Seymour College

Humanities Work Pack 2021
Year 7 – History: Ancient Australia

Learning Intention	Success Criteria
• Understand how we learn about Ancient Australian History • Understand the importance of traditional land management • Exploring traditional Aboriginal creation stories	▪ I can create a timeline using provided events and dates ▪ I can analyse a range of different information sources, both primary and secondary. ▪ I can explain the significance of traditional land management

LESSON 1: 'ANCIENT AUSTRALIA' TIMELINE

Instructions:

- **Read pg. 240-241 and have a look at the different dates/events on the timeline**
- **Copy down the 4 definitions in the bottom left corner**
- **Pick 5 events from the timeline in the textbook and use them to create your own timeline in your workbook or on Microsoft Word. Make sure your events are in the correct chronological order.**
- **Complete questions 1-5 on pg. 241.**

LESSON 2: EVIDENCE OF ANCIENT AUSTRALIA

Instructions:

- **Read pg. 242-245 of your textbook**
- **Compare the traditional Wurrundjeri seasons on pg. 244 with those that you are most likely familiar with.**

Traditional Wurrundjeri seasons	Modern seasons (Autumn, Winter, Spring, Summer)
7 seasons	4 seasons

- **Explain where the Kulin Nation is located using key terms such as North, South, East and/or West, and the names of places.**
- **Complete questions 1-3.**

LESSON 3: ABORIGINAL CREATION STORIES

Instructions:

- **Before you do any reading, answer the following question: *What do you think the term 'Creation Story' means?***
- **Read the two creation stories on pg. 246 – Bunjil the eagle and the Birrarung (Yarra River).**
- **Write a short summary in your own words about the two creation stories.**
- **Use Youtube or google to find another creation story, and write a brief explanation about it**
- **Now that you have completed these tasks, have another go at answering the question: What does the term 'Creation Story' mean?**

LESSON 4: ABORIGINAL LAND MANAGEMENT

Instructions:

- **Watch the following video about Aboriginal land management -** https://www.youtube.com/watch?v=baWHw9rjCIE
- **Complete the following writing task (minimum 100 words):**

Explain the benefits of fire-stick farming (cultural burns) and how Indigenous Fire Practitioners like those shown in the video can help Australia better prepare for bushfires in the future.

You can use textbook pages 248-249 to support your writing also 😊 Good luck!

LESSON 5: RICH TASK – Caring for Country

Instructions:

- **Read pg. 250-251**
- **Look at Sources 1 to 4 and complete the table at the bottom of pg. 251 (pictured below). You will have to draw this table up in your workbook or on Microsoft word.**

	Is it a primary or secondary source?	What kind of source is it? (e.g. painting, photograph, artefact)	Who created the source?	What does the source show or describe?	How does the source show or describe the way Kulin people cared for Country?
Source 1					
Source 2					
Source 3					
Source 4					

Seymour College

English Work Pack 2021
Year 7 – Term 4
Coraline

Learning Intention	**Success Criteria**
We are learning to engage with text	I can: • Read text • Respond in writing • Use reading comprehension skills • Use appropriate language conventions

Instructions for students:

Week 1

Lesson	Focus
1	Research the author. Page 2
2	Chapter summary – fill in the blanks. Page 3
3	Making Inferences. Page 4 - 6
4	Creative writing – change the ending Page 7
5	Create a word bank. Page 8

Week 2

Lesson	Focus
1	Using descriptive language. Page 9
2	Coraline Cross word. Page 10
3	Identifying parts of text. Page 11 – 12
4	Chapter summary – fill in the blanks. Page 13 – 14
5	Write a review. Page 15

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

Learning Intention	Success Criteria
We are learning to read and comprehend text	I can read independently I can record my understand of text using correctly formed sentences

Activity: Research the author
Coraline was originally written by Neil Gaiman who adapted the story from a very old folk lore. Find out what you can about Neil Gaiman. What else has he written? How did he come up with the character of Coraline?

As an extra challenge, see if you can find the original folk tale. What is it about? How is it different to the Coraline story?

If you don't have access to internet, there's some info on Neil Gaiman below.

Neil Richard MacKinnon Gaiman[2] (10 November 1960)[4] is an English author of short fiction, novels, comic books, graphic novels, nonfiction, audio theatre, and films. His works include the comic book series *The Sandman* and novels *Stardust*, *American Gods*, *Coraline*, and *The Graveyard Book*. He has won numerous awards, including the Hugo, Nebula, and Bram Stoker awards, as well as the Newbery and Carnegie medals. He is the first author to win both the Newbery and the Carnegie medals for the same work, *The Graveyard Book* (2008).[5][6] In 2013, *The Ocean at the End of the Lane* was voted Book of the Year in the British National Book Awards.[7]
Gaiman's family is of Polish-Jewish and other Eastern European Jewish origins.[8] His great-grandfather emigrated from Antwerp, Belgium, to the UK before 1914[9] and his grandfather eventually settled in the south of England in the Hampshire city of Portsmouth and established a chain of grocery stores. Gaiman's grandfather changed his original family name of Chaiman to Gaiman.[10] His father, David Bernard Gaiman, worked in the same chain of stores;[11] his mother, Sheila Gaiman (née Goldman), was a pharmacist. He has two younger sisters, Claire and Lizzy.[

In 1984, he wrote his first book, a biography of the band Duran Duran, as well as *Ghastly Beyond Belief*, a book of quotations, with Kim Newman.[17] Even though Gaiman thought he had done a terrible job, the book's first edition sold out very quickly. When he went to relinquish his rights to the book, he discovered the publisher had gone bankrupt.[17][35]

Lesson 2

Learning Intention	Success Criteria
We are learning to read and comprehend text	I can read independently I can select appropriate words to create complete sentences

Activity: Chapter summary – fill in the blanks
Read this chapter of Coraline and fill in the missing words. The words are listed for you at the end so you can check your answers

Chapter 6

In the morning, Coraline feels c_____ and disoriented. She gets dressed and finds that her ____ clears a bit when she puts the stone into her pocket.

The other mother is busy trying to keep the ___ out. The ____ are their friends, but they consider the cat to be _____!

Coraline learns from the other _____ that the other mother created the house, the g_____ and everything in the house (including him) for Coraline. Coraline looks around. She sees something new – a ____ _____ with two little people inside it. It's on the _____.

Outside, as _____ moves away from the house, she encounters a ____ of nothingness. The other world doesn't extend past the _____. The cat is outside. He _____ a rat before killing it. This upsets Coraline. The cat explains that the rats are all _____ for the other mother.

Back in the house, Coraline looks in the mirror hoping to see her _____. They are no longer there. The other mother approaches Coraline, who notices that she has no r_____ in the mirror.

Coraline is d_____ when the other mother munches on large black _____ as if they were toffees. She refuses to play the part of loving d_____ to the other mother. As a punishment for ____, the other mother opens the _____ and locks Coraline inside it.

Coraline, cat, father, beetles, mirror, daughter, confused, rats, grounds, snow globe, mist, tortures, house, reflection, parents, disgusted, this, mantelpiece, vermin, head, spies

Lesson 3

Learning Intention	**Success Criteria**
We are learning to infer meaning in text	I can read independently I can identify the feelings of characters in text I can find evidence to support my ideas

Activity: Making Inferences
Read through the extract from the beginning of Croaline and answer the following questions.
How does she feel when she first moves into the new house? How do you know?
Does her mood change at any point during this part of the text? Underline where you think she starts to feel differently.
Highlight the words that show you how she's feeling.

That was how she spent her first two weeks in the house – exploring the garden and the grounds.

Her mother made her come back inside for dinner, and for lunch; and Coraline had to make sure she dressed up warm before she went out, for it was a very cold summer that year; but go out she did, exploring, every day until the day it rained, when Coraline had to stay inside.

"What should I do?" asked Coraline.

"Read a book," said her mother. "Watch a video. Play with your toys. Go and pester Miss Spink or Miss Forcible, or the crazy old man upstairs."

"No," said Coraline. "I don't want to do those things. I want to explore."

"I don't really mind what you do," said Coraline's mother, "as long as you don't make a mess."

