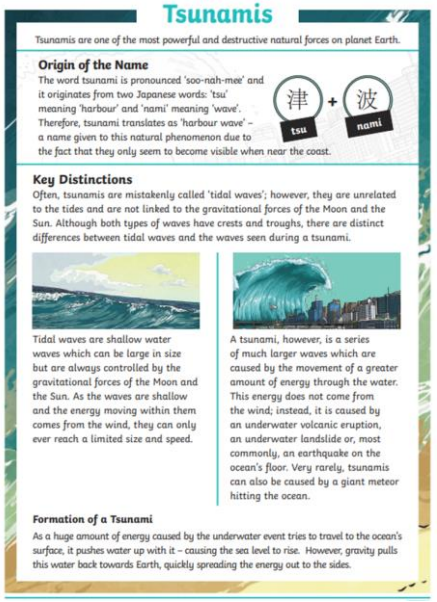
Week 1 Term 4 Weekly Framework Stage 3

Below is a learning framework for you to follow at home. You should be able to complete each activity independently. If you need some assistance, ask for some help from a parent/carer or send a message to your teacher on GoogleClassroom. You are also able to access your Mathletics account. You can complete activities in your Homework book or an exercise book, some maybe submitted through your google classroom. Don't forget to write the date on your activities to keep track. Resources/worksheets/spelling words can be found at the end of this document under resources.

T4 Wk 1	Morning Session	Middle Session	Afternoon
Monday	**Spelling** **Year 5 Spelling:** I can use the prefixes *uni (1), bi (2)* and *tri (3)* **Year 6 Spelling:** I can use the graph /t/ making the sound "ch" as in **nature** **Activity 1:** Open the Term 4 Week 1 Spelling PowerPoint on your Google Classroom and follow the prompts. **Activity 2:** Fold your page into 4 columns (Mon-Thu) and write out your words for the week. **Activity 3:** Complete the SMART Spelling grid by reading the word aloud and separating the sounds in each word. This is where you can see what letters make specific sounds on their own or with others. **EXTENSION:** Can you find more challenging words in a dictionary or thesaurus that have the same focus? Remember that not every word that contains the same letters will make the same sound. **Novel Study** Stage 3 will be finishing the year with a novel study. They will start these novels whilst learning from home and continue the unit when they return to school. These lessons will take place on Monday and Tuesday. Students will have access via their google classroom to recorded readings of chapters by their teachers and an online copy of the text to read. They will be required to read chapters over the week to be read for the next week's lessons. Year 5 are reading Charlie and The Chocolate Factory by Rohal Dahl Year 6 are reading Beetle Boy by M G Leonard. Detailed Lesson sheets are in the resource section.	**Numeracy** **Mentals** Numeracy Ninja question sheets. (you can either print the sheet to write your answers on or just use the slide and write the answers down in a book.) **Worded problem** Matharoo 27 **Lesson** Year 5 – Collecting and analysing data – frequency tables p.18 Year 6 – Collecting and analysing data – frequency tables p.20 Whole Number – Number – Prime and composite numbers p.11 This week's online Mathletics activities. Mathletics online: **Year 5 -** Picture graphs with scale, Making picture graphs with scale **Year 6 -** Interpreting tables, Data test, Prime or composite **MENTALS** Numeracy Ninja - complete Week 23, Lesson 1	**Library** Mrs Burke has set up an EPIC! account. It provides free Ebooks for students (during school hours only 9am to 3pm) Students need to go to - https://www.getepic.com/students Then click on Class Code. Use this code to enter Mrs Burke's class - uet9380 When you enter look for your first name and class name

T4 Wk 1	Morning Session	Middle Session	Afternoon
Tuesday	**Spelling** **Year 5 Spelling:** I can use the prefixes *uni (1), bi (2)* and *tri (3)* **Year 6 Spelling:** I can use the graph /t/ making the sound "ch" as in **nature** **Activity 1:** Copy out your Spelling words for the week under your *Tuesday* column. **Activity 2:** Colour coding Say the word aloud, write it down by colour coding as the following - Consonant sounds in blue - Vowel sounds in red creamy **Handwriting** Common Letter Clusters **Learning Intention** - Write using cursive. - Explore joins that facilitate fluency and legibility. **Core Task:** Review the five S's - slope, shape, size, spacing and style. Review correct pen/cil grip, book & sitting position/posture. Write the long date in your workbook and copy the following: nce nce nce prince mince fence advance dancer spr spr spr spring spread spry sprung sprout nch nch nch lunch bench winch inch stench str str str strong stripe stray street string gle gle gle giggle wriggle jungle single muggle tch tch tch watch itchy scratch hutch blotch **Novel Study** Year 5 are reading Charlie and The Chocolate Factory by Rohal Dahl Year 6 are reading Beetle Boy by M G Leonard. Detailed Lesson sheets are in the resource section.	**Numeracy** **Mentals** - Numeracy Ninja question sheets. (you can either print the sheet to write your answers on or just use the slide and write the answers down in a book.) **Worded problem** - Matharoo 27 **Lesson** Year 5 – Collecting and analysing data – mean p.19 Year 6 – Collecting and analysing data – grouped data p.21 Whole Number – Prime and composite numbers p.12 **Numeracy Ninja** - Week 23, Lesson 2 Tell Them From Me student survey The Tell Them From Me student survey asks students about a range of school experiences, including their engagement and wellbeing at school and beyond. It also asks students about teaching practices and the learning environment. The survey takes about 20 minutes to complete. Your teacher will provide you with your 8 digit user code & 5 digit password Take Survey : For more information please see attached note from Mrs Brown	**Behind the News – Street Art** Watch the story on street art from episode 25 using the link below. Otherwise go to the BTN website, click on Stories on the dark blue menu bar, then type in 'street art" to find the story. https://www.abc.net.au/btn/classroom/street-art/13515430 Answer the focus questions on page one of the accompanying PDF document: https://www.abc.net.au/cm/lb/13513834/data/street-art-%25E2%2580%2593-teacher-resource-%28pdf%29-data.pdf Or skim through the rest of the document and answer any of the many other questions or activities that inspire or interest you..

Year 5 Zoom	Wellbeing Wednesday			Year 6 Zoom
Make and fly a kite	Nature walk Do your best SIr David Attenborough impersonations as you go for a walk with your family.	Give your parents a surprise and clean your room	Take a moment and check in with yourself or check in with a friend. Check how you are feeling. Write down or talk about any worries you have.	Treat your feet and give yourself or someone a foot spa/pedicure
Find a nice spot and read your class novel	Do some colouring in.	Leave a kind message for someone to find.	Create an obstacle course and time yourself completing the challenges	Grade zooms year 5- 12.30pm year 6 -1.00 pm
Play a card game: uno, old maid, fish, patience, clock patience, rummy, uker there are so many. Can you learn a new one?	Create a picnic lunch and all have lunch together.	Ring or zoom a family member and play a kahoot with them.	Play with your siblings- something that they want to play.	MUSIC Listen to some music

T4 Wk 1	Morning Session	Middle Session	Afternoon
Thursday	**English** **Spelling** **Year 5 Spelling:** I can use the prefixes *uni (1), bi (2)* and *tri (3)* **Year 6 Spelling:** I can use the graph /t/ making the sound "ch" as in **nature** **Activity 1:** Copy out your Spelling words for the week under your *Thursday* column. **Activity 2:** Word Endings & Antonyms Can you add any of these endings to any of your spelling words? (*ing, est, ful, ed, er).* Are there any words you can write the opposite meaning for? **English- Writing** A haiku is traditionally a Japanese poem consisting of three short lines that do not rhyme. The origins of haiku poems can be traced back as far as the 9th century. Learning Sequence: · A haiku is considered to be more than a type of poem; it is a way of looking at the physical world and seeing something deeper, like the very nature of existence. It should leave the reader with a strong feeling or impression. Example of a Haiku poem: *A sunlit forest.* *The endless sounds of chopping.* *Busy parking lot.* (Alex J.) Look at the Seven Steps Top Tips and **discuss** the different steps and how the feeling of life is expressed in the poem. **Look at the examples** of Haiku poems. · What message is the poet conveying to the reader? Choose three poems, write a response.	**Numeracy** **Mentals** Numeracy Ninja question sheets. (you can either print the sheet to write your answers on or just use the slide and write the answers down in a book.) **Worded problem** - Matharoo 27 **Lesson** Year 5 – Collecting and analysing data – mean p.20 Year 6 – Collecting and analysing data – range p.22 Whole Number – Types of numbers – mixed practice p.13 **Mentals** Numeracy Ninja - Week 23, Lesson 3 **Music** · Watch the video about orchestras and find the concept of an orchestra and its function- including the family groups and structure of music i.e. movements/sections https://www.youtube.com/watch?v=M0Jc4sP0BEE George Meets the Orchestra | An Introduction to the Orchestra for Children	**Geography/Science** Cars and Stars reading comprehension skills **Activity:** Read the attached text about tsunamis and answer the corresponding retrieval questions.  Tsunamis Tsunamis are one of the most powerful and destructive natural forces on planet Earth. Origin of the Name The word tsunami is pronounced 'soo-nah-mee' and it originates from two Japanese words: 'tsu' meaning 'harbour' and 'nami' meaning 'wave'. Therefore, tsunami translates as 'harbour wave' – a name given to this natural phenomenon due to the fact that they only seem to become visible when near the coast. 津 tsu + 波 nami Key Distinctions Often, tsunamis are mistakenly called 'tidal waves'; however, they are unrelated to the tides and are not linked to the gravitational forces of the Moon and the Sun. Although both types of waves have crests and troughs, there are distinct differences between tidal waves and the waves seen during a tsunami. Tidal waves are shallow water waves which can be large in size but are always controlled by the gravitational forces of the Moon and the Sun. As the waves are shallow and the energy moving within them comes from the wind, they can only ever reach a limited size and speed. A tsunami, however, is a series of much larger waves which are caused by the movement of a greater amount of energy through the water. This energy does not come from the wind; instead, it is caused by an underwater volcanic eruption, an underwater landslide or, most commonly, an earthquake on the ocean's floor. Very rarely, tsunamis can also be caused by a giant meteor hitting the ocean. Formation of a Tsunami As a huge amount of energy caused by the underwater event tries to travel to the ocean's surface, it pushes water up with it – causing the sea level to rise. However, gravity pulls this water back towards Earth, quickly spreading the energy out to the sides.

