

Learning Intention

To complete a variety of writing activities
To read independently
To select a new skill to develop
To create a continuous reflective piece

Success Criteria

I can complete the writing tasks
I can read a text of my choice and complete tasks about it
I can start a journal
I can select a new skill to learn

Week 3

Lesson 1	Mavkel reading and questions
Lesson 2	Sci-fi characters
Lesson 3	Reading Bingo
Lesson 4	Create a character: writing and drawing
Lesson 5	War of the Worlds

Submission of Work and Feedback:

Students can upload work to Compass where access is available. Photos of handwritten tasks may also be uploaded. Students can also mail hard copies of their work back to the school in the supplied envelope.

Any questions should be directed to the school email: seymour.co@education.vic.gov.au

Teacher Expectations

Work Completion

During this round of off-site learning your work needs to be completed **online** and submitted **at the end of the week**
OR

Complete the **work pack** and **send it back to school when you have finished**

Check Compass every day as your teacher may have organised a Webex check-in or lesson that they want you to attend.

Asking for help/communicating with teachers

All your teachers are easy to contact via e-mail (the little yellow envelope on your Compass page) and you can also call the school to speak to them.

Attempt as much work as you can and make sure to take care of yourselves.

Lesson 1

First	15 minutes independent reading
Next	Read the extract from the book <i>Singing the Dogstar Blues</i>
Then	Complete the 'Mavkel' creative task
Last	Complete the questions and writing tasks

Extract: Singing the Dogstar Blues

I slid into position just as Camden-Stone turned to face the class. We stared at each other. Three long seconds. His face was ceremony-bland, but his left hand was twitching. A vein pounded blue in his temple. When the ceremony ended, I wasn't going to wait around and get thrashed like that other girl. I finally looked away, but out of the corner of my eye I saw Camden-Stone smile. A vulture smile. I didn't hear the first half of the ceremony. I was too busy looking for an escape route. I zoned back when Camden-Stone introduced the Chorian student.

'It is with great honor that the University of Australia accepts Mavkel into its **prestigious** Centre for Neo-Historical Studies. Mavkel will be studying Time Travel which only accepts twelve first-year students who have displayed **exceptional** aptitude.'

Everyone clapped.

'As we are a Centre devoted to the study of history in all of its times and guises, it is appropriate that such an historical event happen here.'

More clapping. The Chorian student was standing a little apart from the rest of the Chorian **contingent**. Its ears were stretched back against its head. It looked like it was either sick or nerved out.

Camden-Stone continued, 'The time has come for the very important task of partnering the students who have been chosen to study Time Travel. As you are no doubt aware, these human students are chosen not only for their talents, but also for their psychological, physical and intellectual qualities and **compatibility**. These tests ensure that ideal partnering combinations are achieved. These partnerships usually result in an **optimum** working unit and a lifelong friendship.'

Camden Stone paused. His eyes flicked over to the group of Chorians. Even though he was smiling, you could almost see the distrust. The dear professor was an alienist.

'However', he continued, 'since our new Chorian friend and workmate has not completed these tests, the Chorian government has requested that Mavkel choose its own partner by scanning the minds of our students.'

A buzz of voices broke out in the audience and around me. Camden-Stone turned to face us.

A mind scan. Holy scretre. That would rattle a few cages. There's a lot of tox floating around about Chorian mind scans. You know the stuff. Heads exploding, faces falling off, brains being wiped. Garbage like that.

'Naturally, if anyone is opposed to being scanned they may step down as a candidate for the honour of being Mavkel's partner. If you are opposed, please indicate your choice by moving to the left of the stage.'

I knew for a fact that Tonio would be opposed. Chaney too. But not me. What a chance to meet an alien. Mind to mind. I never thought I'd see one close up, let alone get mind scanned. On the other hand, if I crossed over to the left side of the stage I could slip out while everyone was focused on the Chorian. Get out of Camden-Stone's sight for a while until he calmed down. What a choice.

The alien won by two short noses.

Chaney was the first to move across the stage. Jorel was next. That started the avalanche. Every hyphen kid in our class moved across. That left four of us: Peter, Sara, Jason and yours truly.

The Chorian student stepped forward. It looked nervous, gulping with its primary mouth, its secondary tightly closed. Even its skin was dull. Well, as dull as a sparkly white skin can be under bright spotlights. Camden-Stone ushered it forward.

'Do you all agree to be mind scanned by the Chorian named Mavkel?' he asked. He was learning away from Mavkel ever so slightly. 'Please state your answer for the record. Sara Ferrins?'

Sara looked like a rabbit going under the wheels. She stared at the Chorian, then at Camden-Stone and balked. Now there were three.

Peter was scanned first. It was pretty **anticlimactic**. Mavkel made a complicated gesture then Peter's face kind of froze for a second. That was it. Mavkel bowed to him.

'My thanks. But you are not my partner.' Its voice was a deep furry harmony that reached to the corners of the hall. Kind of like Billie Holiday with a cold.

Jason was up next. He was a total brown-noser and Camden-Stone loved him. But would Mavkel? Jason was scanned, but it was the same biz. Thanks, but no thanks.

It was my turn.

Forget the rumors about mind scans; all you feel is warmth and a slight pressure. That's all I felt. Kind of like having someone placing their hands on your head and blowing in between their fingers.

Suddenly the four Chorian Elders went crazy: **harmonized** gabbling, bouncing up and down on the spot, ears flapping. Then all at once, they stopped screeching. I felt a burst of incredible pressure in my head, like a migraine gone nova. Everything went black for a second. Mavkel grabbed my arm.

'Partner, pair,' it sang loudly.

Camden-Stone turned almost as white as the Chorians.

'There is some mistake,' he said, but his voice was lost in the song of the four Chorian Elders. They had walked over to us, caroling their congratulations. The biggest pair, with enormous jowls that hung down to their chests, stopped beside Camden-Stone.

'This human is one of two. How did this happen?' one of them sang loudly. It leaned forward, its forehead almost touching Camden-Stone's.

Camden-Stone stepped back.

'I don't know what you mean?' he said.

He looked over at me, his eyes narrow. Obviously I had wrecked his plan. Someone else was supposed to be Mavkel's partner. Probably Jason.

'Aaronson isn't a good choice,' Camden-Stone said. 'Mavkel must try again.'

'No,' the Elder sang. 'Mavkel has found its pair. The duality of life is restored.' Its pair nodded.

Camden-Stone wasn't pale any more. His face was bright red. He knew I had him. I was the chosen partner of the first Chorian student on Earth. He couldn't touch me.

I glanced at my new partner. It had flicked back its semi opaque second eyelid and was squinting into the lights, staring at Camden-Stone.

The audience finally caught on that the Chorian had found its partner. Clapping started. Camden-Stone jerked to attention. He walked over to us, holding his arms up for silence.

'Honoured guests, friends, students. History has been made in front of your eyes. The Chorian called Mavkel has chosen Joss Aaronson as its partner. Cadet Aaronson is the daughter of the highly-respected journalist, Ingrid Aaronson.

Please join me in celebrating this new partnership.'

The clapping became a thunder of approval. Mavkel leaned closer to me. I thought I heard it sing 'be careful' softly in my ear but when I turned my head it was speaking to the Elder by its side.

Mavkel creative task

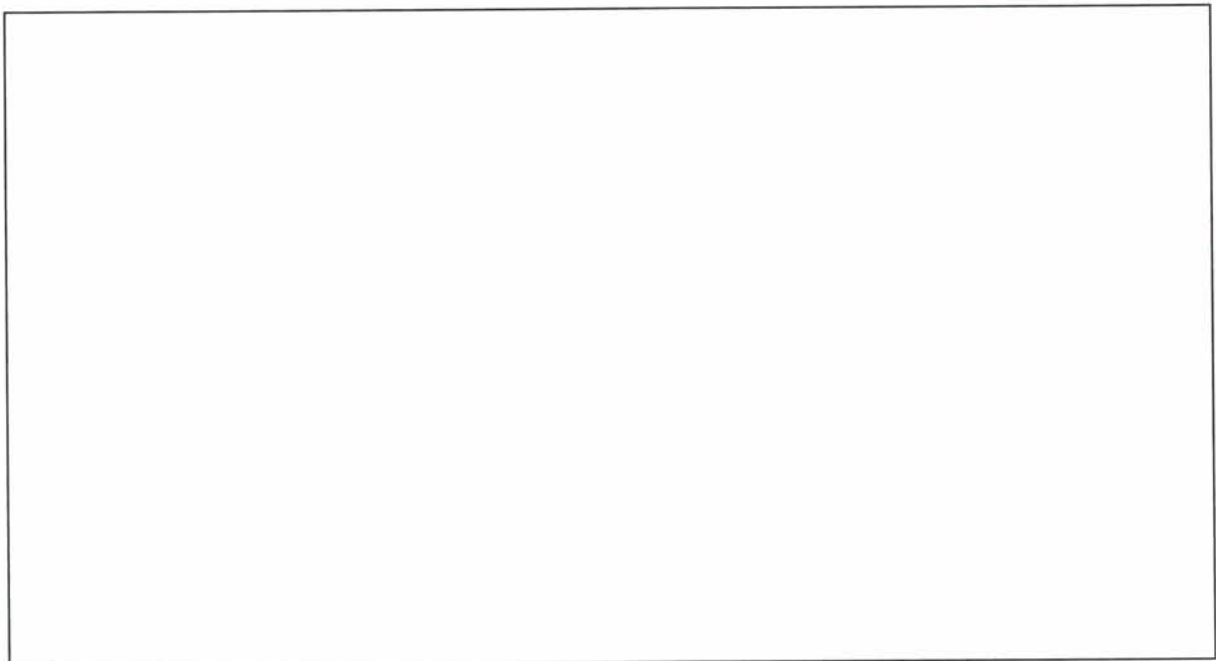
As you read you probably formed some kind of mental image of Mavkel. People over the years have come up with many different ideas about what aliens look like and we've probably all wondered about that, too, if we think they exist at all.

Not a great deal of description is given in this passage but you probably imagined what Mavkel would look like in your mind's eye as you read the passage.

Now, go back over the passage and underline any descriptions of Mavkel that you can find. Use this information and your own imagination to create your own impression of Mavkel

Draw or paint your impression of Mavkel based on your reading of the extract. Or you may prefer to make a model or a collage.

Mavkel



Mavkel Questions

- a) Go back over the passage and highlight any section, words, phrases or sentences that tell you anything of what Mavkel is thinking or feeling.
- b) Complete the following writing tasks.
 - i- See if you can get inside the mind of this alien by writing Mavkel's version of these same events. The challenge is to write in Mavkel's "voice", bringing out its personality and feelings, expressing its individuality in its vocabulary, phrasing and style of writing. Can you do all this in about 400 words?
 - ii- Cover his feelings as well as the sequence of events. Write in first person like Joss did. Use information from the passage to determine what Mavkel might be thinking. You can also use your own ideas to develop its thoughts. You can use your imagination but you do need to make it a convincing and believable character. Aim to write about 400 words.

Lesson 2

First	15 minutes independent reading
Next	Read the character descriptions below
Then	Identify components of sci-fi characters
Last	List as many characters you think are memorable

Character descriptions

The following characters are from well-known sci-fi films. Read through the information before completing the activities.

Luke Skywalker

Luke was born on Polis Massa in 19 BBY. His mother, Padmé Amidala, died in childbirth. His twin sister, Leia, was adopted by Queen Breha and Bail Organa of Alderaan. Obi-Wan Kenobi took Luke to care for. A battle above Tatooine led to a change in Luke's fortune. He was later captured by Darth Vader, however went on to rescue Princess Laya. Luke led a New Jedi Order appointing himself Jedi Grand Master in an attempt to unite two factions. After several unsuccessful romances, Luke married Mara Jade in 20 ABY. Their son, Ben Skywalker, was born six years later.



Leia Organa

Princess Leia Organa is the daughter of Anakin Skywalker (Darth Vader) and Padmé Amidala. She was born on Polis Massa in 19 BBY. After the death of their mother, Padmé Amidala, in childbirth, Leia and her twin brother Luke were separated. Obi-Wan Kenobi took Luke to Tatooine to live with his aunt and uncle, Owen and Beru Lars.

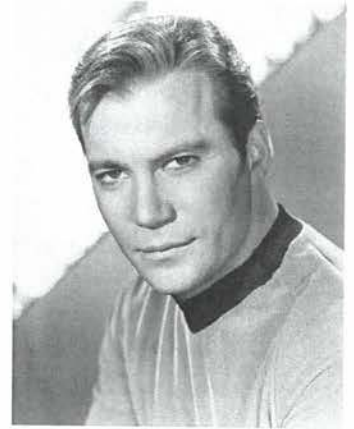
At 18, Leia became the youngest Imperial Senator ever elected. As a member of the Rebel Alliance, she used her diplomatic immunity and Senate ships to run secret supply missions. Leia began to develop a romance with fellow Rebel and smuggler Han Solo after they escaped the ice planet Hoth together. Before Han was frozen in carbonite, she confessed, "I love you," to which Han replied, "I know."

At the Battle of Endor, Leia was part of Han Solo's strike team, sent to the forest moon to disable the second Death Star's energy shield. Leia served as Minister of State and later succeeded Mon Mothma as Chief of State. As Chief of State, she led the New Republic through a number of political crises

Captain James Kirk.

James Tiberius Kirk was born in Riverside, Iowa, on March 22, 2228 and was raised by his parents, George and Winona Kirk. Kirk became the first student at Starfleet Academy to defeat the Kobayashi Maru test, getting a commendation for original thinking by reprogramming the computer to make the "no-win scenario" winnable.

