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# **YEAR 6 INQUIRY UNIT – ‘THE PHYSICAL AND NATURAL WORLD’**

**LESSON 4 – THE HISTORY OF ENERGY**

# LEARNING INTENTIONS

- I can explain how energy sources have developed overtime
- I can explain the benefits of some energy sources over others

# RECAP

*What is Energy?*

Energy is the ability to do work, to make things happen, and to cause changes.

*Can you name some different types of energy?*

Wind, hydro, solar, geothermal, tidal, coal, nuclear

# THE HISTORY OF ENERGY

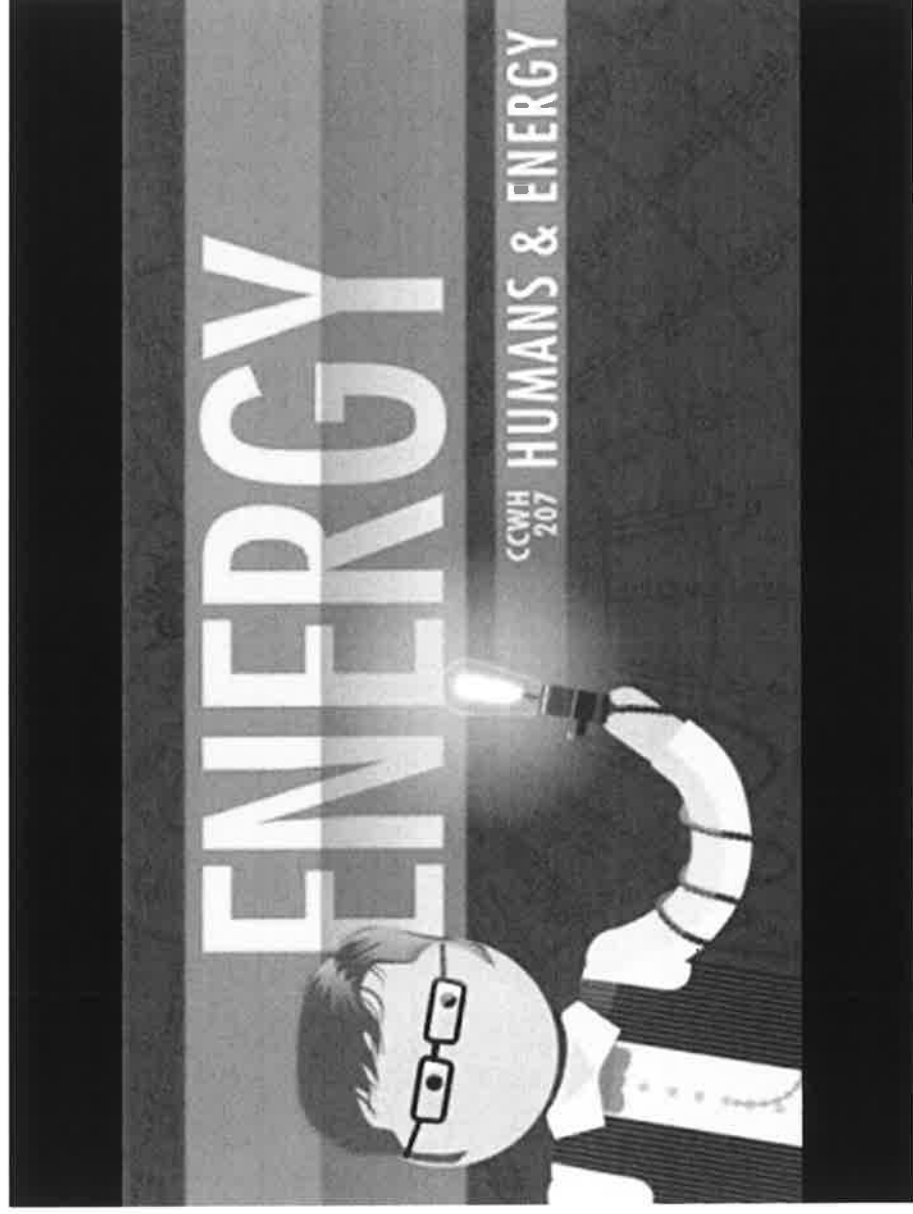
Rule up the below table or create it on your netbook:

| Learnt | Interesting | Wondering |
|--------|-------------|-----------|
|        |             |           |

Fill in the table as you watch the following video.

