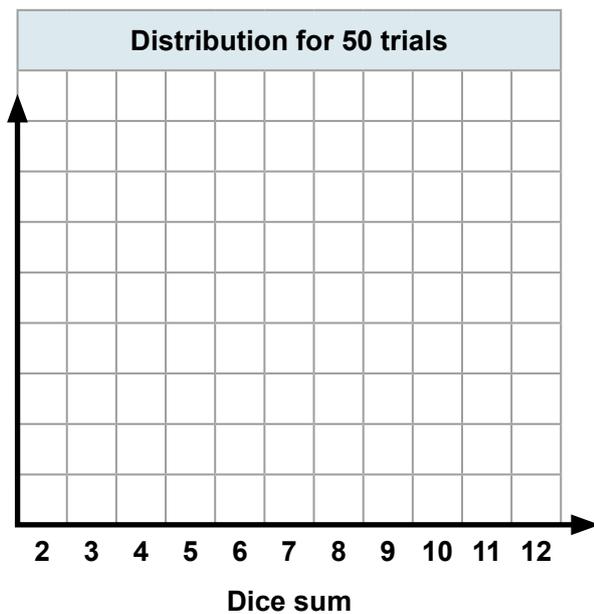
**Experimental probability**

Open the **Learning object — Chance simulator**.

Select 'Two' dice in the 'Number of dice' window.

11. Run the simulator for 50 trials and sketch a graph to represent the distribution of data you obtained. Draw your sketch on the left-hand grid below.

12. Reset the simulator. Select 'Two' dice and set the number of trials to 5 000. Run 50 000 trials (by clicking the 'Start' button 10 times) and represent the distribution of data you obtained. Draw your sketch on the right-hand grid below.



13. Describe the shape of the experimental distributions: How do they compare to the theoretical distribution (see Task 9)? Which is closer to the theoretical distribution? Explain.

Student name:

### Marble drop

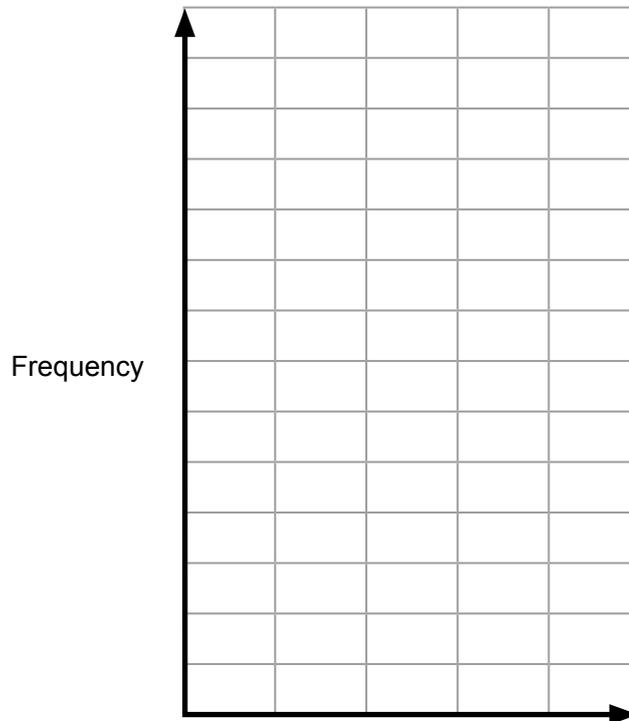
Open the **Learning object — HOTmaths: using relative frequency** (TLF L10840).

View the learning object and select '10 marbles' repeatedly until one bin is full.

14. Record how many marbles fell into each bin.

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>

15. Sketch the distribution of the marble drop into the column graph below.



16. Explain why the distributions for the 'sum of two dice' and the 'marble drop' are similar.

How was your student able to complete the activity?

No assistance required     Some assistance required     A lot of assistance required     Not able to do this task

Comments:

# Two-step chance experiments

Perform the following chance experiments and record the outcomes.

## Experiment A: Two-coin toss

### Instructions:

**Aim:** Conduct trials for the two-coin toss.

**Materials:** Use two coins or a coin-toss simulation to conduct this experiment.

**Predict:** What results do you think you will get for 20 trials? Write these into Table 1 as expected relative frequencies.

**Do:** Toss the coins and record the results in Table 1. Conduct **20** trials.

**Note:** Specify Coin one and Coin two to ensure the outcome **HT** is not misreported as outcome **TH**.

## Experiment B: Counters in a bag (*with replacement*)

### Instructions:

**Aim:** Conduct trials for picking two counters from a bag, *with replacement* of the first counter.

**Materials:** Use counters of two different colours concealed in a bag — four of colour A and three of colour B.

**Predict:** What results do you think you will get for 50 trials? Write these into Table 2 as expected relative frequencies.

**Do:** Remove a counter from the bag, note its colour and replace it. Pick a second colour out of the bag, note its colour and replace it. Record the results in Table 2. Conduct **50** trials.

Colour A is

Colour B is

## Experiment C: Counters in a bag (*without replacement*)

### Instructions:

**Aim:** Conduct trials for picking two counters from a bag, *without replacement* of the first counter.

**Materials:** Use counters of two colours concealed in a bag: four of colour A and three of colour B.

**Predict:** What results do you think you will get for 50 trials? Write these into Table 3 as expected relative frequencies.

**Do:** Remove a counter from the bag, note its colour and do not replace it. Pick a second counter out of the bag and record the results in Table 3. Conduct **50** trials.

Colour A is

Colour B is



**Table 1: Experiment A — Two-coin toss**

Outcome	Expected relative frequency	Tally	Frequency	Relative frequency
Total				

**Table 2: Experiment B — Counters *with replacement***

Outcome	Expected relative frequency	Tally	Frequency	Relative frequency
Total				

**Table 3: Experiment C — Counters *without replacement***

Outcome	Expected relative frequency	Tally	Frequency	Relative frequency
Total				





Student name:

2. You have a pile of five red cards, three brown cards and seven orange cards:

- You pick a first card at random, and keep it out of the pile.
- You then pick a second card.

What is the probability that you will pick two cards of the same colour?

How was your student able to complete the activity?

- No assistance required     Some assistance required     A lot of assistance required     Not able to do this task

Comments:

# Two-way tables: Left or right?

## Instructions

**Handedness and hand clasping:** Record personal data about your natural tendencies of handedness and clasping hands in Table 1. Refer to **Sheet 11 — Guide to left and right preferences** to understand the coded categories given in the tables on this sheet. Table 2 provides you with secondary data.

Table 1: Me — Mark what category you belong in, in the table below, with an X.		
	Left-handed	Right-handed
TL		
TR		

Table 2: Secondary data: Maths class			
	Left-handed	Right-handed	Total
TL	3	7	10
TR	5	10	15
Total	8	17	25

Answer Tasks 1 and 2 using the secondary data given to you in Table 2.

- Find the probabilities (as a relative frequency fraction) of the following events:
  - a class member being left-handed
  - a class member being TR and right-handed
  - a TL class member being left-handed
  - a right-handed student being TL
- Do you think any links exist between handedness and hand clasping? What are they? Why might this be the case? Use evidence from Table 2 to support your claims.

**Hand clasping and arm folding:** Record personal data about your natural tendencies of clasping hands and arm folding in Table 3. Refer to **Sheet 11 — Guide to left and right preferences** to understand the coded categories given in the tables on this sheet. Table 3 provides you with secondary data.

**Table 3: Me — Mark what category you belong in, in the table below, with an X.**

	AL0	AL1	AL2	RL0	RL1	RL2
TL						
TR						

**Table 4: Secondary data — Maths class**

	AL0	AL1	AL2	RL0	RL1	RL2	Total
TL	0	1	3	6	7	2	19
TR	2	3	0	0	1	0	6
Total	2	4	3	6	8	2	25

Answer Tasks 3 and 4 using the secondary data given to you in Table 4.

3. Find the probabilities (as a relative frequency fraction) of the following events.

A class member has their:

- a. left thumb on top when clasping hands
  
- b. right arm on top with one hand showing, when folding arms
  
- c. right arm on top when folding arms
  
- d. right thumb on top when clasping hands, and their left arm on top when folding arms
  
- e. one hand showing when they fold their arms.

4. Use Table 4 to explain if any of the following statements are supported by the secondary data.

- a. Most of the left-hand claspers are left-arm folders.
  
- b. Most students show one hand when folding their arms.

5. **Extension:** It has been argued that hand clasping is a simple genetic trait — and some studies suggest that most people clasp hands with their left thumb on top. Simple, ‘complete dominant’ traits should be observed in 75 per cent of the population. Does the information in Table 2 or Table 4 support any left- or right-hand clasping preference being a dominant trait? Explain.

Student name:

## Space travel: How long to get there?

**Remember:** Time = Distance  $\div$  Speed

**Assumptions:** 1 Astronomical Unit =  $1.49 \times 10^8$  kilometres

1 light-year =  $9.4605284 \times 10^{12}$  kilometres

Assume NASA's *Voyager 1* current speed = 17 km/s



NASA, *Voyager spacecraft*, [http://www.nasa.gov/mission\\_pages/voyager/multimedia/voyager-spacecraft.html](http://www.nasa.gov/mission_pages/voyager/multimedia/voyager-spacecraft.html)

**Table 1:** Find the time it would take for the *Voyager 1* probe to travel to the following destinations. Make sure you show your working for all calculations (include this on a separate piece of paper if necessary). Write your final answers in the table. Write all answers in scientific notation.



Student name:

Solar system destinations			
Object	Distance from Earth (AU)	Distance (km)	Travel time by <i>Voyager 1</i>
Moon	0.0025		
Pluto	39.5		
Heliosheath	100		

Student name:



Sheet

2

Interstellar destinations			
Object	Average distance from sun (ly)	Distance (km)	Travel time by <i>Voyager 1</i>
1 ly	1	$9.64 \times 10^{12}$	

How was your student able to complete the activity?

No assistance required     Some assistance required     A lot of assistance required     Not able to do this task

Comments:

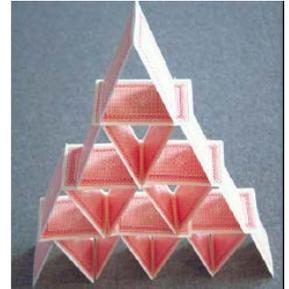


# Algebra problems: Non-linear

Choose one or two of the following problems to complete.

## 1. House of cards

A house of cards is a structure created by stacking playing cards on top of each other (no glue allowed). The classic house-of-cards structure uses a triangular arrangement, such as the four-storey house of cards shown in the picture. The current world record for a house of cards with the greatest number of storeys is 131.



Build or draw a house of cards using the structural pattern shown in the picture.

- How many storeys are possible with just one deck of playing cards?
- Write a rule to describe the relationship between the number of storeys and the maximum number of cards.

## 2. Locker problem

Consider the following:

There are 1 000 lockers at Yarralumla State College.

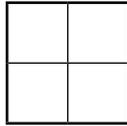
All 1 000 lockers are closed.



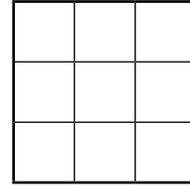
- The first student opens every locker.
- The second student closes every second locker.
- The third student changes the state of every third locker (that is, if the locker is open, the student closes it, but if the locker is closed, the student opens it).
- The fourth student changes the state of every fourth locker.
- And so on, until all 1 000 students have been involved.

- Which lockers will be open?
- How can the open lockers be identified?

### 3. Square milk bottle crates



2 dividers  
4 milk bottles



4 dividers  
9 milk bottles

Qi-xiao has a problem. He works with a company that uses square-bottomed milk crates. These can be divided up to contain a square number of bottles by fitting the crates with dividers (as shown above).

Using two dividers, Qi-xiao can fit four bottles into a crate. Using four dividers, he can fit nine bottles in another size of crate. Both of these situations are shown in the picture.

- How many bottles could be stored in a crate with six dividers?
- Write a rule to describe the relationship between the number of dividers and the number of bottles stored.

### 4. 'The 12 days of Christmas' – How many presents?

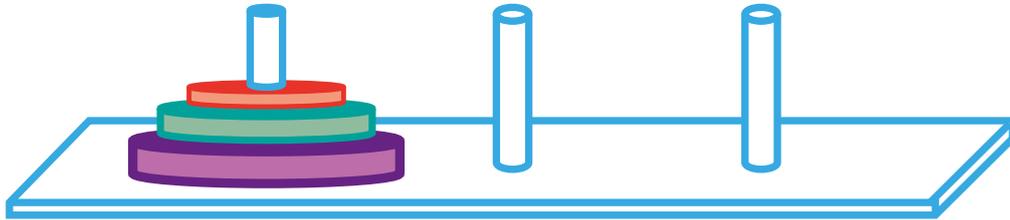
*'On the fifth day of Christmas, my true love sent to me, five gold rings ...'*

'The 12 days of Christmas' is a song in which the singer receives gifts from their true love over the course of 12 days. The number of presents given each day starts at one on the first day and then increases each subsequent day.

**Optional:** Review the lyrics to the song 'The 12 days of Christmas'. They can be found on this website: [http://en.wikipedia.org/wiki/The\\_Twelve\\_Days\\_of\\_Christmas\\_\(song\)](http://en.wikipedia.org/wiki/The_Twelve_Days_of_Christmas_(song))

- Exactly how many presents did the singer receive from their true love over each of the 12 days of Christmas?
- Write a rule to describe the relationship between the number of days and the total number of presents received on that day.

## 5. The Tower of Hanoi



The Tower of Hanoi is a mathematical puzzle. The aim of this puzzle is to move the tower of coloured discs from the rod at one end to the other end in the least number of moves, obeying the following rules:

- Only move one disc at a time.
- Take the upper disc from one rod and place it as the uppermost disc on another rod.
- No disc may be placed on top of a smaller disc.

The basic puzzle uses three discs, but the puzzle can be made more challenging by increasing the number of discs in the tower.

Can you match the minimum?

**Optional:** Go to the website below to play some games of 'Tower of Hanoi' to see how many moves it takes you. Try some games with three, four, five and six discs.

Tower of Hanoi (Mathsisfun) <http://www.mathsisfun.com/games/towerofhanoi.html>

- a. Record the minimum number of moves for three, four, five and six discs.
- b. The minimum number of moves required to solve a Tower of Hanoi puzzle is  $2^n - 1$ , where  $n$  is the number of discs. Use this rule to determine the minimum number of moves when there are 10 discs.

## Wellbeing

These activities will help students to support the development of social and emotional skills, understandings and capabilities.

