

# Plattsburg Public School

Learning from Home

Stage 3



Term 4 Week 1

This booklet belongs to:

---



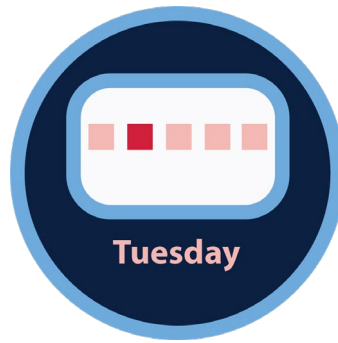
# K-6 Guided Learning Packages Week E S3 timetable

Online and offline timetable.










This new pack contains QR codes which you can scan to get online content. When you scan the QR codes it will take you to the activities and explanations in a video/online format. You are able to work through the work allocated for each day at your own pace.

<u>Tuesday</u>	<u>Wednesday</u>	<u>Thursday</u>	<u>Friday</u>
<a href="#">Care and connect - category challenge</a>	<a href="#">Care and connect – category challenge</a>	<a href="#">Care and connect - category challenge</a>	<a href="#">Care and connect – category challenge</a>
English – <a href="#">Vocabulary</a> <a href="#">Exploring similes</a> <a href="#">Similes in poetry</a> <a href="#">Gold as Honey</a> <b>Outcomes:</b> EN3-6B EN3-2A EN3-3A	English – <a href="#">ABCKidsNews</a> <a href="#">Mr Erasmus does the tango</a> <a href="#">Identifying and analysing similes in text</a> <b>Outcomes:</b> EN3-1A EN3-3A EN3-6B	English – <a href="#">Sandcastle</a> <a href="#">Creating similes</a> <a href="#">Writing similes</a> <b>Outcomes:</b> EN3-1A EN3-2A	English – <a href="#">Word Cline</a> <a href="#">The Sea Part 1</a> <a href="#">All about me</a> <b>Outcomes:</b> EN3-1A EN3-2A EN3-6B
Brain break <a href="#">Drawing</a>	Brain break <a href="#">Balance stuff</a>	Brain break <a href="#">Flamingo stylin'</a>	Brain break <a href="#">Throwing and clapping</a>
Mathematics – <a href="#">Imagining fractions</a> <a href="#">Order! Order</a> <b>Outcomes:</b> MA3-2WM, MA3-5NA, MA3-7NA MA3-1WM, MA3-4NA	Mathematics – <a href="#">Super shapes</a> <a href="#">Strike it out! Let's play</a> <b>Outcomes:</b> MA3-1WM, MA3-2WM, MA3-3WM, MA3-5NA, MA3-6NA, MA3-4NA	Mathematics – <a href="#">Same and different</a> <a href="#">Hit it</a> <b>Outcomes:</b> MA3-1WM, MA3-8NA, MA3-4NA, MA3-5NA	Mathematics – <a href="#">reSolve bakery 1</a> <a href="#">reSolve bakery 2</a> <a href="#">reSolve bakery 3</a> <b>Outcomes:</b> MA3-1WM, MA3-2WM, MA3-6NA, MA3-3WM, MA3-6NA

<p>GetActive@Home – <a href="#">Striking part 1</a></p>	<p>History – <a href="#">Democracy</a> <a href="#">Key figures and events</a> <a href="#">Federation</a> <a href="#">Research task</a> <b>Outcomes:</b> HT3-3 HT3-5</p>	<p>PDHPE – <a href="#">Benefits of being active and different environments that help us to be active</a> <a href="#">Obstacle golf – advanced</a> <b>Outcomes:</b> PD3-8</p>	<p>GetActive@Home - <a href="#">Striking part 2</a></p>
<p>Creative Arts – Links: <a href="#">Line Up</a> <a href="#">Print it straight up</a> Outcomes: VAS3.1, VAS3.2, VAS3.4, DAS3.2, MUS3.1, MUS3.3, MUS3.4</p>			<p>Science and Technology <a href="#">Representing numbers</a> <a href="#">Representing letters with numbers</a> <b>Outcomes:</b> ST3-11DI-T</p>
<p>Environmental Education - <a href="#">Your place</a> <a href="#">How to complete a KWL</a></p>			