\* You must write a minimum of 5 points all up and try to get at least one in each column!

# THE HISTORY OF ENERGY



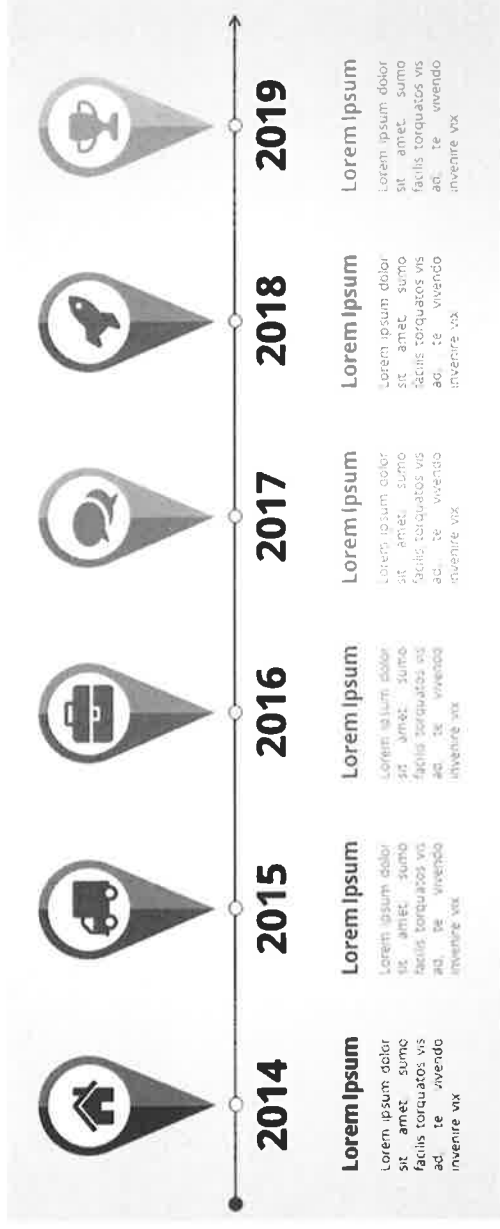
# THE HISTORY OF ENERGY

- What did you learn?
- What did you find interesting?
- What are you wondering/want to know more about?

# ENERGY TIMELINE

Over time, we have made some significant developments in how we use energy in our everyday lives.

You are now going to create a timeline outlining these significant developments.



# ENERGY TIMELINE

There are 6 events that you need to research and include on your timeline. Beside each event you must include information about:

- When it was developed
- Where is was developed
- Include a fact



# ENERGY TIMELINE

1. Coal
2. Nuclear
3. Windmills
4. Electricity
5. Solar power for homes and businesses
6. Hydro electricity



# **EXIT SLIP**

What did you discover about the history of energy today?



# **YEAR 6 INQUIRY UNIT**

## **'THE PHYSICAL AND NATURAL WORLD'**

### **LESSON 6 – ENVIRONMENTAL IMPACT**

# **LEARNING INTENTIONS**

- I can explain the impact that some energy sources have on the environment
- I can examine how to reduce the impact that energy has on the environment

# RECAP

*What does the term renewable mean?*

- A natural resource or source of energy that is not reduced by use, such as water, wind or solar power.
- Renewable energy is also called "clean energy" or "green power" because it doesn't produce harmful pollution
- Many renewable energy sources are better for the environment. They produce less pollution than fossil fuels which will help protect the environment and provide us with cleaner air and water.

*Why don't we use renewable energy all the time then?*

Unlike natural gas and coal, we can't store up wind and sunshine to use whenever we need to make more electricity. If the wind doesn't blow or the sun hides behind clouds, there wouldn't be enough power for everyone. It is also more expensive!

# RECAP

*What does the term non-renewable mean?*

Existing in limited quantity; not capable of being replenished.

Coal, oil and natural gas are called fossil fuels because they were formed deep under the earth millions of years ago from the decomposition of plant and animal matter.