Coraline went over to the window and watched the rain come down. It wasn't the kind of rain you could go out in, it was the other kind, the kind that threw itself down from the sky and splashed where it landed. It was rain that meant business, and currently its business was turning the garden into a muddy, wet soup.

Coraline had watched all the videos. She was bored with her toys, and she'd read all her books.

She turned on the television. She went from channel to channel to channel, but there was nothing on but men in suits talking about the stock market, and schools programmes. Eventually, she found something to watch: it was the last half of a natural history programme about something called protective coloration. She watched animals, birds and insects which disguised themselves as leaves or twigs or other animals to escape from things that could hurt them. She enjoyed it, but it ended too soon, and was followed by a programme about a cake factory.

It was time to talk to her father.

Coraline's father was home. Both of her parents worked, doing things on computers, which meant that they were home a lot of the time. Each of them had their own study.

"Hello Coraline," he said when she came in, without turning round.

"Mmph," said Coraline. "It's raining."

"Yup," said her father. "It's bucketing down."

"No," said Coraline, "It's just raining. Can I go outside?"

"What does your mother say?"

"She says you're not going out in weather like that, Coraline Jones."

"Then, no."

"But I want to carry on exploring."

"Then explore the flat," suggested her father. "Look, here's a piece of paper and a pen. Count all the doors and windows. List everything blue. Mount an expedition to discover the hot-water tank. And leave me alone to work."

"Can I go into the drawing room?" The drawing room was where the Jones's kept the expensive (and uncomfortable) furniture Coraline's grandmother had left them when she died. Coraline wasn't allowed in there. Nobody went in there. It was only for best.

"If you don't make a mess. And you don't touch anything."

Coraline considered this carefully, then she took the paper and pen and went off to explore the inside of the flat.

She discovered the hot water tank (it was in a cupboard in the kitchen).

She counted everything blue (153).

She counted the windows (21).

She counted the doors (14).

Of the doors that she found, thirteen opened and closed. The other, the big, carved, brown wooden door at the far corner of the drawing room, was locked.

She said to her mother, "Where does that door go?"

"Nowhere, dear."

"It has to go somewhere."

Her mother shook her head. "Look," she told Coraline.

She reached up, and took a string of keys from the top of the kitchen door frame. She sorted through them carefully, and selected the oldest, biggest, blackest, rustiest key. They went into the drawing room. She unlocked the door with the key.

Lesson 4

Learning Intention	**Success Criteria**
We are learning to write creatively write creatively	I can develop original ideas I can plan my writing I can write using appropriate language conventions

Activity: Creative writing – change the ending

Imagine you are the author of Coraline. Is there another way this story could end? Could Coraline have been stuck forever? Could she have turned evil like the Beldam?

Come up with an alternative ending for this story.

Lesson 5

Learning Intention We are learning to	Success Criteria

Activity: Create a word bank (word searches)

Coraline – Word Search Puzzle (1)

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

APRIL
BELDAM
BUTTONS
CAT
CELLAR
CHILDREN
CORALINE
DOGS
DOOR
GHOST
GLOBE
HAMISH
HAND
JONES
KEY
MARBLES
MIRIAM
MIRROR
MISS FORCIBLE
MISS SPINK
MR BOBO
PICNIC
RATS
SOUL
STONE
WEASEL
WELL

1. Find each of the words in the grid above.

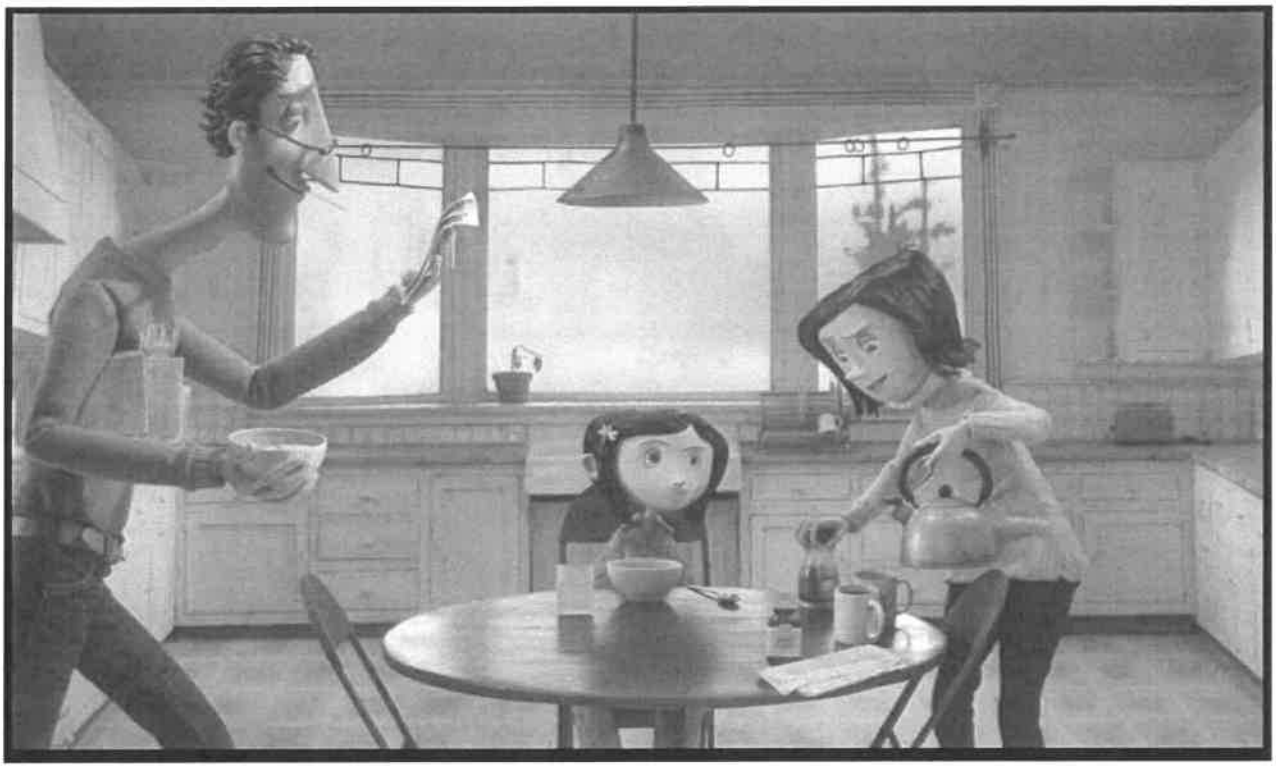
2. Show your knowledge of each word and its importance in the plot of *Coraline* by writing one sentence about the story that includes that word.

Week 2

Lesson 1

Learning Intention	**Success Criteria**
We are learning to use descriptive language	I can brainstorm descriptive words I can show my understanding of the text

Activity: Using the still from the Coraline film, brainstorm all the descriptive words they can think of that fit the image.
As an extension, write a short descriptive paragraph using your brainstormed words to fit that scene.