## Things you need

Activity	You will need
<b>Most activities</b>	 Workbook,  pen or lead pencil, Optional: iPad, phone or computer
<b>Brain Break</b>	 Paper,  Textas or pencils
<b>Physical Activity</b>	Wear Shoes  timer Water bottle 5 varied items (eg a shoe, a small soft toy, a small ball, a pair of socks and a toy car) 
<b>Order! Order! 2</b>	sticky notes (or blank number cards)  markers 4 x 0-9 dice (you could also use playing cards, a spinner or numeral cards).
<b>Creative Arts</b>	Chalk or string, wool, balls or counters Paint of a chosen colour/s and a paint brush (if desired)  Blank paper Cardboard scraps, matchsticks/toothpicks or other stiff recycled materials such as scraps of plastic (for Option 1)  Textas, crayons, coloured pencils or a marker pen (Option 2)

During the day make sure you take time to

- do a care and connect
- take a brain break
- do some physical activity

## Care and connect – Category challenge

For this challenge you need a timer, a piece of paper and pencil.

Press the timer. Challenge yourself to write down your responses as quickly as possible that starts with each letter of M O N D A Y.

Press your timer and record your time.

Each day we will do a category challenge. Can you beat your time?

A place in Australia – M

Something that you can drink – O

A TV show – N

Something in the ocean – D

A job someone can do – A

Something you could say to a friend if they are having a bad day – Y

## Brain break – Drawing



1. Collect your paper and textas or pencils
2. Ask someone at home to draw 4 different shapes or lines or squiggles on the piece of paper
3. Use the shapes and squiggles to make a picture

Alternative: You could draw 4 shapes or lines or squiggles on a different piece of paper and ask someone at home to make a picture using them.



## Physical activity



Scan the QR code to watch the Physical Activity video or read the instructions below.

1. Collect the items you need (see the things you need list).
2. Warm up your body – Run on the spot for 30 seconds, star jumps for 30 seconds, squats for 30 seconds, jumping side to side for 30 seconds. Spend 3 minutes stretching your muscles.
3. Lay your 5 items on the floor face up. Now turn all the items to be face down. How many times can you turn your items (so that all are face up and then all are face down) in 30 seconds? E.g. Turning all 5 items face up = 1, then turning all 5 items face down = 2, and so on)
4. Using your hands as open (palm facing up) and closed (palm facing down) as a bat and a pair of rolled up socks – throw the socks up (not too high), turn your hand closed (palm down) and bat the socks up using the back of your hand, turn your hand open (palm up) and bat the socks up again, and keep turning your hand and batting the socks. How many times can you bat the socks up? Try this 3 times and see if you can beat your high score.
5. Using both your hands as open hands - bat the socks twice with one hand and then twice with the other. How many times can you bat the socks in 30 seconds?
6. Repeat step 5. However, this time after 4 bats go down onto your knees, after 4 bats stand back up, and repeat. How many times can you bat the socks in 30 seconds?
7. Make up your own challenge.