T4 Wk 1	Morning Session	Middle Session	Afternoon
Friday	**English -Spelling** **Year 5 Spelling:** I can use the prefixes *uni (1), bi (2)* and *tri (3)* **Year 6 Spelling:** I can use the graph /t/ making the sound "ch" as in **nature** **Activity 1:** Have a member of your family test you on your weekly spelling words. **Activity 2:** Complete your word search for the week. **English - Grammar** **Learning Intention:** To use the indefinite articles 'a' and 'an' correctly. **Article:** an article is an adjective. Like adjectives, articles modify nouns. English has two articles: **the** and **a/an**. **The** is the *definite* article and is used to refer to specific or particular nouns. **A/an** are the *indefinite* articles and are used to modify non-specific or non-particular nouns.  **Activity:** Complete the GRAMMAR worksheet attached to this document. **English- Writing** Learning Sequence: · Poets contemplate small snippets of time and can use imagery in their language. He felt like the flowers were waving hello. The F-16 swooped down like an eagle after its prey. The lake was left shivering by the touch of morning wind. The pot was as red as a tongue after a cherry-flavoured ring pop. The music coursed through us, vibrating through our bodies as if it came from within. The giant tree was ablaze with the orange, red, and yellow leaves that were beginning to make their descent to the ground. · You are to use these sentences as inspiration to write your own Haiku poem. Remember: A haiku is a way of looking at the physical world and seeing something deeper, like the very nature of existence.	**Numeracy** **Mentals** Numeracy Ninja question sheets. (you can either print the sheet to write your answers on or just use the slide and write the answers down in a book.) **Worded problem** - Matharoo 27 **Lesson** Year 5 – Collecting and analysing data – collecting data p.21 Year 6 – Collecting and analysing data – mean p.23 Whole Number – Roman numerals pp.14-15 Mentals Numeracy NInja Week 23, lesson 4	**CAPA** Art - Abstract Design 1. Collect different size jars, tins or lids and draw circles covering the page that overlap each other using a black sharpie 2. Using textas or coloured pencils, colour in each section making sure two of the same colour are not next to each other 3. To finish the artwork, trim the outside and past on black paper or cardboard 4. Take a photo of your artwork and turn it in  

Sport challenge for Weeks 1 to 6
We want you to get outside and get your heart pumping!

Make time every day to spend at least 30 minutes outside doing something active.

We have been learning in our health lessons about the importance of, ‘Me time’, fresh air and exercise and the important role it plays in maintaining not just your physical health but your mental health as well. Here are some ideas but do something that works for you and your family. There is no set time, just find the time that works best for you; this could be in the morning, middle session, afternoon or evening. Keep a record of how often you achieve this and how you feel after you do.

Go for a bike ride.
Learn to skateboard, scooter, roller skate, roller blade.
Play tennis.
Make an obstacle course.
Grab a dice and paper and make a physical activity game.
Go for a walk/ walk the dog
Mediate
Yoga
Dancing
Gymnastics
Jump on a trampoline
strength training
Skipping
Football, netball, soccer, cricket, basketball skill practice
Cheer practice
Stretching
Play ping pong

Year 5 Term 4 Week 1 Spelling Words			
Spelling Focus Words		**Sight Words**	**Challenge Words**
unison uniform bicycle bilateral tricycle	triangle unicorn biplane triceps tripod	Earth Neptune astronomical comets galaxy	university bicentennial triceratops binoculars unified

Year 6 Term 4 Week 1 Spelling Words			
Spelling Focus Words		**Sight Words**	**Challenge Words**
nature picture feature adventure fracture	furniture lecture puncture creature scripture	Earth Neptune astronomical comets galaxy	featureless naturally moisture gesture structuring

The *SMART* Spelling Grid

Name:_____

Write, say, sound, count, write.

1. Write the word
2. Say the word
3. Sound it out
4. Count the sounds
5. Write the letters, then write the tricky part again

Write the word Say the word	How many sounds?	Write the letters: broken up into graphs, digraphs, trigraphs etc.									Tricky part?
weekend	6	w	ee	k	e	n	d				ee

Year 5 Week 1 Word Search

N	Q	T	S	L	Z	B	T	C	T	R	I	C	Y	C	L	E	Y	V	G
S	X	Z	U	C	Q	T	E	W	V	S	E	W	A	I	U	A	H	M	B
R	L	Y	B	I	C	E	N	T	E	N	N	I	A	L	N	A	V	G	I
U	T	U	A	G	N	D	L	L	K	A	Y	E	M	J	I	B	H	C	L
L	N	K	X	M	A	T	N	F	I	S	P	Q	E	X	X	J	L	O	A
N	F	I	J	Z	P	L	M	O	V	T	D	R	E	W	S	R	I	M	T
J	U	X	V	N	N	H	A	R	C	R	Y	L	D	W	W	P	E	E	E
L	E	U	C	E	W	F	M	X	V	O	G	W	N	K	S	W	A	T	R
Q	T	P	N	B	R	I	O	U	Y	N	M	V	T	R	D	R	G	S	A
V	Y	B	J	I	A	S	J	R	A	O	O	S	A	A	B	F	D	F	L
X	X	X	I	K	F	F	I	I	W	M	D	L	F	Q	S	O	Q	T	U
G	Q	N	U	C	I	O	R	T	E	I	U	Y	S	P	P	C	C	U	O
X	I	Y	R	B	Y	T	R	Z	Y	C	W	Z	E	I	H	H	A	N	B
H	H	I	N	V	D	C	L	M	O	A	X	C	R	R	T	M	Q	I	N
L	R	Z	G	E	E	J	L	N	Y	L	I	T	Y	R	G	Y	B	C	E
U	N	I	F	I	E	D	I	E	G	R	J	D	A	Q	C	K	E	O	P
X	Y	J	Q	G	D	B	P	R	T	H	N	E	J	P	D	W	V	R	T
U	U	Z	O	B	I	P	L	A	N	E	V	T	B	K	I	G	D	N	U
K	Q	T	U	N	I	S	O	N	P	B	Z	S	H	U	T	J	Z	M	N
H	M	V	B	K	H	B	Y	Q	K	D	W	E	K	O	J	D	X	J	E

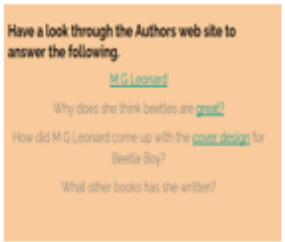
ASTRONOMICAL
UNIVERSITY
TRIANGLE
BIPLANE
NEPTUNE
GALAXY
EARTH
BICENTENNIAL
BILATERAL
BICYCLE
TRICEPS
UNISON
COMETS
BINOCULARS
TRICYCLE
UNICORN
UNIFORM
TRIPOD
UNIFIED

Year 6 Week 1 Word Search

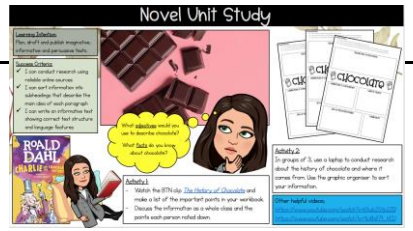
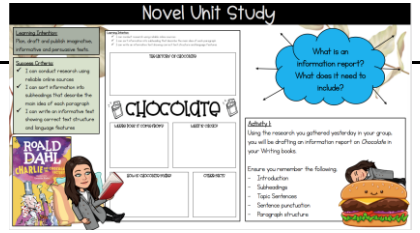
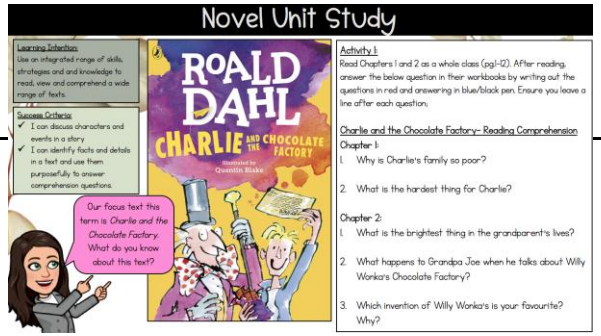
D	Q	P	P	S	I	S	S	P	C	M	O	I	S	T	U	R	E	M	R
A	B	H	S	U	X	N	E	P	T	U	N	E	C	O	M	E	T	S	X
E	D	N	H	E	N	F	P	B	B	R	O	N	A	E	N	M	N	C	P
X	Y	V	A	C	L	C	A	B	Z	G	P	H	Y	W	W	F	B	W	I
G	A	G	E	T	X	E	T	S	U	K	U	V	X	X	Y	V	O	F	C
D	E	V	M	N	U	T	C	U	T	J	I	O	P	L	M	Q	R	B	T
I	I	C	Y	Y	T	R	B	T	R	R	G	M	L	M	C	P	Z	P	U
K	A	R	D	X	O	U	E	L	U	E	O	A	L	E	P	H	B	F	R
F	P	E	Z	W	B	J	R	E	L	R	R	N	R	G	M	V	V	E	E
U	C	A	J	G	L	T	R	E	I	U	E	U	O	H	B	N	N	A	J
R	S	T	Q	E	T	U	F	D	T	C	T	U	B	M	M	G	R	T	J
N	V	U	N	Y	T	Y	J	A	G	S	U	L	O	A	I	H	M	U	T
I	Z	R	C	A	B	G	N	E	E	W	A	L	O	R	F	C	O	R	M
T	C	E	E	Z	C	J	R	G	H	H	M	K	P	X	N	K	A	E	A
U	U	F	S	T	R	U	C	T	U	R	I	N	G	E	I	L	U	L	M
R	H	G	R	D	T	W	R	V	A	E	W	D	A	B	K	D	Y	E	G
E	W	I	G	C	J	A	Z	E	Z	K	A	O	L	Z	L	E	I	S	H
W	R	D	A	S	E	Z	X	D	H	H	X	Z	A	K	O	D	V	S	N
Q	E	R	Y	I	Q	E	B	Z	T	C	B	Z	X	X	L	M	D	H	T
T	F	S	C	R	I	P	T	U	R	E	W	R	Y	T	B	R	Z	X	Q