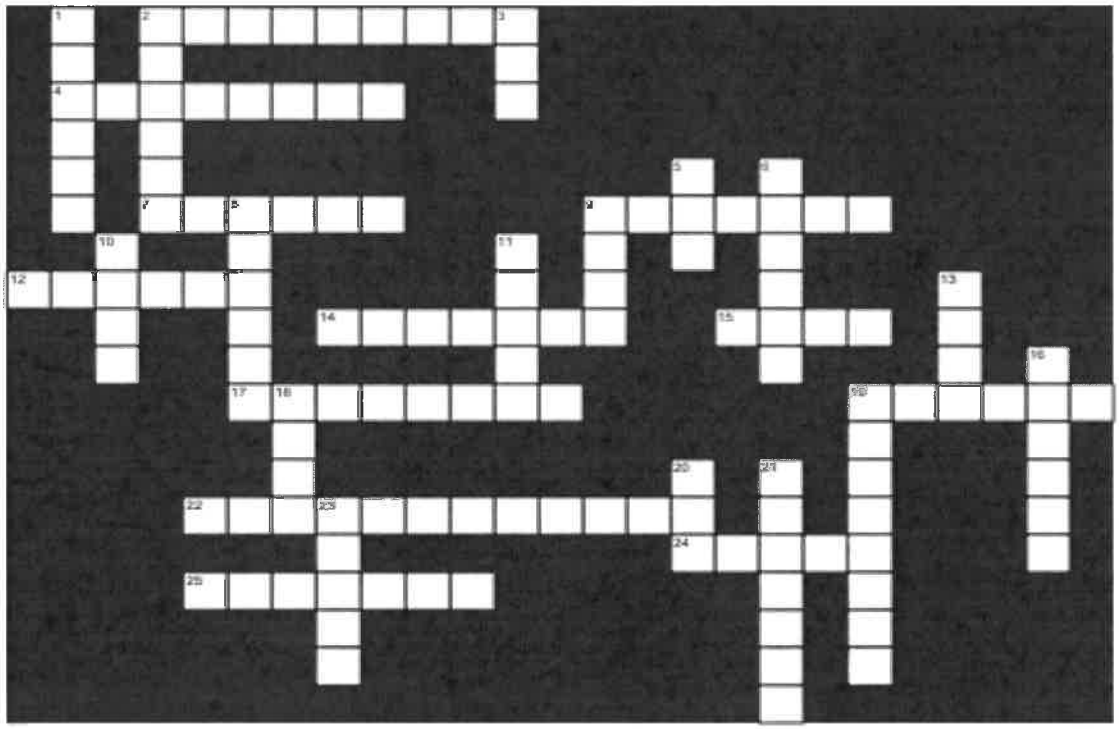
Lesson 2

Learning Intention	Success Criteria
I can read and comprehend text	I can complete the crossword below

Activity: Demonstrate your understanding of Coraline by completing the crossword below.

Coraline

by Neil Gaiman



ACROSS

2 Retired actress who lives in another apartment in the same house as Coraline (4,5)
4 Heroine who loves exploring and who gets into a very dangerous situation (8)
7 Elderly man who lives in an upstairs apartment in Coraline's house, and who trains a mouse circus (2,4)
9 The door to the other world in the _____ room in Coraline's apartment (7)
12 Mr Bobo thinks that The Beldam's hand, which hurt Hamish and upset his mice, might be a w_____ (6)
14 Coraline's other parents have black _____ for eyes (7)
15 Access to the other world is through a _____ which sometimes has a brick wall behind it (4)
17 Coraline's mother (3,5)
19 The Beldam punishes the other father by locking him in the _____ of the empty apartment (6)
22 Miss Spink's friend; another retired actress (4,8)
24 First name of Miss Spink (5)
25 Coraline's father (2,5)

DOWN

1 Coraline organises a _____ for her dolls to trap the Beldam's hand (6)
2 First name of Miss Forcible (6)
3 After her escape, Coraline is still in danger because The Beldam is desperate to recover the ___ (3)
5 This black animal who moves from the real to the other world helps Coraline by killing a rat (3)
6 The other mother punishes Coraline by trapping her in this place. It is where Coraline meets three ghost children (6)
8 Coraline's other mother is also known as The _____, a word which means witch or hag (5)
9 Pets owned by Miss Spink and Miss Forcible, all of whom have Scottish names (4)
10 This part of the other mother comes into Coraline's world to get the key (4)
11 The other mother hides Coraline's real parents in a snow _____ (5)
13 The actresses warn Coraline about this dangerous deep hole in the ground. Coraline finally traps the hand in this place (4)
16 Scottie dog who is hurt by the hand of the Beldam (6)
18 The Beldam likes these disgusting creatures, and they spy for her (4)
19 This is what Mr Bobo mistakenly calls Coraline (6)
20 Miss Spink and Miss Forcible read ___ leaves to predict the future (3)
21 Coraline finds the souls of the ghost children in the form of _____ (7)
23 The retired actresses give Coraline a _____ with a hole in it as a good luck charm, and it proves very useful to her (5)

WORDS USED IN THIS PUZZLE: Coraline, MrsJones, MrJones, MissSpink, MissForcible, April, Miriam, MrBobo, Hamish, Beldam, door, tea, stone, drawing, buttons, rats, dogs, cat, globe, mirror, marbles, cellar, picnic, hand, weasel, key, well, Caroline.

Lesson 3

Learning Intention	Success Criteria
I can identify different types of words	I can read the text I can highlight the nouns, verbs and adjectives

Activity: Identifying parts of text (nouns, verbs, adjectives)
Use the extract below from Coraline to identify the Nouns (naming words), Verbs (doing words) and Adjectives (descriptive words)
Highlight each set in a different colour.

The door swung open.

Her mother was right. The door didn't go anywhere. It opened onto a brick wall.

"When this place was just one house," said Coraline's mother, "that door went somewhere. When they turned the house into flats, they simply bricked it up. The other side is the empty flat on the other side of the house, the one that's still for sale."

She shut the door, and put the string of keys back on top of the kitchen door frame.

"You didn't lock it," said Coraline.

Her mother shrugged. "Why should I lock it?" she asked "It doesn't go anywhere."

Coraline didn't say anything.

It was nearly dark outside now, and the rain was still coming down, pattering against the windows and blurring the lights of the cars in the street outside.

Coraline's father stopped working, and made them all dinner.

Coraline was disgusted. "Daddy," she said, "you've made a recipe again."

"It's leek and potato stew, with a tarragon garnish, and melted Gruyere cheese," he admitted.

Coraline sighed. Then she went to the freezer, and got out some microwave chips, and a microwave mini pizza.

"You know I don't like recipes," she told her father, while her dinner went around and around, and the little red numbers on the microwave oven counted down to zero.

"If you tried it, maybe you'd like it," said Coraline's father, but she shook her head.

That night, Coraline lay awake in her bed. The rain had stopped, and she was almost asleep when something went tatatatatat. She sat up in bed.

Something went Kreeee ...

....aaaak

Coraline got out of bed and looked down the hall, but saw nothing strange. She walked down the hall. From her parents' bedroom came a low snoring – that was her father – and an

occasional sleeping mutter – that was her mother.

Coraline wondered if she'd dreamed it, whatever it was.

Something moved.

It was little more than a shadow, and it scuttled down the darkened hall fast, like a little patch of night.

She hoped it wasn't a spider. Spiders made Coraline intensely uncomfortable.

The black shape went into the drawing room, and Coraline followed it in, a little nervously.

The room was dark: the only light came from the hall, and Coraline, who was standing in the doorway, cast a huge and distorted shadow onto the drawing room carpet: she looked like a thin giant woman.

Coraline was just wondering whether or not she ought to turn on the lights when she saw the black shape edge slowly out from beneath the sofa. It paused, and then dashed silently across the carpet toward the farthest corner of the room.

There was no furniture in that corner of the room.

Coraline turned on the light.

There was nothing in the corner. Nothing but the old door that opened onto the brick wall.

She was sure that her mother had shut the door, but now it was ever so slightly open. Just a crack. Coraline went over to it, and looked in. There was nothing there – just a wall, built of red bricks.

Coraline closed the old wooden door, turned out the light, and went to bed.

She dreamed of black shapes that slid from place to place, avoiding the light, until they were all gathered together under the moon. Little black shapes with little red eyes and sharp yellow teeth.

They started to sing, i> We are small but we are many

We are many we are small

We were here before you rose

We will be here when you fall.

Their voices were high and whispering and slightly whiney. They made Coraline feel uncomfortable.

Lesson 4

Learning Intention	**Success Criteria**
We are learning to read and comprehend text	I can read independently I can select appropriate words to create complete sentences

Activity: Chapter summary – fill in the blanks
Read this final chapter of Coraline and fill in the missing words. The words are listed for you at the end so you can check your answers.

Chapter 13

As she lies on her bed, the _____ under Coraline's pillow break. All that remains are the broken outsides of the glass _____. The ghost children are ____. Coraline places the marble fragments in a small blue ___.

She _____ Misses Spink and Forcible. Once again they ____ her tea leaves. The news is better this time. Everything looks ____, except for something that looks like a ____?

_____, one of their dogs, has been injured in a fight. He has a deep gash that needs the vet's _____. Coraline thinks that the hand is responsible.

The weird old man from upstairs tells Coraline that something has _____ his mice. He thinks that it's a _____. Coraline knows better. She knows that it is the hand, and it's _____ for the key.