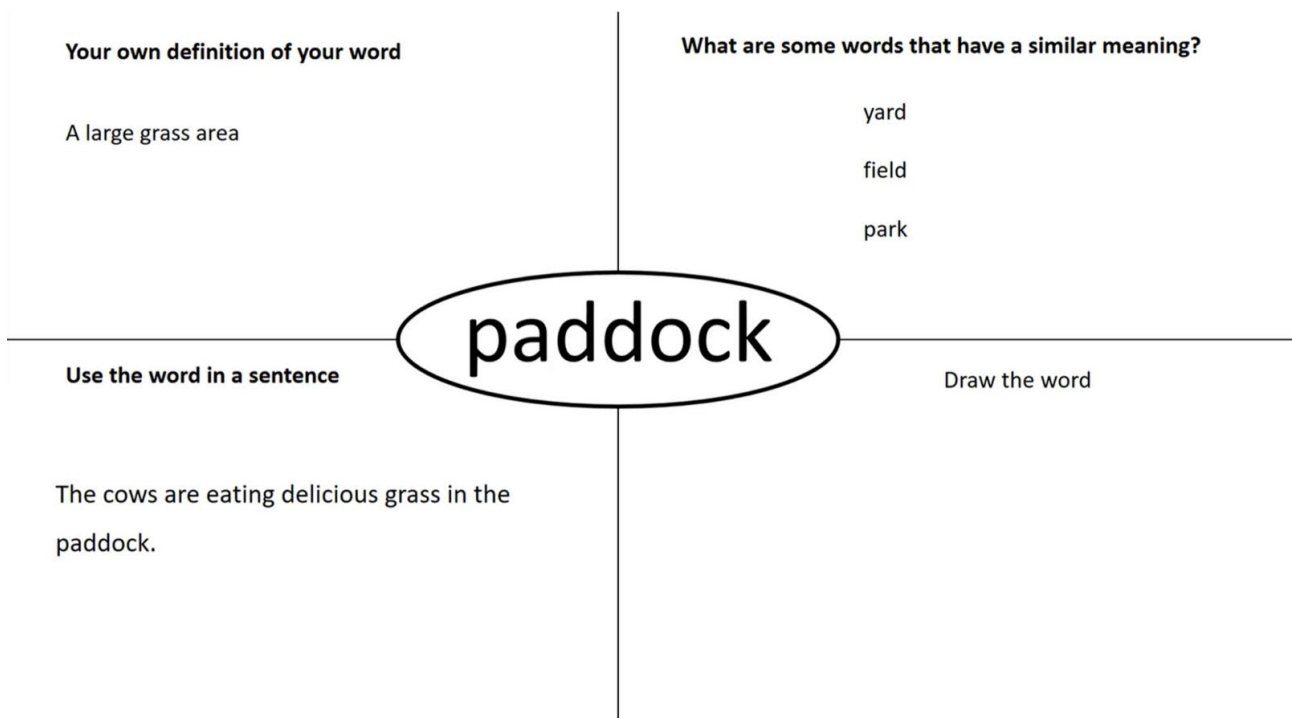


# English – Activity 1 – Vocabulary



Vocabulary		
claw	huddled	cushion
paddock	scanned	stroll
platter	gulped	ajar
visor	chattering	scent

Is there a word on the list that you have not heard before, or you are unsure what it means? Choose a few words to create a word map. If you know all of these words, choose a different word you don't know. Use a dictionary (you could use an online dictionary) to look up the words. Draw a word map in your workbook like the one below for each of your words to show your understanding of the words you have chosen.





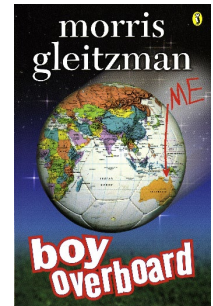
# English – Activity 2 – Reading: Exploring similes



Scan the QR code for today's lesson, or read the information below.

This is an example of a simile from the book *Boy Overboard* by Morris Gleitzman (2002).

“Jamal,” screams Zoltan, flapping his arms like a buzzard with a belly-ache.’



'Boy Overboard' by Morris Gleitzman © 2002. Used with kind permission from Penguin Random Publishing Australia

A simile compares two things that are similar but not the same. An example could be when comparing a kite's flying to a bird's flying. A simile uses the words “like”, “as...as” or “as if” to compare the two things, e.g. the kite flew **like** a bird.

In the above example from *Boy Overboard*, the word “like” is used to compare Zoltan's flapping arms to a buzzard with a belly-ache. This helps us to get a good picture in our minds of what Zoltan is doing.

Examples of simple similes:

- Her hands were **as** cold **as** ice. (We're comparing her hands to ice.)
- He ran **like** the wind. (We're comparing the boy's running and the wind.)
- He was **as** tall **as** a mountain. (We're comparing the man's height to the height of the mountain.)

To help your reader create a great picture in their minds, you could add further information and descriptive language.

- Her fingers were as cold as ice from a glacier.
- His teeth were as white as newly-fallen snow.
- The horse galloped like the winter wind, blowing from the arctic.  
The saucepan bubbled like a cauldron boiling over a fire.



"Horse" by BioPic is licensed under [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)



## Task: Similes

Complete the following table. Create five more examples of similes and non-similes.

What is a simile	What isn't a simile?
The pillow was as soft as snow.	The pillow was very soft.
Her skin was smooth like silk.	Her skin was smooth.

Look at the images below and brainstorm words to describe what you see. What nouns can you see? What adjectives describe the nouns? What verbs could you use?

Once you have brainstormed your words, create your own similes.



"Image" by [Britt Gaiser](#) is licensed under [CC BY 4.0](#)

Example: Fly **as if** a kite!

Finish this simile:

The hills were **as** \_\_\_\_\_

Then create three more of your own.