ASTRONOMICAL
NATURALLY
SCRIPTURE
CREATURE
LECTURE
GESTURE
COMETS
FEATURELESS
ADVENTURE
FRACTURE
MOISTURE
PICTURE
NATURE
EARTH
STRUCTURING
FURNITURE
PUNCTURE
FEATURE
NEPTUNE
GALAXY

Year 6 Beetle Boy

Week	Lesson 1 Monday	Lesson 2 Tuesday
1	Learning Intention: Navigate and read texts for specific purposes applying appropriate text processing strategies, for example predicting and confirming, monitoring meaning, skimming and scanning Success Criteria: ✓ I can discuss characters and events in a story ✓ I can identify facts and details in a text and use them purposefully to answer comprehension questions. ✓ Learning Sequence: - Display an image of Beetle Boy book cover - Using google slides- Students are to create a title Page – Beetle Boy- Around this they are to write down what they associate with the words "Beetle" "Boy"(if students are using a book they are to keep all this work together). - Discuss the information as a class/ zoom session - Students are to create slide 2 – "Prediction" - On this slide students are to add their prediction about the what the text will be about justifying why they are predicting that. - Include – PIE - Slide 1-3   	Learning Intention Use an integrated range of skills, strategies and knowledge to read, view and comprehend a wide range of texts. Success Criteria: ✓ I can discuss characters and events in a story ✓ I can identify facts and details in a text and use them purposefully to answer comprehension questions. Learning Sequence: - Revise previous lesson - Ask the question slide 4- Is the Author male or female? – discuss as to what made the students think one over the other. - Introduce the class focus text; Beetle Boy and ask students what they know about the book. Students are to use the links on slide 5 and answer the questions - Assigned Reading - Chapters 1- 4 read for week 2. - In your google classroom you have access to a copy of Beetle Boy for you to read, you also have the option to listen to a recording of the chapters being read by your teachers. (This will not be for all chapters). If you are listening to the recording, I suggest you have the chapters open and follow along as you would in class. Slide 4 & 6   

Year 5 Charlie and the Chocolate Factory

Week	Lesson 1 Monday	Lesson 2 Tuesday
1	**Learning Intention**: Plan, draft and publish imaginative, informative and persuasive texts, choosing and experimenting with text structures, language features, images and digital resources appropriate to purpose and **Success Criteria:** - I can conduct research using reliable online sources - I can sort information into subheadings that describe the main idea of each paragraph - I can write an informative text showing correct text structure and language features **Learning Sequence:** - Look at the image of the chocolate, write down as many adjectives as you can think of to describe this chocolate using a coloured pen/pencil - What facts do you know about chocolate? Remember, facts are information that is known or can be proved true. Write these facts down using a different coloured pen/pencil - Watch the BTN clip The History of Chocolate, make a list of important points from the clip (you may need to watch it more than once) (https://www.abc.net.au/btn/classroom/history-of-chocolate/10611690)  **Your Task:** Today you will be researching the history of chocolate and how some of your favourite brands make the chocolate we buy from stores (Cadbury, Lindt etc.) Use the provided graphic organiser to help you with your information. Make sure that you are writing at least 8-10 points per box.  Other helpful videos; https://www.youtube.com/watch?v=Khdz2Stp2ZQ https://www.youtube.com/watch?v=4vXb8Tt_VCU   	**Learning Intention:** Use an integrated range of skills, strategies and knowledge to read, view and comprehend a wide range of texts. **Success Criteria:** - I can discuss characters and events in a story - I can identify facts and details in a text and use them purposefully to answer comprehension questions. **Learning Sequence:** This term we will be reading the text *Charlie and The Chocolate Factory*. What do you already know about the book (not the movies)? - Open the *Lesson 2- Chapters 1 and 2* video on your Google Classroom and listen to one of your teachers read the chapters aloud. You can follow along if you have your own copy of the book. - After listening, answer the below questions in your book by writing out the questions in red and answering in blue/black pen. Ensure you leave a line after each question; Chapter 1: 1. Why is Charlie's family so poor? 2. What is the hardest thing for Charlie? Chapter 2: 1. What is the brightest thing in the grandparent's lives? 2. What happens to Grandpa Joe when he talks about Willy Wonka's Chocolate Factory? 3. Which invention of Willy Wonka's is your favourite? Why? 

Learning Intention:

- ✓ I can conduct research using reliable online sources
- ✓ I can sort information into subheading that describe the main idea of each paragraph
- ✓ I can write an informative text showing correct text structure and language features

THE HISTORY OF CHOCOLATE

CHOCOLATE

WHERE DOES IT COME FROM?

WHAT IS CACAO?

HOW IS CHOCOLATE MADE?

OTHER FACTS

Tell Them From Me Student Survey Information for Parents

About the survey

The Tell Them From Me student survey asks students about a range of school experiences, including their engagement and wellbeing at school and beyond. It also asks students about teaching practices and the learning environment.

The survey takes about 20 minutes to complete.

Explaining the survey to your child

- Your child will be filling out an online survey called 'Tell Them From Me'.
- This survey is an opportunity for them to let their teachers know how they are going at school.
- The survey will ask your child how engaged they are with their learning, different ways that their teachers teach them in class, how supported they feel at school, and more.
- Your child's responses are confidential, which means their teachers won't know how they have answered.
- Please encourage your child to answer as honestly as they can. There are no right or wrong answers. The school just wants to hear what they think and their responses will help to improve their school. Some of the questions are there to help the school understand students and how to best meet their needs.
- If your child is unsure how to answer them, they can skip these questions.
- They can skip any question that they don't feel comfortable answering.
- The link for the online TTFM survey is https://nsw.tellthemfromme.com/login.htm
- The first 8 digit code is anonymous username, the 5 digit code is the password

If you **do not want your child to take part** in the survey then please dispose of the unique password given to your child.

More information about the survey and the research is available at education.nsw.gov.au/ttfm

Kathy Browne

Principal
Surveyors Creek PS

Teacher Resource

Street Art

EPISODE 25
31st August 2021

KEY LEARNING
Students will create their own street art which connects with their community.

CURRICULUM
Visual Arts – Years 3 & 4
Identify intended purposes and meanings of artworks using visual arts terminology to compare artworks, starting with visual artworks in Australia including visual artworks of Aboriginal and Torres Strait Islander Peoples.

Visual Arts – Years 5 & 6
Explain how visual arts conventions communicate meaning by comparing artworks from different social, cultural and historical contexts, including Aboriginal and Torres Strait Islander artworks.

Visual Arts – Years 7 & 8
Analyse how artists use visual conventions in artworks.

Focus Questions

Discuss the BTN story as a class and record the main points of the discussion. Students will then respond to the following:

1. Summarise the Street Art story using your own words.
2. What is street art?
3. Where can you see street art? Give an example.
4. What did street art evolve from?
5. Banksy's identity is unknown. True or false?
6. What is the theme of Banksy's street art?
7. Describe one of the artworks included in Banksy's Great British Spraycation.
8. Why is Banksy's street art controversial?
9. When is street art legal?
10. What did you like about the BTN Street Art story?

Activity: Class Discussion

Before watching the BTN Street Art story, ask students what they already know about street art. Here are some discussion starters:

- What is street art?
- Have you seen street art? Where? Describe the street art you have seen.
- How do think street art benefits society?
- What do you think is the difference between graffiti and street art?

After watching the BTN story as a class, respond to the following questions:

- What did you SEE in this video?
- What do you THINK about what you saw in this video?
- What does this video make your WONDER?
- What did you LEARN from this story?

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Activity: KWLH

Hold a class discussion about the information raised in the BTN Street Art story. What questions were raised in the discussion, and what are the gaps in their knowledge? The following KWLH organiser provides students with a framework to explore their knowledge on this topic and consider what they would like to know and learn.

What do I know?	***What do I want to know?***	***What have I learnt?***	***How will I find out?***

Research questions for Inquiry

- What was the first form of street art?
- What is the history of street art? Create a timeline to illustrate your findings.
- What are some different types of street art? Explore the different techniques used in street art (e.g., graffiti artwork, stencil graffiti, sticker art, street poster art, video projection, guerrilla art, flash mobbing and street installations). Give examples.
- Is street art legal? When is street art not legal? Explore the similarities and differences between graffiti and street art.
- Why do some street artists stay anonymous? Explore the works of Banksy and other street artists who hide their identity.
- What is Banksy's style? Who was Banksy influenced by? Find artists with similar artistic styles and techniques to that of Banksy.