Coraline sleeps badly, but during the night she comes up with a ____.

In the morning, she gets a tablecloth from her _____. She is going to have a _____ with her dolls. She pretends that she is going to the _____. When she's out of sight of the _____, she doubles back to the garden. There, she removes the planks from the top of the dangerous ____. She spreads the tablecloth carefully over the top of the well, keeping it in place with dolls' cups of _____ at the edges. Then she goes back to the house.

She visits Misses _____ and Forcible again. While she's there she learns the name of the weird old man. It's Mister ____. She announces her intention of playing with her _____ near the tennis court. Coraline mentions the key l_____ before she leaves. She is hoping that the hand knows where she's going and that she has the key.

Coraline returns to her dolls at the well, which is h_____ under the tablecloth. She places the ___ in the middle of the _____ tablecloth.

_____, the hand appears. It rushes on to the paper tablecloth and _____ the key. The weight of the hand cannot be supported by the ____ paper. The _____, the key and the hand fall down into the _____ of the well. Coraline covers the well with the heavy _____, trapping the hand.

The cat re-appears and _____ in contentment. Coraline meets Mister Bobo, who is delighted that his mice now feel safe. They have told him that _____ is responsible for this. Coraline once again tells him her ____ name, and for the first time, he gets it right.

Coraline returns the _____ to Miss Spink and Miss _____. She hugs them, which delights them. That night Coraline has sweet _____.

Suddenly, Forcible, planks, purrs, hidden, loudly, Spink, well, shops, picnic, marbles, gone, cloth, thin, grabs, visits, hand, Hamish, frightened, plan, dreams, stone, real, Coraline, darkness, key, paper, Bobo, dolls, spheres, weasel, box, good, read, mother, attention, searching, water, house

Lesson 5

Learning Intention	**Success Criteria**
We are learning to write response texts	I can plan my writing I can structure sentences correctly I can justify my ideas

Activity: Write a reflection

What did you think about Coraline? Did you enjoy it?

Write a personal reflection detailing the parts of the film or story you enjoyed and the things you didn't like so much.

If you can, Include in your paragraph comments about the setting, characters and plot or as an extra challenge, include comments on any text-to-text, text to self or text to world connections you could make.

Year 7

Pack 4 - Week 18/10 to 29/10 Instructions

Lesson	Content	Completed?
Lesson 1	Lesson 11 - Electromagnetism Activity: static electricity and balloons, Activity: build an electromagnet, Video: moving metal in a junkyard	
Lesson 2	Lesson 12 - Machines Levers Activity: identify different levers on their bicycle, Video: ancient trebuchet)	
Lesson 3	Lesson 13 - Machines Inclined Planes Activity: construct a screw out of paper	
Lesson 4	Lesson 14 - Machines Wheels, Axles and Pulleys Activity: turn a door handle with 1 finger, Activity: Force and number of pulleys, Video: Lifting their Principal with pulleys	
Lesson 5	Lesson 15 - Machines Gears Activity: Inquiry learning of gear ratios in a manual 5 speed car transmission	

Physics Lesson 11: Electromagnetism

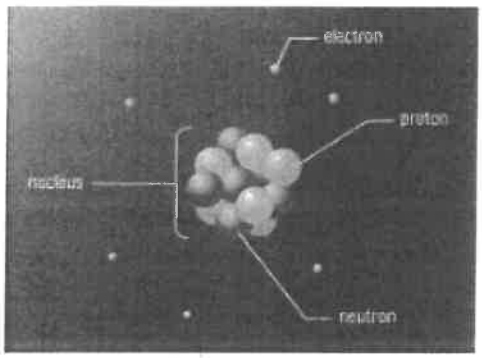
Learning Intention: Understand that electricity is related to magnetism

Success Criteria:

- Magnets and electricity are from electrons inside atoms.
- Complete activity: balloons and static electricity
- Completed activity: making an electromagnet
- Watch video on electromagnets in car yards.

Last lesson we learnt that opposites poles attract in magnetic attraction (North and South).

Everything is made of atoms and inside atoms there are positively charged particles called protons, neutral particles called neutrons and negatively charged particles called electrons. Neutrons and protons sit in the middle (nucleus) and electrons float on the outside.



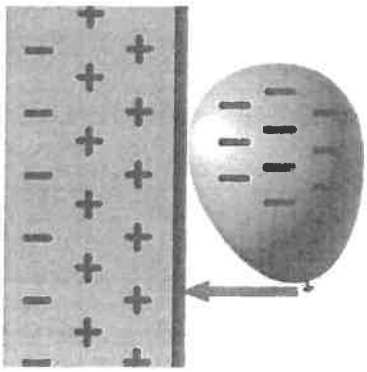
Electrons can jump to other atoms and other areas. Because they are charged, that difference in charge creates the magnetic poles. Electricity is also moving electrons so electricity can make magnets too.

Activity: Balloons and static electricity

1) Blow up a balloon. Without rubbing it, does the balloon stick to your hair?

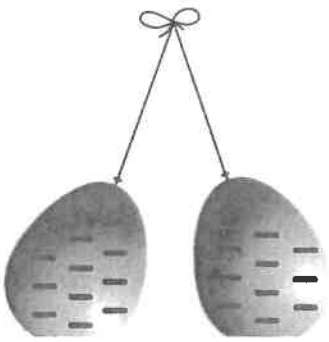
   The electrons have not moved yet, so there is no charge in your hair or your balloon.

2) Now, rub the balloon on your hair for 10 seconds. This makes electrons in your hair jump into the balloon. What happens now?



Why does the balloon stick to your hair?

3) If you rubbed a second balloon our your head, would you expect the two balloons to be attracted to each other or repel each other? Why?



_____

_____

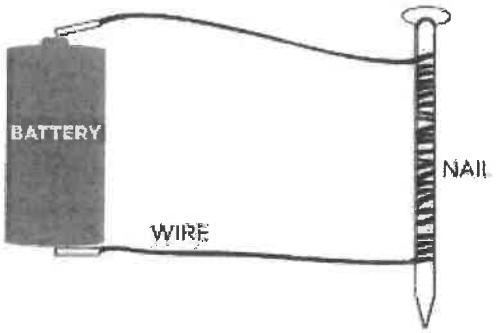
_____

_____

Activity: Making an electromagnet

Materials:

- AA battery
- 1 x iron nail
- About 20cm thin copper wire
- A few paperclips



Method:

1) Wrap a the wire around the nail leaving a few centimetres length on either end.
2) Hold the wire to both sides of the battery and your nail becomes a magnet.
3) You should be able to pick up paperclips now

Questions for your workbook:

1) Draw and label a diagram of your construction.
2) What particle moves when you join the wire to the battery?
3) If electrons moving in the nail is negative, what would you expect the paperclip to be so it is attracted to the nail?

Check out this video: https://www.youtube.com/watch?v=2EooyeAvPOM

Each time the electricity is turned on, the magnet picks up iron sheet metal, each time the electricity is turned off, the magnet releases the iron sheet metal.

Physics Lesson 12: Machines (Levers)

Learning Intention: Three classes of levers are components of simple machines.

Success Criteria:

- Understand that levers have a fulcrum which is a pivot point and rigid bar.
- Understand the difference between first, second and third class levers.
- Activity: identify different levers in a bicycle.

Simple machines use force and distance to force to make our lives easier. Levers are a type of simple machine. Levers help make life easier because it reduces how much effort and force is used to do a task.

A lever is a rigid (strong) bar that rotates around a fulcrum. Imagine a seesaw. The bolt in the middle is the fulcrum and the metal beam is the rigid bar.

In a lever, the force or effort is what is needed to lift the load. In the seesaw, the weight of the person about to come down is the effort and the weight of the person needing to be lifted is the load.