A student's physical and emotional wellbeing and their sense of belonging and connectedness are important for success.

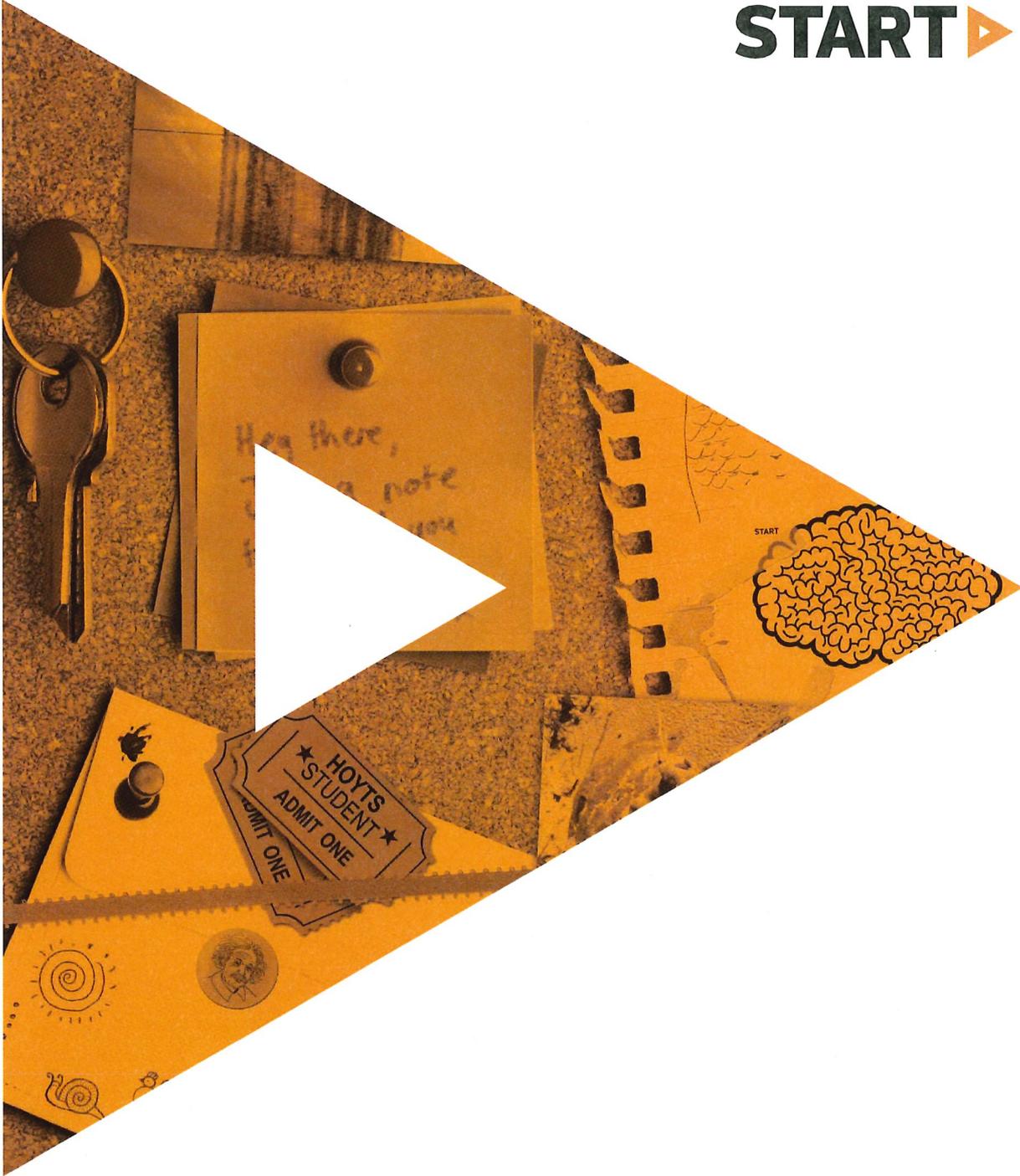
These activities assist students to build skills in resilience, support networks and planning for their future.

### Activities encourage students to:

- recognise and understand strengths and positive qualities in themselves
- identify support networks within their lives or communities
- promote their own wellbeing and positive behaviour

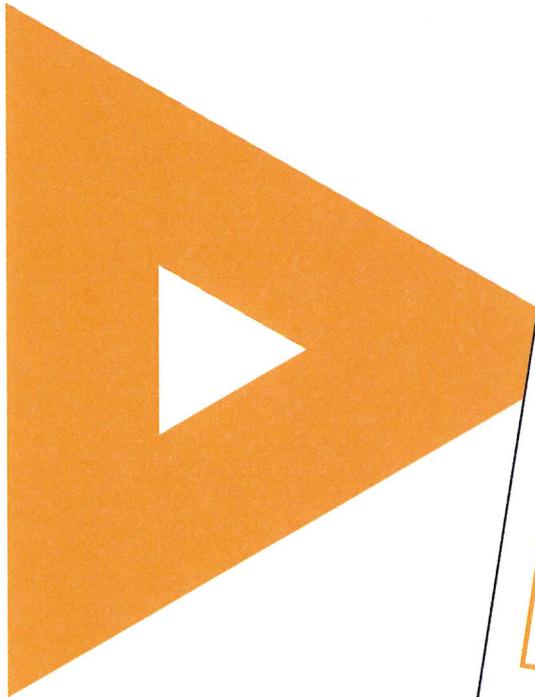
Students can work through the student portfolio and handouts at their own pace, spending about 30-45mins on each activity once a week.

# START ▶



NAME \_\_\_\_\_

# INTRODUCING the Amazing



**Name:**

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**Pronunciation:**

E.g. Teah = Tay-hah, not Tee-ah. (Fill this bit in if people are always saying your name incorrectly, or your parents were being super creative on your birth certificate!)

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**Nickname:**

If you have one you *like* to be called!  
(Wolverine is already taken.)

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**Where i grew up:**

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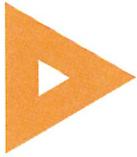
**Digital stuff:**

If you have created digital content for this project, write your file names here:

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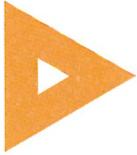
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# WHAT I'D LIKE YOU TO KNOW ABOUT ME

A hand-drawn illustration of a sheet of lined paper. The paper has a black outline and a jagged, torn edge on the left side. It features horizontal orange lines for writing. A brown pushpin is pinned to the top center of the paper.



# MY OPTIMAL GROWING CONDITIONS ARE



REFER TO HANDOUT 1

1

2

3

4

5

5 Things i'm grateful for:  
REFER TO HANDOUT 2

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# Optimal Growing Conditions

Below is a list of statements to help you think about your optimal growing conditions. Tick all that apply to you, and then circle your top five.

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> I like to have people around me all the time | <input type="checkbox"/> I like to have many friends        | <input type="checkbox"/> I like running                             |
| <input type="checkbox"/> I like to have times I am alone              | <input type="checkbox"/> I like just a few close friends    | <input type="checkbox"/> I like trampolines                         |
| <input type="checkbox"/> I like sport                                 | <input type="checkbox"/> I like to solve puzzles            | <input type="checkbox"/> I like riding horses                       |
| <input type="checkbox"/> I like art                                   | <input type="checkbox"/> I like being active                | <input type="checkbox"/> I like ice cream                           |
| <input type="checkbox"/> I like team sports                           | <input type="checkbox"/> I like animals                     | <input type="checkbox"/> I like telling jokes                       |
| <input type="checkbox"/> I prefer solo sports                         | <input type="checkbox"/> I like talking to people           | <input type="checkbox"/> I like watching television                 |
| <input type="checkbox"/> I like to be outside                         | <input type="checkbox"/> I like drawing                     | <input type="checkbox"/> I like being hugged                        |
| <input type="checkbox"/> I like to be indoors                         | <input type="checkbox"/> I like fixing things               | <input type="checkbox"/> I like to solve my own problems            |
| <input type="checkbox"/> I like being at home                         | <input type="checkbox"/> I like building things             | <input type="checkbox"/> I like to talk problems over with friends  |
| <input type="checkbox"/> I like being out and about                   | <input type="checkbox"/> I like music                       | <input type="checkbox"/> I like to think before deciding what to do |
| <input type="checkbox"/> I need to get enough sleep                   | <input type="checkbox"/> I like dressing well               | <input type="checkbox"/> I like to jump straight into things        |
| <input type="checkbox"/> I like to eat healthy foods                  | <input type="checkbox"/> I like looking good                | <input type="checkbox"/> I like to take risks                       |
| <input type="checkbox"/> I like restaurants                           | <input type="checkbox"/> I like going to the hairdressers   | <input type="checkbox"/> I like to stay safe                        |
| <input type="checkbox"/> I like to be always busy                     | <input type="checkbox"/> I like shopping                    | <input type="checkbox"/> I like getting angry                       |
| <input type="checkbox"/> I like to lie around                         | <input type="checkbox"/> I like gossip                      | <input type="checkbox"/> I like being relaxed                       |
| <input type="checkbox"/> I like to daydream                           | <input type="checkbox"/> I like thrills                     | <input type="checkbox"/> I like the beach                           |
| <input type="checkbox"/> I like reading stories                       | <input type="checkbox"/> I like nice smells                 | <input type="checkbox"/> I like a big family                        |
| <input type="checkbox"/> I like films                                 | <input type="checkbox"/> I like cooking                     | <input type="checkbox"/> I like a small family                      |
| <input type="checkbox"/> I like parties                               | <input type="checkbox"/> I like dancing                     | <input type="checkbox"/> I like to travel                           |
| <input type="checkbox"/> I like to pretend I am someone else          | <input type="checkbox"/> I like riding bikes                | <input type="checkbox"/> I like finding out new things              |
| <input type="checkbox"/> I like to be me                              | <input type="checkbox"/> I like sailing                     | <input type="checkbox"/> I like to collect things                   |
| <input type="checkbox"/> I like dogs                                  | <input type="checkbox"/> I like getting taller              | <input type="checkbox"/> I have a hobby                             |
| <input type="checkbox"/> I like cats                                  | <input type="checkbox"/> I like being shorter               | <input type="checkbox"/> I like secrets                             |
| <input type="checkbox"/> I like bushwalks                             | <input type="checkbox"/> I like to feel strong              | <input type="checkbox"/> I like romance                             |
| <input type="checkbox"/> I like computer games                        | <input type="checkbox"/> I like being well                  | <input type="checkbox"/> I like gaming                              |
| <input type="checkbox"/> I like adventures                            | <input type="checkbox"/> I like to play musical instruments | <input type="checkbox"/> I like social media                        |
| <input type="checkbox"/> I don't like surprises                       | <input type="checkbox"/> I like to sing                     | <input type="checkbox"/> I like to watch things                     |
| <input type="checkbox"/> Birthdays are important to me                | <input type="checkbox"/> I like mathematics                 | <input type="checkbox"/> I like to have things                      |
| <input type="checkbox"/> Birthdays are not important to me            | <input type="checkbox"/> I like good stories                |   |
|   | <input type="checkbox"/> I like detective stories           |   |

Add some of your own:

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In Year 7 think about what has changed over the past year.  
Are there things you now like that you didn't like in Year 6?

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What one growing condition would you like to have more of in your life and why?

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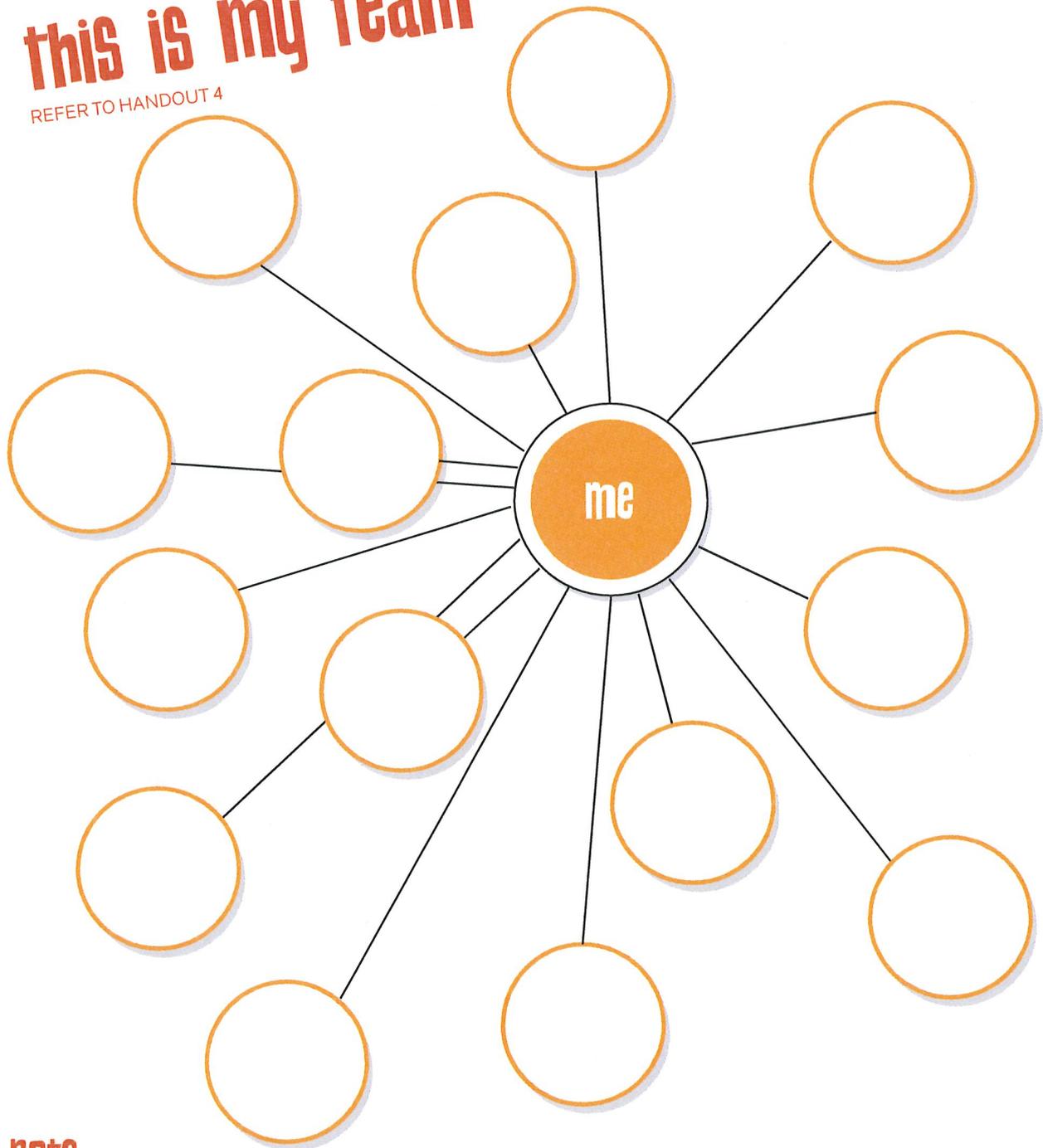
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# MY FAMILY AND OTHER SIGNIFICANT ADULTS

**this is my team**  
REFER TO HANDOUT 4



**note:**

If you have something about your team you'd like to share, write it here.  
(E.g. Most of your family live overseas.)