Activity: Analyse street art

As a class, view a variety of street art, near to your school, around Australia and around the world. Students will select an example of street art that interests them. Students will analyse and reflect on the street art and then respond to the questions below.

ABC News – *(Getty: William West)*

ABC News – *(Reuters: Rebecca Naden)*

©ABC 2021

ABC News – *(702 ABC Sydney: Amanda Hoh)*

ABC News – *(Supplied: Peter Drew)*

Questions to help guide students' exploration:

- Record as much information as you can about the street art in 15 minutes. Record everything you see. The longer you look the more you will see. Consider looking at it from different angles, up close and far away.
- If there are people in the art work, what can you tell about their personality? What are they doing? Describe their facial expression and pose.
- What is the mood of the art work?
- Do you notice any objects in the art work? What do these objects symbolise?
- What do you think the artist is trying to say through the street art? What does it mean?
- What materials were used to make it?
- What techniques does the artist use?
- What do you know about the artist?
- What do you like about this art work? Why did you choose it? How does the art work make you feel?
- What questions do you have about the artwork?

Activity: Create your own street art

Students will create their own artwork that is inspired by their favourite street artist. Students will create a sketch of their artwork on paper or cardboard, using the following to guide their design:

- What is your message? Think of a positive message that you want to convey in your art work.
- Does your artwork tell a story, promote an idea, illustrate a culture, make the viewer think, or create an experience?
- How will your street art connect with your community?
- What images, symbols, words, and colours will you use?
- Where would your street art appear? (e.g., exterior of a building, under a bridge, footpath).
- Is the location a public or privately owned building? Who would give you permission for your design?

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Activity: Explore street art in your community

In this activity, students will explore a range of street art in their community. As a class you may want to visit street art out in the community or take a virtual street art tour.

Explore

Go on a tour of your town or city, taking photos and drawings of what you find. Find out as much as you can about the street art.

- What street art is in your community? Make a list.
- Where is the street art located? E.g., on electricity poles, the exterior of buildings, chalk street art, murals, mosaics.

Research

Choose an example of street art in your community to explore in more detail.

- Who is the artist?
- Where is the street art located?
- When was the street art created?
- Describe the street art including: the elements, colours and materials used.
- What is the message? What symbols and themes do you notice in the artwork?
- How does the street art connect with the community?
- Could you interview the artist for extra content? What questions would you ask?

Design & create

Design a tour of the street art in your community. Take a look at these street art guides for inspiration. Wonderwall Outdoor Gallery SA, Melbourne Street Art Walk, Every Banksy remaining in London.

- Identity the artworks that you will include in your street art tour.
- Will there be a common theme in your tour?
- What order should the artworks be visited?
- Who is the tour for? Is it for families? Is it accessible?
- How will you present the information in your map? E.g., grid system or numbered.
- Will your tour and map be digital or a printout?

Sketch a map and include grid lines which you can use to reference the street art on your tour.

- List each of the places and artworks on your tour.
- Who is the artist? Include a bit of information on each piece of art.
- What extra information will you include, e.g., photographs, QR codes, legend, scale, distance and time of tour, nearby attractions, public transport.

Useful Websites

- Banksy: Who is the famous graffiti artist? – BBC Newsround
- Banksy: Who is Banksy? – Newsround
- Banksy claims responsibility for new Great British Spraycation artworks in English seaside towns – ABC News
- https://www.abc.net.au/news/2021-08-14/banksy-artwork-in-english-seaside-towns/100377542
- The Birth of Street Art – Saatchi Art

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Tsunamis

Tsunamis are one of the most powerful and destructive natural forces on planet Earth.

Origin of the Name

The word tsunami is pronounced 'soo-nah-mee' and it originates from two Japanese words: 'tsu' meaning 'harbour' and 'nami' meaning 'wave'. Therefore, tsunami translates as 'harbour wave' – a name given to this natural phenomenon due to the fact that they only seem to become visible when near the coast.

Key Distinctions

Often, tsunamis are mistakenly called 'tidal waves'; however, they are unrelated to the tides and are not linked to the gravitational forces of the Moon and the Sun. Although both types of waves have crests and troughs, there are distinct differences between tidal waves and the waves seen during a tsunami.

Tidal waves are shallow water waves which can be large in size but are always controlled by the gravitational forces of the Moon and the Sun. As the waves are shallow and the energy moving within them comes from the wind, they can only ever reach a limited size and speed.

A tsunami, however, is a series of much larger waves which are caused by the movement of a greater amount of energy through the water. This energy does not come from the wind; instead, it is caused by an underwater volcanic eruption, an underwater landslide or, most commonly, an earthquake on the ocean's floor. Very rarely, tsunamis can also be caused by a giant meteor hitting the ocean.

Formation of a Tsunami

As a huge amount of energy caused by the underwater event tries to travel to the ocean's surface, it pushes water up with it – causing the sea level to rise. However, gravity pulls this water back towards Earth, quickly spreading the energy out to the sides.

Water begins to race towards the land at speeds of up to 500 miles per hour – faster than an aeroplane. The waves can cross an entire ocean in less than one day without losing energy.

When the tsunami is far from the shore, it can be hard to detect; this is because the energy is moving through the entire depth of the water and the waves of the tsunami can be as small as one metre tall. However, as the tsunami gets closer to shore and the water of the ocean becomes shallower, there is less water for the huge amount of energy to move through. This causes the waves to slow down but, when they do so, the water becomes much taller.

If the trough of the tsunami reaches the shallow water of the shore first, it can make the ocean seem as if it is withdrawing back on itself much further than normal. It is this phenomenon, coupled with the unrivalled height of the waves created (around ten times of those seen during average storms), that are key features of a tsunami.

Destructive Power

Due to their rapid yet barely noticeable journey across the ocean, it is not always possible to spot a tsunami with enough time to act. With humanly constructed defences unable to stand up the sheer power of the tsunami, immediate devastation of all structures occurs. Boulders are lifted, buildings are destroyed and vehicles are swept away as the water races up to one mile inland before retreating back away from the coast carrying all debris with it.

Additionally, contrary to popular belief, a tsunami is not just one wave (it is a series of waves commonly known as a 'wave train') and it is not always the first wave of a tsunami which is most destructive. As tsunami waves are very long, they can reach the shore as far as one hour apart, giving survivors a false sense of security.

Preventative Measures

As trying to stop a tsunami is futile, scientists focus instead on developing ways of detecting tsunamis earlier so that people can be safely evacuated. They use advanced systems to monitor underwater activity which may indicate an earthquake or eruption is imminent and they invest time and effort into ensuring that global communication systems are quick, effective and extensive.

Questions

1. Which of these statements are true? Tick **two**.
   - ○ The origin of the word tsunami is Japanese.
   - ○ The word tsunami translates as 'great wave'.
   - ○ The word tsunami is pronounced 'too-nah-mee'.
   - ○ The meaning of the word tsunami is 'harbour wave'.

2. Number the sub-headings below to show the order in which they appear in the text.
   - ☐ Formation of a Tsunami
   - ☐ Key Distinctions
   - ☐ Preventative Measures
   - ☐ Origins of the Name
   - ☐ Destructive Power

3. Find and copy one word from the section **Origin of the Name** which means the same as 'occurrence'.

   _____

4. **...coupled with the unrivalled height of the waves created...**
   Why did the author choose to use the word 'unrivalled' in this sentence?

   _____

5. Look at the section called **Destructive Power**.
   Find and copy a phrase which shows that the fact given would surprise a lot of people.

   _____

6. Briefly explain how tsunamis got their name.

   _____

   _____

   _____

7. Summarise the key differences between tsunamis and tidal waves.

   _____

   _____

   _____

8. What events can generate enough energy to cause a tsunami?

9. Why are tsunamis hard to detect when far from the shore?

10. Tsunamis are the most dangerous natural force on Earth.
Do you agree with this statement? Fully explain your answer using evidence from the text.

visit twinkl.com

Learning Intention: To use the indefinite articles 'a' and 'an' correctly.

Article: an article is an adjective. Like adjectives, articles modify nouns.

English has two articles: **the** and **a/an**.

The is the *definite* article and is used to refer to specific or particular nouns.

A/an are the *indefinite* articles and are used to modify non-specific or non-particular nouns.

When to use indefinite articles:

A – when the noun your introducing begins with a **consonant** sound. E.g. a **d**og

An – when the noun you are introducing begins with a **vowel** sound. E.g. an **e**gg

There are some exceptions:

Words beginning with a silent 'h' use 'an'. (an hour)

When words that begin with the letter 'u' but make the 'y' sound (as in you) use 'a'. (a union)

When words that begin with the letter 'o' but make the 'w' sound (as in won) use 'a'. (a one-legged man)

Activity 1:

As a class decide which indefinite article introduces each noun.

____ cat

____ estimate

____ year

____ witch

____ anteater

____ one-eyed monster

____ unicorn

____ orbit

____ buffalo

____ honour

____ purple onion

___ uprising

Activity 2:

Complete the following sentences in your workbook and include the correct indefinite article.

1. The girl wanted ___ ice cream.
2. Jesse went to the circus and saw ___ elephant.
3. She unlocked the door with ___ golden key.
4. ___ one-eyed monster lives under my bed.
5. Instead of ___ brand new car, Dad bought ___ used one.
6. Do you have ___ angel or ___ star on top of your Christmas tree?
7. I was thinking of ___ better option.
8. My dad is ___ accountant.
9. My mum is ___ lawyer.
10. She has never been given ___ opportunity as good as this.