"Image" by [Colinslight](#) is licensed under [CC BY 4.0](#)

Complete your own similes for this image in your workbook.

# English – Activity 3 – Writing: Similes in poetry



Scan the QR code to hear the poem 'Gold as Honey' by Jenny Blackford, or read the poem below.

## Gold as Honey

My new kitten's name is Mittens.  
Her four paws are white as milk  
all the rest is gold as honey  
warm as sunlight  
soft as silk.



## Task

In this poem, similes are used to compare the colour, softness and warmth of the cat. For example, paws as white as milk, gold as honey, warm as sunlight, soft as silk.

Try re-writing the poem using different similes e.g. Her four paws are white as snow.

## Challenge

Write your own simile poem using this image of a dog.



"Husky dog" by [ClasicallyPrinted](#) is licensed under [CC BY 4.0](#)

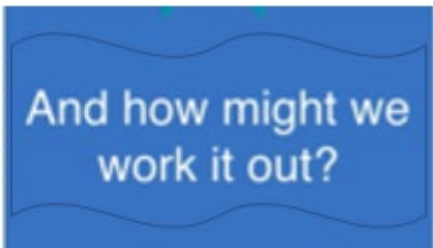
# Mathematics – Activity 1 – Imagining fractions 1



"Wedged in" by [Adam Hillman](#) Instagram

Look at this image above. Write down 4 things you notice when you look at the image.

Now I wonder



Draw or write your thinking about how to solve it here

Here are some suggestions. Did you see it in any of these ways?

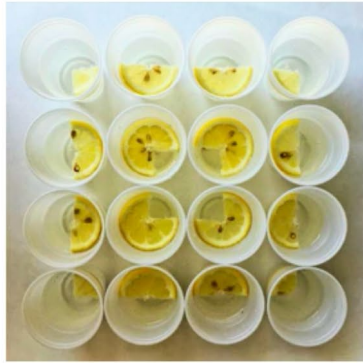
NSW Department of Education



One idea: We could add everything together like this:

$$\begin{aligned} &1/4 + 1/2 + 1/2 + 1/4 + 1/2 + \\ &3/4 + 3/4 + 1/2 + 1/2 + 3/4 + \\ &3/4 + 1/2 + 1/4 + 1/2 + 1/2 + \\ &1/4 \end{aligned}$$

But that makes my brain goggle...and I think I could be more efficient than adding 16 quantities together..



Another idea: We could collect the like fractions...

So, there are

1 and 4 and 3 is equivalent in value to...

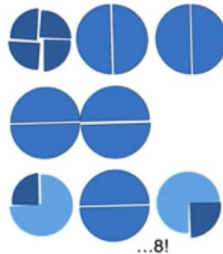


Image from: Adam Hillman <https://www.instagram.com/witenry/?hl=en>

- What's a different way you could have imagined the fractional slices of lemon moving?
- Draw pictures to capture your thinking.

If you have access to a device, you could scan the QR code to watch the video and explanation.





## Mathematics – Activity 2 – Order! Order! 2

In this activity you are going to be creating and ordering 4-digit numbers. This is explained here or you could scan the QR code to watch the game being played.



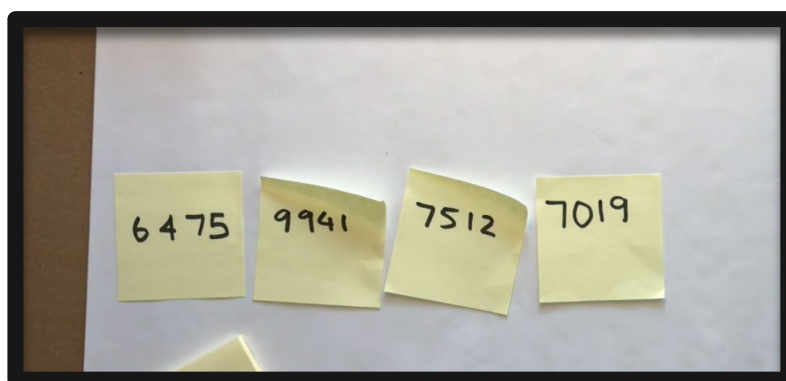
1. Roll dice 4 times to create a four digit number and write it on a sticky note or piece of paper. It could be a normal 6-sided dice or a 0-9 dice. You could also use cards or a spinner
2. Place the first number on the left of your table.
3. Repeat until you have 4 numbers all placed next to each other in the order they were created.
4. Read your numbers aloud.