Fossil fuels are used to generate electricity because they're widely available, inexpensive, easy to transport, easy to use, and the power plants can be located almost anywhere

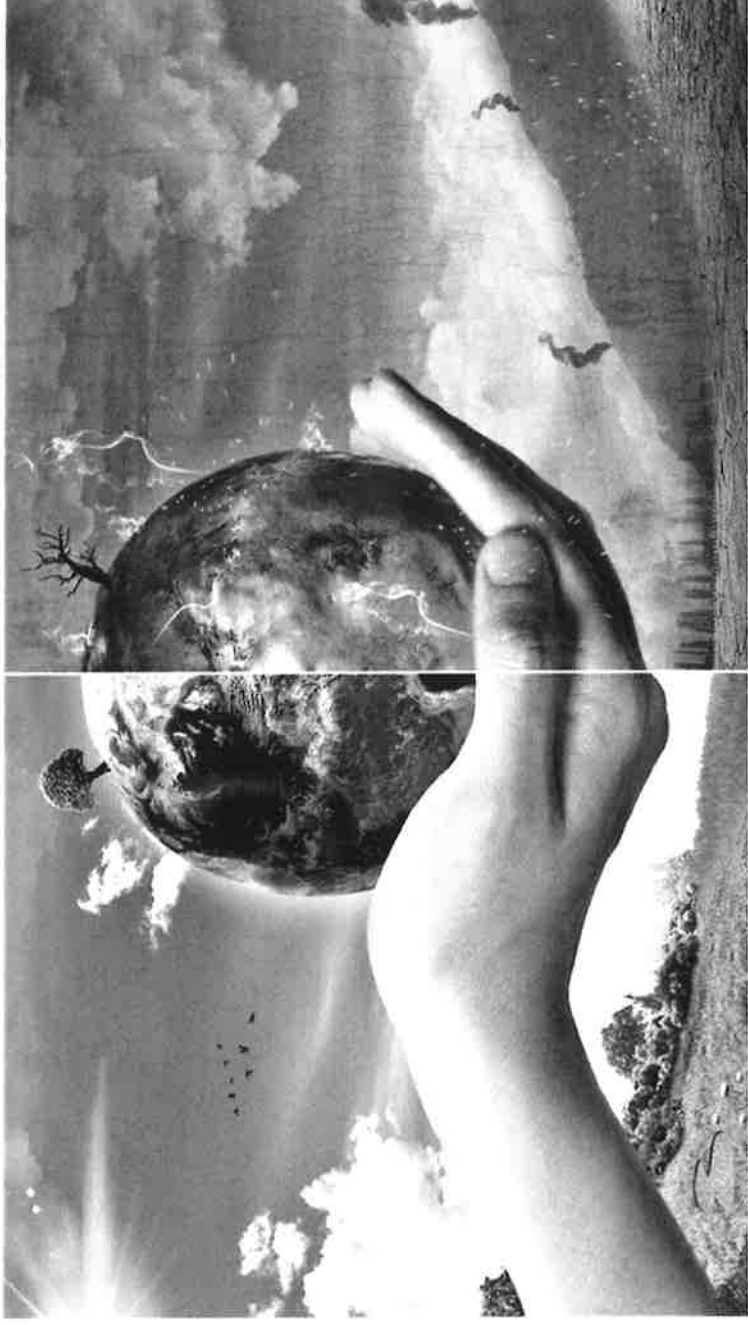
# IMPACTS OF NON-RENEWABLE ENERGY

The burning of fossil fuels can have a huge environmental impact, such as:

- Release harmful greenhouse gases into the air. These gases, primarily carbon dioxide, damage the ozone layer which protects us from the sun's radiation. The air pollution also negatively affects our respiratory health
- Acid rain is created by the emission of sulfur and other chemicals into the atmosphere, often from the conversion of fossil fuels into electricity.
- Oil spills are extremely damaging to nearby shores and ecosystems.
- The radioactive nuclear waste created in nuclear power plants remains dangerous to human and environmental health for thousands of years – storing it is therefore an enormous problem (financial and environmental) for which there is no viable solution as of yet.

**WHAT IS THIS IMPACT ON THE ENVIRONMENT OF NON-RENEWABLE ENERGY?**

# CLIMATE CHANGE





# CLIMATE CHANGE VIDEO



<https://www.youtube.com/watch?v=EtW2rrLHsO8>

# ACTIVITY

**(In your workbook or on your netbook)**

Watch the video on the previous slide.

Write down three things you learnt or found interesting.

Do some research and write down what you can find out about some renewable and non renewable energy sources we use in Victoria.

Who is Greta Thunberg and why is she so well known?

What does climate change mean to you?