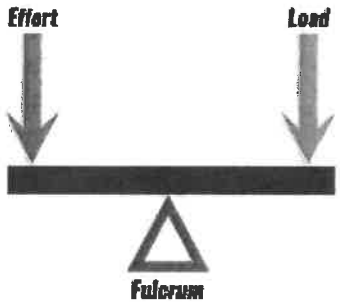
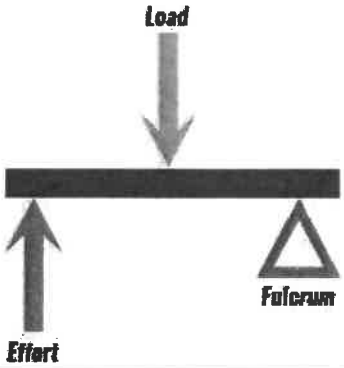
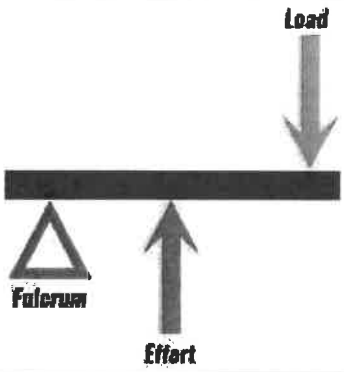
How many examples of levers can you think of?

1) _____
2) _____
3) _____
4) _____
5) _____
6) _____
7) _____
8) _____

Types of Levers

There are three types of lever and they are different because of where the fulcrum, effort and load are.

First class Lever	Second Class Lever	Third Class Lever
Fulcrum is in between the load and the effort.	Fulcrum is on the end, and effort on the other end to lif the load in the middle.	Fulcrum is on the end, and effort is in the middle to lift load on the other end.

		
Examples are: - Going up and down on a seesaw - Cutting with a pair of scissors - Opening a box with a crowbar	Examples are: - Lifting a wheelbarrow - Opening or closing a door - Using a nutcracker	Examples are: - Reeling in fish with fishing rods - Sqeezing tongs to pick up food - Using a broom

Activity: identify different levers on a bicycle.

Have a look at your bicycle at home. Identify all of the levers you can see on it and write it into your workbook.

Check out this medieval seige weapon called a trebuchet. It fires huge stones into the air to batter wood and stone walls. This ancient weapon uses a first class lever.

https://www.youtube.com/watch?v=cs8gamnMIS0

Physics Lesson 13: Machines (Inclined Planes)

Learning Intention: Understand that inclined planes are simple machines to reduce force and effort.

Success Criteria:

- Describe how ramps reduce force
- Describe how wedges reduce force
- Activity: Construct a screw

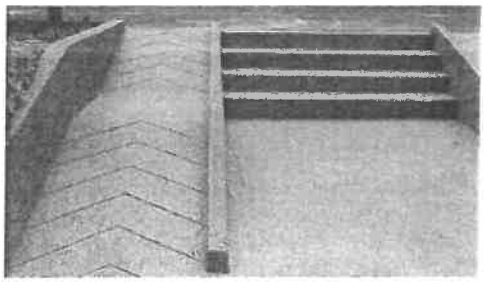
Another simple machine is an inclined plane. Inclined means that it is sloping or diagonal (so not vertical or horizontal). Plane in science means surface. So put simply, an inclined plane means a sloping surface.

Imagine you are trying to get a fridge into a truck. It requires a lot of force to lift. Is it easier to take it up the ramp or to lift it straight into the truck?

_____

_____

_____



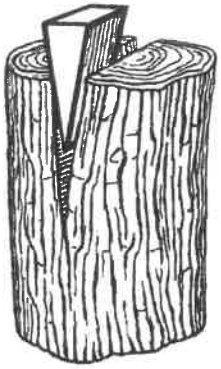
A ramp is a type of inclined plane. It reduces the force moving up or down, but it is done over a larger distance. The larger the distance, the lesser the slope, and the easier it is to get up to the top.

Imagine you are chopping a piece of wood. What you use the axe or the hammer in the picture and why?

_____

_____

_____



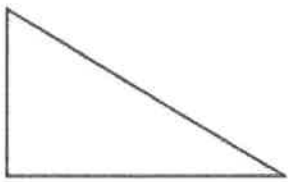
An axe is an example of a wedge which is a simple machine. A wedge has two inclined planes that join in a sharp side. Wedges are used to separate items. Knives, spades, chisels are all wedges. Whilst the handles on scissors are levers, the cutting edges on the scissors are wedges.

Finally, screws are simple machines with inclined planes that is wrapped around itself.

Activity: Construct a screw

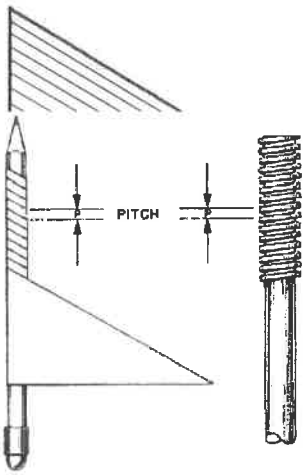
Materials:

- A piece of A4 paper
- 30cm Ruler
- Pencil
- A screw (optional as an example)



Method:

1) Draw a diagonal line through your A4 paper from one corner to the opposite corner. Cut along the line. You should have two triangles of paper that have an inclined plane.
2) Using your ruler, make a range of diagonal lines parallel to the inclined plane (about 1cm apart).
3) Starting with your pencil on the shortest edge, wrap the piece of paper around the pencil with the lines facing outward.



Notice how lines forms a screw? That is because a screw is a type of inclined plane.

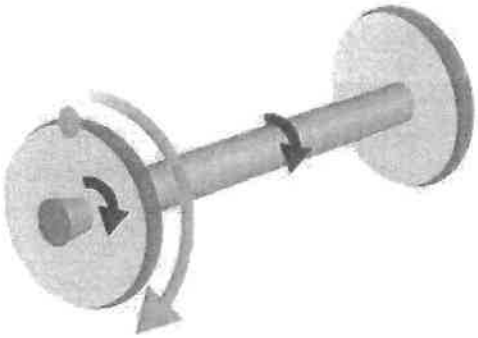
Physics Lesson 14: Machines (Wheels, Axles, Pulleys)

Learning Intention: Understand how wheels, axles and pulleys work to reduce force.

Success Criteria:

- Understand that wheels, axles, and pulley all use distance to reduce force
- Complete activity: Distance from axle
- Completed activity: How much force is needed
- Watch video on Principal being lifted by students with pulleys

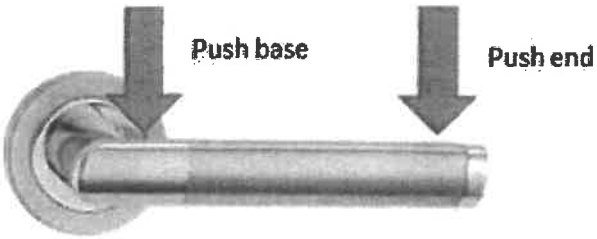
We all know what wheels are because we have them on our bikes, buses and cars. Spinning wheels is requires a rotational force. An axle is the centre point of rotation, where a wheel is attached. The bigger the wheel, the more distance the machine travels in one spin of the axle.



Another example of force and distance is that a bigger wheel makes an axle easier to spin.

Activity: Distance from Axle

Use one finger to push on the end of the door. Then use one finger to push on the base of the door handle. Which is



easier?_____ _____

How could you explain this?

_____

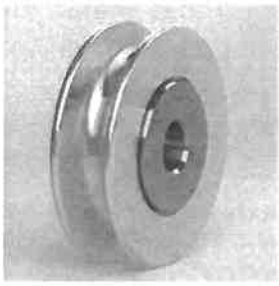
_____

Do you think these children would find it easier or harder to turn this handle if it were shorter and why?

_____

_____

Pulleys are a special type of wheel around an axle. The wheel has a groove in the wheel to guide a rope. Pulleys help make lifting lighter.



Pulleys can use many wheels to work. The pulley block on the left has 3 wheels. The more wheels, the more rope is needed for lifting. Because there is more distance (of rope), there is less force needed to lift the object.