Challenge: Move the numbers so that they are in order of smallest to largest, or largest to smallest in the fewest moves possible.

You can only move a card by swapping it with one that is next to it.

If you look at the picture below, we could swap 6475 with 9941. We cannot swap 9941 with 7019 because they are not next to each other. How many moves did it take you to complete the task?

Have a go and record here how many moves it took you.



To challenge yourself try using only the numbers 1-6. Does this make it harder to solve?

From Mike Askew, A practical guide to transforming primary mathematics, 2016

## Creative Arts – Activity – Line up

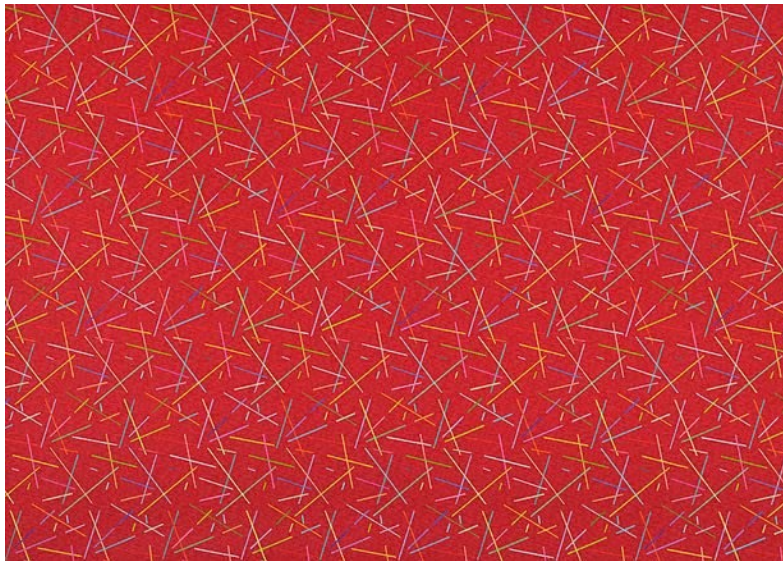
Scan the QR code to watch the teaching video or read the instructions below.



Today you are going to learn about Australian artist named Lesley Dumbrell. She loves to combine patterns with lines, shapes and repetition in a style called 'optical art'. Optical art is often nicknamed 'op art' and it usually makes an optical illusion. Optical illusions happen when our brain and eyes try to speak to each other in simple language but the interpretation gets a bit mixed-up. For more information about op art visit: <https://edu.nsw.link/tX4MSd>

Artist Briget Riley is one of the main op artists like Australia's Lesley Dumbrell. For more information about Briget Riley visit: <https://edu.nsw.link/mUoQ7s>

In her artwork 'Spangle', Lesley Dumbrell uses patterns with shapes, colours, lines and intersections with dots and dashes. Dumbrell's work is described as a type of 'Morse code' (sound patterns representing letters). Can you see the connection?



To access the artwork 'Spangle' from the art gallery of NSW visit: <https://edu.nsw.link/rqNNoo>



Activity: Create an artwork: Make a map of lines dots and dashes.

Option 1: If you can go outside and you have some chalk - Make a path that uses only lines, dots and dashes.

Option 2: If you don't have chalk or you need to stay inside - use some string or wool for the lines and dashes, and any balls or counters you have as dots.



Activity: Let's move! Represent your artwork through movement.

Look at your map. What movements could you do for the dots, lines and dashes? Think about using different levels (up high and down low) and movement dynamics (light or heavy steps). Using your movements create a short sequence of steps to represent your map. Video your movement sequence to show your teacher.



Activity: Create your own Op artwork using patterns.

1. Create your background. You might choose to paint the whole page with a particular colour or just leave it white. Once your background is dry, you need to decide which option you prefer for completing your 'op artwork' over your background:
2. Choose your option for making your artwork.