When assigned to the Farragut, Kirk commanded his first planetary survey, surviving a deadly attack. Kirk then became Starfleet's youngest starship Captain, in command of the USS Enterprise. Throughout the series Kirk became romantically involved with various women, but when confronted with a choice between a woman and the Enterprise, "his ship always won".



River Tam

River Tam is the teenage sister of Dr. Simon Tam, who both took refuge aboard Malcolm Reynolds' Firefly-class transport ship, Serenity. During River's early childhood, she grew up as part of the wealthy Tam family on the "Core" planet of Osiris. She was considered a child prodigy, intelligent beyond her years and athletically gifted.

After intense experimentation by Dr. Mathias, River was partially transformed into a mentally unstable psychic weapon intended for secret government use. She was rescued at great cost by her brother Simon but tracked relentlessly by several agents of the Alliance. Almost all of her time on the run was spent with the crew of the Serenity, who became her extended family.



"River was more than gifted. She was a gift. Everything she did, music, math, theoretical physics—even dance—there was nothing that didn't come as naturally to her as breathing does to us."- Simon Tam.

Activities

1. Make a list of all the characteristics you think the above characters have in common
2. Identify what you think makes a 'sci-fi' character
3. List all the memorable characters you can. Explain what makes them memorable

Lesson 3

Select TWO tasks from the table to complete based on your own book.

<p>Fiction: <i>Describe</i> the main characters in the book.</p> <p>Non-fiction: <i>Describe</i> the main focus of the book. What information is being provided?</p>	<p>Fiction: <i>Explain</i> one event that happened in the story.</p> <p>Non-fiction: <i>Explain</i> one piece of information in the book.</p>	<p>Fiction and non-fiction: <i>Identify</i> 5 nouns and 5 verbs in the text</p>
<p>Fiction: <i>Summarise</i> the story so far. Write at least one paragraph</p> <p>Non-fiction: <i>Summarise</i> what you have learned so far. Write at least one paragraph.</p>	<p>Free Space</p> <ul style="list-style-type: none"> - Read for as long as you want - Read out loud to your pet/teddy/parent - Complete work for another subject 	<p>Fiction: <i>Explain</i> how the setting is described throughout the story</p> <p>Non-fiction: <i>Explain</i> how the author made the topic interesting to read about</p>
<p>Fiction: <i>Predict</i> what you think is going to happen next</p> <p>Non-fiction: <i>Predict</i> who might find this text useful and why</p>	<p>Fiction: <i>Write</i> 3 questions you have about the story</p> <p>Non-fiction: <i>Write</i> 3 questions you have about the information</p>	<p>Fiction and non-fiction: <i>Create</i> a new front cover for the book. <i>Compare</i> yours to the original</p>

Lesson 4

First	15 minutes independent reading
Next	Create your own character: Main character A
Then	Create your own character: Main character B
Last	Writing/drawing task

Create your own character-character A

Using the information from the previous lessons, create a main character for a sci-fi story.

Include:

- Physical characteristics
- Where they were born and where they are currently living
- Their age and personality
- What their overarching goal is

Create your own character-character B

Using the information from the previous lessons, create a second main character for a sci-fi story.

Include:

- Physical characteristics
- Where they were born and where they are currently living
- Their age and personality
- What their overarching goal is

Writing/drawing task

Use your two characters to write an interaction between them. This could be: an argument, a discussion, a speech from one to the other, a conversation someone else has about them or their first meeting.

OR

Draw what your two characters look like. Make it as creative and detailed as possible.

Lesson 5

First	15 minutes independent reading
Next	Read the information about The War of the Worlds
Then	Answer the questions
Last	Cover analysis

An ever popular theme in science fiction is invasion by aliens – either by direct attack or more subtly, by infiltrating society and pretending to be human. Let's look at one famous example:

The War of the Worlds

The War of the Worlds, written by H.G. Wells in 1898, has provided a theme for many sci-fi books, comic and films. This tale describes the Martian invasion of Earth. Following the landing of ten huge creatures in England, chaos erupts. Using their heat rays and strength, the aliens threaten the future existence of all life on earth.

Set in England in the 1800s, the story begins with an unnamed narrator who has been invited to an observatory by a noted astronomer. There he witnesses an explosion on the surface of the planet Mars, one of a series of such events that arouses much interest in the scientific community. A short time later, a "meteor" is seen landing on Horsell Common, near London. The narrator's home is close by, and he is among the first to discover the object is a space-going, artificial cylinder launched from Mars. The cylinder opens, disgorging the Martians: bulky tentacled creatures that begin setting up strange machinery in the cylinder's impact crater. A human deputation moves towards the crater waving a white flag of truce and is incinerated by a laser-like Heat-Ray.

Questions

1. Have you heard of *War of the Worlds* before? If yes, where did you hear of it and what did you find out?
2. What do you think about the 'aliens invade the earth' storyline? Explain your answer.
3. Highlight any words in the above second paragraph that are descriptive. What impact do they have on the reader?
4. Write one paragraph about how you think you would cope if aliens landed where you live.

Cover Analysis

Look at the three different front covers of the book.



The original 1898 book-cover



A 1955 edition



the 2005 edition

1. Which one do you prefer? Why?
2. What information about the story do you get from the cover?
3. Why do you think there have been so many editions?

4. Why do you think the quote is included before the blurb begins? Does the blurb make you want to read the book? Why/why not?

*'For countless centuries Mars
has been the star of war'*

The night after a shooting star is seen streaking through the sky from Mars, a cylinder is discovered on Horsell Common near London. At first, naive locals approach the cylinder armed just with a white flag – only to be quickly killed by an all-destroying heat-ray as terrifying tentacled invaders emerge. Soon the whole of human civilization is under threat, as powerful Martians build gigantic killing machines, destroy all in their path with black gas and burning rays, and feast on the warm blood of trapped, still-living human prey. The forces of the Earth, however, may prove harder to beat than they at first appear.

The first modern tale of alien invasion, *The War of the Worlds* remains one of the most influential of all science-fiction works. Part of a brand-new Penguin series of H. G. Wells's works, this edition includes a newly established text, a full biographical essay on Wells, a further reading list and detailed notes. The introduction, by Brian Aldiss, considers the novel's view of religion and society.

Learning Intention

- Understand and practice of new vocabulary, grammar and punctuation
- Developing skills to engage and audience/reader
- Reading and comprehension

Success Criteria

- I can link the new unit to previous ones
- I can read information and answer questions
- I can analyse information
- I can provide my own opinions and justify them

Lesson 1	Prefixes and suffixes worksheet – fill in the tables
Lesson 2	Punctuation – explain how and when to use
Lesson 3	Analyse the images – describe and compare
Lesson 4	Creative response – choose a prompt and write a short story
Lesson 5	Create a symbol- non-verbal communication
Lesson 6	Show - Don't Tell! creative writing exercise

Notes to Parents/Guardians:

You can support your child to complete their work at home by:

- Encouraging them to allocate time for specific subjects
- Reading the material and talking about the ideas with your child (where possible)
- Checking in with your child to ask how they are going
- Contacting Teachers if more support or explanation is required

Submission of Work and Feedback:

Students can upload work to Compass where access is available. Photos of handwritten tasks may also be uploaded. Students can also mail hard copies of their work back to the school in the supplied envelope.

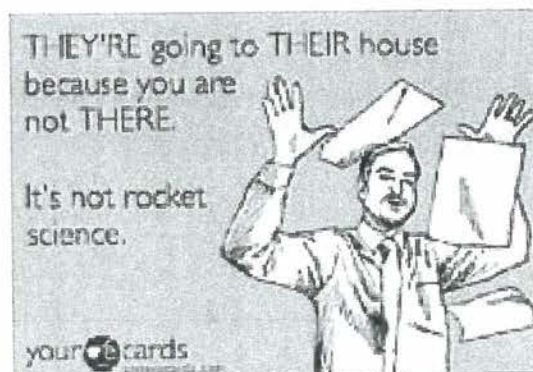
Students and parents can continue to communicate with Teachers via Compass email. Any questions should be directed to the school email: seymour.co@education.vic.gov.au

Lesson 1: Prefixes

A **prefix** is a group of letters placed before the root of a word. For example, the word “unhappy” consists of the prefix “un-” [which means “not”] combined with the root (or stem) word “happy”; the word “unhappy” means “not happy.”

A short list of prefixes:

Prefix	Meaning	Examples
de-	from, down, away, reverse, opposite	decode, decrease
dis-	not, opposite, reverse, away	disagree, disappear
ex-	out of, away from, lacking, former	exhale, explosion
il-	not	illegal, illogical
im-	not, without	impossible, improper
in-	not, without	inaction, invisible
mis-	bad, wrong	mislead, misplace
non-	not	nonfiction, nonsense
pre-	before	prefix, prehistory
pro-	for, forward, before	proactive, profess, program
re-	again, back	react, reappear
un-	against, not, opposite	undo, unequal, unusual



Suffixes

A **suffix** is a group of letters placed after the root of a word. For example, the word flavorless consists of the root word “flavor” combined with the suffix “-less” [which means “without”]; the word “flavorless” means “having no flavor.”

A short list of suffixes:

Suffix	Meaning	Examples
-able	able to, having the quality of	comfortable, portable
-al	relating to	annual comical
-er	comparative	bigger, stronger
-est	superlative	strongest, tiniest
-ful	full of	beautiful, grateful
-ible	forming an adjective	reversible, terrible
-ily	forming an adverb	eerily, happily, lazily
-ing	denoting an action, a material, or a gerund	acting, showing
-less	without, not affected by	friendless, tireless
-ly	forming an adjective	clearly, hourly
-ness	denoting a state or condition	kindness, wilderness
-y	full of, denoting a condition, or a diminutive	glory, messy, victory

YOU'RE	YOU ARE.
YOUR	IT BELONGS TO YOU.
THEY'RE	THEY ARE.
THEIR	IT BELONGS TO THEM.
THERE	A PLACE.
WE'RE	WE ARE.
WERE	PAST TENSE OF "ARE."
WHERE	A PLACE.
THEN	A POINT IN TIME.
THAN	A METHOD OF COMPARISON.
TWO	THE NUMBER 2.
TO	INDICATES MOTION.
TOO	ALSO OR EXCESSIVELY.

facebook.com/grammarly

Prefixes and suffixes

1) Make as many real words as possible by adding the prefixes to the following base words:

	Dis-	Non-	Re-	Un-
Read				
Use				
Agree				
Safe				
Like				
Plug				
Stop				

2) Make as many real words as possible by adding the suffixes to the following base words.

Note: you may have to change the spelling sometimes to make the suffix fit.

	-able	-ible	-s	-es	-ing	-ed	-er	-or
Act								
Farm								
Open								
Move								
Work								

3) Write the correct suffix in the gaps.

- A. The teach___ (er, or) passed out the test paper___ (s, es), hop___ (ing, ed) the student___ (s, es) were cap___ (ible, able) of getting good marks.
- B. Although the rain cloud___ (s, es) were gathering, the carpent___ (or, er) kept work___ (ing, ed).
- C. Alex open___ (ing, ed) the cupboards so the switch___ (s, es) were access___ (able, ible).
- D. It is reason___ (able, ible) to expect student___ (s, es) to be respons___ (able, ible).
- E. The town may___ (er, or) welcom___ (ing, ed) the visit___ (ers, ors).

4) Create your own nonsense words! Make five words using a prefix, a base word, and a suffix. Swap with a partner to see if they can guess the real meaning.

Prefix	Base word	Suffix	Nonsense word	Meaning
Un-	chocolate	-ous	Unchocolateous	Is not made of chocolate

Lesson 2:

Imaginative: Short story.

GKR: What are some elements of short stories that you're aware of?

Vocabulary: What words relate to the topic?

Is there any specialist vocabulary or key terms?

GKR: What type of text is it?

Reading Aloud and Vocabulary: What are some examples of descriptive language that you found?

Review: What are the features of the text?

- What sort of language is used?

How is the text structured?

- Exposition.
- Rising action.
- Climax.
- Falling action.

Review: Some things I need to remember when creating my short story are –

Lost.

The first hint that I was in trouble was the faintest sound, a hiss which seemed to come from somewhere just outside the window behind me. The sound which followed a few seconds later, was the unmistakable screech of metal being torn from metal. I turned in response to the vicious noise just in time to see the wing, tumbling and shrinking into the distance; a gleaming white feather on the wind.

Before any of us had time to think or breath or kiss our loved ones goodbye we had plunged into an immense blue ocean.

Now, with the sun ablaze over our heads and the wind scouring our skin raw with sand, we the few survivors set out on a simple quest, to hunt and to kill.

The prey was cunning and filled with a desire to live that was as strong as our own. It lived at the heart of the island, in the dense jungle which we had avoided as if it were haunted.

Four of us set out, all of us wracked with hunger and pretending to be wild men, carrying our simple wooden clubs into the green milky darkness.

The prey saw us first, its green eyes sharpened by the time spent in the dark, from across a small clearing. It sprung up and dashed in the direction opposite us. I could see that its skin was covered in a thick layer of mud.

We gave chase, the four of us, skipping over fallen trees and scrambling across rocks always with the sound of the prey ringing in our ears. Looking past the prey I noticed the edge of the jungle, a bare speck of beach barely visible beyond it. 'Got 'im', I thought.

The prey reached the beach and then turned to look at us, its chest rising and falling violently. The four of us looked at each other, trying to decide who would actually land the blow and after a few seconds I understood that it would have to be me; it had been my idea from the beginning.

I raised the brutal lump of wood above my head and looked at our living breathing meal, for a moment I hesitated, for a moment I felt as if the prey were connected somehow. When the feeling passed I brought the lump of wood crashing into its skull, but not before our prey let out a single piercing scream, 'no!'