# Measurement Menu

Use the following rubric to work through while remote learning. Select 3 ***different*** activities each week to complete and record it in your Mathematics book, on paper or Netbook.

|   |   |  |   |   |
|---|---|--|---|---|
| <p>Draw a bird's eye view of your bedroom. Estimate the length of 5 items in your room in metres and centimetres. Then find the actual measurement and record them.</p> | <p>Draw a bird's eye view of your house. Estimate the perimeter in metres and centimetres. Measure the actual perimeter and then find the difference.</p> | <p>Cook with your parents/careers and measure all of the items (weight Kg and g/volume L and . ml. Take a photo of your family sharing the meal.</p> | <p>Create your own dream house. You will need to have the measurements of the perimeter and area of the whole house. Label the house (bedrooms/living areas etc.)</p> | <p><b>FEEDBACK TASK -</b><br/><u>(Located in your Google Classroom)</u><br/><u>Create a daily timetable of your remote learning.</u><br/><u>Include an hour by hour breakdown of the day from 8:00am-3:00pm.</u><br/><u>Like you may see each morning in the POD.</u></p> |
| <p>Create a weekly timetable of your days. Include your learning, meals, lunchtime from Monday to Monday.</p>   | <p>Create an exercise journal recording what exercise you did and for how long. Create a graph of how many minutes you exercised for each day.</p>        | <p><u>Coding activities: follow the link</u></p>   | <p>OUTSIDE- go outside and see if you can find any object that is exactly a metre. Find an object that is bigger than 50cm and smaller than a metre</p>               | <p>Time- in 1 minute how many star jumps/push ups/sit up can you do? Record this and see if you can improve it over the week.</p>   |
| <p><u>Mathletics:</u><br/>Continue with your assigned activities.</p>   | <p>Using google maps, work out how far from your house to Cosy Corner. How many metres/centimetres/Kilometers?</p>  | <p>Complete the problem solving activity from the rubric.</p>  | <p>Create 10 measurement questions that you can share with a friend in Year 6.</p>  | <p>Online maths games.<br/><br/><u>NASA Cool maths</u><br/><u>Rainforest maths</u></p>  |

## Helpful links

<https://www.khanacademy.org/>

## Area and perimeter

<https://www.khanacademy.org/math/geometry/hs-geo-foundations/hs-geo-area/v/perimeter-and-area-basics>

# Measurement Week 3

## The Great Potato Games of 2020

Learning intention- I can convert between common metric units of length, mass and capacity.

This week you will create a Potato Athlete of your choice. You will compete in events over the week and you will be measuring the results.

Your athlete can be from any sport. Have some fun with it!

You need to give your potato athlete:

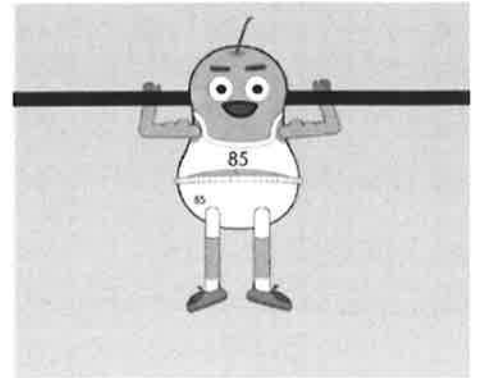
A name: Bob

Age: 85

Photo of your athlete:

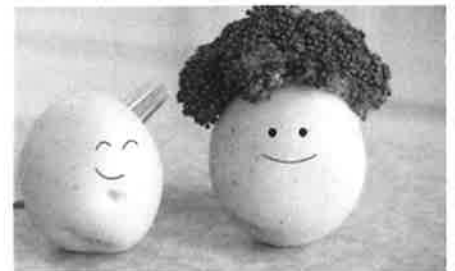
What sport are they from (can be any): Surfer

A short story about them:



The events you will be competing in are:

1. Weight Lifting
2. Bodybuilding
3. Diving
4. 5m sprint



You will have to compete in different events and measure the results.

You can use the tables below to record your results.

You will need to complete the table for each event and the rules on how to convert the measurements of mass and capacity.