English Thursday Week 1 Lesson 1 Hiku

The concept of a Haiku: a Japanese poem of seventeen syllables, in three lines of five, seven, and five, traditionally evoking images of the natural world.
Have a look at the following example of a Haiku poem:

A sunlit forest. (5)
The endless sounds of chopping. (7)
Busy parking lot. (5)
By Alex J

Can you identify the syllables?
Now you have a turn, write a Haiku on a part of your natural environment around you.
Here are some student samples from our recent Haiku competition:

Wildlife once roamed free, *Sadly, now trapped in cages,* *Is it really right?* (Tara)	*Smoke corrupts the sky.* *Unbreathable oxygen.* *How come we don't stop?* (Jared)	*Once a small crawler* *Now an angel of the sky* *Such a fragile life* (Kaitlyn)	*The icy land thrives* *Moving figures hide from it* *A creature of snow* (Abhi)
A beautiful fire *A sizzle from the back room* *Break, crash, bang, they fall* (Kurtis)	*Our world is dying,* *Wonder turning to horror* *In front of our eyes.* (Amaya)	*The world, sickly pale* *The wicked fumes, melting us* *Choking on ourselves* (Charles)	*Bees buzz around me* *Making sweet golden honey* *Sleepy bees now rest* (Kobe)
A small daisy grows *In amongst a field of weeds –* *The light in the dark* (Elsie)	*The bright fiery sun,* *It shines till an endless day,* *A powerful force.* (Lydia)	*Polluting the sea,* *No respect for the Pontos.* *Oceanus is mad.* (Darcy)	*Birds fly gracefully;* *Landing on soft arctic snow,* *A land of pillows.* (Aidan)

You can start by using one of theirs and changing a word or two. Then try and do one all on your own.

Use the Seven Steps to help you with your Haiku.

Step	Top Tip
Step 1: Plan for Success	When planning your haiku, brainstorm personal experiences (memories are okay) to produce haiku poems that are authentic and believable.
Step 3: Tightening Tension	Create a division somewhere in the poem, by focusing first on one thing, then on another to build tension.
Step 5: Show, Don't Tell	Create an emotional response in the reader by 'showing' them what caused your emotion, rather than 'telling' them about the emotion itself.
Step 6: Ban the Boring	Avoid rhymes, metaphors and similes – they are too abstract for a haiku.
Step 7: Exciting Endings	Create contrast and an Exciting Ending by focusing on something completely different in the third line and surprising the reader.

Friday

Poets contemplate small snippets of time and can use imagery in their language. You are to use these sentences as inspiration to write your own Haiku poem

He felt like the flowers were waving hello.

The F-16 swooped down like an eagle after its prey.

The lake was left shivering by the touch of morning wind.

The pot was as red as a tongue after a cherry-flavoured ring pop.

The music coursed through us, vibrating through our bodies as if it came from within.

The giant tree was ablaze with the orange, red, and yellow leaves that were beginning to make their descent to the ground.

Remember: A haiku is a way of looking at the physical world and seeing something deeper, like the very nature of existence.

NUMERACY NINJAS

5 MINUTE SKILL CHECK

WEEK 23 SESSION 1 - Answer as many questions as you can in 5 mins

MENTAL STRATEGIES - do these in your head

Q	Question	Answer
1	☐ + 7 = 10	
2	20 = ☐ + 12	
3	What is double 1?	
4	Double 65	
5	Halve 89	
6	136 + 20 = ☐	
7	80 + 79 = ☐	
8	48 + 11 = 48 + 2 + ☐	
9	6 + 150 = ☐	
10	95 + 93 = 95 + 90 + ☐	
	Total out of 10	

TIMESTABLES - do these in your head

Q	Question	Answer
1	12 ÷ 3 = ☐	
2	☐ ÷ 2 = 3	
3	10 × 8 = ☐	
4	☐ × 10 = 30	
5	☐ ÷ 4 = 8	
6	18 ÷ 2 = ☐	
7	10 × ☐ = 30	
8	12 ÷ ☐ = 6	
9	45 ÷ 5 = ☐	
10	18 ÷ ☐ = 6	
	Total out of 10	

KEY SKILLS - you may use written calculations for these questions

Q	Question	Answer
1	372 ÷ 4 = ☐	
2	15 ÷ 5 − 3	
3	255.6 ÷ 6	
4	100 × 1.19	
5	84 − 4.6	
6	If a = 1, b = 5 and c = 4, what is the value of $4b^3$?	
7	(−7) − (−9)	
8	Is 9 a factor of 29?	
9	What is the positive square root of 121?	
10	What is 50% of £340?	
	Total out of 10	

NUMERACY NINJAS

5 MINUTE SKILL CHECK

WEEK 23 SESSION 3 - Answer as many questions as you can in 5 mins

MENTAL STRATEGIES - do these in your head

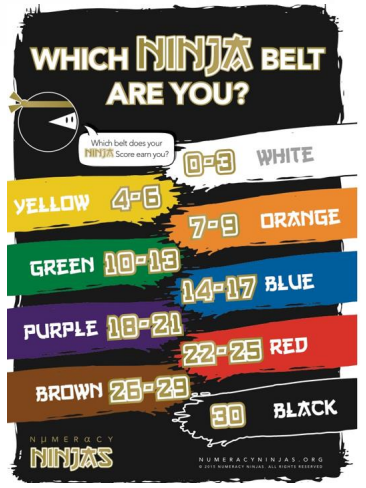
Q	Question	Answer
1	10 = ☐ + 3	
2	☐ + 19 = 20	
3	What is double 2?	
4	Double 55	
5	What is half of 94?	
6	124 + 60 = ☐	
7	51 + 49 = ☐	
8	1 + 10 = 1 + 9 + ☐	
9	4 + 777 = ☐	
10	53 + 14 = 53 + 10 + ☐	
	Total out of 10	

TIMESTABLES - do these in your head

Q	Question	Answer
1	3 × 7 = ☐	
2	8 ÷ ☐ = 4	
3	☐ × 3 = 30	
4	☐ × 3 = 9	
5	4 × 5 = ☐	
6	8 ÷ 2 = ☐	
7	80 ÷ ☐ = 8	
8	☐ × 4 = 8	
9	30 ÷ 5 = ☐	
10	☐ × 4 = 12	
	Total out of 10	

KEY SKILLS - you may use written calculations for these questions

Q	Question	Answer
1	112 ÷ 4 = ☐	
2	4 ÷ 4 − 1	
3	24.58 ÷ 0.5	
4	100 × 0.63	
5	20 − 1.54	
6	If a = 8, b = 4 and c = 1, what is the value of $3a - b^2$?	
7	(−9) − (−3)	
8	List all the factors of 5	
9	What is the positive square root of 64?	
10	What is 35% of £190?	
	Total out of 10	



NUMERACY NINJAS

5 MINUTE SKILL CHECK

WEEK 23 SESSION 2 - Answer as many questions as you can in 5 mins

MENTAL STRATEGIES - do these in your head

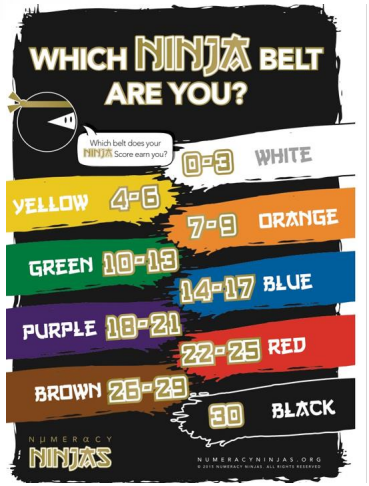
Q	Question	Answer
1	☐ + 1 = 10	
2	20 = 16 + ☐	
3	What is double 3?	
4	What is double 70?	
5	What is half of 25?	
6	186 + 20 = ☐	
7	61 + 59 = ☐	
8	19 + 7 = 19 + 1 + ☐	
9	6 + 486 = ☐	
10	68 + 89 = 68 + 80 + ☐	
	Total out of 10	

TIMESTABLES - do these in your head

Q	Question	Answer
1	3 × ☐ = 24	
2	☐ × 5 = 10	
3	10 × 3 = ☐	
4	3 × ☐ = 12	
5	16 ÷ 4 = ☐	
6	2 × 6 = ☐	
7	☐ ÷ 10 = 6	
8	18 ÷ 2 = ☐	
9	☐ ÷ 5 = 10	
10	21 ÷ 3 = ☐	
	Total out of 10	

KEY SKILLS - you may use written calculations for these questions

Q	Question	Answer
1	54 ÷ 3 = ☐	
2	16 ÷ 4 − 1	
3	8.9 ÷ 0.2	
4	1000 × 32.987	
5	93.96 − 89.3	
6	If a = 5, b = 6 and c = 10, what is the value of 2ab − c ?	
7	(−4) − (−10)	
8	List all the factors of 35	
9	What is the value of (−1) squared?	
10	What is 70% of £60?	
	Total out of 10	



NUMERACY NINJAS

5 MINUTE SKILL CHECK

WEEK 23 SESSION 4 - Answer as many questions as you can in 5 mins

MENTAL STRATEGIES - do these in your head

Q	Question	Answer
1	10 = ☐ + 5	
2	2 + ☐ = 20	
3	Double 8	
4	Double 53	
5	What is half of 97?	
6	150 + 50 = ☐	
7	46 + 49 = ☐	
8	35 + 11 = 35 + 5 + ☐	
9	3 + 570 = ☐	
10	75 + 87 = 70 + 80 + ☐	
	Total out of 10	

TIMESTABLES - do these in your head

Q	Question	Answer
1	☐ × 6 = 18	
2	☐ × 7 = 14	
3	70 ÷ ☐ = 7	
4	3 × ☐ = 24	
5	4 × 6 = ☐	
6	☐ ÷ 2 = 10	
7	10 × 5 = ☐	
8	2 × ☐ = 10	
9	5 × ☐ = 45	
10	15 ÷ ☐ = 5	
	Total out of 10	

KEY SKILLS - you may use written calculations for these questions

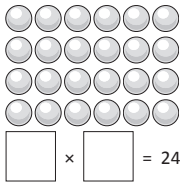
Q	Question	Answer
1	63 ÷ 3 = ☐	
2	9 + 2 ÷ 2	
3	8.12 ÷ 0.1	
4	82.369 × 100	
5	96 − 3.1	
6	If a = 5, b = 5 and c = 10, what is the value of ac / 2b ?	
7	(−9) − (−2)	
8	Is 12 a factor of 29?	
9	What is the positive value of √144?	
10	What is 100% of £70?	
	Total out of 10	

Types of numbers – prime and composite numbers

A factor is a number that divides equally into another number.
5 × 4 = 20
20 arranged in 5 rows means 4 in each row.
5 and 4 are factors of 20.