PUNCTUATION	USES	EXAMPLE
<p>•</p> <p>•</p>	<p>At the end of an independent clause that is followed by a list.</p> <p>When you introduce a quote or statement.</p>	<p>There are 4 main social media apps: Facebook, Instagram, Twitter and Snapchat</p> <p>Mark Zuckerberg once said: <i>"By giving people the power to share, we're making the world more transparent"</i></p>
<p>;</p>	<p>We use semicolons to separate two independent clauses. The 2 clauses must be closely related however.</p> <p>If you have a list, and some or all of the items in the list have commas in them, then separating the items with additional commas is just terribly confusing. Separate them with semicolons instead.</p>	<p>Facebook has millions of users; it is the most popular social media platform.</p> <p>The popular heads of social media include Mark Zuckerberg, Facebook founder; Kevin Systrom, co-founder of Instagram; and Jack Dorsey, CEO of Twitter.</p>
<p>●</p>	<p>Bullet points are used to draw attention to important information within a text, usually to list things.</p>	<p>There are 4 main social media apps:</p> <ul style="list-style-type: none"> • Facebook • Instagram • Twitter • Snapchat
	Now try to fill in the rest of the table:	Don't forget to include examples of your own:
PUNCTUATION	USES	EXAMPLE
•		
,		
!		

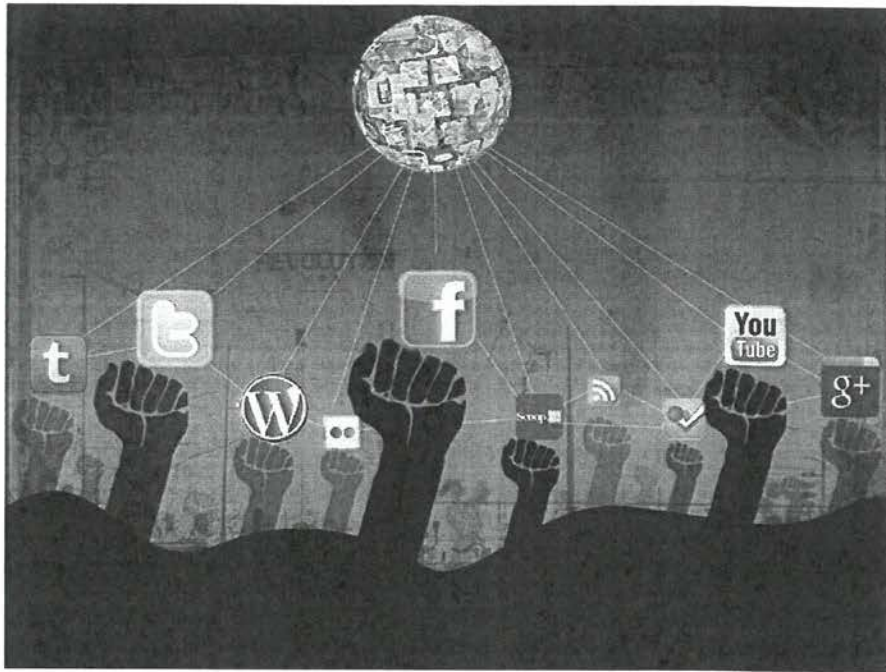
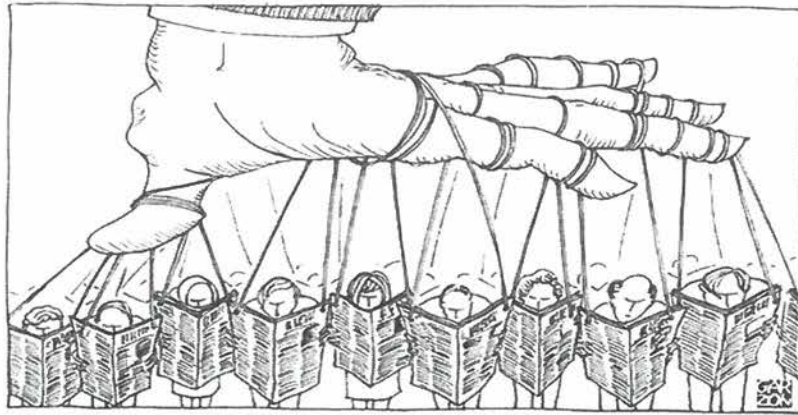
	Now chose some other punctuation we haven't listed yet:	Don't forget to include examples of your own:

Lesson 3: Power and the media

Questions:

1. Annotate each of the images, identifying key aspects in the images.
2. What is the message of each of the images? What makes you think this?
3. What are each of the author suggesting about the power of the media?
4. Rank the four images from most effective to least effective. Give reasons for your ranking.
5. Choose one of the images and construct a TEEL (topic sentence, elaboration, evidence, link) paragraph of analysis on it.
6. Which image's message resonates most strongly with you and why?





Lesson 4: Gothic Horror: Creative Response

The purpose of this task is for you to practice things like:

- How you build a story,
- How you use spelling, punctuation and sentences; and
- How you use language to share your ideas.

You will demonstrate this by creating a short story that is about a page long.

Select one of the written prompts below, or one of the images:

1. New residents to an old neighbourhood are invited by their friendly neighbours to a Halloween party. The neighbours are vampires.
2. A young brother and sister find an old door in their basement that wasn't there before.



Using one of the prompts for your main idea- briefly plan, then begin writing- Good Luck!

Creating a Symbol



Symbols are another way we are able to communicate without the use of words. Symbols are often seen so frequently they become instantly recognisable and require no explanation.

How many symbols can you recognise in this picture? Write them down here:

1. Your task is to create a SYMBOL that represents who you are as a person.

When creating a symbol for yourself, think about the following: (Write down your answers in your exercise book)

- Likes/dislikes
- Culture/traditions
- Religion
- Sport
- Hobbies
- Family/friends
- Music

2. Symbols also use colour to represent meaning. Here are some examples that you can use in your own symbol:

- Red: love, passion, anger, rage
- Black: death, sadness, evil
- White: innocence, youth, peace
- Blue: tranquillity, sky, ocean
- Green: calm, environment, good luck, envy
- Yellow: happiness, sunshine, optimism, cowardice

Which colours do you think you can use in your symbol? Explain why in your exercise book.

3. Create a draft of your symbol in your exercise book. Show your teacher when you are finished. Then you can start your good copy!

Lesson 5: Show – Don't tell!

TELL	SHOW
<ul style="list-style-type: none">• The writer INFORMS the reader rather than letting the reader use their imagination. <p>EXAMPLE: The writer might describe the character as “tall,” or “angry,” or “cold,” or “tired.”</p>	<ul style="list-style-type: none">• The writer PAINTS A PICTURE for the reader to IMAGINE for themselves. <p>EXAMPLES:</p> <ul style="list-style-type: none">• Tall – I hate being in the back rows of photos. I never get to sit do the other students. Standing out is embarrassing.

OTHER EXAMPLES OF SHOWING:

- Rather than telling that your character is angry, show it by describing his face flushing, his throat tightening, his voice rising, his slamming a fist on the table.
- Cold? Don't tell me; show me. Your character pulls her collar up, tightens her scarf, shoves her hands deep into her pockets, turns her face away from the biting wind.
- Tired? He can yawn, groan, stretch. His eyes can look puffy. His shoulders could slump. Another character might say, “Didn't you sleep last night? You look shot.”

EXAMPLE:

Scenario: Emergency room at a hospital.

Concepts/characters: teenager, illness, fear, sterile.

Maisie scowled at her mother and angrily removed the ear buds and put her phone in her pocket. Blocking out the world meant that she could distract herself from the pain in her belly. The word "cancer" flashed across her mind and the grey, shriveled face of her Nan appeared. The ultrasound technician put on the gloves, smeared the cold jelly solution across her belly and prodded hard with the probe. The half-light was not comforting. It reminded her of the darkness of nightmares

YOUR TURN!

- CHOOSE ONE OF THE FOLLOWING SCENARIOS AND WRITE A PARAGRAPH WHICH "SHOWS" (NOT TELLS) THE READER ABOUT THE CHARACTERS AND CONCEPTS.

SCENARIO 1 School Conflict Noisy Principal Fight	SCENARIO 2 Lost Frightened Unfamiliar Brave Triumphant
SCENARIO 3 Feast Nausea Full Sumptuous Celebration	SCENARIO 4 Formula One Race Fast Dangerous Skillful Victorious

Humanities Work Pack 2021

Year 9

Student:

Teacher:

Learning Intention

- Understand and practice our historical skills through researching your chosen topic
- Developing skills to understand and present research
- Reading and comprehension of significant moments in Australian History

Success Criteria

- I can link the new unit to previous ones
- I can read information and answer questions
- I can analyse information
- I can provide my own opinions and justify them

Lesson 1	Establishing Historical Skills
Lesson 2	The CCF method for source analysis
Lesson 3	How to draw a timeline
Lesson 4	Gallipoli – reading and questions at the end
Lesson 5	Are we running dry? Reading and questions
Lesson 6	Climate change: freeze or fry? Reading and questions

Notes to Parents/Guardians:

You can support your child to complete their work at home by:

- Encouraging them to allocate time for specific subjects
- Reading the material and talking about the ideas with your child (where possible)
- Checking in with your child to ask how they are going
- Contacting Teachers if more support or explanation is required

Submission of Work and Feedback:

Students can upload work to Compass where access is available. Photos of handwritten tasks may also be uploaded. Students can also mail hard copies of their work back to the school in the supplied envelope.

Students and parents can continue to communicate with Teachers via Compass email. Any questions should be directed to the school email: seymour.co@education.vic.gov.au

Year 9 Humanities

Establishing our Historical Skills

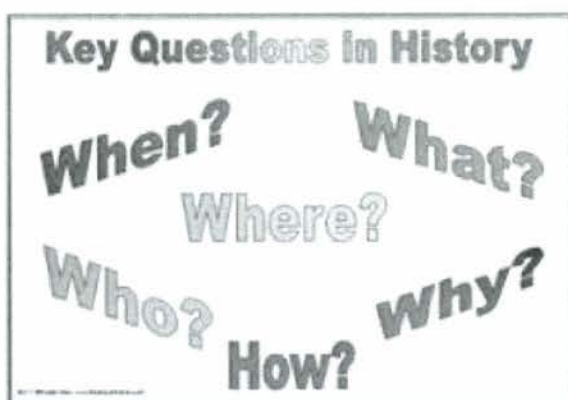
Historical Skills are an important set of skills to have to help us with any investigation into History. They help us ask meaningful questions and make judgement about the past and what type of information is being presented to us. It also helps us construct a meaningful account of the past. We will be using and working on our Historical Skills throughout the year across the many different topics we learn about.



Task:

Choose a **person, place or object** that you are currently most **interested in**. You will be researching a bit of the history behind your place/person/object. It can be **past or present**. This can be presented in either a PowerPoint or Poster.

Complete the following activities.



1. Chronology

Construct a timeline of important dates about your place/person/object. See next page for detailed instructions.

2. Historical Sources as Evidence

Find a primary or secondary visual source that represents an important feature of your person/place/object. Explain what you can see.

Use the CCF Method (more details in two pages)

3. Continuity and Change

How has this person/place/object lead to any important changes of society? (*Think about social, political, environmental or economical changes*)

4. Cause and Effect

How has this place/person/object changed society? Complete the following table. (Minimum 3 dot points in each column)

Immediate Changes	Long Term Changes	Potential Future Changes

5. Historical Significance

Explain why you personally chose this person/place/object? Why is it important to you? (Should be 1-2 paragraphs in length)

CHRONOLOGY

Numeracy in Action:


How to draw a Timeline...

Step 1: List the events the timeline will include.

Step 2: Think of a title for your Timeline.

Step 3: Decide on the limits and scale for your timeline.

Measure your paper in its longest direction. Then, figure out how much time is between the earliest date and the latest date. Divide the length by the number of years (or months or weeks) you wish to represent. Then, use this number to choose how many years one inch or one centimeter will represent. Say that the line is 10 cm long and that one cm represents one year.



- ANCIENT HAWAII - PRE-1795
- KAMEHAMEHA I - 1795 - 1819
- KAMEHAMEHA II - 1819 - 1824
- KAMEHAMEHA III - 1825 - 1854
- KAMEHAMEHA IV - 1855 - 1863
- KAMEHAMEHA V - 1863 - 1874
- LIIHOLO - 1874 - 1891
- LIIHOLO - 1891 - 1893
- REPUBLIC OF HAWAII - 1894 - 1898
- TERRITORY OF HAWAII - 1898 - 1959
- HAWAIIAN ORGANIC ACT 1900
- PEARL HARBOR - 1941 (DEC)
- STATE ADMISSION - 1959 (AUG)

Step 4: Use a ruler to draw a line across the paper. Draw it the length that you will need for as many years as you will represent. In the example, 10 years will require 10 cm.

Step 5: Draw a small vertical line to divide your timeline at each inch mark.

Step 6: Label these divisions with the years

you wish to represent.

Step 7: Draw a dot on the line for each event you wish to represent.

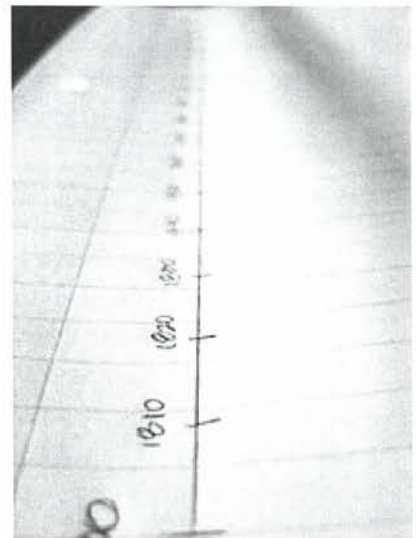
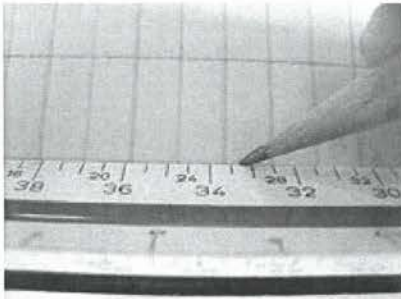
Remember that the events can go between years marks. For something that happened in April, for example, put the dot about 1/3 of the way into that year.