# Measurement Week 3

## The Great Potato Games of 2020



### Event 1

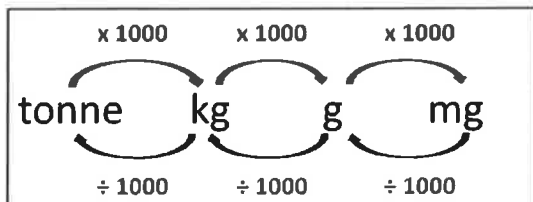
#### Weight lifting

You will need to estimate the mass of your potato and then weigh it. Write down your estimate and then your result. Find the difference and then complete the table.

| Estimate   | Result | Convert from grams to kilograms | BONUS- convert from grams to tonnes |
|--|--------|---------------------------------|-------------------------------------|
| 300g   | 400g   | 0.4kg                           |                                     |
| Difference   | 100g   | 0.1kg                           |                                     |
| What is the rule, or the equation, for converting grams to kilograms=<br>What is the rule, or the equation, for converting kilograms to grams= |        |                                 |                                     |

Here is a table to help you for event 1:

In the Metric System, Mass is based on the Gram or "g" unit.



Mass conversions use 1000's, and usually create fairly large results.

1.6 tonne = ? kg    Need to x 1000    1.6 x 1000 = 1600 kg ✓

Photo of event:

### Event 2

## Measurement Week 3

### The Great Potato Games of 2020

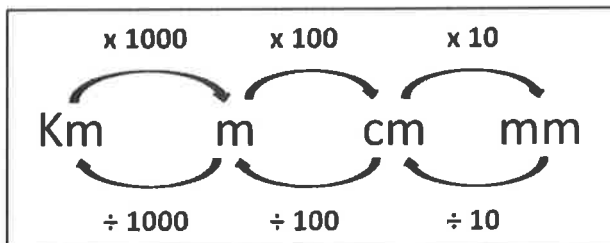
#### Bodybuilding

You will need to estimate the circumference (around) of your athlete. Then with a piece of string you will need to wrap it around them and then measure the string with a ruler.

| Estimate   | Result | Convert from millimetres to Centimetres | Convert cm to m | BONUS<br>Convert mm to kilometres |
|------------|--------|---|-----------------|-----------------------------------|
| 60mm       | 100mm  | 10cm                                    | 0.1m            |                                   |
| Difference | 40mm   | 4cm                                     | 0.04m           |                                   |

What is the rule, or the equation, for converting millimetres to centimetres=  
 What is the rule, or the equation, for converting centimetres to metres=  
 What is the rule, or the equation, for converting metres to kilometres=

What is the rule, or the equation, for converting centimetres to millimetres=  
 What is the rule, or the equation, for converting metres to centimetres=  
 What is the rule, or the equation, for converting kilometres to metres=



$5\text{km} = ? \text{ m}$     Need to  $\times 1000$      $5 \times 1000 = 5000\text{m}$  ✓  
 $120\text{cm} = ? \text{ m}$     Need to  $\div 100$      $120 \div 100 = 1.2\text{m}$  ✓

Photo of event:

## Measurement Week 3

### The Great Potato Games of 2020

#### Event 3

#### Diving- capacity millilitres (ml) and litres (l)

You will need to estimate the volume of your athlete. This will be done with a measuring jug. You will need to put water in a measuring jug so your athlete will float (without touching the sides or bottom of the measuring jug).

| Estimate  | Result | Convert from<br>km to l | BONUS Convert litres to Kilolitres |
|---|--------|-------------------------|------------------------------------|
| 120 ml  | 90ml   | 0.9l                    |                                    |
| Difference  | 30ml   | 0.3l                    |                                    |
| <p>What is the rule, or the equation, for converting milliliters to litres=</p> <p>What is the rule, or the equation, for converting litres to milliliters=</p> |        |                         |                                    |

Here is a hint table to help:

In the Metric System, Capacity is based on the Litre or "L" unit.

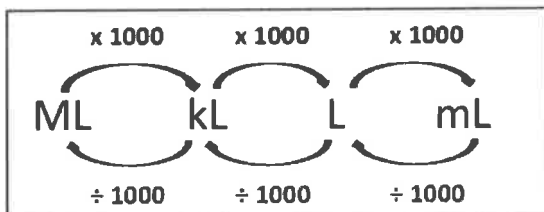


Photo of event:

## Measurement Week 3

### The Great Potato Games of 2020

#### Event 4

#### 5 metre dash

You will need to measure out a 5 metre straight course. You need to roll/throw your athlete to try and get exactly 5 meters and you will have 3 attempts. You will then measure the difference between where the athlete stops, and the 5 meter finish line.

| Attempt | Result  | Difference | Convert Result<br>(your choice) | Convert<br>Difference(your choice) |
|---------|---------|------------|---------------------------------|------------------------------------|
| 1       | 4m 50cm | - 50cm     | 4500mm                          | 500mm                              |
| 2       | 5m 76cm | + 1m 76cm  | 576cm                           | 176cm                              |
| 3       | 3m 30cm | - 1m 70cm  | 3.3m                            | 1.7m                               |

What is the best unit of measurement when measuring the following: mm/cm/km

A pen:

A tennis court:

Distance between Melbourne and Brisbane:

Photo of event:



## Measurement Week 3

### The Great Potato Games of 2020

**Reflection:**

This is a really important part.