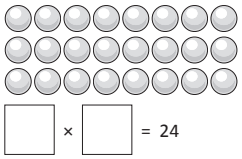
1 **How many ways can 24 objects be arranged? Use the arrays below to complete the facts:**

a



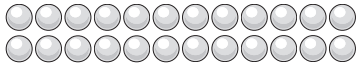
□ × □ = 24

b



□ × □ = 24

c



□ × □ = 24

d

□ × □ = 24

24 can be arranged in many different ways. The factors of 24 are 1, 2, 3, 4, 6, 8, 12 and 24.

Composite numbers are numbers with more than two factors.
24 is a composite number.
A prime number is only divisible by 1 so has only two factors: 1 and itself. 7 is a prime number.

2 **How many ways can 12 objects be arranged?**

Draw all the combinations you can think of:

Types of numbers – prime and composite numbers

Eratosthenes (276 BC – 194 BC) was a Greek mathematician who developed a clever way to find prime numbers.

3 **Find all the prime numbers in the hundred grid below. (Do not shade the number itself as it is not a multiple.)**

a Cross out 1 since it is not prime.
b Shade all the multiples of 2.
c Shade all the multiples of 3.
d Shade all the multiples of 5.
e Shade all the multiples of 7.
f The remaining numbers are prime numbers, apart from 1 which is a special case. List them:

_____

_____

The Sieve of Eratosthenes

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

4 **Circle the prime numbers. Use the Sieve of Eratosthenes to help you.**

65	89	47	94	25	43
11	27	32	19	21	65
7	53	99	87	26	13

Types of numbers – mixed practice

1 **Work out what the secret numbers are. Assume all numbers are positive, unless stated otherwise.**

a I am the only even prime number. I am _____.

b I am one of the two numbers that are neither prime nor composite. I am not zero.

I am _____.

c I am a 2 digit number. I am less than 40. I am a prime number and my second digit is smaller than my first number. I am _____.

d I am the negative number closest to positive numbers. I am _____.

e I am the 5 digit negative number furthest from zero. I am _____.

f I am the largest 5 digit number where no number is repeated. I am _____.

g I am the largest 4 digit number that uses the 4 smallest prime numbers. I am _____.

h I am a prime number. My digits add to total the smallest prime number. I am _____.

2 **In these next questions, there is more than 1 possible answer.**

a Look at the number 1 000 855.

Write 5 numbers that are larger than this with the same number of digits.

_____

Write 5 numbers that are smaller.

_____

b Rounded to the nearest 100 km, my train trip was 3 000 km long. How long could it have been? How many answers to this question can you find?

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Types of numbers – Roman numerals

The numerals we use are part of the Hindu–Arabic numeral system. It is believed to have been invented in India and transmitted by the Moors (Arabs). Europeans adopted the system in the 12th century.

The Romans had their own system.

Study this Hindu–Arabic to Roman numerals conversion table.

Hindu–Arabic	Roman	Hindu–Arabic	Roman
0		20	XX
1	I	30	XXX
2	II	40	XL
3	III	50	L
4	IV	60	LX
5	V	70	LXX
6	VI	80	LXXX
7	VII	90	XC
8	VIII	100	C
9	IX	500	D
10	X	1 000	M

In the Roman system:

- You can have 4 numerals in a row such as IIII but it is customary to write IV.
- If you put a smaller number in front of a larger number, the smaller number is subtracted from the larger one (XL = 50 − 10 = 40).
- There is no zero.

1 **Express the following numbers in Roman numerals:**

a 5 ☐ **b** 6 ☐

c 50 ☐ **d** 51 ☐

e 63 ☐ **f** 10 ☐

g 12 ☐ **h** 55 ☐

i 138 ☐ **j** 82 ☐

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Types of numbers – Roman numerals

2 **Convert the following Roman numerals into Hindu–Arabic numerals:**

a VI ☐ **b** XV ☐

c VII ☐ **d** XVI ☐

e LX ☐ **f** LXI ☐

When we are expressing large numbers in Roman numerals, it is useful to work on one place value at a time.

MCCLXXVII = M + CC + LXX + VII
= 1 000 + 200 + 70 + 7
= 1 277

3 **Express the following numbers in Roman numerals:**

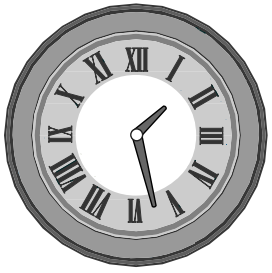
	Thousands	Hundreds	Tens	Units
358				
612				
475				
939				
1 563				

4 **These days, we only use Roman numerals when the credits roll in the movies – and sometimes on our watches!**
These are the 3 top grossing films of all time. When were they made?

a *Star Wars Epsiode IV* was made in MCMLXXVII ☐

b *The Dark Knight* was made in MMVIII ☐

c *Titanic* was made in MCMXCVII ☐



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Collecting and analysing data – frequency tables

Raw data is often collected in a frequency table. Tally marks are a quick way to record numbers. When we're finished, we add the marks to find totals:

Car Types in Car Park	Tally	Frequency
4WD	𝍸 𝍸 𝍸 𝍸	20
Sedan	𝍸 𝍸 𝍸 ||	17
Station wagon	𝍸 𝍸 𝍸 𝍸	20
Hatchback	𝍸 𝍸 ||||	14

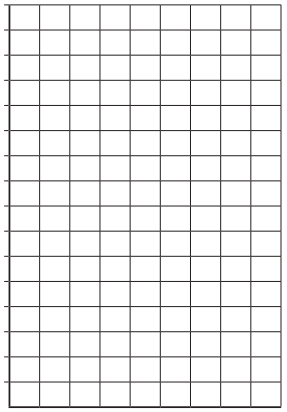
1 **Charlie sold drinks at the beach for an hour each day. He wrote down the drinks he sold each day:**

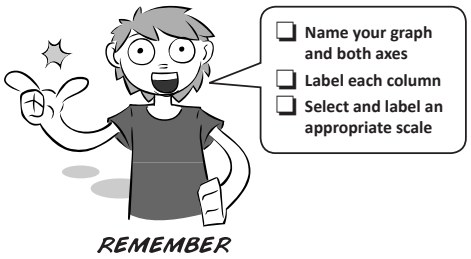
Monday	Coke	Lemonade	Water	Juice			
Tuesday	Juice	Juice	Coke	Coke			
Wednesday	Water	Juice	Juice	Juice	Coke	Lemonade	
Thursday	Water	Water	Water	Coke	Coke	Juice	Lemonade
Friday	Lemonade	Water	Juice	Coke	Coke	Juice	
Saturday	Coke	Coke	Coke	Juice	Juice	Water	Water
Sunday	Lemonade	Lemonade	Coke	Juice	Water	Coke	

a This is a time-consuming way to record data. Show Charlie how to set up a frequency table to record the same data faster. The first one has been done for you.

Type of Drink	Tally	Frequency
Coke	𝍸 𝍸 |||	13
Juice		
Water		
Lemonade		

b Represent your data in a column graph:





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Collecting and analysing data – mean

When we say we're finding the 'average', we're finding the mean. To do so, we add all the scores then divide by the number of scores:

For example, the mean of 2, 3, 4, 5, 6 $= \frac{2+3+4+5+6}{5} = 4$

So if the numbers above represented eggs found by 5 children in an Easter egg hunt, it'd be fairest if each child received 4. Of course, in egg hunts, it's usually every person for themselves!

1 **Find the mean in each set of data by adding the scores and then dividing by the number of scores:**

a 13, 4, 7, 11, 5

$= \frac{13+4+7+11+5}{5}$

$= 40 \div 5$

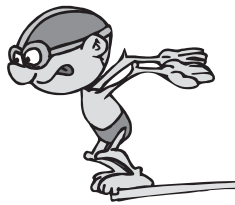
$=$ _____

b 9, 13, 5

c 3, 5, 9, 2, 6

2 **Look at the following diving scores:**

Marita 7.2	Ben 9.4	Ari 4.6	Mia 7.6



a Calculate the mean.

b Who was closest to the mean?

3 **The table below shows the number of goals scored over a 5 week period by 3 football teams:**

	6/3	13/3	20/3	27/3	3/4	Total	Mean
Fantastic Footballers	2	0	2	8		16	
Serious Socceroos	3	2	4	1			3
Dangerous Dribblers	0	0	0	0	15		3

a Complete the table by filling in the missing information.

b Which team has scored the most goals?

c Which team has the highest mean?

d You're thinking of joining either the Serious Socerooos or the Dangerous Dribblers. They both have a mean of 3 goals per game. Which team do you think would be more competitive and why?