Step 8: Add labels to the dots.

Step 9: Add pictures and drawings if you wish.

Tips

- If you need to, alternate the place you are writing the events. Write the event above the line, then the next one below it.
- Try to write small unless you are using a poster.
- If you make a timeline on historical events, research library books, journals, encyclopedias and magazine articles on precise facts and dates. If exact dates are not available or disputed by historians, give a year or decade. Be sure to refer to your sources properly.



CCF METHOD – CONTENT, CONTEXT AND FUNCTION

When looking at primary sources, either written or visual, it is important to ask the following questions in order to properly analyse it. Remember the CCF method.

CONTENT

1. What obvious symbols are present? Annotate or list them.
2. Is there any text (caption, speech bubbles) within the image? What does it say?
3. Can you identify prominent individuals, leaders or national symbols?
4. What are the roles of the individuals representing in the image?



CONTEXT

1. What was happening during the time this source was created?
2. What does the image suggest about the causes or the effects of an event during the period being studied?
3. Is this consistent with what you have learnt?
4. What other evidence/prior knowledge do you have about the time the source was created?
5. What specific acts, laws, decisions, policies or events could be quoted or mentioned in an analysis of this specific image?



FUNCTION

1. When was this source created? Before, during or after certain events? Are there any clues offered to suggest this?
2. Who created it and for what purpose?
3. Who is the target audience for this source?
4. How is this source positioning the audience to see/think/feel?
5. Is this source biased to a particular side?



Problems with History:

1. Has the creator of the image distorted the truth in this source by ignoring facts?
2. Has the creator suggested or implied things about individuals, events or movements that may or may not be true? If so, what are they? Was it accidental or intentional?
3. What alternative views might have existed other than the one expressed in this source?

Gallipoli

Why Gallipoli?

Between 25 April and 18 December 1915 thousands of young Australian and New Zealand soldiers died on the beaches and cliffs and in the gullies of Turkey's Gallipoli Peninsula during Australia's first land campaign of World War I. Although the expedition was a failure, the courage and endurance of these men created the Anzac legend.

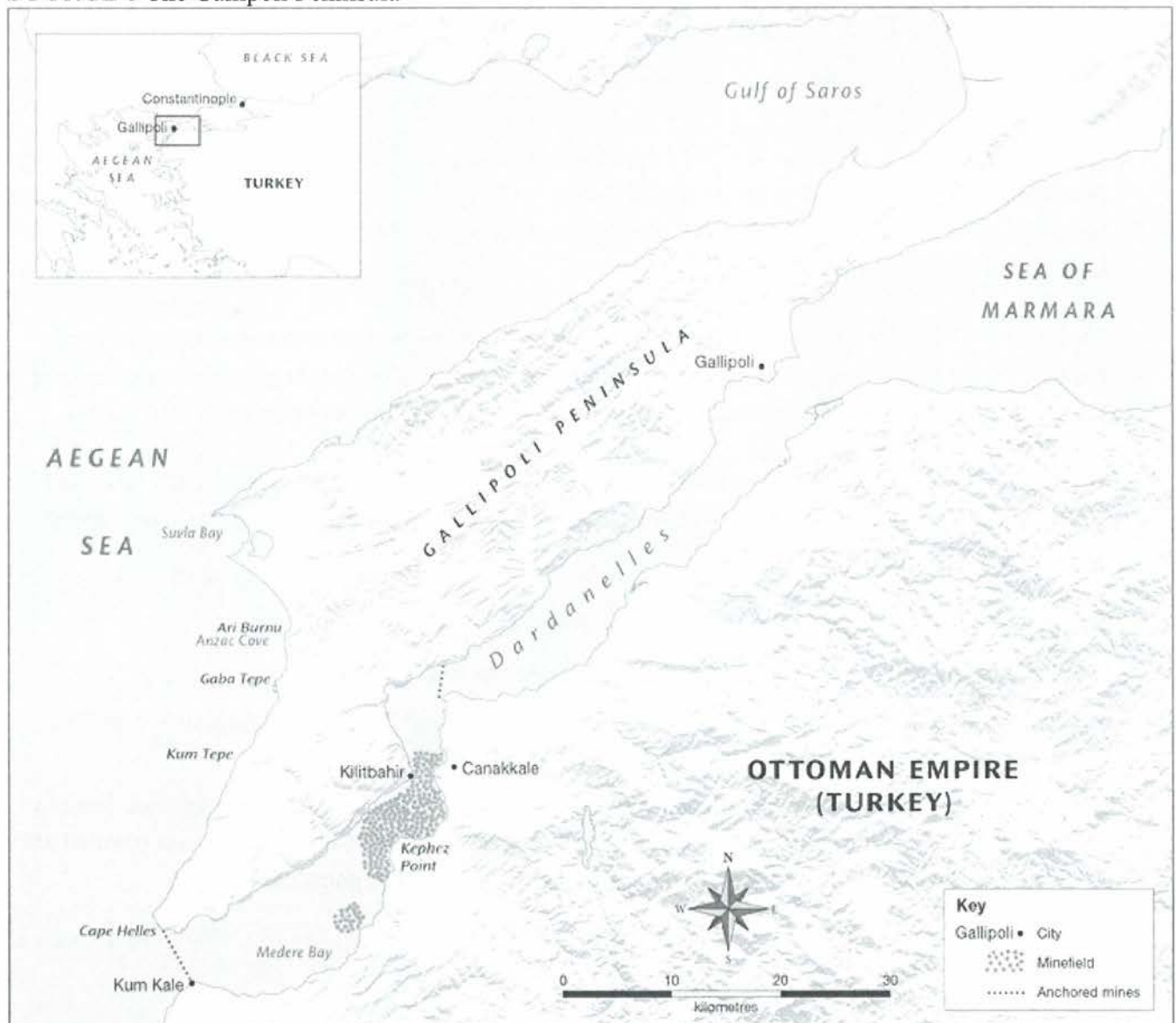
The soldiers of the AIF had expected to sail to England to complete their training and then go to the Western Front in France and Belgium, where most British troops were fighting the Germans. Instead the Anzacs were trained in Egypt to form a crucial part of a campaign against Germany's ally Turkey.

The strategy for an Allied attack on Gallipoli was based on the idea of Winston Churchill, who, as First Lord of the Admiralty, controlled Britain's Royal Navy. Churchill thought that an attack on Turkey would shorten the war because:

- Turkey could be defeated and Austria–Hungary would be threatened
- Greece, Bulgaria and Romania would be persuaded join the Allies
- supplies could be shipped through the Dardanelles (a narrow strait between the Aegean Sea and the Black Sea) to Russian troops, who were fighting Germany on the Eastern Front.

The first aim was to capture the Dardanelles (see [SOURCE 1](#)), opening the heavily fortified strait to Allied shipping. A landing of British, French, Anzac and other British Empire troops was planned after a failed naval attack. The Allied forces were to land on the Gallipoli Peninsula.

SOURCE 1 The Gallipoli Peninsula



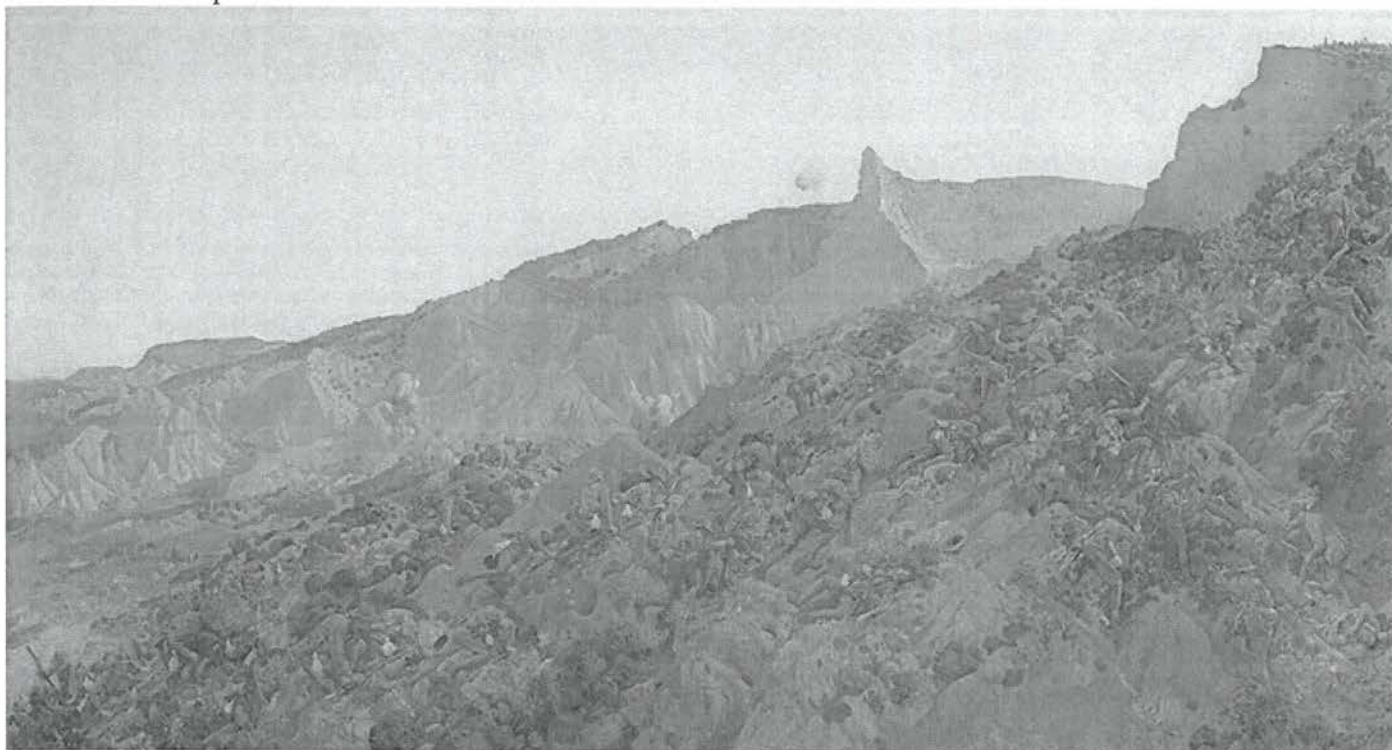
Source: Spatial Vision

The landing at Gallipoli

The first landing of soldiers on the beaches of Gallipoli took place on the morning of 25 April 1915. British and French troops landed around Cape Helles. Australians and New Zealanders landed before dawn north of Gaba Tepe. The Anzacs had to reach the shore in landing craft and claw their way up steep cliffs under Turkish fire. Throughout the first day there was confusion and ferocious fighting, much of it hand-to-hand. The battle ebbed and flowed and at last the Turks, fighting courageously, won back control of the high ridges that had been reached by scattered groups of Anzacs. As night fell, the Anzacs found themselves holding only a few square kilometres of beach, cliffs and gullies, and they were ordered to dig in.

Through the night the Turks launched waves of fierce counterattacks. Both sides suffered heavy losses but the Anzac lines held. Strategically, the landing had failed, because the Turks still held the high positions. For the Anzacs it was a triumph of courage over inexperience, but they paid a high price. At least 2300 died that day.

SOURCE 2 *Anzac, the landing 1915*, by George Lambert. Completed between 1920 and 1922, the painting shows men of the 3rd Brigade struggling under fire up the slopes of Ari Burnu shortly after 4.30 am on 25 April 1915.



Lambert, George

Anzac, the landing 1915 (1920–1922)

Oil on canvas, 190.5 × 350.5 cm

Australian War Memorial ART02873

SOURCE 3 From the diary of Sergeant W. E. Turnley, who took part in the initial landing at Anzac Cove

There are a couple of lights flashing about — they must have seen us ... Crack! Swish! Ping! At last ... the suspense is over! ... some get ashore safely, some are hit slightly, others are drowned in only a couple of feet of water because in the excitement nobody notices their plight. [One] fellow remains in the boat after all the others have disembarked ... he ... looks at us dazedly, leaning forward on his rifle ... the soldier falls forward into the bottom of the boat, dead.

SOURCE 4 From a description of the landing by British general Sir Ian Hamilton, commander of the 80 000 Allied troops at Gallipoli

Like lightning they leapt ashore ... so vigorous was the onslaught that the Turks made no attempt to withstand it and fled from ridge to ridge pursued by Australian infantry.

DID YOU KNOW?

In the days after the landing, Private John Simpson (Kirkpatrick), stretcher-bearer of the 3rd Australian Field Ambulance, calmly led his donkey up and down the gully from the front line to the beach, evacuating many wounded men, until he was killed on 19 May.

The long and tragic months on Gallipoli

SOURCE 5 The Australian 22nd Battalion, newly arrived from Egypt, going into the line at the southern part of Lone Pine, Gallipoli Peninsula



AWM A00847

The Gallipoli campaign was not to be the quick, glorious victory Australians had expected. It was a long, agonising ordeal in which the death toll mounted on both sides. During the first week the fighting hardly stopped. By early May most Anzac officers and about half the men in each battalion had been killed or wounded. Despite such casualties, many wounded men who had been evacuated were anxious to return to the front.