Activity: How much force is needed

Object requires 1200N of force to lift (the load)	Number pulleys (wheels) in pulley system	Amount of force needed to lift the object (the effort)
1200 N	1 pulley	1200 / 1 = 1200 N
1200 N	2 pulleys	1200 / 2 = _____ N
1200 N	3 pulleys	1200 / 3 = _____ N
1200 N	4 pulleys	1200 / ___ = _____ N
1200 N	6 pulleys	1200 / ___ = _____ N
1200 N	8 pulleys	_____ / ___ = _____ N
1200 N	12 pulleys	_____ / ___ = _____ N

How much easier (the effort) is it to lift the object (the load) with 12 pulleys in a pulley system than a single pulley?

_____

_____

Check out this Principal being lifted by students using different pulley systems.
https://www.youtube.com/watch?v=ebwdFQB-5Fg

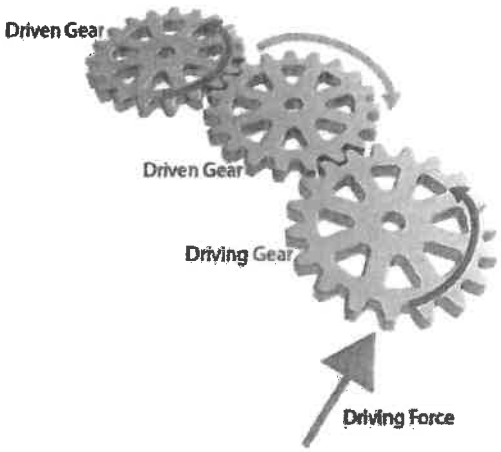
Physics Lesson 15: Machines (Gears)

Learning Intention: Understand that gears can be used to increase either force or speed.

Success Criteria:

- Understand that gears are used in simple machines
- Complete activity: investigate gear ratios

Gears are wheels with teeth on the outside. If the teeth in one gear is the same size as they can fit together. One gear can turn another gear. A series of gears is called a transmission. This is why your car has a gearbox (to select gears) and driving part of a car is called the transmission.



Gears next to each other rotate in opposite directions. When one gear rotates clockwise, the next gear rotates anticlockwise and vice versa.

In a transmission, one gear provides the driving force, this is called the driving gear. This might be:

- the gear connected to the engine in a car
- the gear connected to the pedals on your bike
- the gear connected to the battery in a clock.

All the other gears are driven by the driving gear so is are called the driven gears.

Activity: Investigate Gear Ratios

This is a simple picture of a transmission (gear system) in a car.

Small driving gear + large driven gear means low speed but high power.

Look at gear number one.

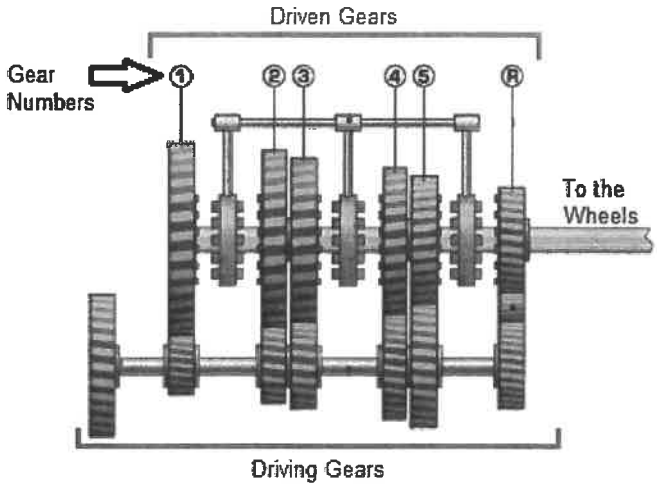
Is the driving gear big or small?

_____

Is the driven gear big or small?

_____

Why is first gear arranged this way? *hint ask your parents about when you use first gear in a car.



_____

_____

Large driving gear + small driven gear means high speed but low power.

Look at the driving gears. Do they get larger or smaller from 1 to 5?

_____

Look at the driven gears. Do they get larger or smaller from 1 to 5?

_____

Why might gear number 5 have the largest driving gear and smallest driven gear?

_____

_____

Challenge question:

The R gear stands for the reverse gear. Notice there are three gears instead of two? Why might there be three and not two? *hint: Think about direction of gear rotation when they are next to each other.

_____

_____

Year 7 PE

A: 10 Squats

B: 5 Push-ups

C: 10 Jumping Jacks

D: 10sec Plank hold

E: 10 Sit Ups

F: 10 Bunny Hops

G: 10 Single leg hops

H: 30sec wall sit

I: 10 Mountain climbers

J: 3 Burpees

K: 10 Jump Squats

L: 20 High knees

M: 12 Bicycle crunches

N: 20 Arm circles

O: 10 Lunges

P: 6 Tuck Jumps

Q: 20 Flutter Kicks

R: 12 Sumo Squats

S: Balance something on your head for 15 seconds

T: 10sec sprint on the spot

U: Skip around your house

V: 30 second army crawl

W: 20 calf raises

X: 10 bicep curls (hold a drink bottle or some cans out of the pantry)

Y: 10 Bounds

Z: Your choice

If you don't understand how to do some of the exercises, email your PE teacher

Each day pick 1 question to answer

You need to write the answer below and then complete the relevant exercises

1. **Your name** (Extra challenge, do your middle and last name)

_____

2. **The town you live in?**

_____

3. **What you last ate?**

_____

4. **Favourite Song**

_____

5. **The month you were born in**

_____

6. **Favourite Book**

_____

7. **Name of the day** (Monday, Tuesday, ect)

_____

8. **Favourite Colour**

_____

9. **Favourite Animal**

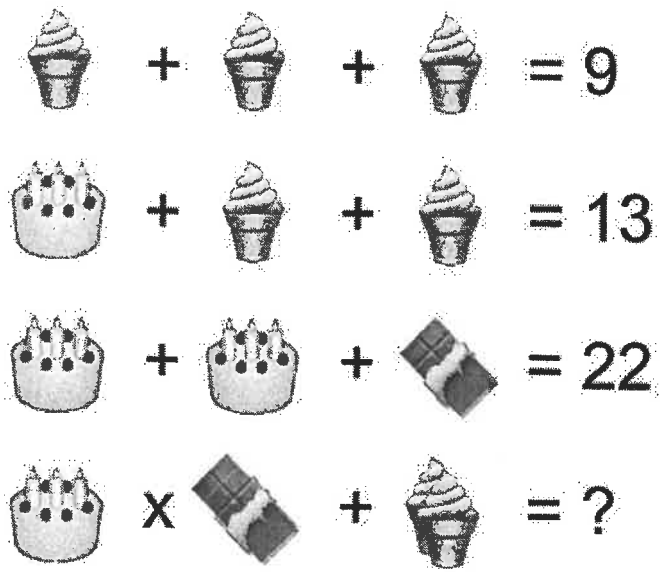
_____

10. **Favourite Movie**

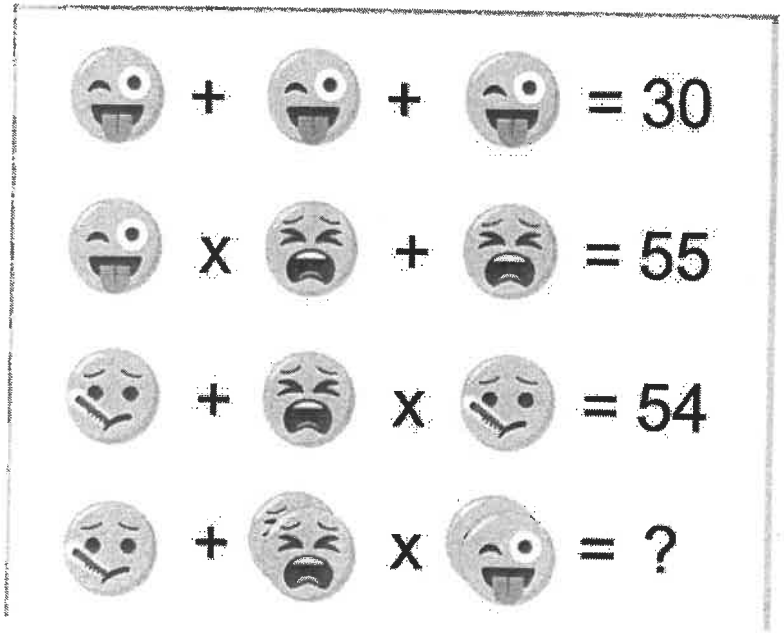
_____

Bonus challenge: Can you get through the entire alphabet? A-Z?