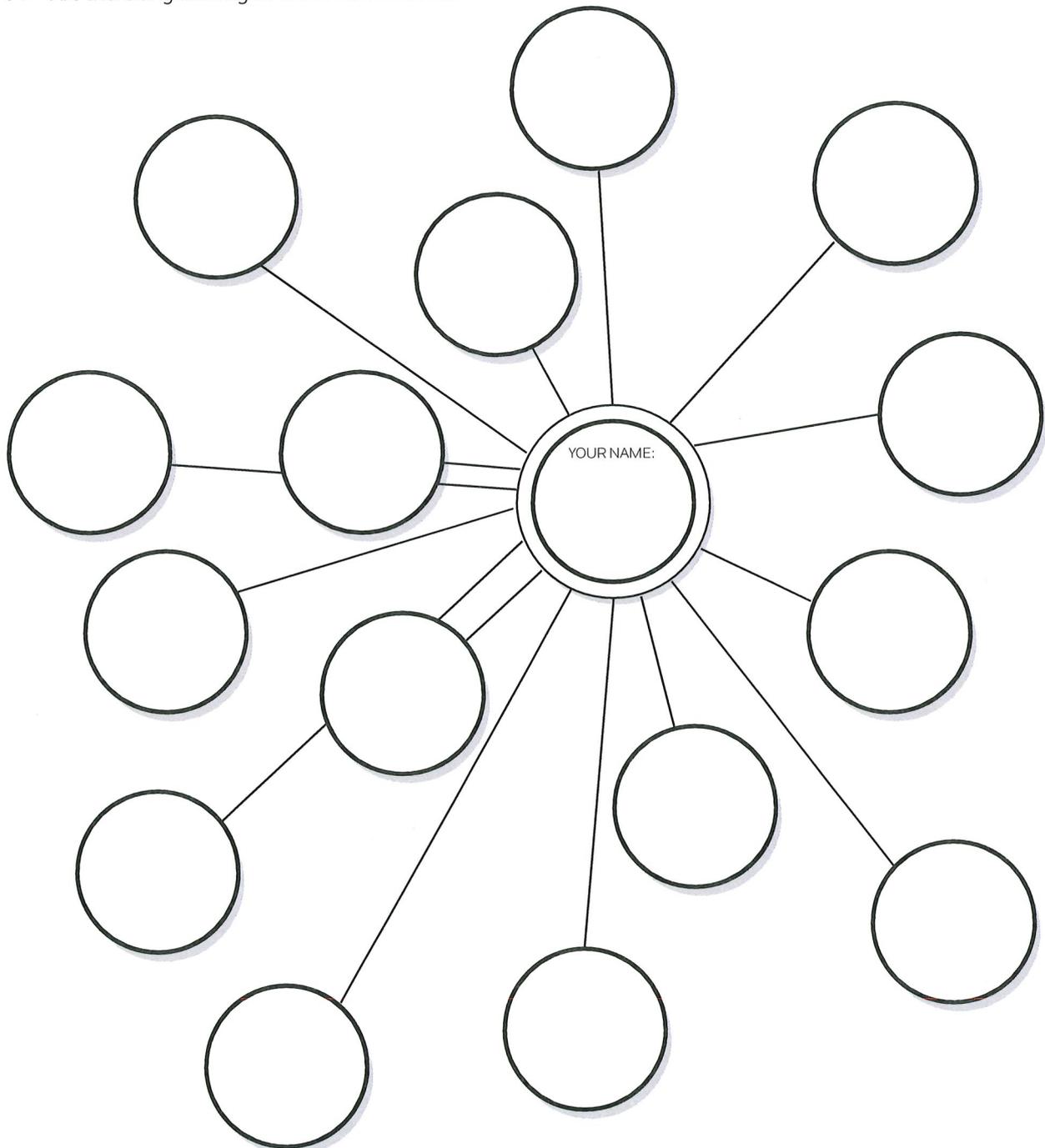
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## ▶ My Family, My Team!

Map your family adults (as **you** define family) and other **significant** adults in your life using the diagram below. Add extra circles if there are not enough. Draw dotted lines linking the people to show their relationships with each other. (For example, Ben's parents have a relationship but his Granny doesn't know his tennis coach.)

- 1 ▶ Who could you go to for help?
- 2 ▶ What different sorts of help can these adults provide?
- 3 ▶ Who do you feel is your biggest cheerleader?
- 4 ▶ Who is a great coach; helping you to formulate a winning plan?
- 5 ▶ Is there anyone missing from your team?
- 6 ▶ Are there any adults you would like to recruit?



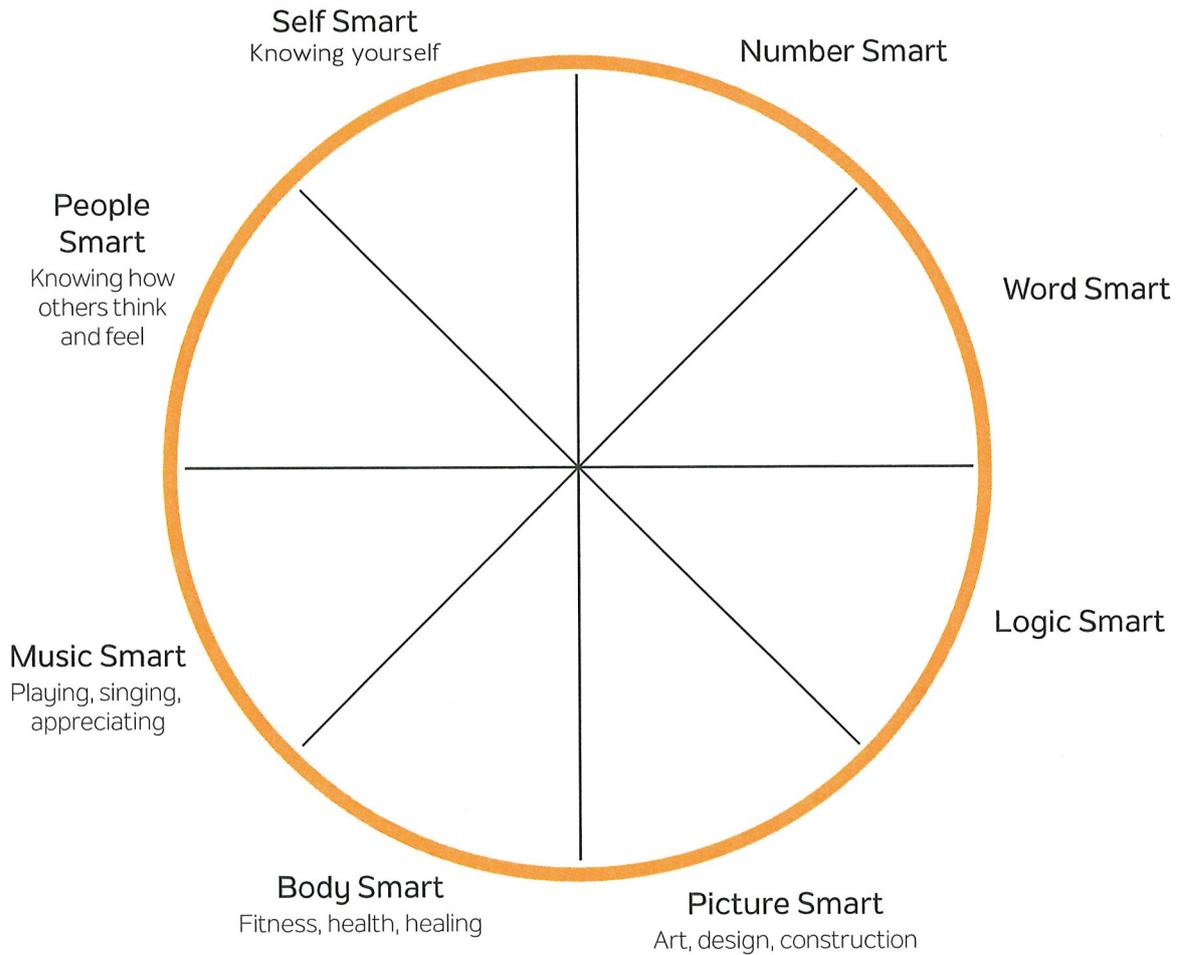


# MY PIZZA SMARTS

*Anchovies?  
Supreme with extra cheese?  
Vegetarian?*

## My View of My Smarts:

REFER TO HANDOUT 6



## i would like to work on:

What slice of smarts would you like develop?

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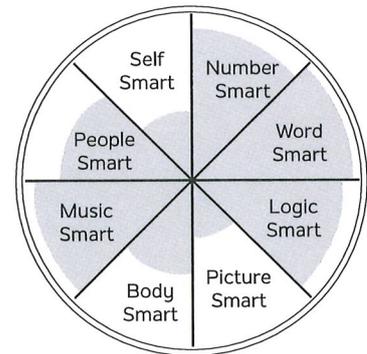


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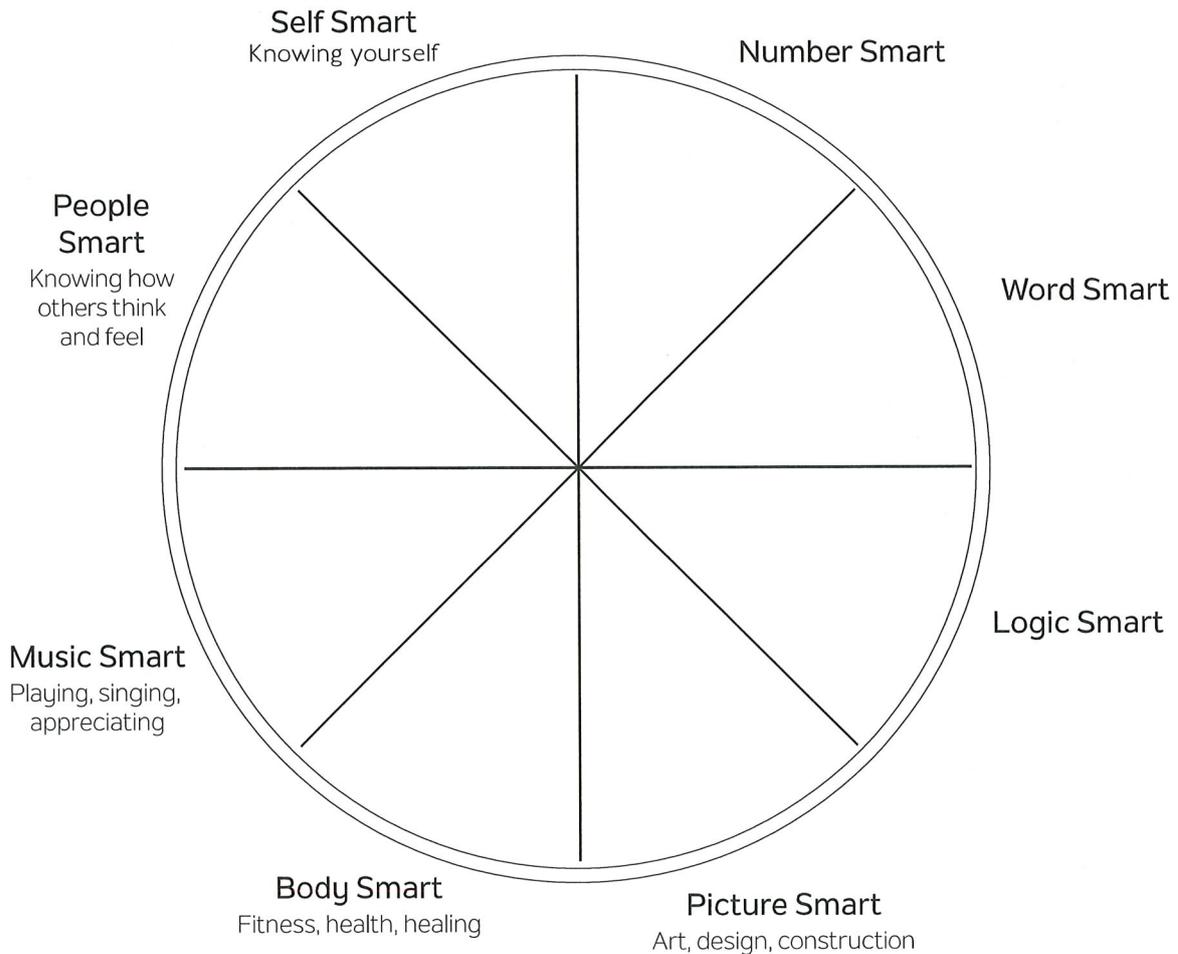
# ▶ Mapping My Pizza Smarts

Your intelligence is like a multi-flavoured pizza. Some slices are large and bursting with ingredients while other slices are small and have hardly any bits on them at all. This is true for most of us.

An easy way to begin identifying your strengths is with this pizza smarts chart. The chart shows an outline of a pizza divided into eight different slices, representing eight different types of intelligence. Draw a line to outline the shape of your pizza. (Just remember, unless you're an absolute genius, you're never going to have full sized pizza slices in every section!)



The person in this example regards themselves as very number, word and logic smart, but less art and body smart. The closer to the edge, the stronger they are in that slice of smarts.