The Turkish counterattack

On the night of 18–19 May the Anzacs withstood a massive counterattack as 42 000 Turks were ordered to drive them from their positions and back into the sea. In courageous but suicidal charges, the Turks lost 10 000 men, half of whom lay dead or wounded in no man's land. Around midday a truce was arranged so both sides could bury their dead before the battle resumed.

Life on Gallipoli

These were weeks of tragic waste, terror and extraordinary courage. With the Turks occupying much of the high ground above them, none of the Anzacs were ever free from danger. Yet they were forced to adapt to life on Gallipoli. Soldiers made grenades from jam tins filled with explosives, nails, stones and shrapnel. Some men learned to catch Turkish grenades and throw them back before they detonated. Mass bayonet charges were frequent but were doomed as, once in open ground, the men were cut down by machine-gun fire. Increasingly they turned to the tactic of mining under enemy trenches and blowing them up from below.

The heat of summer and the many rotting corpses in no man's land brought such incessant swarms of flies that soldiers wrote of their mouths filling with flies when they tried to eat a biscuit with jam. With the flies came diseases such as typhoid and dysentery.

Despite the fact that both sides often killed men rather than take prisoners, the Anzacs and the Turks came to respect each other's courage. The Australians affectionately called their adversaries 'Jacko', 'Abdul' or 'Johnnie Turk'. In between the bombs and bullets, gifts, jokes and greetings were exchanged.

Lone Pine

In August, operations aimed at breaking the deadlock and seizing the high ground began. Australian troops had the task of diverting Turkish forces while another force of Anzac, British and Indian troops landed at Suvla Bay and advanced to capture the high ridges. The Lone Pine diversion was among the most savage battles of the Gallipoli campaign. The Australians charged the Turkish positions and lost more than 2300 killed or wounded in four days and nights of hand-to-hand fighting. The Turks lost about 6000 men. New Zealand troops also suffered very heavy casualties in the August operations. As part of the main offensive, they had the task of clearing the foothills to the left of Anzac Cove and taking the high ridges at Chunuk Bair. They succeeded in holding Chunuk Bair for just a few hours on 8–9 August before the Turks won it back.

The Nek

On 7 August, in another attack whose aim was to divert the Turks, troops of the Australian Light Horse were ordered to make bayonet charges up a narrow strip of open ground called the Nek. The attacks proceeded even though the plan to capture the ridges had failed. The naval bombardment of the Turkish trenches stopped several minutes too soon. This allowed the Turks to return to their firing positions. Four successive lines of Light Horsemen, each of about 150 men, charged from their trenches towards the Turkish lines. Cut down by machine-gun fire, nearly all fell dead or wounded within a few metres of their own trenches. Their bravery was extraordinary but their deaths achieved nothing.

Withdrawal from Gallipoli

After seven months, the British command finally accepted that victory would not be possible. Ironically, the best-managed part of the entire campaign proved to be the withdrawal of all Allied soldiers during December. The soldiers and war materials were evacuated secretly at night. Throughout the operation every effort was made to convince the Turks that nothing out of the ordinary was going on. Cricket matches were played on the beach, and empty crates were brought ashore each day. When the Turks charged down from the hills on 20 December they found that the enemy had vanished.

SOURCE 6 During the evacuation, the Allied troops needed to make the Turks think they were still in their trenches. One trick was to rig rifles to fire automatically. Once enough water had dripped from the

top tin into the bottom tin, its weight pulled the trigger.



AWM G01291

DID YOU KNOW?

When they abandoned Gallipoli, the Anzacs left behind 7591 Australian and 2431 New Zealand dead. Many thousands of other British Empire soldiers and French and Turkish troops also died during the campaign.

USING HISTORICAL SOURCES AS EVIDENCE

1. Find at least three more photographs of the Gallipoli campaign on the Australian War Memorial website. Use them to present a data show on Gallipoli. Explain why each photograph was chosen and what each tells us about soldiers' experiences.

Determining historical significance

2. Evaluate the significance of the Gallipoli campaign for Australia.

In your evaluation, consider:

- a. how important it was to people living at the time
- b. how many people were affected directly and indirectly
- c. whose lives were changed and how they were changed
- d. how long-lasting the consequences were
- e. what has been the legacy of Gallipoli
- f. why Gallipoli was considered a triumph as well as a tragedy.

Are we running dry?

Read the following section about the water crisis and consider the information shown in the various sources.

Answer questions 1 (a & b), 2, 3, 4 (a, b and c) and question 7. You will need to read and understand the text to answer the questions. If you do not understand something, try your reading strategies to gain understanding. Re-read for clarity, look up any unfamiliar words, read ahead to see if you can infer meanings from context etc. Look at each of the sources (images) and read the captions and keys associated with them.

For example, Figure 2 says “People facing water stress and water scarcity”

The term “water stress” is on bold and explained over the page in a glossary box- water stress – a situation that occurs when water demand exceeds the amount available or when poor quality restricts its use.

Below the graph is a key showing that water scarcity is in Orange and that water scarcity is calculated at less than 1000 cubic metres per person per year. Water stress is described as less than 1700 cubic metres per person per year.

The y axis (vertical) shows the number of people (in billions) so 2 on the graph represents 2 billion people facing water scarcity or stress.

The x axis (horizontal) shows the years from 1990 – 2050 (this was published in 2014 so obviously the dates after 2014 are predictions based on the current trends).

Without looking at the details (x & y axis, key etc) the graph will mean very little, but remember to use your CCF method to analyse the sources.

4.5 Are we running dry?

There is no substitute for water. Without water there is no food, and agriculture already consumes 70 per cent of the world's fresh water. Every type of food production — cropping, grazing and processing — requires water. Thus, a lack of water is possibly the most limiting factor for increasing food production in future.

To feed an additional two billion people by 2050, the world will need to generate more food and use more water. The two main concerns that threaten future water security are water quantity and water quality (see figure 1).

Figure 1 Water scarcity is a serious threat to food security



Why are we running low on water?

In theory, the world has enough water; it is just not available where we want it or when we want it, and it is not easy to move from place to place. We already use the most accessible surface water, and now we are looking for it beneath our feet. Underground **aquifers** hold 100 times more water than surface rivers and lakes. However, groundwater is not always used at a sustainable rate, with extraction exceeding natural recharge, or filling. This occurs in many of the world's major food-producing places, in countries such as the United States, China and India.

Water insecurity is connected with food insecurity. Figure 2 shows the predicted number of people who will face **water stress** and water scarcity in the future. A more complex view is seen in figure 3, which shows an interconnection between increased demand for water and predicted climate change, population increase and greater industrialisation in the 2050s.

When water availability drops below 1.5 million litres per person per year, a country needs to start importing food, although that makes the country susceptible to changes in global prices. Developing



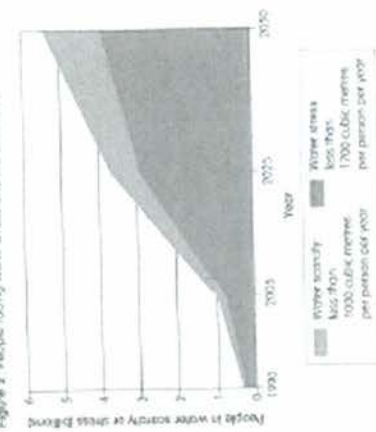
The last drop

Use this interactive to further your understanding of the reasons for growing water shortages

SEARCHLIGHT ID: 3328

countries that experience water stress cannot afford to import food. They are also more vulnerable to environmental disasters. Seventy per cent of food emergencies in developing countries are brought on by drought.

Figure 2 People facing water stress and water scarcity



The main causes of the growing water shortage are outlined below:

- **Food production.** It is estimated that an additional 6000 cubic kilometres of fresh water will be needed for irrigation to meet future food demand. Changes in diet, especially increased meat consumption, require more water to grow the crops and pasture that feed the animals. A typical meat eater's diet requires double the amount of water that a vegetarian diet requires.
- **Growth of urban and industrial demand.** Water for farming is diverted to urban populations, and productive land is converted to urban use.
- **Poor farming practices.** Water is wasted through inefficient irrigation methods and cultivating water-hungry crops such as rice. Poorly maintained irrigation infrastructure, such as pipes, canals and pumps, creates leakage.

- **Over-extraction.** Improved technology and cheaper, more available energy have enabled us to pump more groundwater from deeper aquifers. This is not always done at a sustainable rate, so as water is removed, less is available to refill lakes, rivers and wetlands.
- **Poor management.** Governments often price water cheaply, so irrigation schemes use water unsustainably. Some countries may have available water but lack the money to develop irrigation schemes.

Figure 3 How water availability may change with temperature, population and industrialisation 2050



Why is water quality deteriorating?

Agriculture is a **major** contributor to water pollution. Excess nutrients, pesticides, sediment and other pollutants can run off farmland or leach into soils and groundwater.

Excessive irrigation can cause waterlogging or soil salinisation. This salty water not only poisons the soil but also drains into river systems.

consider a body of permeable rock below the earth's surface, which contains water. Broken or groundwater, water stress situation and occurs when water demand exceeds the amount available or when poor quality reduces it.

Activities

REMEMBER

- 1 a. Examine figure 2 and describe the projected changes in the number of people affected by water stress between 1990 and 2050. Use figures in your description.
b. How do these changes compare with figures for water scarcity?
- 2 If a country has an average of 0.5 to 1.0 million litres of water per person, per year, would they be considered to be water stressed? Why?
- 3 Why is agriculture both a contributor and a victim of water pollution?

EXPLAIN

- a. Refer to figure 3. Describe those places in the world that are predicted to be in high to extreme water stress in the 2050s.
- b. Compare your answer with a map of world average rainfall. Are areas that are predicted to be suffering high to extreme stress by 2050 also areas of low rainfall?
- c. How could you explain why places like eastern Europe could face water scarcity?

DISCOVER

- 5 Use the **Water use** website in your eBookPLUS to select a country and find out more about its water usage. Using the data on this website, construct a table to compare water usage for four countries — one from each continent of Europe, Africa, Asia and South America (Try to select different countries from those chosen by other students.) Write a paragraph to summarise your findings.

PREDICT

- 6 Use the **Water availability** website in your eBookPLUS and scroll to the 2050s map. Compare this with the map for 2050. What are the three most significant changes you can see?

THINK

- 7 What do you think water managers could do to help prevent water scarcity affecting future food security?

Climate change: freeze or fry?

Read the following section about climate change and consider the information shown in the various sources.

Answer questions 1 (a, b, c & d), 2 (a & b), 3 (a & b), 5 & 6. You will need to read and understand the text to answer the questions. If you do not understand something, try your reading strategies to gain understanding. Re-read for clarity, look up any unfamiliar words, read ahead to see if you can infer meanings from context etc. Look at each of the sources (images) and read the captions and keys associated with them.

For example, Figure 2 shows the projected consequences of climate change in terms of Food, Water, Ecosystems and Extreme Weather events. Starting at 0°C or no change, right up to an increase of 6°C.

At an increase of just 1°C we already are seeing things like “Extensive damage to coral reefs” and at an increase of 6°C it is predicted that the rise in sea level (as ice melts) will threaten major cities.

4.6 Climate change: freeze or fry?

The impacts of climate change on future world food security are a case of give and take. Some regions of the world will benefit from increases in temperature and rainfall, while others will face the threat of greater climatic uncertainty, lower rainfall and more frequent drought. In either case, food production will be affected.

How will food security be affected by climate change?

Agriculture is important for food security, because it provides people with food to survive. It is also the main source of employment and income for 36 per cent of the world's workforce. In heavily populated countries in Asia, between 40 and 50 per cent of the workforce is

engaged in food production, and this figure increases to over 63 per cent in Sub-Saharan Africa.

It is difficult to predict the likely impacts of climate change, because there are many environmental and human factors involved (see figure 1), as well as different predictions from scientists (see figure 2).

Use the **How to feed the world in 2050** weblink in your eBookPLUS to find out more about this topic.

There is a wide range of possible impacts of climate change. Sea-level rises may cause flooding and the loss of productive land in low-lying coastal areas, such as the Bangladesh and Nile River deltas. Changes in temperatures and rainfall may cause an increase in pests and plant diseases. However, agriculture is adaptable. Crops can be planted and harvested at different times,

Figure 1 Possible impacts of climate change on food production

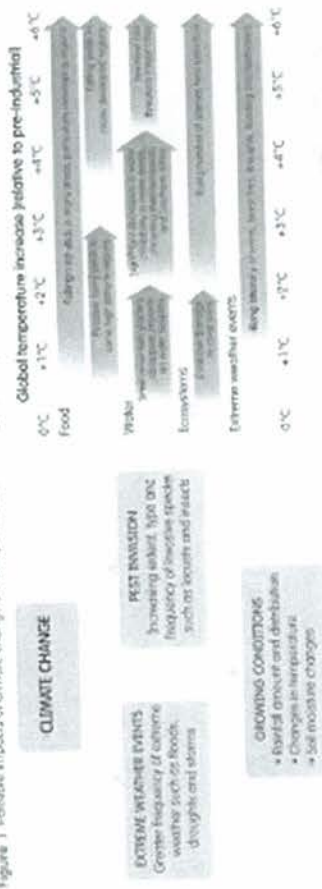


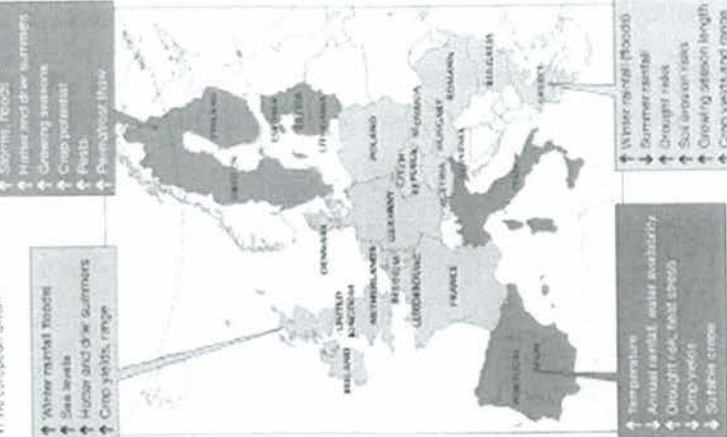
Figure 3 Predicted regional shifts of crop change 2050s - 2300s



and new types of seeds and plants, or more tolerant species, can be used. Low-lying land may be lost, but higher elevations, such as mountain slopes, may become more suitable. The loss in productivity in some places may be balanced by increased production in other places. Figure 3 demonstrates the effects of climate change on cereal crops, while figure 4 shows the range of potential impacts across the European Union.