1. What did you learn?
2. What would you do differently next time?
3. How could we make this activity more interesting and fun than it already is?

# Reading Rubric 2.0

Use the following Reading Rubric and I Can Statements to continue developing your reading tracks whilst reading your chosen novel.

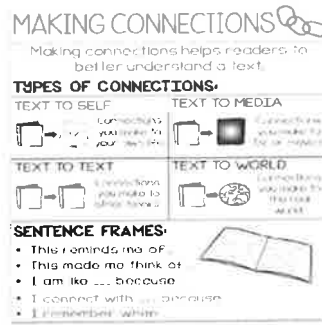
Each week you will select 2 different activities to complete and record it in your Readers Notebook, on paper or using your Netbook. Once you have completed each task, you need to tick them off, and select another (don't complete the same task twice)!

**LEARNING INTENTION: As a reader I can select a reading goal and use evidence to support my understanding of a text**

|  |   |   |
|--|---|---|
| <p style="text-align: center;"><b><u>Setting</u></b> <input type="checkbox"/></p> <p>Choose a passage in your novel that helped you imagine the setting. Copy the passage (should be no more than 1-2 paragraphs). Use coloured pencils to underline the most descriptive words in these sentences. Using these words, create an image, painting or visual representation of your setting.</p>  | <p style="text-align: center;"><b><u>Vocabulary</u></b> <input type="checkbox"/></p> <p>Are there any words in your book that you do not understand? Create your own word list. Write what you THINK these words mean (use your novel's context to help you). Look up these words in the dictionary and write down their actual definitions. Can you use these words in a sentence?</p>  | <p style="text-align: center;"><b><u>Shutter Book</u></b> <input type="checkbox"/></p> <p>To create a shutter book, turn a piece of paper vertically. Fold the left side of the paper to the center. Then fold the right side to the center. Voila! You now have a shutter book! On the inside of the shutter book, you need to write about the book you are reading. You can write about problems/solutions, situations, facts and opinions, character traits or settings!</p>  |
| <p>I can understand how authors use text structures and play with language features to achieve a particular aesthetic and can use this language to visualise the text.</p>   | <p>I can use knowledge of known words, base words, prefixes, suffixes, letter patterns and spelling generalisations to spell new words including technical words.</p>   | <p>I can analyse strategies authors use to influence readers and summarise what I am reading.</p>   |
| <p style="text-align: center;"><b><u>Wanted</u></b> <input type="checkbox"/></p> <p>Think about one of the main characters in your book. Using the characters values, beliefs and physical traits create a WANTED poster that could be used by authorities.</p>  | <p style="text-align: center;"><b><u>3 Wishes</u></b> <input type="checkbox"/></p> <p>A genie lands in the midpoint of the story you have just read and grants the two main characters three wishes. Create a table that identifies what each of your characters wish for and why?</p>  | <p style="text-align: center;"><b><u>Kahoot</u></b> <input type="checkbox"/></p> <p>Create an 8-10 question Kahoot based around your novel. This could include questions surrounding characters, settings, problems, solutions or anything else you can think of. Be</p>  |

|  |   |   |
|--|---|---|
|  | <p>Would their wishes have changed anything about the story? How? <i>Think about the cause and effect relationship and how this may have altered the path of the book.</i></p>  | <p>creative!</p>  |
| <p>I can use comprehension strategies to interpret and analyse information and ideas from the text to identify character traits of a chosen character within my novel.</p> | <p>I can identify the relationship between words, sounds, imagery and language patterns in narratives and use this knowledge to analyse and make predictions in my novel.</p>   | <p>I can ask questions before, during and after reading which help me understand the text.</p>  |
| <p><b><u>In the Future? □</u></b></p> <p>Do you think that your story could take place one hundred years from now? List at least 10 reasons why or why not.</p>            | <p><b><u>Character Interview □</u></b></p> <p>Pretend you are a presenter on BTN and you are interviewing one of the main characters from your novel. Create a script that you will use to interview them, with an introduction, at least 5 questions and a concluding statement.</p> | <p><b><u>Different Ending □</u></b></p> <p>What events might have changed how the story ended? Change at least one key event to write an alternate ending to this story. Remembering to use paragraphs, as well as incorporating your problem and solution.</p> |
| <p>I can make predictions about what will happen in my novel using prior knowledge and clues from the text.</p>  | <p>I can use comprehension strategies to interpret and analyse information and ideas from the text to create a piece of work in interview format.</p>   | <p>I can create a piece of writing that adapts or combines aspects of texts that I have experienced to create an alternate ending.</p>  |