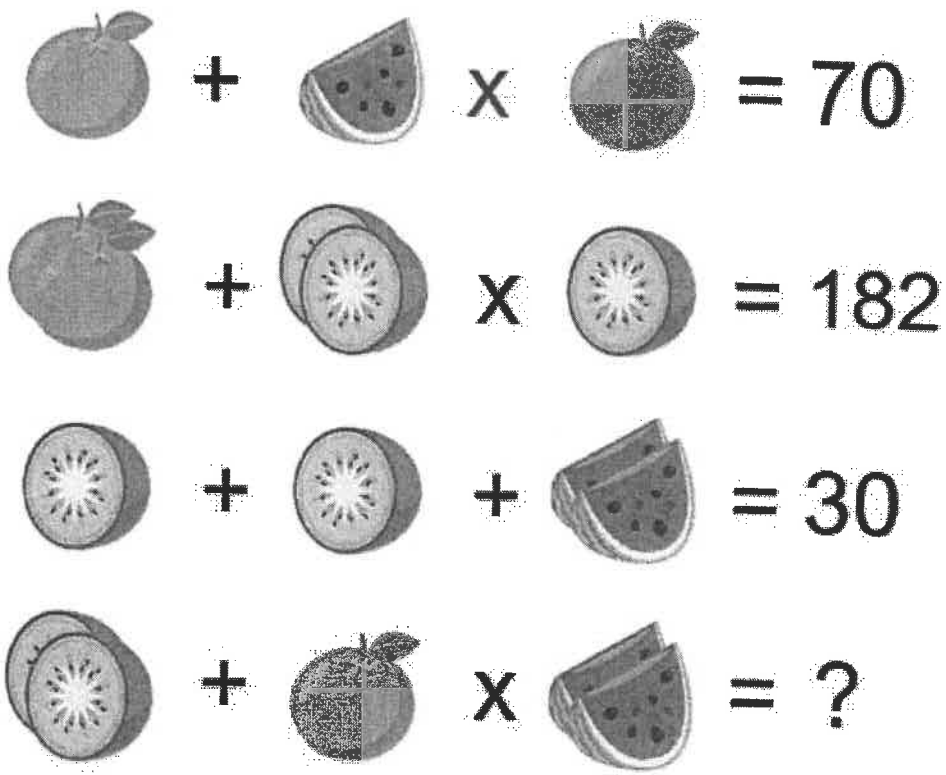
This one is EASY



This one is MEDIUM



This one is HARD



Name Date

ALGEBRA WORD PROBLEMS SHEET 1

Write the correct algebraic expression for each word problem.
See if you can spot the trick problem that doesn't need algebra!

1)	There are 12 packets of crisps in a big pack. I buy **n** big packs of crisps. How many packets of crisps have I bought?	= 12**n**
2)	There are **t** pencils in a pack. I buy 4 packs. How many pencils?	=
3)	I have 6 pens. A friend gives me **n** more pens. How many pens do I have now?	=
4)	A bag of apples contains 6 apples. I buy **w** bags of apples. How many apples have I bought?	=
5)	I have a box of **d** chocolates. I eat 7 of them. How many chocolates are left?	=
6)	The temperature is 62°F. It gets warmer by **h** degrees. What is the temperature now?	=
7)	There are 20 balloons at a party. **y** balloons are burst. How many balloons are left?	=
8)	There are **z** fish in an aquarium. ¼ of the fish are angelfish. How many fish are angelfish?	=
9)	There are 20 red and blue marbles in a bag. **s** marbles are red. How many are blue?	=
10)	In a class of **c** children, $^2/_5$ are boys. What fraction are girls?	=
11)	There are **s** cars in a carpark. How many wheels will they have in total?	=
12)	I have **u** soft toy salamanders. I get **v** more. How many salamanders do I have now?	=

Name Date

CALCULATE THE EXPRESSION SHEET 1

Calculate the value of each expression given the value of the variables.

	CALCULATE	WHEN	ANSWER
1)	$a+5$	$a=2$	$2+5=7$
2)	$b-4$	$b=10$	
3)	$2c$	$c=6$	
4)	$d-7$	$d=15$	
5)	$5+e$	$e=20$	
6)	$12-f$	$f=9$	
7)	$6g$	$g=6$	
8)	$h/3$	$h=12$	
9)	$i-10$	$i=8$	
10)	$j/8$	$j=24$	
11)	$2k+3$	$k=-2$	
12)	$3l-1$	$l=7$	
13)	$2m-6$	$m=-1$	
14)	$13-n$	$n=15$	
15)	$3(o+2)$	$o=5$	
16)	$5(p-1)$	$p=8$	
17)	$\frac{1}{2}(q-2)$	$q=6$	
18)	$\frac{1}{2}(r+4)$	$r=12$	
19)	$15+2s$	$s=\frac{1}{2}$	
20)	$8+3t$	$t=-2$	
21)	$20-2u$	$u=10$	
22)	$4(v+6)$	$v=7$	
23)	$7(w-5)$	$w=3$	
24)	$4x-9$	$x=2$	
25)	$70-5y$	$y=10$	

Completing Number Patterns

Complete the patterns by finding the missing numbers

1 Start with 2, "add" 3

→ 2, 5, 8, ☐, ☐

2 Start with 21, "subtract" 3

→ 21, 18, 15, ☐, ☐

3 Start with 5, "add" 5

→ 5, 10, ☐, 20, ☐

4 Start with 5, "multiply by" 2

→ 5, 10, ☐, 40, ☐, ☐

5 Start with 80, "divide by" 2

→ 80, 40, ☐, ☐, ☐

6 Start with 25, "subtract" 5

→ 25, 20, ☐, ☐, ☐

7 Start with 2, "multiply by" 2 then add 1

→ 2, 5, 11, ☐, ☐, ☐

8 Start with 5, "multiply by" 3 then subtract 5

→ 5, 10, ☐, 70, ☐, ☐

9 Start with 6, "multiply by" 2 then subtract 4

→ 6, 8, ☐, ☐, ☐, ☐

10 Start with 3, "multiply by" 2 then add 1

→ 3, 7, ☐, ☐, ☐, ☐

11 Start with 100, "divide by" 2 then add 2

→ 100, 52, ☐, ☐, ☐

Draw the next match-stick pattern then complete the numbers and pattern in words below it.

12

4th → pattern

4, 7, 10, ☐, ☐, ☐, ☐

Start with ☐ "add" ☐

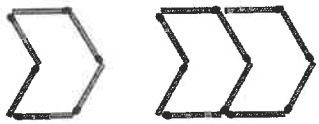
13

4th → pattern

3, 7, ☐, ☐, ☐, ☐

Start with ☐ ___ ☐

14



3rd → pattern

6, 10, ☐, ☐, ☐, ☐

___ ☐ ___ ☐

15

4th → pattern

☐, ☐, ☐, ☐, ☐

___ ☐ ___ ☐

Complete the patterns you will at times get answers which include decimals.

16 4, 9, 14, 19, ☐, ☐, ☐

17 20, 35, 50, 65, ☐, ☐

18 1, 2, 4, 8, ☐, ☐, ☐

19 320, 160, 80, 40, ☐, ☐

20 $\frac{1}{5}$, 1, 5, 25, ☐, ☐

21 88, 99, 110, 121, ☐, ☐

22 5, 14, 23, 32, ☐, ☐

23 87, 91, 95, 99, ☐, ☐

(decimal answers)

24 1 000, 100, 10, 1, ☐, ☐

25 1, 7, 13, 19, ☐, ☐, ☐

26 15, 10, 5, 0, ☐, ☐, ☐

27 197, 157, 117, 77, ☐, ☐

28 54, 63, 72, 81, ☐, ☐

These are harder, you will have to multiply by a number then add/subtract.