Essentially, hundreds of millions of people are at risk of increased food insecurity if they have to become

Figure 4 Examples of potential consequences of climate change in the European Union



4.7 Why is food being wasted?

more dependent on imported food. This will be evident in the poorer countries of Asia and Sub-Saharan Africa, where agriculture dominates their economy. There is also a risk of greater numbers of **environmental refugees** or people fleeing places of food insecurity.

Activities

REMEMBER

1 Refer to figure 2 and decide whether the following statements are true or false.

- 1 If temperatures increase to 3°C, you would expect to see crop yields rising around the equator.
- 2 Changes in extreme weather events are unlikely unless temperatures increase by at least 1°C.
- 3 Food insecurity will be felt greatly in developing regions if temperatures rise above 4°C.
- 4 Places that are likely to experience decreasing crop yields will be found in the higher latitudes.

EXPLAIN

2 a Refer to figure 3. Which places have the potential to be grain exporters and which places are likely to become dependent on grain imports? Use data in your answer.

b What are the economic and social implications of this for countries in these regions?

3 a Refer to figure 4. Which countries of Europe will benefit from climate change in terms of food production and which countries are likely to suffer negative outcomes?

b Would increased irrigation be a sustainable solution to growing food in Spain? Explain your answer.

4 Describe the interconnection between environmental refugees and climate change.

DISCOVER

5 Research potential impacts of climate change on Australia. Create an annotated map to illustrate your findings.

PREDICT

6 How might a country such as Australia best prepare its food production systems to cope with potential changes in climate?

THINK

7 How might food be shared more equitably around the world? Discuss with a group and report your suggestions back to the class.

environmental refugees, people who are forced to flee their home region due to environmental changes such as drought, desertification, sea level rise or monsoons that affect their wellbeing or livelihood.

REVIEW AND REFLECT

Review and reflect on what you have learned in this topic.

master of abs

DAREBEE WORKOUT © darebee.com



10 crunch kicks
3 sets in total
30sec rest



10 leg raises
3 sets in total
30sec rest



8 raised leg circles
3 sets in total
30sec rest



10 reverse crunches
3 sets in total
30sec rest



10 knee in & twist
3 sets in total
30sec rest



10 long arm crunches
3 sets in total
30sec rest

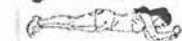


10 back extensions
3 sets in total
30sec rest

BURPEE QUEEN

DAREBEE WORKOUT © darebee.com

Note: if you can't do push-ups, do basic burpees instead.



10 burpees

20-count rest

8 burpees

20-count rest

8 burpees

20-count rest

4 burpees

20-count rest

2 burpees

done

WILD & FREE

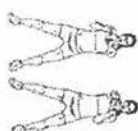
DAREBEE WORKOUT
© darebee.com

LEVEL I 3 sets

LEVEL II 5 sets

LEVEL III 7 sets

REST up to 2 minutes



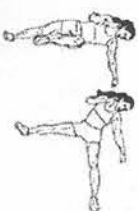
20 punches



20 knee strikes



20 punches



20 side kicks



20 punches

Are you ready for a circuit challenge?
Choose ONE of the 3 circuits to complete once a day.

Level One: Complete the circuit 3 times

Level Two: Complete the circuit 5 times

Level Three: Complete the circuit 7 times

Remember to build up slowly!

Combined Skills Test

Name _____

You are to design a challenge circuit that demonstrates at least 4 skills from the list, using things from around your house, eg. balloons, scrunched up paper, can of food, chairs, tables, clothesline etc.

Skills:

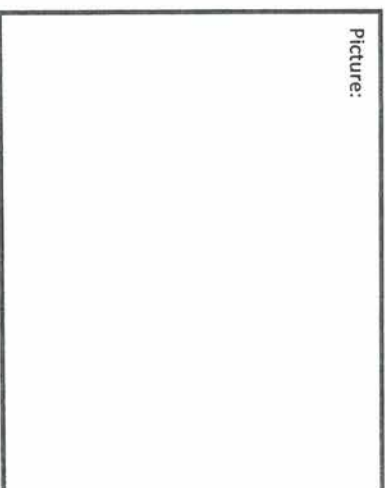
- Kicking
- Throwing
- Catching
- Dribbling
- Striking
- Trapping
- Rolling
- Volleying

Fill out the template provided and record yourself doing your circuit then upload them both to compass.

Your circuit needs to be reproducible by the other students in your class, so we can share and test each other.

Title for your test

Picture:



Caption your image:

Equipment needed:

Skills required:

What to do.....

Rules.....

How to set up:

The playing area:

Any other information.....

Name:

Due Date: / /

Parent's Signature:

1. [Long \times , +]
 $63 \times 10 =$

2. [Decimal +, -]
 $2.5 + 3.4 =$

3. [Decimal \times , +]
 $0.6 \times 3 =$

4. [Fraction +, -]
 $\frac{1}{5} + \frac{3}{5} =$

5. [Fraction \times , +]
 $3 \times \frac{1}{5} =$

6. [Percentages]
What percentage of the fuel tank is full?



7. [Decimals / Fractions / Percentages] *
Place in ascending order:
0.125, 0.025, 0.215, 0.052

8. [Integer +, -]
 $(+5) + (+3) =$

9. [Integer \times , +]
 $(-5) \times (+5) =$

10. [Rates / Ratios] *
Simplify 2 days : 2 weeks

11. [Indices]
 $10^2 =$

12. [Square Roots]
 $\sqrt{16} =$

13. [Exploring Number] *
 $8 \times 3 - 3 \times 5 =$

14. [Applied Number] *
A dinner costs \$89.75. You tip 15%.
Estimate the size of the tip.

\$

15. [Number Patterns]
What is the value of the missing term in the pattern?

position	1	2	3	4	5
term	2	9	16	23	?

16. [Expressions]
Write as an expression:
The sum of z and 12

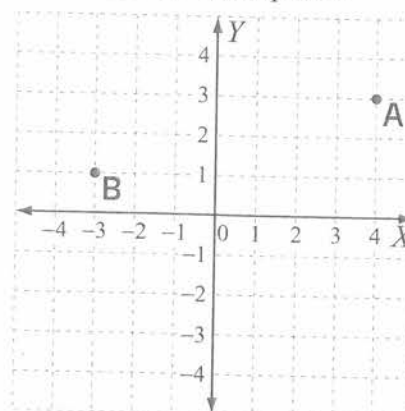
17. [Substitution] *
If $m = 0$, find the value of $m + 15$

18. [Expansion]
Expand $5(n - 1)$

19. [Factorisation]
Factorise $5x - 15$

20. [Equations] *
Solve for x : $x + 7 = 10$

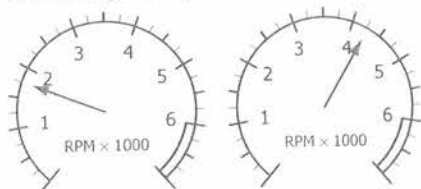
21. [Graphs & Functions]
What are the coordinates of the points A and B on this Cartesian plane?



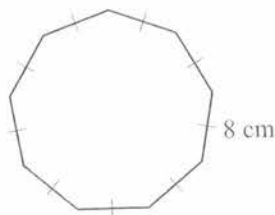
A(,) B(,)

QUOTE OF THE WEEK: The more you say the less people remember. Francis Fenelon

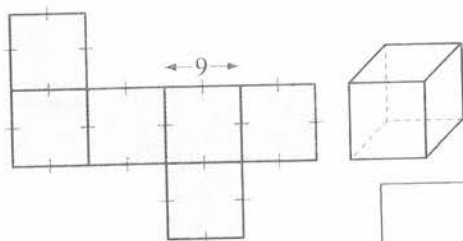
22. [Units of Measurement / Time] *
What is the difference in revolutions per minute (RPM) between the two vehicles?



23. [Perimeter / Area] *
Find the perimeter of the nonagon.

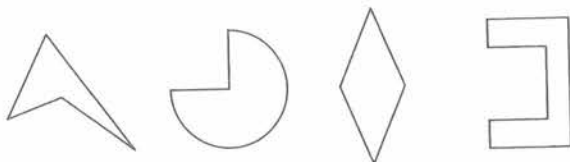

 cm

24. [Surface Area / Volume] *
Find the total surface area of the cube by finding the area of its net.


 sq. units

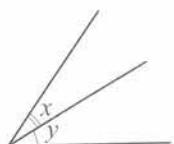
25. [Pythagoras]
Find the positive solution for c :
 $c^2 = 100$

26. [Shapes]
Circle the shapes that are polygons.



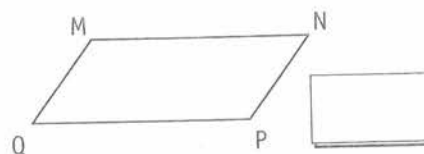
27. [Angles]
Which would describe the pair of angles marked x and y in this diagram?

- A) obtuse
B) adjacent
C) complementary

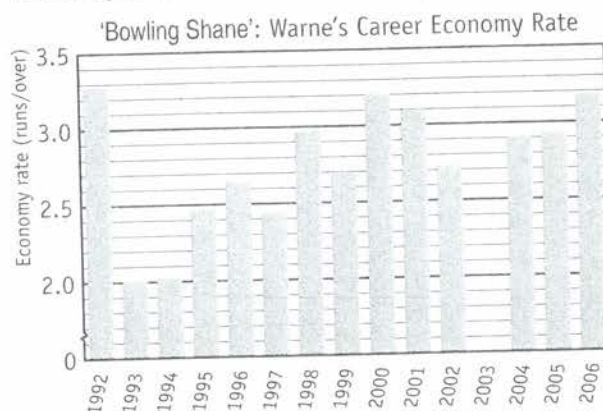


28. [Exploring Geometry]
Choose the correct label for this parallelogram:

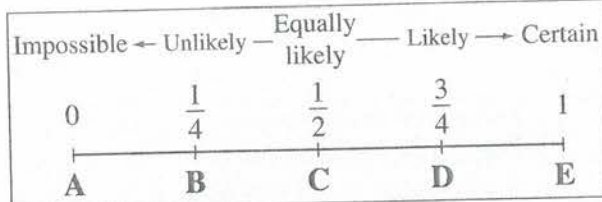
- A) MNQP
B) MNPQ
C) MPNQ
D) MPQN



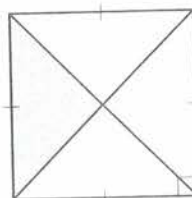
29. [Statistics]
In which year was Shane Warne's bowling economy rate closest to 3.0 runs per over?



30. [Probability]
Which letter A to E describes the probability of this event?
'An even number turns up when a standard die is rolled.'



31. [Problem Solving 1] *
The shaded region has an area of 16 cm^2 .
What is the perimeter of the square?


 cm

32. [Problem Solving 2] *
Each letter stands for a different digit. What number does ABC represent?

$$\begin{array}{r} A A \\ B B \\ + C C \\ \hline A B C \end{array}$$

MATHS MATE

Term 1 - Sheet 2

9

Name:

Due Date:/...../.....

Parent's Signature:

1. [Long \times , \div] *
 $97 \times 20 =$

2. [Decimal $+$, $-$]
 $0.03 + 0.04 =$

3. [Decimal \times , \div] *
 $3.5 \times 7 =$

4. [Fraction $+$, $-$]
 $\frac{7}{9} - \frac{5}{9} =$

5. [Fraction \times , \div] *
 $\frac{4}{9} \times 4 =$

6. [Percentages]
Which glass is 50% full?



7. [Decimals / Fractions / Percentages]
Place in descending order:
0.209, 0.092, 0.029, 0.902

8. [Integer $+$, $-$]
 $(+7) + (-2) =$

9. [Integer \times , \div]
 $(+2) \times (+8) =$

10. [Rates / Ratios] *
Simplify 100 mm : 1 m

11. [Indices]
 $2^4 =$

12. [Square Roots]
 $\sqrt{36} =$

13. [Exploring Number] *
 $6 + 8 \div 4 \times 3 =$

14. [Applied Number] *
The new jeans cost \$109.95. Mum contributes 20% of the cost. Estimate how much you need to save.

\$

15. [Number Patterns]
What is the value of the missing term in the pattern?

position	1	2	3	4	5	6
term	3	12	48	192	768	?

16. [Expressions]
Write as an expression:

A number that is equal to forty times m

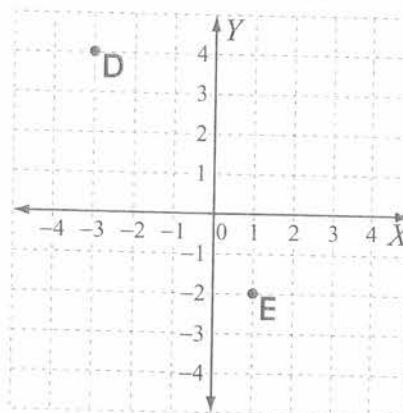
17. [Substitution] *
If $k = 0$, find the value of $20 - k$

18. [Expansion]
Expand $3(p + 6)$

19. [Factorisation]
Factorise $6m - 2$

20. [Equations] *
Solve for x : $x - 5 = 3$

21. [Graphs & Functions]
What are the coordinates of the points D and E on this Cartesian plane?