## **RAZ KIDS READING RESPONSE FEEDBACK TASK**



**Kids A-Z** Reading

*Learning Intention:* I can use comprehension strategies to interpret and analyse information and ideas whilst reading a text.

*Please complete the questions below based off your assigned Reading A-Z text.*

*You will need to Log onto Raz Kids - <https://www.kidsa-z.com/main/Login>*

*If you have an iPad you can download the app.*

*Enter your Teacher's Username and your password*

*(Your password was posted to your google classroom earlier this term)*

**6A - TP6Brown**

**6B - TP6Dowling**

**6C - TP6Herbert**

**6D - TP6Mason**

**6E - TP6Stewart**

This is one of your Feedback Tasks this week, and will need to be completed and submitted via Google Classroom by Tuesday. Please make sure you add enough detail to your responses.

**Name of Text:**

**Name of Author:**

**What is the purpose of this text? What is the author trying to achieve? (For example: Is the author trying to inform, to educate or to entertain us as readers).**

**In full sentences, explain at least one connection you were able to make with the text.**

**Briefly summarise what the text was about:**

**What were the 3 most interesting words in the text? (We are looking for tier 2/3 words)**

**1**

**2**

**3**

**Choose a passage/sentence from the text and rewrite it using tier 3 words:**

### **Week 3 Writing Feedback Task: Letter**

A *letter* is a written, typed, or printed communication, sent in an envelope by post, email or messenger.

You will need to write a letter to one of the following:

- An essential worker eg. Healthcare worker such as a doctor, to say thank you for their hard work and dedication during this challenging time (this may be to someone you don't know or have never met).
- Someone in the future or past explaining life during Covid-19 in isolation
- A family member or friend who you are unable to see at the moment.

Your letter will need to be at least 3 paragraphs long so carefully plan what you are going to include in your letter. Make sure you take the time to proofread it carefully before submitting and sending.

Learning Intention- We are learning how to write a letter.

Success criteria-

- Your letter has a greeting - salutation
- You are using capital letters and punctuation correctly ,!?.
- You have clear paragraphs - separate your ideas
- Your letter is organised correctly with headings, body and concluding/close sentences
- Correct tense and written in first person
- Author's voice & word choice
- **SEND your letter to the person it is addressed to (or to a hospital/medical centre if you selected the first option).**

**Example of a letter and how to structure:** These docs are also located in week 3 writing material on Google Classroom

**WRITING ORGANIZER – Formal Letter**

|   |  |  |  |
|---|--|--|--|
| <p><b>RECIPIENTS ADDRESS</b></p> <p>NAME<br/>STREET<br/>TOWN<br/>POSTCODE</p> |  | <p><b>WRITER'S ADDRESS</b></p> <p>Street<br/>Town<br/>POSTCODE</p> |  |
| <p>DEAR SIR / MADAM</p>   |  | <p>DATE</p>  |  |
| <p>INTRODUCTION...</p>  |  | <p><b>EXPLAIN WHY YOU ARE WRITING</b></p>                          |  |
| <p>MAIN POINT OF THE LETTER...</p>  |  |  |  |
| <p>2<sup>nd</sup> POINT OF THE LETTER...</p>                                  |  |  |  |
| <p>3<sup>rd</sup> POINT OF THE LETTER...</p>                                  |  |  |  |
| <p>Conclusion of letter...</p>  |  |  |  |
| <p>YOUR NAME</p>  |  |  |  |

**Action Paragraph:** Reinforce what you want to happen. ( Apology, Promotion, Application etc. )

[www.englishclub.com](http://www.englishclub.com)

Darkest Great-Aunt Lucy,

1st August, 2016

I'm writing to you from my own bedroom in my new home, here in London. I've been adopted by a marvellous family who are called The Browns (whose generosity to bears seems limitless) and I want to tell you all about them and my adventures.