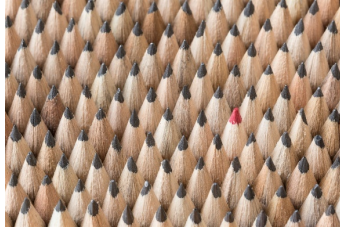
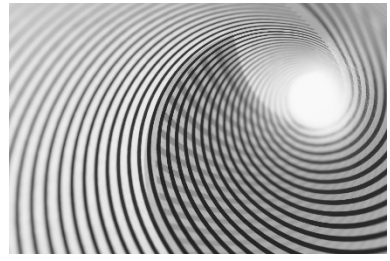
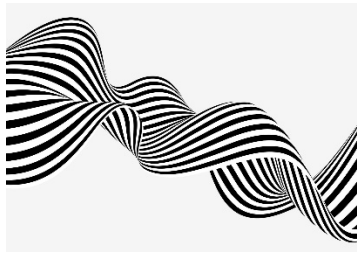
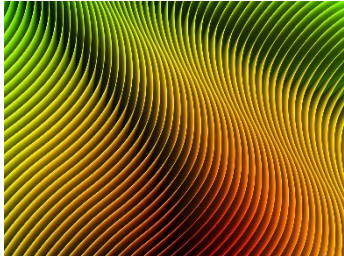
**Option 1** – Create a 'stencil' line-marker using available materials such as toothpicks, matchsticks, left over packaging (just like in the lesson overview video) or thick cardboard.

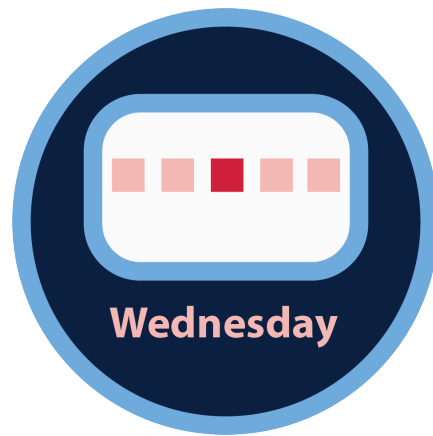
**Option 2** – Use a permanent marker, textas, crayons or paints in patterns of lines, dots and dashes.

Think about how you will compose your patterns, such as where is the focus (focal point), which directions will the lines go and how will the patterns work together? This could be a great activity to keep doing over time to share with your teacher later.






If you don't have paints or you are unable to make the stencil, you might like to use crayons, textas or coloured pencils to draw patterns of lines, dots and dashes instead. If you have time, you might even like to try other materials to make different 'op art' patterns such as pegs, pencils or sticks (like in the pencil pattern picture).







## Things you need

Activity	You will need
<b>Most activities</b>	 Workbook,  pen or lead pencil, Optional: iPad, phone, or computer
<b>Brain Break</b>	Choose some items from around the house to balance (e.g., cards,  rocks, a broom)
<b>Strike it out</b>	 Coloured pencils or textas
<b>HSIE</b>	 Highlighter

During the day make sure you take time to

1. do a care and connect
2. take a brain break
3. do some physical activity

## Care and connect – Category challenge

For this challenge you need a timer, a piece of paper and pencil.

Do you remember your time for yesterday's category challenge? Let's see if you can beat it.

Press the timer. Challenge yourself to write down your responses as quickly as possible that starts with each letter of T U E S D A Y.

An ice-cream flavour – T

Something you can wear – U

Someone you know – E

Something you buy at the supermarket – S

Something you pack in a suitcase – D

Something you can do to feel better – A

A three-letter word – Y

## Brain break – Balancing objects



1. Collect some items from around your house you could balance (e.g., a deck of cards, some rocks, or a broom).
2. See if you can stack them up to balance.
3. Can you make a tower of cards? Or a tall pile of rocks?

[This Photo](#) by Unknown Author is licensed under [CC BY-NC](#)

Challenge: Can you balance a broom to stand on its own?

# English – Activity 1 – Listening: ABC KidsNews



Scan the QR code to listen to 'Kids News' (ABC). If you can't listen to these stories, listen to, or read a different story. You could ask a family member to tell you a story, or you could listen to an audio book of your choice.

After listening to or reading each story, tell somebody something new you have learnt.

In your workbook, write down the interesting fact you heard or read.



["Listening cat"](#) by [naobim](#) is licensed under [CC BY 4.0](#)

## Challenge

Research more facts about one of the stories.

List anything you would like to know more about from the stories you heard.

## English – Activity 2 – Reading and viewing: Mr Erasmus does the tango



Scan the QR code to listen to the story 'Mr Erasmus does the tango' by Geoffrey McSkimming. If you are unable to listen to this story, choose your own imaginative text to read.