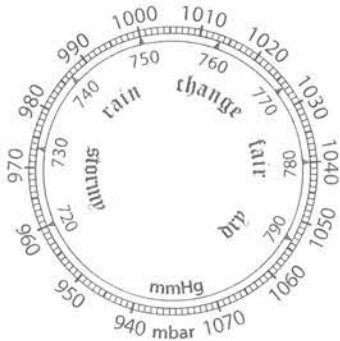


D(,) E(,)

QUOTE OF THE WEEK: Adopt a teenager while they still know everything.

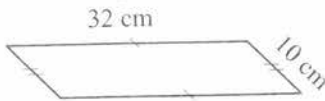
22. [Units of Measurement / Time] *

How many millimetres of mercury (mmHg) equal 1020 millibars (mbar) of pressure?



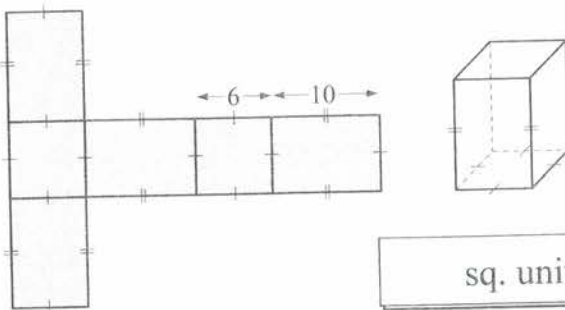
23. [Perimeter / Area] *

Find the perimeter of the parallelogram.


 cm

24. [Surface Area / Volume] *

Find the total surface area of the square prism by finding the area of its net.

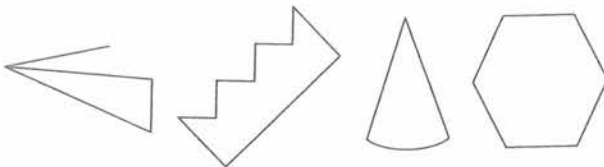

 sq. units

25. [Pythagoras]

Find the positive solution for b :
 $b^2 = 225$

26. [Shapes]

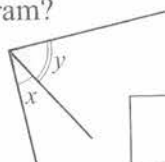
Circle the shapes that are **not** polygons.



27. [Angles]

Which would describe the pair of angles marked x and y in this diagram?

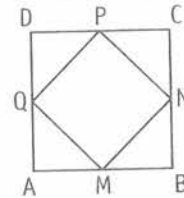
- A) vertically opposite
- B) reflex
- C) complementary



28. [Exploring Geometry]

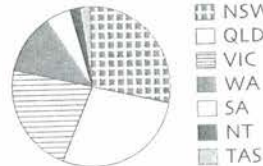
Which label names a triangle drawn in this diagram?

- A) PMN
- B) PQM
- C) QPD
- D) QAN



29. [Statistics]

What percentage of Australia's greenhouse gas emissions can be attributed to Queensland and Victoria combined?

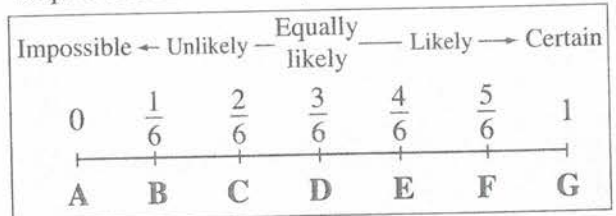


Greenhouse gas emissions by Australian states

30. [Probability]

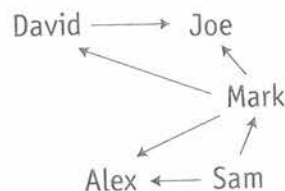
Which letter A to G describes the probability of this event?

'September immediately follows June.'



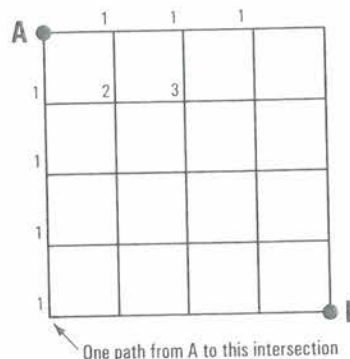
31. [Problem Solving 1] *

If David \longrightarrow Joe means 'David is taller than Joe', who is the tallest?



32. [Problem Solving 2] *

You are to move from A to B, always moving right or down along the lines. On how many different paths can you go? [The number of paths from A to various intersections has been included.]



One path from A to this intersection

MATHS MATE

Term 1 - Sheet 3

9

Name:

Due Date:/...../.....

Parent's Signature:

1. [Long \times, \div] *
 $78 \times 30 =$

2. [Decimal $+, -$]
 $4.78 + 6.92 =$

3. [Decimal \times, \div] *
 $14.78 \times 4 =$

4. [Fraction $+, -$]
 $\frac{4}{11} + \frac{4}{11} =$

5. [Fraction \times, \div] *
 $2 \times \frac{1}{6} =$

6. [Percentages]
What percentage of data has been sent?
Sending data (% done)

7. [Decimals / Fractions / Percentages] *
Place in ascending order:
 $\frac{3}{5}, \frac{7}{10}, \frac{57}{100}$

8. [Integer $+, -$]
 $(-8) + (-1) =$

9. [Integer \times, \div]
 $(+4) \times (-7) =$

10. [Rates / Ratios] *
Simplify $0.8 \text{ km} : 400 \text{ m} : 2 \text{ km}$

11. [Indices]
 $3^3 =$

12. [Square Roots]
 $\sqrt{144} =$

13. [Exploring Number] *
 $4 \times (5 - 2) \times 5 =$

14. [Applied Number] *
'Bed Run' compost worms cost \$24.99 for 500 worms. There are 1000 worms in 250 g of the compost. Estimate the cost of 500 g of Bed Run compost.

15. [Number Patterns]
What is the value of the missing term in the pattern?

position	1	2	3	4	5	6
term	18	13	8	3	-2	?

16. [Expressions]
Write as an expression:
A number that is equal to 80 less than x

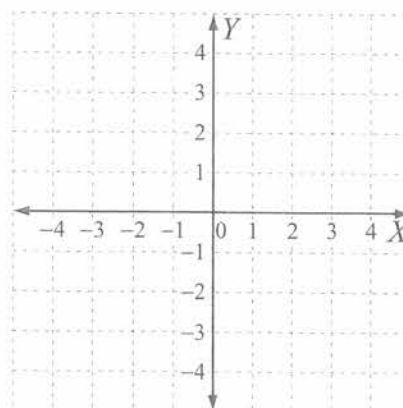
17. [Substitution] *
If $s = 0$, find the value of $5s$

18. [Expansion]
Expand $9(x - 2)$

19. [Factorisation]
Factorise $12p + 24m$

20. [Equations] *
Solve for x : $12 + x = 3$

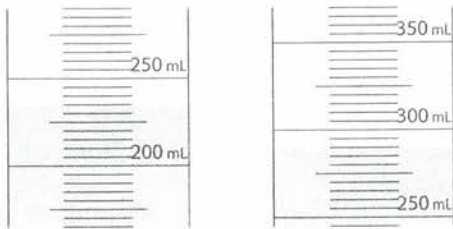
21. [Graphs & Functions]
Plot the points A(3,0), B(-2,-1) and C(-4,2) on this number plane.



QUOTE OF THE WEEK: Do not wish to be anything but what you are, and try to be that perfectly. St. Francis De Sales

22. [Units of Measurement / Time] *

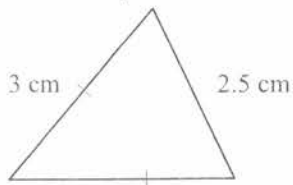
How much more water is in the second cylinder?



mL

23. [Perimeter / Area] *

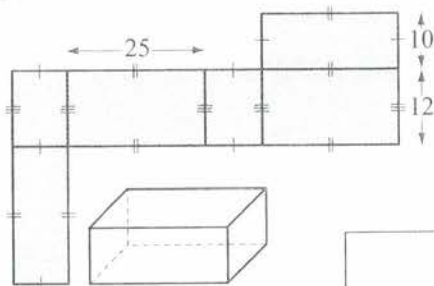
Find the perimeter of the isosceles triangle.



cm

24. [Surface Area / Volume] *

Find the total surface area of the rectangular prism by finding the area of its net.



sq. units

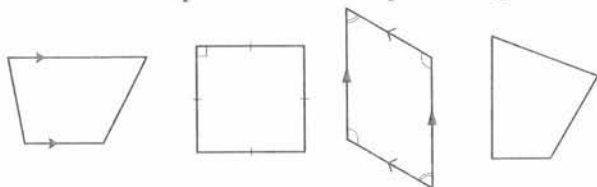
25. [Pythagoras] *

Find the positive solution for c :

$$c^2 = 5^2 + 12^2$$

26. [Shapes]

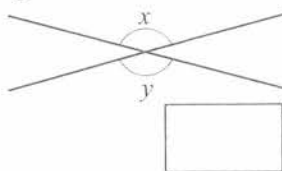
Circle the shapes that are **not** parallelograms.



27. [Angles]

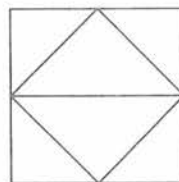
Which would describe the pair of angles marked x and y in this diagram?

- A) vertically opposite
- B) supplementary
- C) acute



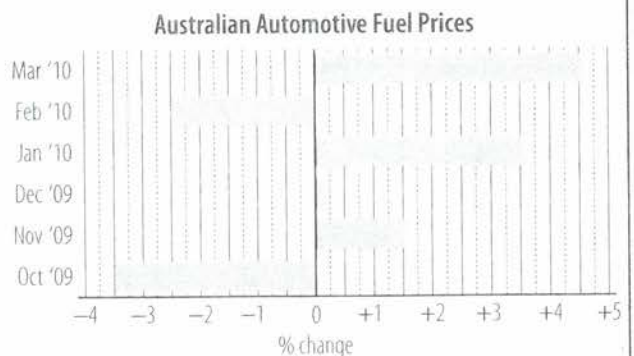
28. [Exploring Geometry] *

How many quadrilaterals are in this diagram?



29. [Statistics]

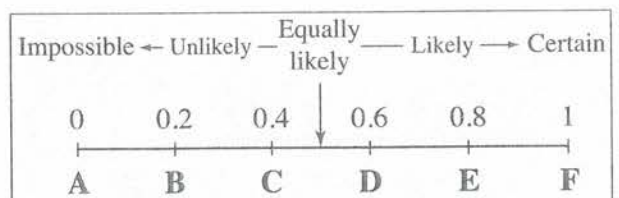
During which month, between October 2009 and March 2010, did Australians have the least change in petrol prices?



30. [Probability]

Which letter A to F best describes the probability of this event?

'Heads or tails will show uppermost when a coin is tossed.'



31. [Problem Solving 1] *

Use the digits 1, 2, 3 and 4 (once each) to complete the multiplication so that the answer is as large as possible.



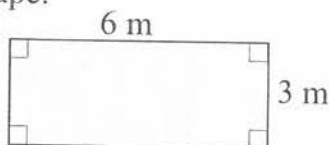
32. [Problem Solving 2] *

The four digits 6, 7, 8 and 9 can be arranged to form 24 different four-digit numbers. If these numbers are arranged from smallest to largest, which number is in the seventeenth position?

Mathematical Skills Practice

Skills Set 1

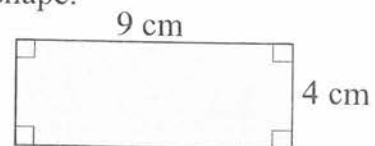
1. Write in words: 73
2. Find the next number in the following pattern:
0, 2, 4, 6, 8, ____.
3. 6×5
4. $20 \div 2$
5. $8 + 21$
6. $9 - 5$
7. Find the sum of 11 and 8.
8. Find the difference between 26 and 14.
9. How many seconds are in one minute?
10. How many millimetres are in one centimetre?
11. 2.3×10
12. $15.3 \div 10$
13. $6.4 + 1.3$
14. Change $\frac{1}{2}$ to a decimal.
15. Change 25% to a fraction.
16. Find 25% of \$20.
17. Find $\frac{1}{5}$ of 10 kg.
18. Write $\frac{4}{8}$ in its simplest form.
19. $\frac{1}{5} + \frac{2}{5}$
20. Change $2\frac{1}{3}$ to an improper fraction.
21. Find the perimeter of this shape.



22. Find the area of this shape.
23. Simplify: $3a + 4a$
24. Find x : $x + 7 = 10$
25. If $m = 5$, find: $m + 2$

Skills Set 2

1. Write in words: 104
2. Find the next number in the following pattern:
3, 6, 9, 12, 15, ____.
3. 4×8
4. $24 \div 3$
5. $9 + 6$
6. $13 - 7$
7. Find the product of 5 and 8.
8. Find the difference between 137 and 142.
9. How many minutes are in one hour?
10. How many centimetres are in one metre?
11. 3.62×10
12. $78.5 \div 10$
13. $5.6 + 3.3$
14. Change $\frac{1}{4}$ to a decimal.
15. Change 50% to a fraction.
16. Find 50% of \$60.
17. Find $\frac{1}{4}$ of 8 kg.
18. Write $\frac{6}{8}$ in its simplest form.
19. $\frac{3}{7} + \frac{2}{7}$
20. Change $3\frac{1}{4}$ to an improper fraction.
21. Find the perimeter of this shape.