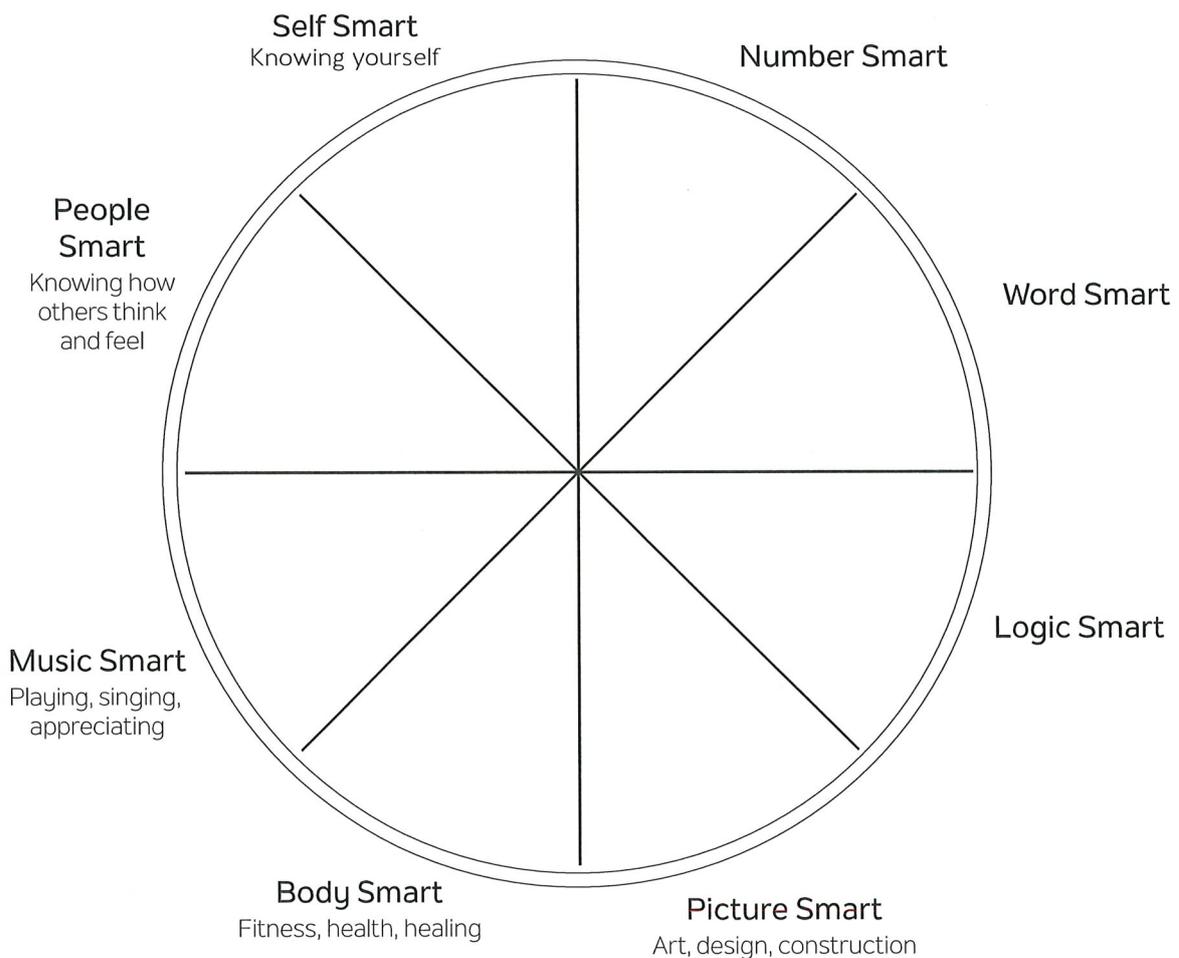


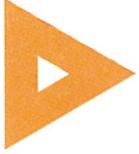
Most people have never mapped their strengths. By outlining the shape of your pizza smarts, you are in a more powerful position to learn your strengths and to build on them.

Whether your pizza map is true or not, **it shows you how you view yourself.** Some of you may have been too modest, others perhaps too confident.

- 1 ▶ What are your main areas of strength?
- 2 ▶ What are the main areas where you are not strong?
- 3 ▶ Do you want to increase the slice size on any of your strength areas?
- 4 ▶ Do you want to change the slice size where you are not so strong?
- 5 ▶ Are there slices of strength that you have that other people don't know about?

Take this handout home, discuss and complete it again below with a member of your family. Does having someone else's input make you think differently about the size of each of your pizza slices?





# FRIENDSHIPS

REFER TO HANDOUT 21

Answer the following as best you can.

What friendship skills do you think you are good at?

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What friendship skills do you think you need to work on?

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What 'losing enemies' skills are you good at?

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What 'losing enemies' skills do you need to work on?

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On a scale from 1 ('Awful') to 10 ('Awesome') what have your friendship experiences been like in Year 6?

Why?

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Do you think you need to talk to someone about any friendship issues you might have?





# How I Make Friends and Lose Enemies

Do you make new friends easily? Do you feel you do a good job of keeping friends? This sheet lists skills and characteristics that help you make and keep friends. Take a few minutes to rate yourself on each one. When you're done, choose one or two skills you want to improve this month.

I try to say hello to people even if I don't know them very well.

- Not often     Sometimes     Most of the time

I listen as much as I talk when I'm with my friends.

- Not often     Sometimes     Most of the time

I try to help my friends meet other people they might like.

- Not often     Sometimes     Most of the time

I suggest things to do that other people think are fun.

- Not often     Sometimes     Most of the time

I don't repeat gossip or hurtful comments about others.

- Not often     Sometimes     Most of the time

I know when my friends are angry, frustrated, or feeling left out – even if they don't say anything.

- Not often     Sometimes     Most of the time

I apologise when I accidentally upset someone.

- Not often     Sometimes     Most of the time

I do 'random acts of kindness' for friends and others.

- Not often     Sometimes     Most of the time

I keep secrets.

- Not often     Sometimes     Most of the time

I keep the promises I make.

- Not often     Sometimes     Most of the time

I can disagree with someone without getting angry or resorting to name calling.

- Not often     Sometimes     Most of the time

I stand up for what I think is right, even if my friends do not agree.

- Not often     Sometimes     Most of the time

I encourage friends to do their best.

- Not often     Sometimes     Most of the time

I reach out to people who seem lonely or disconnected.

- Not often     Sometimes     Most of the time

If I say I will do something, I almost always try to do it.

- Not often     Sometimes     Most of the time

I am a kind person.

- Not often     Sometimes     Most of the time

If a friend is upset I try and talk to them about it

- Not often     Sometimes     Most of the time

If a friend is upset I try to avoid them.

- Not often     Sometimes     Most of the time

I try to forgive people when they do something wrong.

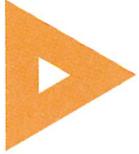
- Not often     Sometimes     Most of the time

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# MY RESILIENCE ASSETS

## MY RESILIENT ASSETS PROFILE

REFER TO HANDOUT 25

Adult connectedness	
Empowerment	
Boundaries and expectations	
Community engagement	
School engagement	
Positive values	
Identity	

My 3 strongest areas of resilience are:

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The area I'd like to develop further is:

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Because:

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Tick each one that is true for **you** and then count them up to get a score for each section. This is **not** a competition, it's an exercise to help you identify the things in your life that will help you cope with change. The scores will show you your strengths and weaknesses.

## ADULT CONNECTEDNESS

- I receive lots of love and support from my family.
- My parent(s) and I communicate positively, and I go to my parent(s) for advice.
- I receive support from three or more adults who are not my parents.
- I have caring neighbours.
- My school provides a caring, encouraging environment.
- My parent(s) are actively involved in helping me succeed in school.

**SCORE:**

## EMPOWERMENT

- I believe that adults in my community value young people.
- Young people are given useful roles in my community.
- I help out in my community for one hour or more per week.
- I feel safe at home, at school, and in the neighborhood.

**SCORE:**

## BOUNDARIES AND EXPECTATIONS

- My family has clear rules and consequences, and always tries to know where I am.
- My school provides clear rules and consequences.
- My neighbours look out for young people and take care of them in need be.
- Parent(s) and other adults model positive, responsible behaviour.
- My best friends model responsible behaviour.
- Both my parent(s) and my teachers encourage me to do well.

**SCORE:**

## COMMUNITY ENGAGEMENT

- I spend three hours or more per week in lessons or practice in music, theatre, or other arts.
- I spend three hours or more per week in sports, youth group, clubs, organizations at school, and/or in community organisations.
- I play in a local sports team.
- I go out with friends 'with nothing special to do' no more than two nights per week.

**SCORE:**

## SCHOOL ENGAGEMENT

- I am motivated to do well in school.
- I am actively engaged in learning.
- I do at least one hour of homework every school day.
- I care about my school.
- I read for pleasure three or more hours per week.

**SCORE:**

## POSITIVE VALUES

- I place a high value on helping other people.
- I place a high value on promoting equality and reducing hunger and poverty.
- I act on and stand up for my beliefs.
- I tell the truth even when it is not easy.
- I accept responsibilities and take personal responsibility for my actions.
- I believe it is important for young people to discuss things that worry them with a trusted adult.

**SCORE:**

**SOCIAL SKILLS**

- I know how to plan ahead and make choices.
- I have empathy, sensitivity, and friendship skills.
- I know and get along with people of different cultural/racial/ethnic backgrounds.
- I can resist negative peer pressure and dangerous situations.
- I seek to resolve conflict non-violently.

**SCORE:****IDENTITY**

- I feel I have control over things that happen to me.
- I have a high self-esteem.
- I believe my life has a purpose.
- I am optimistic about my personal future.

**SCORE:**

How did you go?

Write down the scores you got for each section below.

**YOUR RESILIENT ASSETS PROFILE**

Adult connectedness	
Empowerment	
Boundaries and expectations	
Community engagement	
School engagement	
Positive values	
Identity	

Now let's add them up. How many out of 40 did you get?

TOTAL: 

- ▶ 31-40 Fantastic resilience qualities!
- ▶ 21-30 Really good resilience qualities.
- ▶ 11-20 Some work to do on developing better resilience.
- ▶ 0-10 Ok, lets really get to work to improve your resilience!





# School Engagement Index

NAME: \_\_\_\_\_

YEAR LEVEL: \_\_\_\_\_

Please read each statement and write a number from 1 to 5 on the line provided.

NOT TRUE AT ALL					COMPLETELY TRUE
1	▶	2	▶	3	▶
				4	▶
					5

- I pay attention in class.
- I usually take a lot of care in completing my schoolwork.
- I feel it is important to fully understand the work I do in class.
- I usually finish class work on time in the classroom.
- I like to be challenged by my schoolwork.
- I set personal goals for myself.
- I spend time studying for tests and exams.
- When I am unsure about something relating to schoolwork I get advice from a teacher.
- I want to achieve high marks.
- I never skip classes.
- I actively participate in classroom discussions.
- I want to succeed in life.
- I really get involved in my schoolwork.
- I am gaining skills that will be of use to me when I leave school.
- I can achieve good results at this school if I work hard.

- I usually hand assignments and projects in by the due date.
- This school offers interesting subjects for students to choose from.
- I like to answer questions in class.
- I find the topics presented by my teachers in class interesting.
- I participate in classroom activities.
- With help from the teachers, I can achieve my goals at this school.
- Learning is fun.
- You need to complete all schoolwork if you want to succeed in life.
- In class I try to pay attention even if a topic seems boring or irrelevant.
- I am gaining knowledge that I can use when I leave school.
- I take time to complete my homework to make sure it's done properly.
- This school will prepare me for the 'real world'.
- I have set clear goals for my future.

**SCORE:**

**104 OR MORE = HIGHLY ENGAGED**  
**69-103 = CRUISING AND NOT REALLY TRYING**  
**68 OR LESS = DISENGAGED**



# WHO I AM

REFER TO HANDOUT 33

Write the top three responses from each column (and the score), on the following notes.

**i see me as...**

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---

---

**my family see me as...**

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**my teacher sees me as...**

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---

**my friend sees me as...**

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## How People See Me

Complete the following survey, rating each quality with a number between 0 and 10.

10 = very likely to see me this way

0 = very unlikely to see me this way.

QUALITY	FAMILY	FRIEND	TEACHER	MYSELF
Funny				
Honest				
<b>HARD WORKING</b>				
<b>Sporty</b>				
Creative				
<b>Angry</b>				
Friendly				
SHY				
<b>LOUD</b>				



## Art

Following nine Visual Arts units have been designed for year 9-10 students to work on at home. They are designed to be enjoyable and challenging, drawing from the Australian Curriculum Visual Arts standards and aim to prepare students for further SACE Creative and Visual Arts subjects.

### **What materials do we need?**

Most materials should be readily available at home or from Art and Craft supply stores or your newsagent. Some require recyclable materials and can be adapted to what is available at home.

It is recommended to have an area set up where the student can return each day to continue the project, e.g. in a study, under the house or a spare fold up table.

### **How long do the units take?**

Most units are project based and are designed to be undertaken anywhere between 2-4 weeks. Some units link to other subject areas, e.g. the Escher Perspective unit.

They best work in 2- 2.5 hour session chunks but this can be altered to suit your schedule.

Many have options for extension if the student wishes to work further on it.

## Home Learning Materials- Visual Art- 9-10

<p><b>Jean Michel Basquiat Inspired Drawing</b>          Create a self Portrait using Basquiat's aesthetic and techniques. You can choose you size but A3+ works well for this artist.          What makes Basquiat's work so recognisable? Is it his colour use, layering, use of mixed media? Try to create use mixed media such as pastel, paint, oil pastel, collage and thick black texta.</p>	<p><b>Art Using a Camera</b>          This unit is a collection of art lessons that involve a Digital Camera and Photoshop. For the most part, all the lessons take one class period. The media varies from collage and Acrylic Paint to Colored Pencils and Watercolor Paint.</p>	<p><b>Shoes</b>          What is a functional Art piece? Name an artist who liked shoes and drew them a lot? Name and describe 3 different styles of shoe? Design a shoe and make a 3-D model.</p>
<p><b>Nature Drawing</b>          Here you will have the opportunity to explore what drawing media there is on offer and to learn how to apply it in different ways by exploring design elements and then by completing a number of small exercises in your sketch book. You will then have the opportunity to choose one of several drawing techniques in your major drawing project.</p>	<p><b>Nature Pattern Mosaics</b>          Students will look at design based on pattern in their environment. Students will add details from their designs that they have worked on in the previous drawing unit. At the same time this will be an opportunity for students to move forward from their observational drawing skills and ideas to envisioning their work in three dimensions.</p>	<p><b>Visual Journals for Creative thinking Skills</b>          Start by thinking about why artists keep journals. I focused on how my journals could become a storehouse of ideas to pull to create artworks. The work that you do in these journals could push your class projects to the next level.</p>
<p><b>Your Eye from a mirror</b>          Create an artwork that starts and is established in one section and moves to other sections. In your work you may include; Cultural image such as a Buddha, Moroccan architecture, Eiffel Tower, an egg, an easily recognizable Masters' Reproduction detail, part of a mechanical object.</p>	<p><b>Escher Perspective</b>          Escher's interest in space and perspectival illusion led to the creation of some of his most celebrated images. Do a series of drawings of the same space from different views. Make your own mixed perspective image that melds multiple viewpoints.</p>	<p><b>Drawing Unit- Tonal Portraits</b>          You will be approaching the art form of portraiture drawing, first by exploring the selected design element of tone. You will then have the opportunity to complete the major drawing project, exploring tone and photorealist portraiture. If you finish early or want an extra challenge, you may complete the extension art activity, Drawing the Figure</p>

Jean-Michel Basquiat and Keith Haring both used distinctive language and techniques for visual effect and to communicate ideas. Explore these below and look for other examples in the exhibition.