As you listen to the text, or read your own story, think about the language the author has used to create a detailed picture in your mind of the characters and events.

In your workbook, record examples of

- adjectives (describing words e.g., sunlit, high-walled),
- interesting verbs (e.g., tucked, nestled, soared),
- adverbs (words that tell us more about a verb e.g., gracefully, swiftly)



"Mr Erasmus" by [The School Magazine](#) is licensed under [CC BY 4.0](#)

## English – Activity 3 – Reading: Identifying and analysing similes in text



Scan the QR code to listen to today's lesson or read the following information.

Revise the information you learnt about similes yesterday. Today we will be exploring similes in texts.

"How clever he looked! How quick and sharp and full of life! He kept making quick jerky little movements with his head, cocking it this way and that, and taking everything in with those bright twinkling eyes. He was like a squirrel in the quickness of his movements, like a quick clever old squirrel from the park."

Charlie and the Chocolate Factory by Roald Dahl (1964)

Can you find the simile? What two things is the author comparing in this simile?



## Activity 1: Finding similes

### Your task

Highlight or underline any similes you find. Circle the two things being compared. Find whether the author has used “as...as” or “like.”

### Text example 1

Floating freely

Her wings spread apart-

As quick as a flash

She dives straight like a dart!

### Text example 2

Jack knew that the tide was coming in, he knew he would have to move quickly. The sand gave way beneath his feet as he marched like an army approaching.

### Text Example 3

It wouldn't be long now. The doctor's surgery had a queue a mile long – like a never-ending piece of string. He sat nervously, waiting for his name to be called. His mother was as calm as the smooth water that he had been so looking forward to swimming in. He sat with his wrist that was as limp as a rotten banana – he hoped it wasn't broken!



## Activity 2: Impact of similes

Similes help readers to visualise what is happening in a text. They also help readers to become engaged and enjoy what they are reading.

Look at the text below. Highlight the similes you can find. What impact do the similes have on the story? Record your answer in your workbook.

All at once, as fast as the airborne golf ball, a memory shot into Mr Erasmus's mind. He reached into his pocket and pulled out his great-uncle's journal.

Sylphie grinned and then darted, like a flash of mercurial lightning, out from under the branches and into the garden, where she scooped something up from the grass. She was back under the willow branches with Mr Erasmus before he had a chance to blink thrice.

They both watched as another golf ball, airborne like a missile, shot across the garden. It fell onto the roof and bounced down-Knock! Knock! Knock! —onto the ground.

'Mr Erasmus Does The Tango' by Geoffrey McSkimming. Published in The School Magazine Orbit 8, 2020



# Mathematics – Activity 1 – Super shapes

This task requires a LOT of mathematical reasoning. You must analyse problems so you can think about using what you already know to solve what you do not know yet.

1. Can you discover the value of each of the shapes in each of the problems?
2. Record your thinking in your workbook to share your thinking with your teacher.
3. If you need some suggestions try watching the video by scanning the QR code.



## Super shapes

(From [NRICH maths](#))

Each of the following shapes has a value:

$$\triangle = 7 \quad \square = 17$$

The value of the red shapes changes in each of the following problems.

Can you discover its value in each problem, if the values of the shapes are being added together?

1.  $\triangle + \text{red semi-circle} + \square = 25$
2.  $\square + \triangle + \triangle + \text{red circle} = 51$
3.  $\triangle + \triangle + \text{red pentagon} + \text{red pentagon} + \square + \square = 136$
4.  $\text{red triangle} + \text{red triangle} + \text{red triangle} = 48$
5.  $\triangle + \text{red oval} + \triangle + \square + \triangle + \text{red oval} + \triangle = 100$







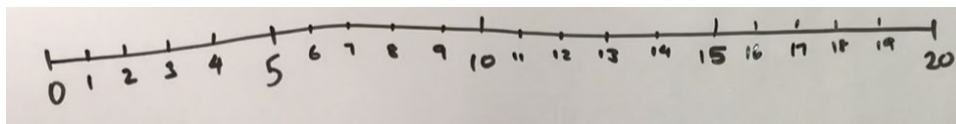
## Maths – Activity 2 – Strike it out! Let's play