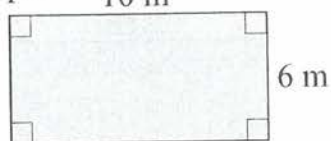


22. Find the area of this shape.
23. Simplify: $2x + 5x$
24. Find n : $n + 2 = 8$
25. If $a = 4$, find: $a + 8$

Mathematical Skills Practice

Skills Set 3

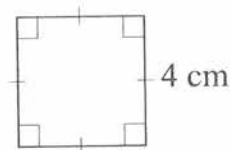
1. Write in words: 360
2. Find the next number in the following pattern:
0, 1, 3, 6, 10, ____.
3. 3×10
4. $30 \div 6$
5. $13 + 5$
6. $15 - 4$
7. Find the sum of 5 and 7.
8. Find the product of 20 and 2.
9. How many days are in three weeks?
10. How many metres are in one kilometre?
11. 56.1×10
12. $69 \div 10$
13. $2.1 + 0.4$
14. Change 0.5 to a fraction.
15. Change $\frac{1}{2}$ to a percentage.
16. Find 50% of \$40.
17. Find $\frac{1}{2}$ of 12 m.
18. Write $\frac{10}{12}$ in its simplest form.
19. $\frac{1}{5} + \frac{3}{5}$
20. Change $6\frac{1}{2}$ to an improper fraction.
21. Find the perimeter of this shape.



22. Find the area of this shape.
23. Simplify: $d + 3d$
24. Find a : $a + 3 = 7$
25. If $a = 3$, find: $a + 9$

Skills Set 4

1. Write in words: 926
2. Find the next number in the following pattern:
20, 18, 16, 14, 12, ____.
3. 2×9
4. $18 \div 9$
5. $15 + 7$
6. $21 - 3$
7. Find the sum of 15 and 12.
8. Find the difference between 8 and 21.
9. How many weeks are in 42 days?
10. How many centimetres are in two metres?
11. 0.43×10
12. $2.7 \div 10$
13. $18.2 + 1.1$
14. Change 0.1 to a fraction.
15. Change 0.8 to a percentage.
16. Find 25% of \$8.
17. Find $\frac{1}{3}$ of 30 cm.
18. Write $\frac{12}{16}$ in its simplest form.
19. $\frac{1}{10} + \frac{6}{10}$
20. Change $5\frac{3}{4}$ to an improper fraction.
21. Find the perimeter of this shape.

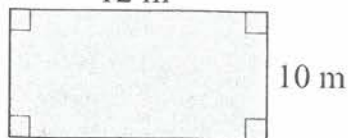


22. Find the area of this shape.
23. Simplify: $6n + 3n$
24. Find x : $x - 2 = 6$
25. If $y = 2$, find: $y + 5$

Mathematical Skills Practice

Skills Set 5

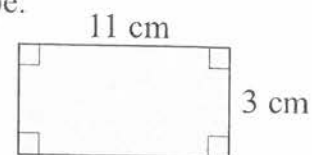
1. Write in words: 758
2. Find the next number in the following pattern:
5, 10, 15, 20, 25, ____.
3. 7×5
4. $25 \div 5$
5. $8 + 24$
6. $19 - 14$
7. Find the product of
100 and 3.
8. How many 9's are in 18?
9. How many seconds are in
half a minute?
10. How many millimetres are
in five centimetres?
11. 8.26×100
12. $130 \div 10$
13. $0.6 + 0.3$
14. Change $\frac{3}{10}$ to a decimal.
15. Change 90% to a fraction.
16. Find 50% of \$100.
17. Find $\frac{1}{6}$ of \$12.
18. Write $\frac{10}{20}$ in its simplest form.
19. $\frac{3}{11} + \frac{5}{11}$
20. Change $4\frac{2}{3}$ to an improper
fraction.
21. Find the perimeter of this
shape.



22. Find the area of this shape.
23. Simplify: $8a - 2a$
24. Find n : $n - 5 = 2$
25. If $y = 6$, find: $y - 2$

Skills Set 6

1. Write in words: 831
2. Find the next number in the
following pattern:
2, 4, 8, 16, 32, ____.
3. 8×3
4. $36 \div 9$
5. $7 + 19$
6. $23 - 12$
7. How many 6's are in 54.
8. Find the product of
15 and 2.
9. How many minutes are in
half an hour?
10. How many metres are
in six kilometres?
11. 0.351×100
12. $250 \div 100$
13. $0.7 + 9.0$
14. Change $\frac{7}{100}$ to a decimal.
15. Change 30% to a decimal.
16. Find 50% of 16 m.
17. Find $\frac{1}{3}$ of 36 m.
18. Write $\frac{15}{20}$ in its simplest form.
19. $\frac{6}{7} - \frac{1}{7}$
20. Change $1\frac{3}{4}$ to an improper
fraction.
21. Find the perimeter of this
shape.

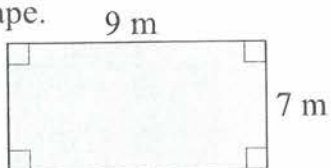


22. Find the area of this shape.
23. Simplify: $3y + 7y$
24. Find m : $m - 6 = 7$
25. If $n = 8$, find: $n - 5$

Mathematical Skills Practice

Skills Set 7

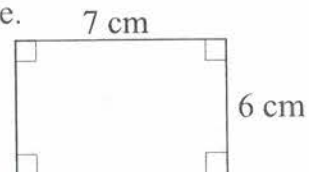
1. Write in words: 1045
2. Find the next number in the following pattern:
0, 3, 9, 18, 30, ____.
3. 9×11
4. $40 \div 8$
5. $22 + 15$
6. $31 - 6$
7. Find the difference between 24 and 13.
8. How many 7's are in 56?
9. How many hours are in one day?
10. How many millimetres are in twelve centimetres?
11. 0.006×10
12. $123.7 \div 100$
13. $10.3 + 2.4$
14. Change 0.09 to a fraction.
15. Change 0.7 to a percentage.
16. Find 25% of 24 m.
17. Find $\frac{1}{3}$ of 15 kg.
18. Write $\frac{16}{20}$ in its simplest form.
19. $\frac{2}{5} + \frac{2}{5}$
20. Change $3\frac{4}{5}$ to an improper fraction.
21. Find the perimeter of this shape.



22. Find the area of this shape.
23. Simplify: $8m - 5m$
24. Find n : $n + 5 = 12$
25. If $x = 2$, find: $5x$

Skills Set 8

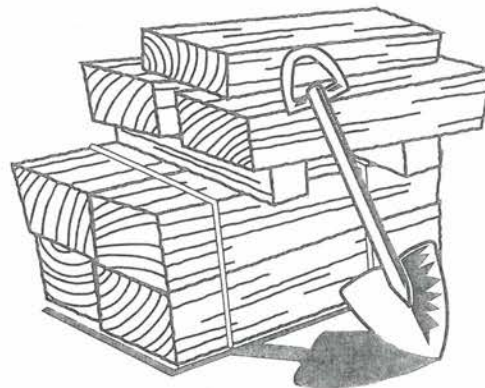
1. Write in words: 6019
2. Find the next number in the following pattern:
0, 2, 6, 14, 30, ____.
3. 12×3
4. $48 \div 12$
5. $22 + 11$
6. $45 - 3$
7. Find the sum of 13 and 18.
8. Find the product of 30 and 10.
9. How many hours are in two days?
10. How many centimetres are in eight metres?
11. 0.078×100
12. $8.4 \div 100$
13. $6.8 + 3.0$
14. Change $\frac{3}{4}$ to a decimal.
15. Change $\frac{9}{10}$ to a percentage.
16. Find 50% of 50 kg.
17. Find $\frac{1}{4}$ of 40 mm.
18. Write $\frac{8}{12}$ in its simplest form.
19. $\frac{4}{5} - \frac{1}{5}$
20. Change $6\frac{2}{3}$ to an improper fraction.
21. Find the perimeter of this shape.



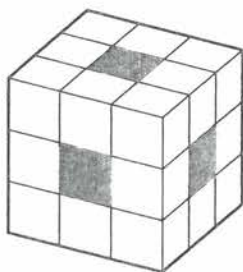
22. Find the area of this shape.
23. Simplify: $2x + 9x$
24. Find a : $3a = 12$
25. If $n = 3$, find: $4n$

SURFACE AREA

1. Some 2 m long sleepers with 10 cm x 20 cm rectangular ends are going to be stacked to form a set of garden stairs with 5 steps. If all the exposed sides except those on the bottom and on the higher end set into the garden are painted with wood preserver, what area will be painted?



2. When the builder put the steps together, he decided to paint all the outside surfaces before he assembled the steps in order to prolong the life of the stairs. What area did he actually paint?



3. Imagine 1 cm³ cubes stacked to make a 3 x 3 x 3 cube. Remove one cube from the centre of each face. If all of the exposed faces are painted red, what is the surface area of the shape that has been painted?

4. Would the surface area to be painted change if there was a hole through the centre of the cube?

5. (a) Now imagine a 4 x 4 x 4 cube. Remove a square of cubes from the centre of each face. What would be the surface area of this shape?

- (b) How would the surface area change if there was a hole in the centre of this cube?

6. If you had a 5 x 5 x 5 cube and removed a square of cubes from the centre of each face, what surface area could there be? (There are 2 possibilities.)

7. How would the surface area change if there was a hole in the centre of the cube? (Consider all the possibilities.)

VOLUME AND SURFACE AREA

1. A number of 1 cm^3 cubes are put together to make a right rectangular prism with each edge greater than 1 cm. The six faces of the prism are painted green. When the small cubes are taken apart, 105 have no paint on them.

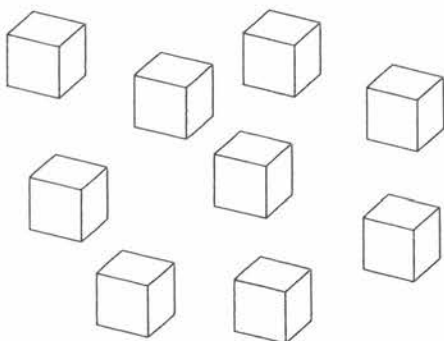
(a) Where would these cubes occur?

(b) What shape would they form?

Use this information to find:

(c) the volume of the whole prism

(d) the surface area of the whole prism.



2. A large number of cubes with 1 cm sides are put together to make another right rectangular prism with edges greater than 1 cm. After the six faces of the prism are painted green and then taken apart, 363 of the small cubes have not been painted.

What is the volume and surface area of the whole prism?

3. Some cubes with 2 cm sides are put together to make a right rectangular prism. The six faces of the prism are painted blue. When the small cubes are taken apart, 60 have no paint on them.

(a) In which ways could 60 cubes form the internal prism?

(b) What would be the volume and surface area of the whole prism for each possibility?

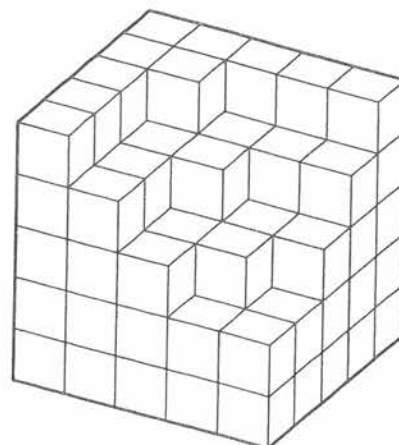
SURFACE AREA AND VOLUME

1. Some cubes with 2 cm sides have been arranged to make this shape.

(a) What is the surface area of the shape?

(b) What is the volume of the shape?

(c) If you add one more block to the upper surface of every block, what will be the new surface area and volume?



6	6	4	2
7	6	4	
6	5	3	
5	4		

2. Here is a plan of a shape made from a number of cubes with 3 cm sides. The squares show where the cubes are and the numbers show how many cubes at each place.

(a) Get the number of cubes you will need and make the shape. Use this model to work out the surface area and volume of the shape.

(b) Work out the surface area and volume of the shapes shown by these plans. The size of the cubes is written underneath each plan.

(i)

5	4	3	2	1
4	6	6	4	2
3	2	1	1	1

2 cm³ cubes

(ii)

6	3		
5	3		
5	3		
4	3	2	1
4	3	2	1

3 cm³ cubes

(iii)

5	3	2	4
3	5	4	2
2	4	5	3
4	2	3	5

4 cm³ cubes

(c) Can you work out the volume and surface area directly from the plan? (You may need to draw the views from each side and the top to find the surface area.)

(d) Make a shape of your own. Then make a plan for it and decide on the dimensions of the cubes. Ask a friend to work out the surface area and volume. Does your friend need to make the shape?

MAGIC SQUARES

Magic squares have numbers that all add to the same total. All rows, columns and diagonals add to the same total.

Complete these magic squares. Remember, all rows, columns and diagonals must add to the same number.

This magic square has a magic number of _____.

30		12	
	48		18
		27	36
24	39		9

21	18		30
16		22	17
	13		23
19		27	

Magic number: _____

24	21		32
19	31		
30		23	26
22		29	

Magic number: _____

	56	53	66
54		60	55
	51	58	
57		63	

Magic number: _____

	39		49
37	48		38
		41	44
40		46	35

Magic number: _____

20		14	
	27		16
26		19	22
18	23		13

Magic number: _____

	86		98
	97	90	
96	81		91
87	92	95	

Magic number: _____

24	21		
19	33	25	20
30		23	
	27		17

Magic number: _____

72		66	82
67	81		68
80		71	
			65

Magic number: _____

22		16	
	28		18
27	14	21	24
		26	15

Magic number: _____