29 1, 4, 10, 22, ☐, ☐

30 2, 4, 10, 28, ☐, ☐

31 1, 4, 13, 40, ☐, ☐

32 2½, 10, 25, 55, ☐, ☐

33 1, 2, 5, 14, ☐, ☐

34 1, 6, 16, 36, ☐, ☐

Formulae and Substitution

Use the formulae below to substitute then solve

1 Find the perimeter of a square using $P = 4l$ where $l = 12$ cm.

$P = 4l$

use = signs $= 4 \times 12$ show units

$P =$ _____

rewrite letter

2 Find the average age of two girls using: $A = \frac{x + y}{2}$

where $x = 6$ years and $y = 16$ years.

$A = \frac{x + y}{2}$

$=$ _____

_____

3 Change minutes to seconds using $T = 60m$ where $m = 4$ min.

_____

_____

_____

4 Find the area of a triangle using $A = \frac{1}{2}bh$ where $b = 16$ mm and $h = 5$ mm

_____

_____

_____

5 Now use $b = 12$ m and $h = 10$ m to find the Δ area.

_____

_____

_____

Use the underlined letters to construct a formula for the following. Then substitute and solve.

6 Julian is twice as old as Ann. If Ann is 17 years old how old is Julian?

_____

_____

_____

7 There are 12 pieces in one family pizza how many pieces are there in 7?

_____

_____

_____

8 Britney bought a pair of shoes at a price of $76.85. Find her change from $100

_____

_____

_____

9 Sean has half the money that he had when he left home. How much money has he now if he started with $8.70.

_____

_____

_____

10 If a car has 5 wheels and a motorcycle has 2. How many wheels do 3 cars and 6 motorcycles have?

_____

_____

_____

Answer the top row then the 2nd row then add the two rows to help answer the 3rd row.

11

Use $k =$	2	3	4
k^2			
$7k$			
$k^2 + 7k$			

12

Use $g =$	2	4	6
g^2			
$5g$			
$2g^2 + 5g$			

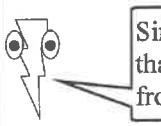
13

Use $m =$	4	7	10
m^2			
$2m$			
$m^2 + 2m - 3$			

14

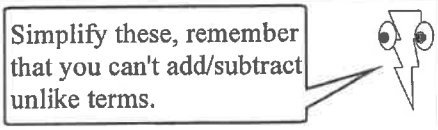
Use $e =$	5	10	20
e^2			
$4e$			
$2e^2 + 8e$			

Adding and Subtracting Pronumerals



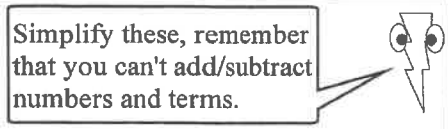
Simplify these, remember that you don't write a 1 in front of a letter, $1m = m$

1. $t + t$
2. $k + 2k$
3. $6m - 4m$
4. $12i + 3i$
5. $2j + 5j$
6. $16e - 9e$
7. $9x + 5x + 3x$
8. $12b + 9b + 4b$
9. $6n + 2n + n$
10. $t + 6t - 2t$
11. $3e + 5e - 4e$
12. $12r - 7r + 2r$
13. $11k - 7k - 4k$
14. $24h - 9h - 14h$
15. $2c + 5c + 7c$
16. $u + 5u - 2u$
17. $6d - 3d - 2d$
18. $14q - 11q - 3q$
19. $8v - 2v - 3v$
20. $12s + 3s - 14s$



Simplify these, remember that you can't add/subtract unlike terms.

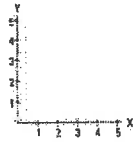
21. $a + g + a$
22. $2e + c + e$
23. $4h + 3h + 2d$
24. $10m - 3n - m$
25. $2c - 7q + 3c$
26. $9k + 3k + n$
27. $3e + 2f - f$
28. $m + p - m$
29. $4d - 2m + d$
30. $6m + 3b - 5m$
31. $2d + 3d - h$
32. $t + 5e - t$
33. $5e - 2e + q$
34. $3a - 2d - 2a$
35. $4c + 2b - b$
36. $6w + n - 6w$
37. $6n - 3n + 2d$
38. $2f + 3f + f - 2d$
39. $a + b + a + b$
40. $d + 3d + 3e$



Simplify these, remember that you can't add/subtract numbers and terms.

41. $2a + 3 + 2a$
42. $5e + 4 - 4e$
43. $10d - 3d - 6$
44. $3 + 4q + 2 - q$
45. $4y + 12 - 3y$
46. $4k + 2 + 5 - k$
47. $a + 2 + 2a - 1$
48. $2d - 5 + 4d$
49. $5 + 3e - 2 + e$
50. $t + 4 - t - 2$
51. $3v - 6 - 2v$
52. $10 + 2b - 5$
53. $a + 8 - a + 8$
54. $6x - 10 + 4x$
55. $9m + 6 - 8m$
56. $5 + b - 4 + b$
57. $2f - 10 - f$
58. $10 + k + 15$
59. $h + 3 + h + 1$
60. $y + 2y - 3 + y$

MONDAY Date

1. What is the time?
2. 6 + 4 + 7 =
3. Which pyramid has 4 faces?
4.  Write A at grid reference of 5,1
5. Round 7.3 (nearest whole).
6. $2\frac{1}{2} = 2$
7. 30 ÷ 8 = r
8. $4\frac{3}{4} = 4$
9. 7^2 =
10. 5, 25, 30, 50, 55,
11. Write the numeral one thousand and eleven.
12. 1209 > 1199 ☐ *true* ☐ *false*
13. This is a 
14. (Roman numeral) XLIV =
15. 4 x 6 =
16. In which season is September?
17. Name this 2-D shape. 
18. 2100 hours = pm
19. $20.00 – $14.10 =
20. 7 m = mm

20

TUESDAY Date

1. What is the time?
2. 8 + 3 + 4 =
3. Arrange these digits to make the highest value.

   3, 7, 1, 6.
4. Round 8.4 (nearest whole).
5. $3\frac{1}{4} = 3$..
6. 42 ÷ 8 = r
7. $\frac{7}{2}$ = (Write as a mixed number)
8. If the date is 5 April, the date a week before was
9. This is a 
10. How many vertices does a triangular prism have?
11. (Roman numeral) LVI =
12. 3, 7, 12, 18,
13. 630 cm = m
14. What is another name for an oblong?
15. 87 – 9 =
16. 6.1 m = mm
17. Write the numeral one thousand and five.
18. $20.00 – $17.50 =
19. 0400 hours = am/pm
20. Which is prime: 5, 8 or 9?

20

WEDNESDAY Date

1. What is the time?
2. 7 + 4 + 8 =
3. 10 + 7 =
4. Round 9.7 (nearest whole).
5. If the date is 3 November, the date 5 days before was
6. In which season is November?
7. 50 ÷ 8 = r
8. This is a 
9. 1055 < 1060 ☐ *true* ☐ *false*
10. (Roman numeral) XLIX =
11. 100, 90, 70, 40,
12. $5\frac{1}{2} = 5$.
13. 7.2 m = cm
14. 7 x 8 =
15. Write the numeral one thousand and fifty-five.
16. Name this 2-D shape. 
17. $\frac{9}{2} = 4\frac{1}{}$
18. 2.9 m = mm
19. Which is composite: 9, 11 or 23?
20. 0030 hours = am/pm

20

THURSDAY Date

1. What is the time?
2. 8 + 8 + 5 =
3. What 3-D polyhedron is this? 
4. Round 10.8 (nearest whole).
5. How many faces are on the shape in Question 3 shape?
6. 70 ÷ 8 = r
7. Is 20 or 21 even?
8. 9 + 10 =
9. 0.3, 0.6, 0.9,
10. If the date is 6 July, the date a week before was
11. $4\frac{2}{5}$ = (Write as an improper fraction)
12. 3.5 m = mm
13. 7^2 =
14. Show as a $\frac{1}{4}$ turn clockwise. 
15. 2000 hours = am/pm
16. Arrange these digits to make the lowest value.

    4, 8, 3, 5
17. Write the numeral one thousand, five hundred and five.
18. 5)130 =
19. $1\frac{1}{2}$ = (Write as an improper fraction)
20. 0.7 > 1 ☐ *true* ☐ *false*

20

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: _____

R.I.C. Publications® www.ricpublications.com.au
ISBN 978-1-74126-537-8