Jean-Michel Basquiat (1960–88) was an American artist who emerged from New York's creative downtown community in the 1980s. His paintings, drawings and sculptures drew from art history, graffiti, music and popular culture.

### LETTERS, WORDS AND PHRASES

Basquiat recorded letters, words and phrases from songs, TV shows and the streets in his notebooks. He would use these in his paintings, where they would sometimes be misspelled, crossed out, or included for the way they looked or sounded. In *Irony of a Negro Policeman*, some of the words have a more direct relationship with the image and help the viewer to understand what they see.

How has Basquiat used text in *Irony of a Negro Policeman* 1981? What effect does the text have on the meaning of the work?

Go to the Notebooks Section of the exhibition. Find a phrase that intrigues you and write it down here:

What do you find intriguing about the phrase? Suggest why it may have been of interest to the artist.



Jean-Michel Basquiat *Irony of a Negro Policeman* 1981, acrylic and crayon on canvas, 103.0 x 122.0 cm. Private collection. © Estate of Jean-Michel Basquiat. Licensed by Artstar, New York.

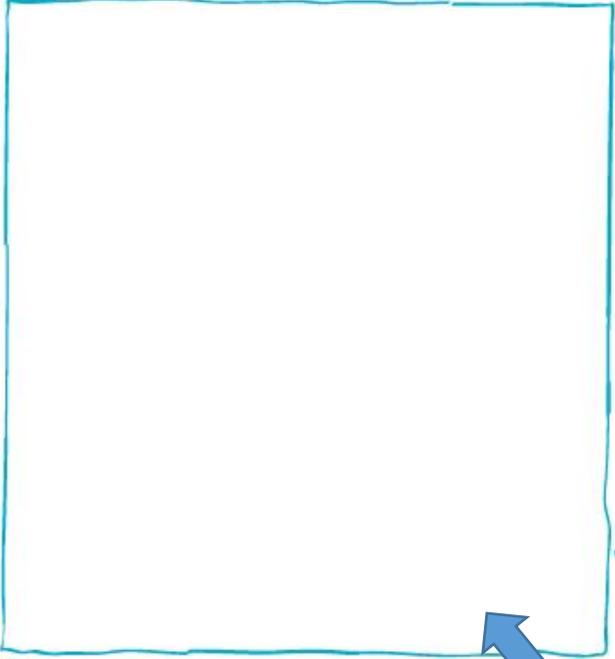
### LAYERING

Jean-Michel Basquiat's and Keith Haring's public art was often layered over existing graffiti and advertising on buildings, trains and in subway stations. In a similar way, their paintings were also often made layer by layer. Here Basquiat has created an outline of a policeman's figure by applying opaque white paint over a darker base layer. He then added line and text to the surface with oil stick, and scratched into the wet paint to reveal the darker colours underneath.

Find another work which uses layering and write the title here:

How many layers can you identify?

Which techniques and materials has the artist used to create these layers?



Draw a draft for your Basquiat inspired art work here. Don't forget to use layering, words

## Create a Basquiat Inspired Self Portrait.

Create a self Portrait using Basquiat's aesthetic and techniques. You can choose your size but A3+ works well for this artist.

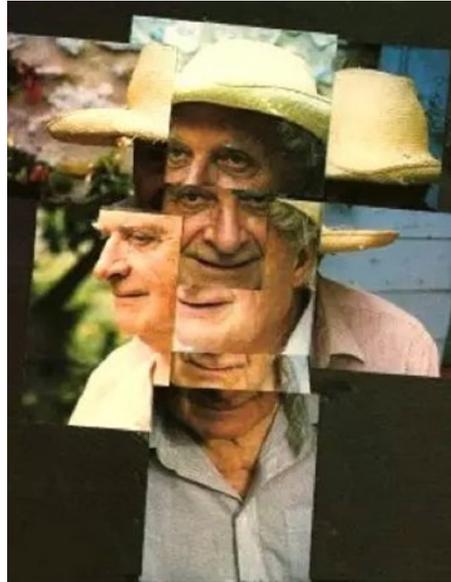
What makes Basquiat's work so recognisable? Is it his colour use, layering, use of mixed media.

Try to create use mixed media such as pastel, paint, oil pastel, collage and thick black text.



## Quick Lessons Using a Camera

On this page are a collection of art lessons that involve a Digital Camera and Photoshop. For the most part, all the lessons take one class period. The media varies from collage and Acrylic Paint to Colored Pencils and Watercolor Paint.



### **Over and Over**

Take one object, like this man on the right, and create three views. Cut them up and reassemble them into an interesting composition. To have a more polished piece of art take the cut up composition and transfer it onto another surface so it goes

from a collage to an actual painting or drawing. Instead of a man you might want to try a simple still life. Remember to start simple because it becomes more complex just with the steps that need to be taken. You can always make your art more complex but it is hard to go the other way.

### **With a Camera**

Take at least three if not more shots of a person or object (make sure the object is highly recognizable, such as a bicycle). Keep the same distance for all photos so the subject will be the same size in each. Use three of your best shots. Collage them. You can draw on top of them if you feel it would enhance your art. Take a photo of your art.

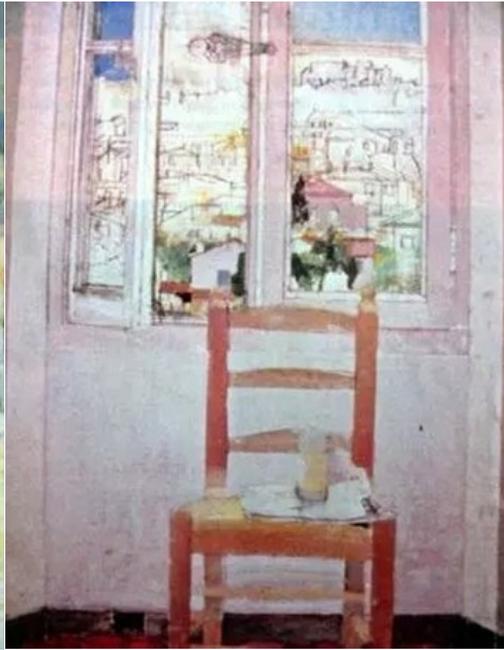
### **Tint Can Be Used To Unify**

A tint is when you add white to a color. You can create a piece of art, objective or non-objective, and unify it by adding white to all of the colors so it becomes pastel in nature. Select your subject. If you are painting you just add white to all of your colors. If you are drawing use pastels and apply white chalk over your whole piece. When you apply the white chalk apply it in diagonal dashes within each color's area. Do not just take the side of the chalk and cover the paper. That will make a mess. If you wanted to do this in colored pencil you would apply your color and apply white pencil over it or

select all light colors. Notice how the painting of the teacups is almost a monochromatic piece. Monochromatic is when only one color and its shades and tints are used.

### With a Camera

Take one of your photos and use it as a basis for this piece. It can be interpreted in a realistic, impressionistic or non- objective manner.



## Solarize The Image For Some Sophistication

On some cameras they have a solarize control that flattens the colors into simpler areas. The easiest way to do this is to take a photo with a camera such as this. The next easiest way to accomplish this is to take your own digital photo and use a program such as Photoshop to solarize it. The other way is to draw an outlined drawing and determine what is dark, medium and light. If you are doing a pencil drawing apply the pencil in dark medium and light shaded defined areas or use line patterns in each section. The line patterns would also have the light, medium and dark shaded characteristics. If you are doing it in paint think in terms of paint by number. The dark color is number 1, the medium color is number 2 and the light color is number 3. There can be more than three values but too many values take away from the flatness of this type of art.

### With a Camera

As mentioned above check for a solarize function on your camera. Not all cameras have this function. If it does not then take your photo and upload it to a computer that has Adobe PhotoShop and enhance your photo with the poster function. Print the altered photo in a small enough format to be able to use the opaque projector without it getting too big.



### Patterns Within Shapes

On separate sheets of Tracing Paper draw an outline of the basic areas of three or more people in motion or animals or leafy plants, etc. Take the tracings and arrange them so they interlock/overlap and create an interesting composition. If you are drawing this then transfer the image onto Drawing Paper. If you are painting this enlarge the image with the opaque projector. Use cheap colored markers and fine point black sharpie to outline and fill in each area with a different color combination. If you are in painting use Acrylic Paint and Sharpie Fine Point Markers. Be conscious of contrasts (lights against dark and complementary colors placed next to each other). Balance the colors and patterns so the paper does not get too heavy on one side (hold your art up to a mirror to check it).



be sure other people are away from you when you splatter. Be careful of muddling and overworking your piece.

### With a camera

Take a photo of the object that you want to paint/draw. Take the copy (full page) and transfer it onto your drawing paper with acetone. Let it dry and do your quick drawing/painting on top of it.



### With a camera

Take a picture of a person you know (friend, teacher, preacher, politician) and change their image into a clown.



# Shoes



## Design

- Find examples of 4 different shoes. Paste them in your Visual Diary. Sketch your own or find magazine pictures.
- Draw 2 full page colour designs in your sketchbook.
- Your shoe design is to be for a functional ceramic piece of work
- It maybe a shoe that can be a cross between something else, eg shoe phone or I-pod.





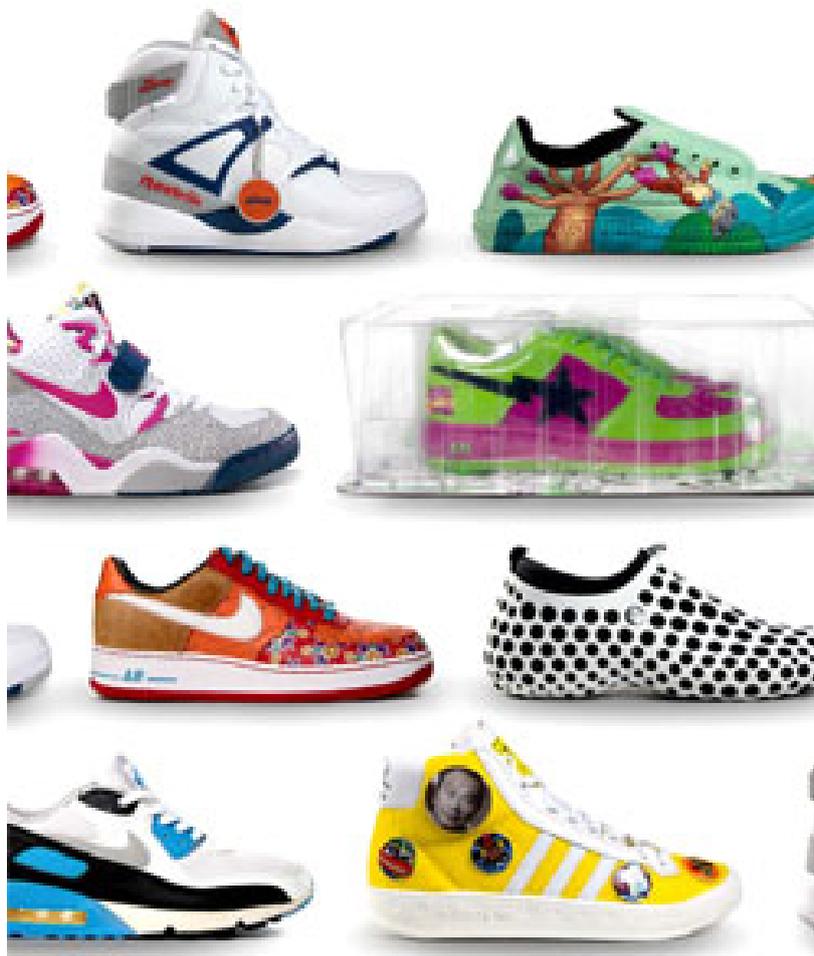
## Make

- Prepare your clay. You may also use air-dry clay, Fimo or Das
- Roll out a slab shape
- Cut the sole shape out of the slab
- Prepare coils by rolling and coil around the edge of the sole, or use a long narrow slab
- Roll another slab and drape over the top to form the top of the shoe
- Create the details of the shoe, eg. the stitches and the laces
- Bisque fire or air dry (this depends on your clay)
- Glaze, paint or decorate



## Questions

1. What is a functional Art piece?
2. Name an artist who liked shoes and drew them a lot?
3. Name and describe 3 different styles of shoe, which you have researched?
4. Describe the shoe that you will be making?
5. How will you decorate it?
6. What is the function of your shoe sculpture?
7. Will your shoe be a combination of anything else, eg. A Volkswagen shoe?
8. How can I ensure my work is a successful piece?



## Year 9-10 Drawing Unit

### Aim

You are to explore the Art form of drawing. Here you will have the opportunity to explore what drawing media there is on offer and to learn how to apply it in different ways by exploring design elements and then by completing a number of small exercises in your sketch book. You will then have the opportunity to choose one of several drawing techniques in your major drawing project. You will be exploring the theme of pattern in nature and looking at the work of contemporary artists who have explored this theme. Included in this unit is an opportunity to complete an extension art activity to achieve a stronger grade.

### What your sketchbook needs to contain

1. Design Elements (shells or creature in different media)
2. Contour line drawing
3. Watercolour studies.
4. Media trials for major drawing piece

### Options for major Drawing piece

#### Textural Nature study

1. Find a fish, animal or a sea creature and photograph it. Try to look examples which have nice bright colours, great texture and form. If you are stuck, your teacher will have some good examples for you to photocopy and use.
2. Take a digital photograph of the creature focusing on different parts. You may also cut the picture up into parts and re draw sections of it. You may try to distort it (see you teacher first for recommended filters and approaches) or change the colours using Photoshop.
3. Draw 6 media trials of the creatures texture in your sketch book. Experiment with different mediums, compositions and approaches. Your teacher will demonstrate a variety of approaches. See illustration below.
4. Draw it again 4 times on to the squares of thick water colour. Use 1 sheet for each drawing. Try using water colour and watercolour pencils, create a background wash. Reproduce the texture of the creature. Use your media trials to guide you as to what approach is the best.
5. Try to work in stages, building up texture and colour as you go.
6. Frame and present your 4 pictures by window framing work with black mount card.