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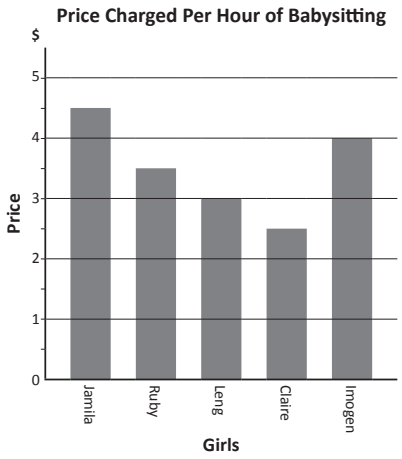
Collecting and analysing data – mean

4 **Emma has just moved into a new neighbourhood and wants to start babysitting. She asks the girls at school what they charge and records this information in a graph:**



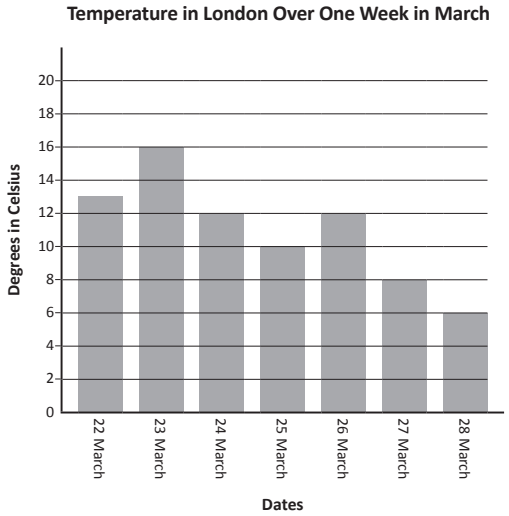
a If Emma wants to undercut all the others, what would you recommend she charge per hour?

b If Emma wants to position herself as an exclusive (expensive) babysitter, what would you recommend she charge per hour?

c Emma decides to charge the mean price per hour. What does she charge?

d Ruby decides to add a booking fee of 50¢ per hour. She reckons if online booking agencies can get away with it, so can she. How does this change the mean price charged by the group?

5 **Here is a graph showing the temperature in London:**



a Calculate the mean temperature for the week:

b If you were travelling to London for the week, what clothes would you pack?

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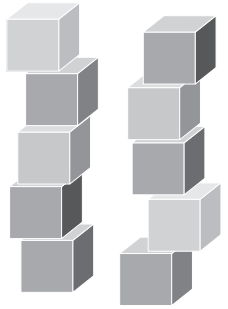
Collecting and analysing data – mean

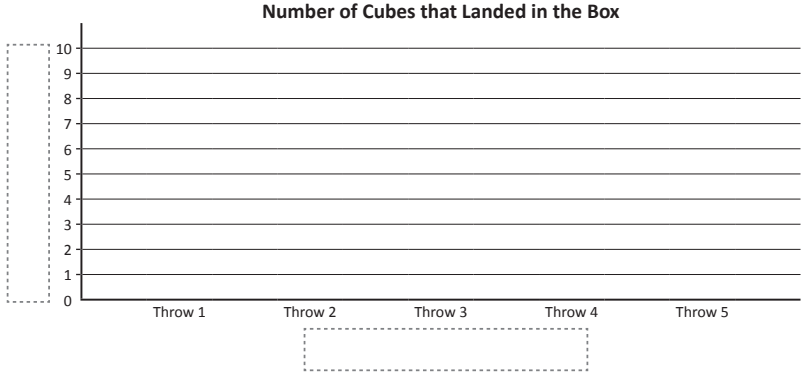
6 **You and a partner are going to record how many cubes land in a box. You will need 10 unifix cubes and an empty lunchbox.**

1. Place the lunchbox 1 metre in front of you.
2. Sit on the floor.
3. Take turns throwing all 10 cubes at the same time.
4. Each record your results in the data table on the right.
5. Repeat the process 5 times.



Throw	Tally
1	
2	
3	
4	
5	

7 **Create a column graph of your results. Label each axis.**



a What is your mean number of cubes that landed in the box?

b What was your partner's mean number of cubes that landed in the box?

c What was the mean of both sets of data together?

d Do you think the mean paints an accurate picture of the process?

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Collecting and analysing data – grouped data

If a large amount of data is gathered in a survey then it needs to be grouped. This makes it much easier to read and make sense of. In this example, 97 people were surveyed to find out the age of people entering a public swimming pool. Notice how the ages were organised into group intervals of similar amounts.

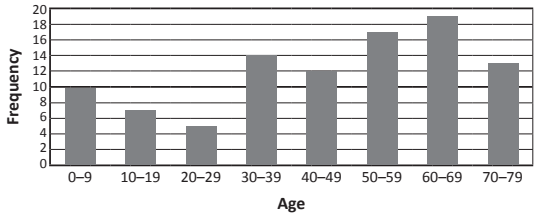
Age of Swimmer

1	11	29	31	40	55	60	77
1	11	22	32	44	51	61	77
3	14	25	39	49	52	62	78
5	16	23	30	44	53	60	71
2	12	22	31	41	55	69	79
7	15		32	40	54	68	76
3	14		39	42	55	61	77
3			36	44	58	66	70
1			39	41	56	60	71
2			30	47	51	65	72
			31	40	50	60	74
			32	48	50	65	73
			32		51	61	70
			37		50	60	
					57	66	
					56	67	
					59	66	
						67	
						69	

Public Swimming Pool Survey

Age	Tally	Frequency
0–9	𝍸 𝍸	10
10–19	𝍸 ||	7
20–29	𝍸	5
30–39	𝍸 𝍸 ||||	14
40–49	𝍸 𝍸 ||	12
50–59	𝍸 𝍸 𝍸 ||	17
60–69	𝍸 𝍸 𝍸 ||||	19
70–79	𝍸 𝍸 |||	13

Public Swimming Pool Survey



From the grouped data we can create a column graph that clearly shows the frequency of each age range.

What do you think this graph would look like if the data wasn't grouped? Yes, it would be a very wide graph.

1 **Your school holds a disco every year. You 5/6 students feel too mature to be surrounded by younger students while strutting your stuff on the dance floor. You petition for 3 separate discos: one for 5–8 year olds, one for 9–10 year olds and one for 11–13 year olds. Your principal wants a breakdown of numbers to see if it is worth all the extra planning and effort. He gives you a 50 student sample from the last disco:**

a Sort it into the appropriate sections on the frequency table:

Student Ages				
7	10	11	5	11
11	9	6	5	12
12	12	6	5	7
12	13	7	11	6
13	7	8	10	8
8	5	9	11	11
9	8	13	9	12
5	9	12	8	13
7	11	11	6	13
12	11	10	7	12

Attendance at Previous Disco		
Age	Tally	Frequency
5–8		
9–10		
11–13		

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Collecting and analysing data – grouped data

2 **These are your class average scores for Level 2 Live Mathletics. Your school maths committee wants to see whether Level 2 is appropriate for your class but doesn't want individual students to be identified in the meeting.**

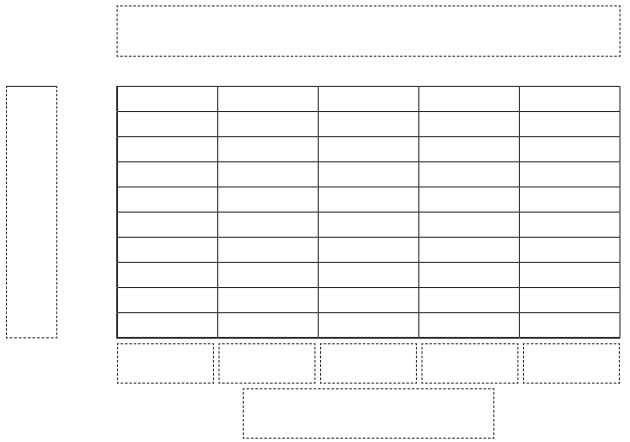
Mia	**45**	Amber	**50**	Jamie	**46**	Paige	**30**	Max	**59**
Omar	**22**	Phoebe	**47**	Jacob	**50**	Nicole	**43**	Dylan	**39**
Pablo	**36**	Natasha	**45**	Ethan	**36**	Abbie	**42**	Sara	**47**
Sean	**39**	Niamh	**23**	Charlie	**23**	Mia	**39**	Sophie	**13**
Thanh	**43**	Zoe	**13**	Bradley	**20**	Imogen	**9**	Yasmin	**50**

a Decide how you will group the data.

b Tally the data in the frequency table. Remember to give it a title and category labels.

Scores	Tally	Frequency

3 **Now take the grouped data from the table above and represent it on a column graph for the committee. Give the graph the appropriate title and labels.**



If a score between 20 and 30 means that the challenge level is about right, what recommendations would you make to the committee for this class?

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Collecting and analysing data – range

The **range** is the spread of data. To find it, we subtract the lowest value from the highest value.

Look at these sets of test scores from 2 different Maths groups. The tests were out of 20.

Group 1	Group 2
20, 19, 15, 11, 18, 4, 3	15, 13, 12, 11, 10
20 – 3 = 17	15 – 10 = 5
Range = 17	Range = 5

Group 1 has a far wider range of abilities. Their teacher will have to plan for kids who get the topic, kids who kind of get it, and kids who need lots of support.

Group 2's range is much smaller. No one has really mastered the concept and no one has really struggled. The teacher will have fewer different needs to meet.