Since you moved into the Home for Retired Bears in Lima so many weeks ago, my life has been extraordinary! Having stowed away aboard a lifeboat on a gigantic container ship, I finally made it to England – just as you said I should! Although it was an extremely long journey, luckily I had just enough of your delicious marmalade to keep me going. On arrival in the port, I climbed on a train and ended up at a huge, bustling railway station where I thought I might find some friends. Unfortunately, I was there for hours before someone spoke to me even though I raised my hat and said, "Good morning." Most politely every time anyone passed. In addition, I made sure the label you wrote – the one with 'please look after this bear' – could be seen but everyone ignored me.

Thankfully, just as I was about to give up hope, an especially kind couple – The Browns – saw me and decided that they would take me home and look after me. Can you believe that? Since no one can pronounce my name in Panuvian bear language, they even gave me a new name. I am now called Paddington! Mr Brown explained that it is a very distinguished name for a bear.

When we flagged down a taxi, the driver said I couldn't get in because I was a bear. I gave him one of my special hand stores and he soon changed his tune – he ho! At the Browns' home, I was introduced to Mrs Bird (who is their housekeeper, she looks after them all) and their two children – Judy and Jonathan. My room is located in the attic; it has an incredible view of the city.

Mrs Brown insisted that I needed a coat to keep me warm so she's bought me a beautiful blue duffle coat with a red lining. I'm enclosing a picture of myself in it, looking very smart. As you can see, it goes a treat with Great-Uncle's hat. Oh, talking of which, I've discovered a brilliant way for any bear to ensure that he's always full of energy. Mrs Bird makes me a marmalade sandwich each morning, which I keep in my hat for emergencies!

Even though I've only been here a couple of weeks, I've made lots of friends already. The best is Mr Gruber – he's an antique dealer in Portobello Road. Whenever we visit his shop, he's always got fascinating artefacts to show us. On the other hand, there are less-friendly neighbours around. Mr Curry (the grumpiest man alive) lives a few doors away and he's ALWAYS complaining about something or other. Do you know what he said to Mr Brown last week? 'Bears make the street look scruffy; you'll raise our house prices.' What a cheek!

Anyway, Mrs Brown has just showed up that we're off for a trip to the Natural History Museum so I've got to get going now. So exciting, apparently there's a blue whale skeleton there. Write soon and let me know how you are. What are your friends at the Home for Retired Bears like?

Lots of love and marmalade,

Paddington

**Write your letter on the page below:**

# **Year Six Spelling**



# **Focus: Word Building**

*Recap: prefix, suffix and base/root word*





## **Task 1 - Word sort**

You've been given a list of words - cut them and sort them into groups..

Explain your reasons for grouping this could be based of phonics (sound), visual pattern or morphology (meaning) e.g.

- *These words all have the code...*
- *These words all have 2 syllables*
- *These words are all past tense*

Think about our focus as you group.

## Word Building

**undiscovered**      **recycling**

**friendly**              **disorganised**

**reading**                **unable**

**repeating**              **misunderstanding**

**teacher**                **musician**

## Task 2 - Explaining the sound

Base words can be turned into new words by adding a prefix, suffix or both.

Some words can even have two prefixes or suffixes

E.g. **undiscovered**, **beautifully**

With a highlighter - identify the different prefixes and suffixes in your list words

## Task 3 - Finding the sound

Word build these base words using the following prefixes and suffixes.

| <i>prefix</i>            | <i>base word</i>                      | <i>suffix</i>         |
|--------------------------|---------------------------------------|-----------------------|
| un<br>dis<br>re<br>trans | cover<br>use<br>cycle<br>plant<br>act | ed<br>s<br>ing<br>ful |

How many words can you make?

## Task 4- Word Building

Use these base words and build as many words as you can.

1. Happy
2. Look
3. Possible

Now come up with your own and keep practicing.



## **Task 5 - Dictation**

Listen carefully as a family member reads a short paragraph for you to write down.

Pay close attention to the full sentence as it will help you with your punctuation.

This dictation include a variety of sentence types.

## Task 5 - Dictation

1. Why was the recycling left undiscovered?
2. The teacher gave the class a friendly reminder.
3. "I'm very disorganised," said the musician.
4. He was unable to do his reading.
5. The girls had a misunderstanding.

**\*\*check punctuation is correct - especially the dialogue\*\***