### Extension Art Activity

This is an extra activity for those students who wish to have an extra challenge. This may be taken as a major art activity and another activity may be chosen as an extension activity.

### Work of a 20<sup>th</sup> Century Master.

Select the work of a twentieth Century Master and use a view finder to select 4 small portions of the work. The view finder may be 3x3 or 4x4 cms. Reproduce this fragment using either colour pencils, pastel pencils or water colour pencils. Each fragment needs to be 15x15 cms or 20x20 cms square.

### Presentation

All work is to be mounted on to black card or presented in your visual diary.

### Artist's Examples of Nature in Art



Above left  
Del Kathryn Barton, *The whole of everything* 2007/08.  
Watercolour, ink, gouache

Above right  
Ex De Medici, *Csiro/Anic study #39*, Water colour and Pencil

Bottom  
James Morrison, *Aspen Grove*  
2004, Oil on canvas

# Year 9-10 Abstract Nature Pattern Mosaics

## Aim

Students will look at design based on pattern in their environment. Students will add details from their designs that they have been working on in class throughout the drawing unit. At the same time this will be an opportunity for students to move forward from their observational drawing skills and ideas to envisioning their work in three dimensions. Students will also learn competence in the technical process of mosaic making.

## Materials

Concrete paver 30x30cms  
Coloured tiles  
Tile glue- resaflex  
Tile grout  
Tile sealant  
Pencils and paper to design mosaic

## Directions

1. Get an idea in your head of what kind of mosaic you would like to make. Look to your abstract patterns in nature for inspiration. Sketch a basic drawing of what you would like it to look like when it finishes. This can be as detailed as you want, but it just has to give you a guide. Draw it in colour.
2. Create a practice mosaic by using cut paper squares, cut to the same size as your tiles.
3. With your safety glasses and protective gloves on, break your tile with a tile cutter, into the sizes required. In order to avoid major scratches, lay a thin comforter or towel over the ground before breaking them, if breaking them up. Or score and cut with the tile cutter.
4. Gather your broken tiles into colour categories. This will help you when it comes time to actually put them into place. Put the colours into take away food containers.
5. Now it comes time to make the mosaic. When you have all of your broken tile pieces, lay them onto the surface that you will decorate. Again, this can be anything at all, but we will be using a concrete paver.

### Now it comes time to make the mosaic making.

6. Now, draw your design on to the tile. Work closely with your original design, drawing. It is very complicated, you may use carbon paper.
7. Now, individually glue each piece into place with the tile adhesive.
8. Once the tiles have set, mix up the grout with water until it is of the consistency described on the cement bag (pastey but not runny). Now put the cement/water mix over all the tiles and with the squeegee, push the grout deeply into the mosaic. Using a rough sponge, rub off the excess that covers the tile pieces. Allow to set. Polish with a soft cloth.
9. You now have a beautiful Mosaic!

## Examples of Mosaic.



## Visual Journal Prompts to Promote Drawing and Creative Thinking Skills

Let's take a closer look at how visual journals promote drawing and creative thinking skills in an incredible way.



### Introducing the Concept

Start by thinking about why artists keep journals. I focused on how my journals could become a storehouse of ideas to pull to create artworks. The work that you do in these journals could push your class projects to the next level.

### I look for 3 things in each entry:

1. Direct observational drawing
2. Collage
3. Text

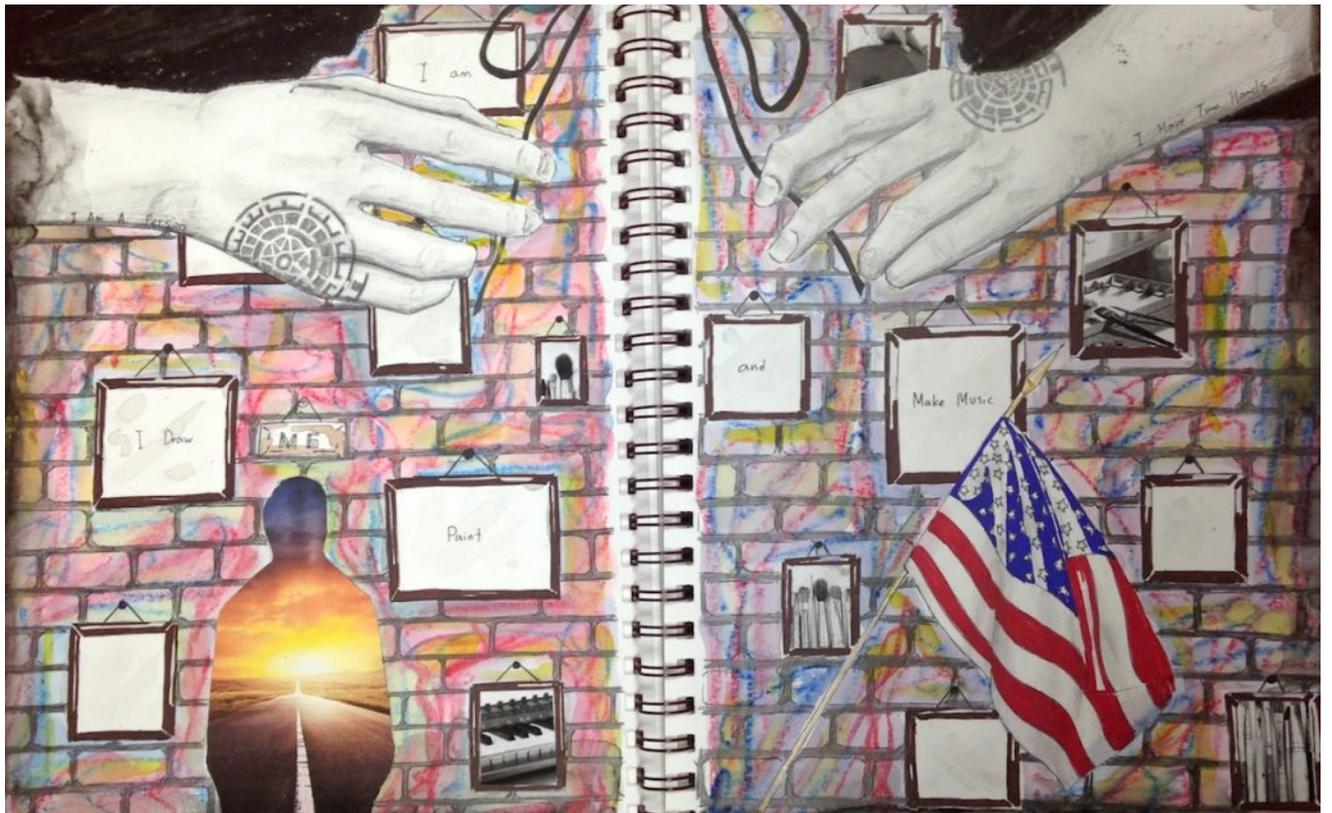
There are no hard and fast rules on how much collage or text needed to be incorporated. However, I do encourage you to make at least 50 percent of the work drawing. This way you know you are practicing drawing from life. Try to work on arranging the work into creative compositions.

In contrast to my beginning students they received single-word prompts. These were things like, "Me," "Rip," "See," "Joy," "Eat" or "Spirit." Try to use a two-page spread for each entry.

Here is how a few students handled the prompt, "Me."

AS







# 50

## VISUAL JOURNAL

### PROMPTS



#### IDENTITY

---

- Who am I?
- When I was Younger
- When I Grow Up
- My Biggest Fear
- My Journey
- My Greatest Joy
- When I'm Alone
- My Biggest Dream
- Some Day I Will
- How Others See Me



#### IMAGINATION

---

- Invent an object.
- Imagine that you have traveled to a different time period. Draw what you see.
- Be creative with letters.
- Be creative with numbers.
- Draw yourself in an imagined environment.
- Pretend you've been sucked into your favorite book.
- Listen to your favorite song and imagine what it looks like.
- You have swapped bodies with someone else. Now what?
- You come across a magic mirror. What does it show?
- You have discovered life on Mars...



#### ART SKILLS

---

- Create a drawing of a chair.
- Make a creative drawing of kitchen items.
- Draw your closet in one or two-point perspective.
- Choose an element of art to highlight.
- Choose a principle of design to highlight.
- Create a monochromatic entry.
- Create a piece using only a ballpoint pen.
- Make an entry that starts with a blind contour drawing.
- Draw the same object 10 times in 10 different ways.
- Create an entry that includes a portrait of someone you admire.

*Freedom to dream*

**EXPERIENCE MATTERS.**

When I was younger...  
I dreamed of being  
AN ADULT!  
...now I dream of being  
Younger!

**THINK LIFE**

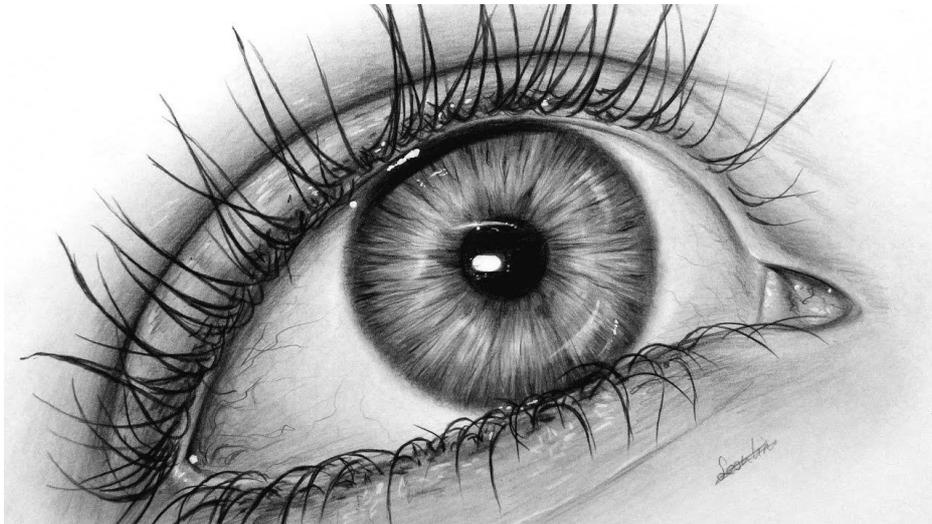


*When I was younger I was younger...*

# Your Eye From a Mirror

## Instructions on what needs to be included:

1. Your eye from a mirror
2. Create something that starts and is established in one section and flows from that section to another section
3. Cultural image (can be a pattern found dominant in one culture such as a Persian rug, or an image/object that represents the beliefs or life style of a particular culture, such as a Buddha, Moroccan architecture, Eiffel Tower or a sombrero)
4. An egg
5. An easily recognizable [Masters' Reproduction](#) detail (your choice)
6. Part of a mechanical object
7. Your signature
8. A landscape, a seascape or a crack in the door
9. the area in front of the door, key hole, crack or window;
10. the actual door and door frame/the key hole and hardware that helps define it, such as the door knob/the crack in a painted wall or brick wall or paneled wall or a wall papered wall/window and window frame;
11. the landscape or seascape located beyond the door
12. A container with text and a logo (soft drink can, juice box, snack box, round oatmeal container, can, milk carton or container, etc)
13. The face of a bird, fish, reptile, or other animal.
14. A chair
15. A black and white section inspired by your first black and white acrylic painting.



**Instructions:**

You have a basic design format you are to use.

You can alter it slightly, if necessary. Your final must consist of 24 sections with 2 large circular areas included in the 24 sections. There are to be NO DIAGONAL DIVISION LINES. If you change the format be sure, at the time you are graded, you can give a strong reason for the changes. (See the example template below)

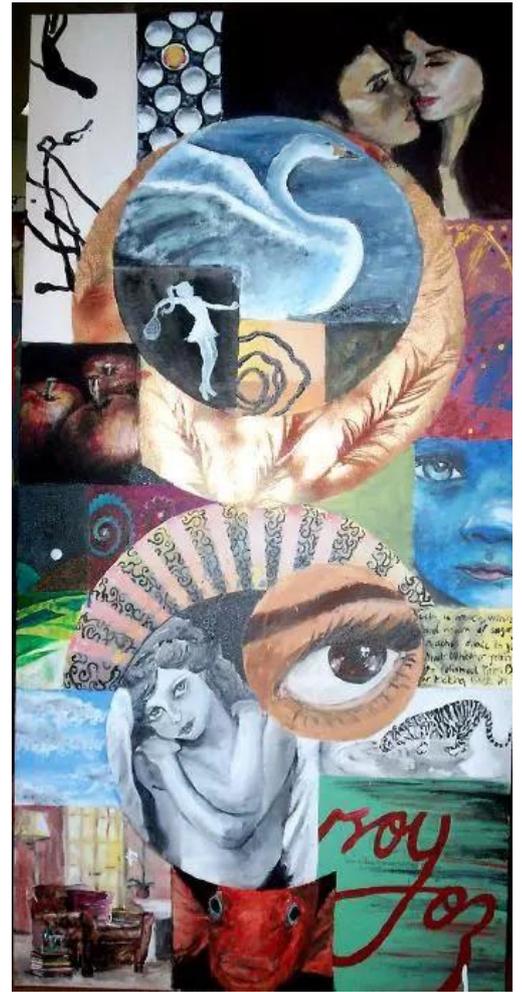
No more than two areas can be non-objective abstract areas.

Just a suggestion: Consider treating the piece as a stained glass window with use of heavy black lines defining the edges of the divisions.

The basic design format is already a balanced design. Do not destroy the balance by having a large black and white area on one side and no other black and white area. Also balance contrasts, warm and cool colors, visual weight, and detail. The best ways to do that is to create balance as you go and use the mirror trick while turning your art all 4 ways.