1 **Warm up with these. Find the range for each set of numbers:**

a 22, 14, 17, 13, 2, 33

b 123, 148, 55, 89, 94, 131

c 4.5, 9.2, 10.7, 11.2

2 **This table shows weekly rental prices for 3 bedroom houses in 2 suburbs:**

Suburb 1	Suburb 2
$755 pw	$980 pw
$364 pw	$150 pw
$195 pw	$1 235 pw
$645 pw	$780 pw
$820 pw	$525 pw

a What is the price range for Suburb 1?

b What is the price range for Suburb 2?

c What do these ranges tell you about the kinds of housing in these suburbs?

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Collecting and analysing data – mean

When we say we are finding the average, we are finding the mean. To do so, we find the sum of all the values and then divide by the number of values:

For example, the mean of 2, 3, 4, 5, 6 = $\frac{2 + 3 + 4 + 5 + 6}{5}$ = 4

The mean is just like fair shares. If all the values were shared out fairly, how many would each group receive?

1 **Warm up with these. Find the mean for each set of numbers:**

a 20, 6, 18, 4

b 13, 7, 5, 8, 3, 2, 4

c 45, 46, 47, 50, 57

2 **Sean wanted to buy new soccer boots and priced the same boots in 4 different stores.**

a What is the average or mean price of the boots?

b If Sean buys the cheapest option, how much less than the mean does he spend?

3 **Imagine these people are all members of a basketball team.**

Tom Cruise	1.73 m
Katie Holmes	1.75 m
Will Smith	1.88 m
David Beckham	1.8 m
Kevin Rudd	1.79 m
Paris Hilton	1.73 m
Hugh Jackman	1.89 m
Nicole Kidman	1.81 m
Nicole Richie	1.55 m

a Calculate the mean height:

b If you wanted your tallest 5 players on court at the same time, who would they be and what is their mean height?

c Tom Cruise pulls rank and subs himself for Hugh Jackman and subs Nicole Richie for Nicole Kidman. What is the mean height of the group on court now?

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MATHAROO
helping kids jump into maths

MATHAROO Worksheet LP – 27 21

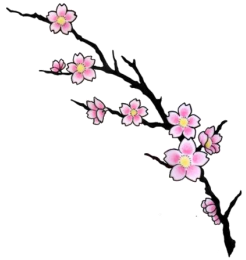
Student Name: _____

Grade:_____ **Date:**_____

1. Spring begins this Wednesday, 1st September. What will be the date of the Wednesday a fortnight later?

2. Zach bought a Father's Day card at the newsagent, for his dad. It cost $2.80. How much change did he get from $5?

3. The Paralympics started last Thursday, and run for 10 days. On what day of the week will they finish?



4. The plum tree at Jude's house had 3 blossoms on it on Monday. If, each day, the number of blossoms doubles, how many blossoms will there be on the tree by Friday of this week?

5. Jess plans to go fishing with her dad on Father's Day. They'll need a dozen worms. If it takes them 3 minutes to find each worm, how long **MAY** it take them to find a dozen worms?

6. Jett went for a bike ride with his mate Evan. They rode at 10 kilometres per hour for half an hour. How far did each of them travel in that time?

7. Three times a number equals 27. What is that number?

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MATHAROO Worksheet MP – 27 21

Student Name: _____

Grade:_____ **Date:**_____

1. Wednesday of this week, 1st September, is the first day of Spring. Are there **MORE** days in spring than in winter? If so, how many more?

2. For Father's Day next Sunday, Henry hopes to give his dad a pair of wooden bookends that he has been making for quite a while in their garage. Each of the bookends is taking him 2 hours 40 minutes to make. How much longer will it take him to finish the bookends, if he has already taken 2 hours and 10 minutes?

3. An exciting Paralympics event is wheelchair rugby. Each team has 6 players, and they try to score goals within four 8-minute quarters. If a match started at 11:30 am, with 5 minutes between each quarter, and no time on, at what time did the half time break begin?

4. The top temperature in Auckland, New Zealand last Thursday was 15°C, whereas the top temperature in Hawaiian Islands that same day was 31°C. Find the **DIFFERENCE** between those two temperatures.

5. Anastasia's dog eats 88 grams of dry dog food each morning, and the same amount in the evening. What weight of the dog food does he eat each day?

6. Channel 7s "**THE VOICE**" TV program topped the ratings last week. It had 1.2 million viewers on Sunday night, and 1.1 million on each of Monday night and Tuesday night. How many viewers was that, for those 3 nights in total? Write your answer <u>in FIGURES</u>.

7. Last week, avocados were selling for 79 cents each at one supermarket. This week they've gone up to $1.49 each. Find the <u>DIFFERENCE IN PRICE</u> for half a dozen avocados bought **THIS WEEK** instead of **LAST WEEK**.

8. A person normally takes 15 breaths each minute, if not exercising. How many breaths, then, would Rosalie take altogether in 5 minutes?

9. <u>Open-ended Question:</u> Geraldine has 37 goldfish in her acquarium at home. Her cousin George has quite a few more goldfish than Geraldine. How many goldfish **MAY** they have altogether? Give 3 possible answers.

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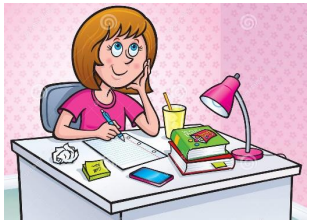
MATHAROO Worksheet UP – 27 21

Student Name: _____

Grade:_____ **Date:**_____



1. For Father's Day next Sunday, Sophie wanted to prepare a very special greeting card for her dad. She started work on the card at 11:42 am on Saturday, and, after working solidly on it for 3 hours and 51 minutes, it was finished. At what time did she finish the card?

2. Our terrific Australian rugby team in the Paralympics lost their first match against Denmark last week, 1 goal to 2 goals. The match took a total of $1\frac{4}{5}$ hours. How many minutes is that?

3. A generous, very kind customer of a coffee shop donated one day's takings to the coffee shop owner, so he could offer **FREE** coffees to his customers all day! Total value of the gift was $1,350. At $4.50 per cup, how many cups of coffee did that $1,350 pay for?

4. The normal rate of breathing is 15 breaths per minute. How many breaths, then, would Leanne take altogether in ¾ of an hour?

5. Channel 7s "**THE VOICE**" TV program topped the ratings last week. It had 1.2 million viewers on Sunday night, and 1.1 million on each of Monday night and Tuesday night. What was the **AVERAGE (MEAN)** number of viewers of the program on these 3 nights?

6. Blueberries are on sale this week at $3.50 for a 125 gram punnet. At that rate, what would be the cost of ¾ of a Kg of blueberries?

7. The **SMELL** of **VEGEMITE** around an old Kraft factory has become part of a Heritage listing. What **PERCENTAGE** of letters in that brand name, **VEGEMITE**, are consonants?

8. Noah collects "**Fast & Furious**" model cars. There are 6 in the set. He already owns $\frac{2}{3}$ of the set. Each car costs $14.99. How much money will he need to complete his set of the cars?

9. **Open-ended Question:** A shop now sells a burgers with "**THE LOT**": it includes a potato cake, a squashed dim sim, a beef patty, some bacon, beetroot, lettuce, tomato, and an egg in a roll. The roll is 7 cm high ***BEFORE*** the ingredients go in. **ESTIMATE** the height of the finished burger in mm .

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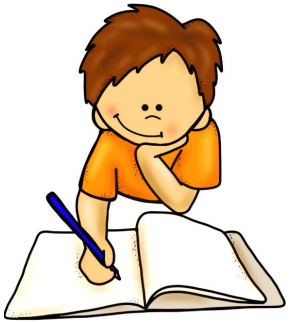
MATHAROO Worksheet EXT – 27 21

Student Name: _____

Grade:_____ **Date:**_____



1. For **Father's Day** this coming Sunday, 5th September, Stanley plans to write his dad a short story. It will include 6 funny things his dad has done over the past 7 years. If each "incident" takes two-thirds of an hour to write, how long will it take him to complete these stories in total?

2. Spring, 2021 begins in Australia on Wednesday of this week, 1st September. If there is some rain in one Aussie town on 40% of the days in spring, how many totally rainless days will there be in that town during spring? (You may need to round off your answer.)

3. In one Aussie state last week, when a fresh supply of Anticovid vaccine became available, the booking website for vaccinations was receiving 48,000 hits per minute from people wanting to make their appointment. At that rate, how long would it have taken to receive a million bookings on the website?

4. Farmer Ben Jackson has remembered his aunt fondly after her recent death.

He "marched" his sheep in the shape of a love heart, as a show of respect. What **FRACTION, and what PERCENTAGE,** of the **COMPLETED** heart shape do you think is showing in the photo on the left? (The **FULL** love heart shape is on the right.) Amazing!! *(You may find that a length of thread will help with your estimate!)*

5. The cost of a 30-second TV commercial in peak viewing time is $15,000. A company selling deodorant at $4.80 RRP per spray pack makes a 25% profit per can. How many spray packs **MUST** they sell to cover the cost of 5 of those TV advertisements?

6. One supermarket is selling bananas at $2.99 for a 750-gram pack. Find the price-per-kilogram for them? (You'll need to round off!)

7. An extra finger was created on the hand of a pianist in London, using robotics, to see if the pianist could learn to use the 11th finger while playing. If an extra finger was "installed" onto **each hand** of a pianist, by what **PERCENTAGE** would the number of that pianist's fingers and thumbs have increased?

8. **OPEN-ENDED QUESTION:** Design a garden bed that covers exactly 14 square metres, but is **NOT** rectangular in shape.

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