## Materials

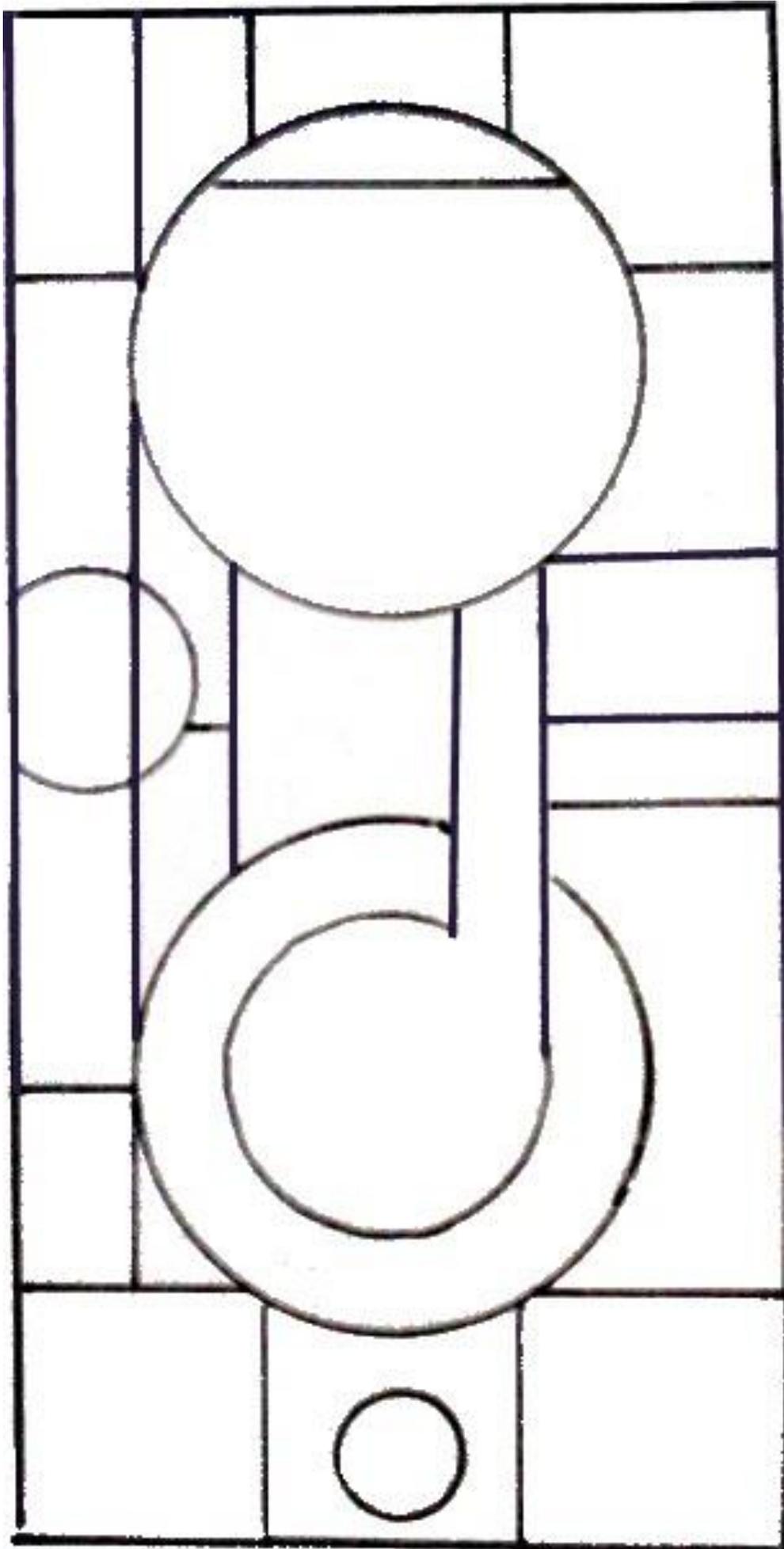
Egg  
 Mirror  
 Old masters Reproduction  
 Cultural Image  
 Mechanical Object  
 A container with text and a logo 24" by 48" (61 x 122 cm) [Canvas](#) [Acrylic Paint](#)  
[Acrylic Gloss Medium](#) [Brushes](#)  
[Gesso](#) (If your canvas isn't primed)



## References

[Acrylic Revolution: New Tricks and Techniques for Working with the World's Most Versatile Medium](#) - Acrylic Revolution is your essential, all-in-one guide for acrylic painting techniques and more. It features over 101 ways to break through the boundaries of conventional painting and re-define the creative potential of this all-purpose medium.  
 flat.

[Acrylic Painting](#) - Acrylics are plastic-based tube pigments capable of producing vivid colors and dramatic textural effects on canvas or paper. This book instructs in the many styles students can achieve with acrylic paints, and concludes with step-by-step projects in still life, landscape, cityscape, and human figure paintings.



## PERSPECTIVE, IMPOSSIBLE STRUCTURES AND INFINITY

*It is a pleasure to deliberately mix together objects of two and three dimensions, surface and spatial relationships, and to make fun of gravity. Are you quite sure a floor can't also be a ceiling? Are you certain you are going upwards when you ascend a staircase?*<sup>3</sup>

M.C. Escher, 1965

Escher's interest in space and perspectival illusion led to the creation of some of his most celebrated images. These show distortions of perspective and impossible constructions that challenge the viewer's preconceptions about order in space and such fundamental perceptions as above and below, up and down, and inside and outside.

In *Convex and Concave*, 1955 different views and perspectives are combined with such precision that the scene appears at first to make perfect sense. It is only when we look more closely that we realise that this is not a normal world view. Our own viewpoint shifts many times as we contemplate the image – sometimes we are looking down, sometimes up... the floor becomes the ceiling, and up is down. The image appears to have symmetry but the corresponding scene on each side has the opposite viewpoint – above or below. Escher utilises optical illusion, tricks of perspective and visual effects. Escher wrote that he had spent a whole month pondering how to make the print 'simple enough', so that it had a 'proper and effortless connection with reality.'<sup>4</sup>



### DISCUSSION POINTS:

- Identify where you would be standing to view each part of the image – above or below.
- How does Escher use symmetry and contrast?
- What is the significance of the title of the work?
- Escher did many preparatory drawings and sketches prior to making his print designs. What sketches or views might Escher have needed to create this image?
- The influence of Escher's images of impossible buildings can be seen in films and games. Can you think of any movies or games that might be inspired by Escher?
- Some examples might include the Jim Henson movie, *Labyrinth*, 1986, or the Hogwarts moving stairs in the Harry Potter films. What links or parallels can you find?

### STUDENT TASK:

- Do a series of drawings of the same space from different views. Make your own mixed perspective image that melds multiple viewpoints.
- Write a short description for the movie/scene that your image might be part of.

# Year 9-10 Drawing Work Unit

## Aim

You will be approaching the art form of portraiture drawing, first by exploring the selected design element of tone. You will then have the opportunity to complete the major drawing project, exploring tone and realistic portraiture. If you finish early or want an extra challenge, you may complete the extension art activity, Drawing the Figure.

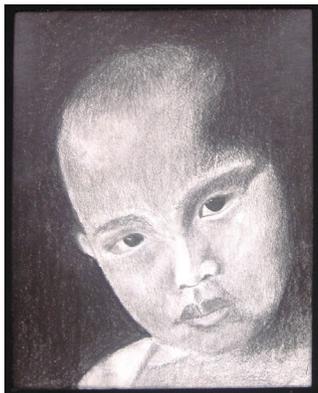
## Tonal Portrait Drawing

1. Scan, take or select a digital photograph of a face with a good example of contrasting tones. It would be great to focus on facial expression. You may transfer this in to Photoshop and further manipulate the image.
2. Print to an A3 size image. Use the photograph to conduct some small trials. Trial all the available tonal B&W media, such as Graphite Progresso pencils, greylead pencils, etc. Keep all of the small trials to include in your work book.
3. When you have decided on how you will use the medium, mark the outline of your image on to the paper that is given to you.
4. A window to trace to gauge the position of the features and lightly mark the outline of the features only by using dots to mark the corners of the eyes, mouth and the outline of the face. Alternatively you may use the proportions of the face template to help you draw it freehand.
5. Complete the large major drawing in progresso pencils and smudge sticks. Take great care to use the tonal scale to capture all of the tones in your work for a photorealistic effect.

## Extension Art Activity

This is an extra activity for those students who wish to have an extra challenge. Find an example of a figure to draw. You may look a magazine or a family photograph. Draw your figure in the correct proportions. below on drawing figures in proportion. Complete the drawing in Derwent pencil, Staedtler Pitt pens or Triplus pens. Make sure you media trial you work in your visual diary before completing work.

## Student Gallery Tonal Portraits



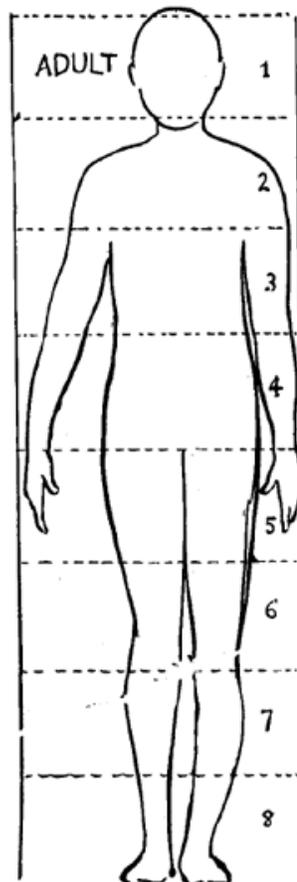
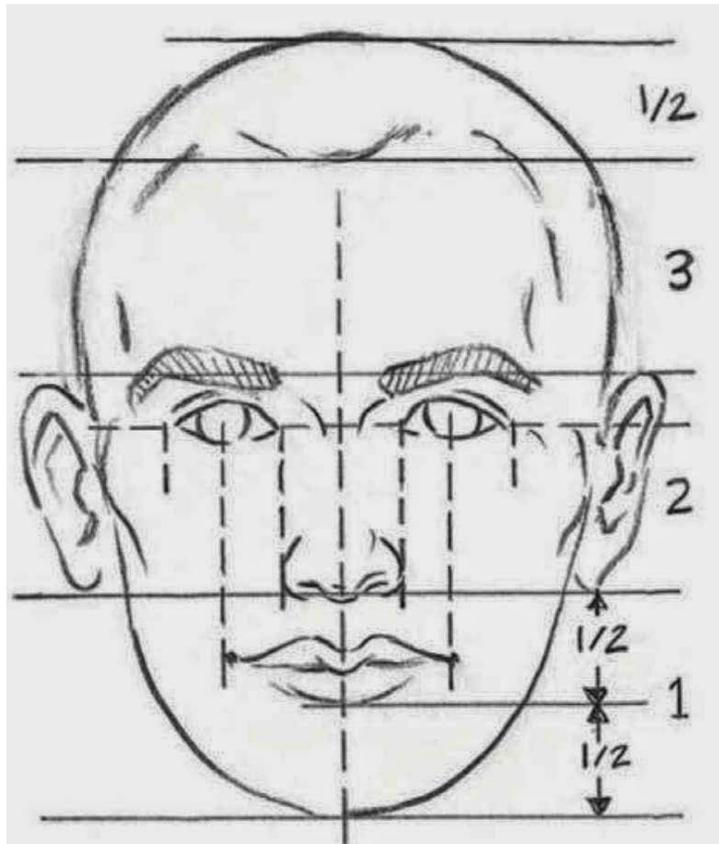
Sam Han- Yr 9



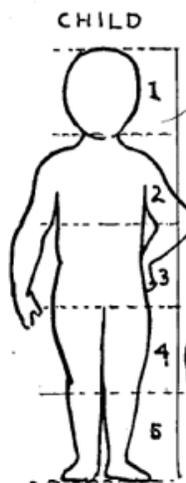
Rupert Kuveke Yr 9



Sam Brookes Yr 9



THERE IS NO EXACT STANDARD. THE ADULT FIGURE VARIES FROM FIVE TO EIGHT HEADS TO THE ENTIRE HEIGHT, THE CHILD'S FROM ABOUT FOUR TO FIVE HEADS TO THE BODY.



CARI-CAT-URES



BABY



WEE BABY

## Humanities and Social Sciences (HASS)

### What is HASS?

HASS stands for Humanities and Social Sciences. This learning area includes subjects like history, geography and civics and citizenship. It is a good learning area to discuss with your child because it links to the people, places and governments that shape our lives.

There are 10 HASS activities in this book. Each one has:

- Title – to give you an idea of what it might be about.
- Conversation starter – some questions to guide you when you start.
- Activities you can choose from and/or change.
- Definitions that explain important concepts.

Students can do the activities in many different ways. Mix and match them to suit your child's interests or needs.

### How do I support my child?

Read through the Conversation Starter questions with your child. It will help them if you talk about the activity before they get started, to help them think about the question. Help them to choose which activities they want to do.

Then children can work independently.

Get together with them again once they have worked through the activity so that they can discuss their thinking with you.

### What resources do we need?

The activities are designed to be completed without textbooks or the internet. Of course, if you have other resources they will add to the experience for your child. The internet is a wonderful resource, as are books - pull out your atlas, maps and any reference books that you have at home.

People are a wonderful resource as well, especially older family members who have experienced a rich life and have lived through major events.

Humanities and Social Sciences

Year 9

1. **Past and Present**

**Conversation starter:** What has influenced some of our civilisations today? What is one major historical event that has influenced where you live or the people who live there?

**(Draw** a t chart to show past and present civilisations. **List** events that have influenced and **describe** how/why? E.g. Past - Romans – aqueducts, sanitation. Present – Water pipes to and from homes, Garbage trucks taking waste away.)

**(Write** a news report or play or cartoon to show one important influence from the past until today.)

2. **Creating a Primary Source**

**Conversation starter:** What is a primary source? What in my household would I describe as a primary source and why? **(Find** a primary source or create one)

**(Primary sources** are from the period and are, in some way, a part of the event or issue being studied, eg a sword that has a soldiers initials on it)

**(Analyse** your source and decide how you will **present** this analysis and source to your family.)

**(Source analysis questions** – What is the source object? What sort of information is in the source OR what is its size/features? what it is made from? Does it have identifying marks? Who wrote or made it? When was it made or produced?)

3. **Planning a time capsule - Popular Culture**

**Conversation starter:** What is the popular culture of your age group? What would you add to a time capsule from the last 5-10 years? How does this represent your age group? What would you write to the students who will be your age in 50 years of your experiences?

**(Popular culture:** culture based on the tastes of ordinary people rather than an educated elite.)

**(Write** the list of things you would include and describe why it is there. Then **write a letter** to either yourself 50 years OR to a teenager of that time period.)

4. **Tourist Brochure – Promote your favourite NT Holiday destination/place**

**Conversation starter:** Where is the Territory is the best destination/place to holiday? What makes it the best place to holiday? Who would you advertise this place to and why?

**(Write** a list of the things that make this place great to visit. **Design** and make a brochure or a book size poster.

**Draw** each of the things that make it great. **Persuade** your target group to go here. Use lots of words to make it sound amazing.)

5. **A Plan to decrease food waste**

**Conversation starter:** What is your current food waste use like? What is the most common item thrown away that is food waste? Where does it go?

**(Plan** to decrease one type of food waste or as many as you like. E.g. Sweet potato skin – wash thoroughly then peel the skin and bake in the oven as chips, Lemon grass roots – after cutting of the root section place into a ¼ glass of water and wait for roots to sproat then plant in the garden, Compost Heap....**Write a home plan** to help everyone in your household to reduce food waste. **Share** with the family.)

6. **Lobby Group**

**Conversation starter:** What is a lobby group? Why does Australia need people to lobby government? What would your family lobby the government to do?

(Choose an issue you or your family feels strongly about – **share** this with your family.)

### 7. Social Media – changing how we vote?

**Conversation starter:** How has social media changed how different countries vote/or Australians vote? Has there really been any change? What else could be responsible for this change in how we vote?

(**Write** a persuasive text to proof your view on this issue. What do you believe and why? Find out what your family thinks.)

### 8. NT Election - August 2020

**Conversation starter:** The Territory has just had a change on opposition from the Country Liberal Party (CLP) to Territory Alliance. In August 2020 there will be the whole of Territory Election. What are the key issues going to be? How will politicians get their messages out? How will people vote?

(**Write** about what you think the key messages for politicians will be and sell one key message to your family.)

### 9. 2020 and beyond – predicting the new jobs

**Conversation starter:** Jobs have been changing for a long time. Some jobs are much more mechanised or have more technology used than ever before. What new types of jobs will be needed in 2020? What skills will people need to perform? How will we prepare ourselves?

(**Write** a job title and job description for a new job in 2020. Describe the job – what technological skills will you need, will you need to work in a team, will you need to use a computer to write programs, will you need to have empathy...)

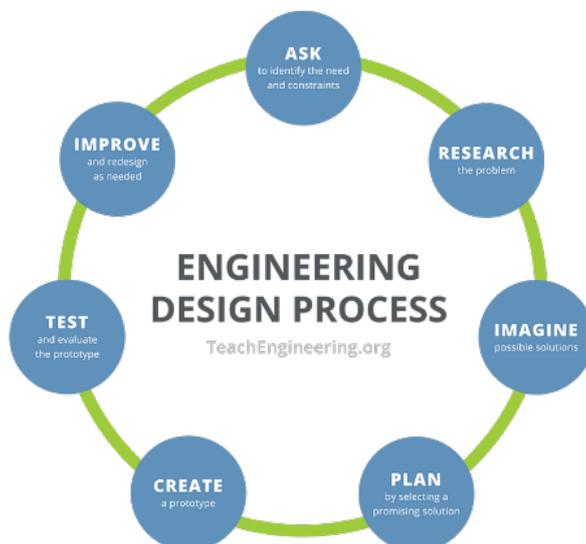
### 10. Trivial Pursuit

**Conversation starter:** What topic or favourite subject do you know most about?

(Choose one and **write** Questions and answers. E.g. Favourite Topic -Game of Thrones, Pet Snakes, Raising Chickens, Gardening...Make up Q and A cards. Ask your family to do the same on their favourite topic. Play. You are the quiz master.)

## Science, technology, engineering and maths (STEM)

STEM stands for Science, Technology, Engineering and Mathematics. This learning area allows children to use science and maths to solve real world problems. In STEM we use an inquiry process, as shown in this diagram.



### How can I support my child?

Encourage your child to **ask questions**. Help them to find a problem they can solve.

**Research** the problem. Help them to find out more about it.

Brainstorm and **imagine** possible solutions. Help them to write these down, encourage them to draw a picture or a diagram of their ideas.

Create a **plan** to make one solution. Help them to make their plan, discuss, read through it with them.

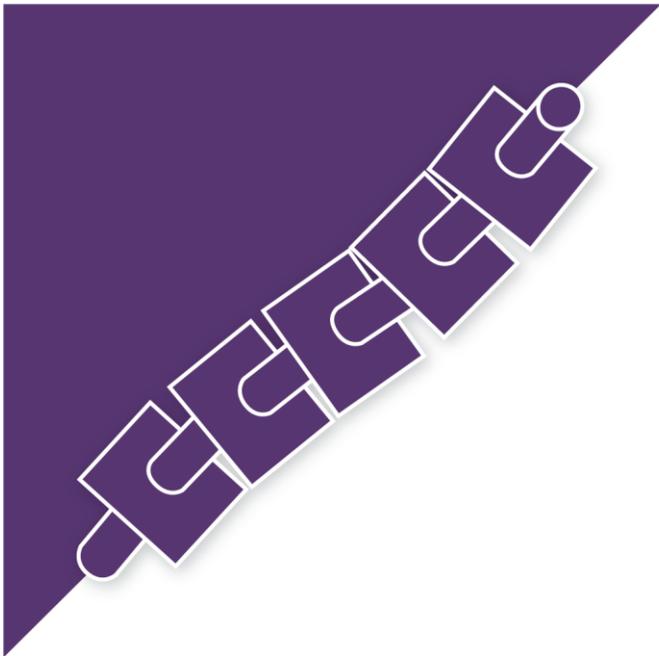
**Create** a model (prototype) of their solution. Help them to find materials that they need.

**Test** and evaluate the model and improve the model as needed. Run through it with them, take photos, suggest changes.

Make sure that there are **constraints** on the activity. Constraints might be a time limit on how long children have to make something, or how much equipment they can use. This will keep the problem to a size and scope that children can manage.

Find simple problems at home that your children can solve. Here are some ideas:

- The best way to clean the kitchen
- How to stop animals from coming inside the house
- How to stop ants and flies from getting into the rubbish bin
- How to pack the car so that everyone can fit in



# Student booklet

## Toddler toys

<b>Years 8–9</b>	<b>Technology</b>
<b>Name</b>	

**Design and build a toy suitable for a three- to four-year-old child.**

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**You will:**

- investigate toys for toddlers and the materials, tools and techniques used to create a toy
- design and produce a suitable toy, using available resources
- evaluate the toy and reflect on what you have learnt in the process.

## **Introduction**

Young children learn through imaginative play and they need quality, safe toys. Your challenge is to use *technology practice* — investigation, ideation, production and evaluation — to design and make such a toy.

First, you will find out about toys:

- What do children this age like to play with?
- What are the safety issues?

Next, you will use what you found out to develop a design and use the available tools and resources to make a toy that matches the *Design brief*.

## **Design brief**

Design and build a toy suitable for a three- to four-year-old child. It needs to fit these specifications:

- has wheels and at least one other moving part
- is 15–30 cm long
- is an innovative design (not an exact copy of an existing toy)
- suits the age of the client (three- to four-year-old child):
  - easy to use
  - sturdy
  - safe.

## **Design journal**

Keep a record of your project in a journal. This will include:

- investigation — toys folio, notes on tools and resources
- ideation/design — initial sketches, final drawings and adaptations
- production — production plan, construction notes and photos or sketches of work in progress
- evaluation and reflection — notes of design changes, evaluation of final product, reflection on learning.

**Project management checklist:**

<i>Your project will be complete when you can tick all these items:</i>		✓
<b>Investigation</b>	Folio of images and notes about toys suitable for three- to four-year-old children	
	Initial list of materials, tools and techniques suitable for building a toy	
<b>Ideation/ Design</b>	Three initial design sketches, with evaluation comments	
	Final drawing/s and component list	
<b>Production</b>	Production plan	
	Safety guidelines	
	Completed toy:	
	- has wheels and at least one other moving part	
	- is 15–30 cm long	
	- is an innovative design idea	
	- suits the age of the client (three- to four-year-old child): easy to use, sturdy, safe.	
<b>Evaluation and reflection</b>	Notes on how you adapted and improved your design	
	Evaluation of your design and finished product	
	Reflection notes on your learning	

## Section 1: Investigation

### ***Toy design folio:***

Collect a folio of toys designed for three- to four-year-old children. Use a range of sources, including books, websites and toy catalogues. If possible, talk to a Kindergarten or Prep teacher.

Organise your design folio so that your pictures and notes answer these two questions:

1. What features make a toy **fun and interesting** for this age group?
2. What features make a toy **safe** for this age group?

*Insert extra page/s with your findings.*

### ***Materials, tools and techniques:***

Investigate which resources — materials, tools and techniques — are suitable for building the toy.

Here are some examples you may have available:

<b>Construction materials</b>	wood (sawn timber, plywood, dowel, chipboard/MDF), plastic, acrylic (“Perspex”), laminate, PVC (pipe, sheet), metal (sheet, pipe, rod)
<b>Fasteners</b>	screws, bolts, nails, glue (PVA, contact, epoxy)
<b>Hand tools</b>	tenon saw, hacksaw, hand drill, plane, file/rasp, sandpaper and sanding block, bench vice, clamps, screwdriver, hammer, chisel, mallet
<b>Power tools</b>	bench drill, hole saw, belt sander, disc sander, band saw, mitre saw, grinder
<b>Finishes</b>	paint, varnish, oil

List the resources you would like to use in the *Resource wish list* on page 5. Consider whether each one is available and whether you will need to learn some new skills to use it.

<b>Resource wish list</b> What would you use? Why?	Is it <b>available</b> ? (✓ or ✗)	Do I already have the <b>skills</b> to use it safely and effectively? (✓ or ✗)
<b>Construction materials</b>		
<b>Fasteners</b>		
<b>Hand tools</b>		
<b>Power tools</b>		
<b>Finishes</b>		

If you put an ✗ for any skills, make some notes about what you will need to learn.

.....  
 .....

Confirm with your teacher that your *Toy design folio* and your *Resource wish list* are complete before beginning the *Design* phase.

Teacher approval: .....

Notes from teacher's feedback: .....

## Section 2: Ideation/design

### **Initial design ideas:**

Sketch three different ideas for your toy design. Discuss your ideas with others and use the evaluation box to make notes about strengths and weaknesses of each design.

<b>Design idea 1:</b>
<i>Evaluation:</i>
<b>Design idea 2:</b>
<i>Evaluation:</i>
<b>Design idea 3:</b>
<i>Evaluation:</i>

## Final design:

### Design drawing

Choose the design that best meets the *Design brief* (or a combination of the best features from all your designs) and draw it in more detail. Use labels to show all parts and materials. Use “close-up” drawings to show details such as moving parts.

*Insert your final drawing/s on separate page/s.*

### Component list

List all the materials you will need, including fasteners and finishes:

Component list				
Ref. No.	Qty	Name	Material size (in mm)	Description
e.g.	1 4	body wheels	210 x 62 x 19mm 12 W x OD 52 X ID 6	pine plywood
1				
2				
3				
4				

Discuss your design with other students and adapt it to include any useful suggestions.

Confirm with your teacher that this design proposal is practical and sufficiently detailed before you move to the *Production* phase.

Teacher approval: .....

Teacher's suggested refinements: .....

.....

## Section 3: Production

Create a step-by-step plan for constructing your toy.

Production plan		
Step	Task	Resources
1		
2		
3		

## Tools and safety

What tools will you need to use? What are the safety issues? Complete this table:

Tool	Purpose	Safety issue	Safety strategy
e.g. Glue gun	To join materials	Heat, melting glue stick	Safety glasses, leather gloves

Now make your toy. As you work, add to your journal notes, photos or sketches of:

- each production step
- changes you made as you went along, i.e. how you adapted the design and production processes to improve the finished product.

## Section 4: Evaluation and reflection

### Give your project a rating:

Specifications from *Design brief* (page 2)

- 5 — meets all specifications
- 4
- 3 — meets most specifications
- 2
- 1 — meets one or two specifications Comment: .....

Innovative design

- 5 — a completely new design
- 4
- 3 — based on an existing toy, but some original ideas
- 2
- 1 — copy of a toy I saw Comment: .....

Function and durability

- 5 — works perfectly, will last for years
- 4
- 3 — works well but fragile
- 2
- 1 — hard to use, falling apart Comment: .....

Precision of work

- 5 — neat, smooth, no gaps — looks like a factory job
- 4
- 3 — sturdy but lacks precision
- 2
- 1 — loose parts, big gaps Comment: .....

Suitability for target age group

- 5 — ideal design for three- to four-year-old child
- 4
- 3 — reasonable, but with limited appeal and/or safety for this group
- 2
- 1 — unsuitable for this age group

My toy is suitable for three- to four-year-old children because:.....  
.....

## Reflection

Think back to the start of this assessment and what you have learnt along the way. Make some notes about what you have learnt.

Phase	What was successful?	What didn't work so well?	How would you do it differently next time?
<b>Investigation:</b> <ul style="list-style-type: none"> <li>toys suited to the target age group</li> <li>suitable materials</li> </ul>			
<b>Ideation/design:</b> <ul style="list-style-type: none"> <li>creating ideas</li> <li>the final design</li> <li>selecting materials</li> </ul>			
<b>Production:</b> <ul style="list-style-type: none"> <li>selecting tools</li> <li>creating a plan</li> <li>working safely</li> <li>quality work</li> </ul>			
<b>Evaluation:</b> <ul style="list-style-type: none"> <li>using evaluation to improve the product</li> <li>meeting specifications.</li> </ul>			

## Electric Vehicle for Teenagers

In the future, our roads will be safer thanks to new technology. Teenagers may be allowed to drive small electric vehicles to help ease pressures on the popular public transport system. The vehicle can only carry one person and it must look appealing to teenagers.

List 5 things that your design must do or be like for it to be a success.

- 1.
- 2.
- 3.
- 4.
- 5.

**User profile** - what are teenagers like and what do they like?

## Development sketches of your ideas

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## Final Design

What materials would it be made from?

Explain the best features of your final design

# DATTA Vic Design Challenge



<http://www.caradvice.com.au/144896/suzuki-swift-ev-regina-and-q-concept-revealed-ahead-of-tokyo-debut>

# DATTA Vic Design Challenge



## Re-design a Mobile Phone

A well-known construction company wants to design a new mobile phone for its employees. Design a tough, weatherproof mobile phone that can be easily used and can stand up to the abuse of a construction workplace/environment.

List 5 things that your design must do or be like for it to be a success.

- 1.
- 2.
- 3.
- 4.
- 5.

## Development sketches of your ideas

--	--	--

## Final Design

What materials would it be made from?

Explain the best features of your final design

## User profile

Construction workers – what are they like and what do they like?