This activity is an easy one to do on your own or you could take turns with a partner. It has come from Nrich maths. You can watch the game being played by using the QR code or reading the instructions



### Instructions

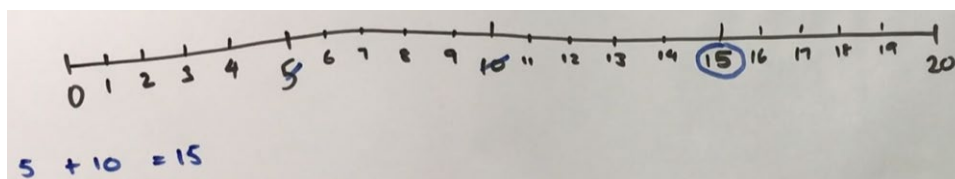
Start by drawing a number line from zero to 20.



You are now going to use a maths strategy of addition or subtraction to make up a question. In this game below they used  $5 + 10 = 15$ .

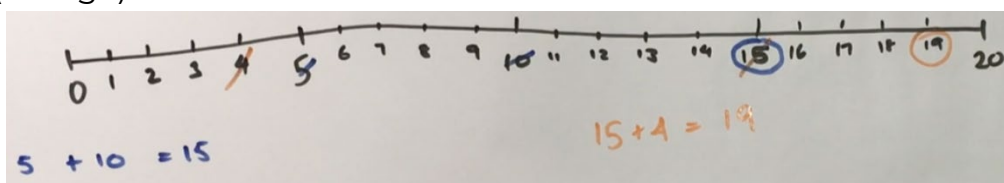
1. Cross out the numbers used for the algorithm in this one it was 5 and 10.
2. Circle the sum or difference of the numbers (15) and record the calculation below the number line.

For example, in the demonstration video, the first go looked like this:



3. The next move must start by crossing out the number circled by the first player.
4. Then think of another algorithm you can create and then cross out a second number that not already used.
5. Then circle the sum or difference of the numbers and record the calculation.

For example, in the demonstration video, the second go looked like this: (orange)

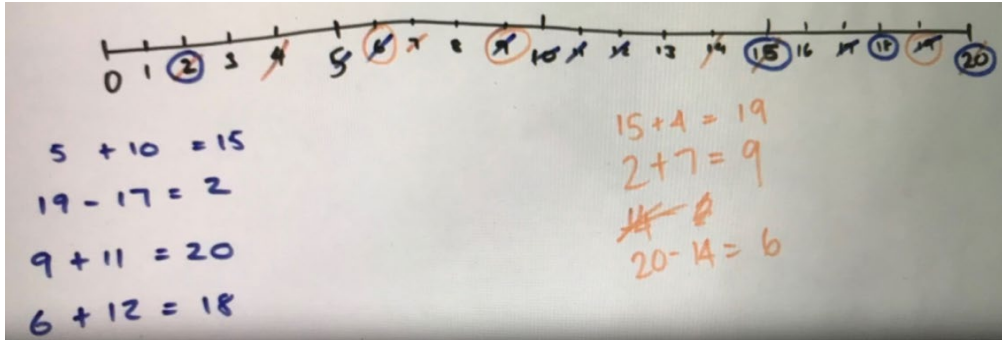


The goal is to see if you can use up all the numbers. **Remember** that you can't use a number again once it is crossed off.



## Challenge:

If you were playing the game below is another move, you can make? Can you see a move you could make next? If you can write it below. If not, what could you have done differently in the game?



# HSIE – Activity 1 – Democracy



Scan the QR code to watch the teaching video on Democracy or read the instructions below.

Today we will be learning what the term democracy means and what it means in Australia.



## **In your workbook:**

What is democracy? In your workbook - write down what you think democracy is. At the end you will come back to this and see if your understanding has changed.

## **Activity:**

Read this information and highlight some of the values of democracy

## **Information:**

Long, long ago in ancient Greece, the people of Athens were in danger. The Persians were planning an attack. Some people in Athens wanted to have a war but not everyone in the city wanted to. To give the people more of a say on big decisions, the Greeks came up with something they called democracy. Democracy is a mashup of two Greek words, demos, meaning people and cratos meaning power or rule. So together it basically means - rule of the people (people make decisions). They let people vote on issues so they could have a say on what affects them. Unfortunately, they didn't really mean everyone. Women, slaves, and the poor (people who were poor) were not allowed to vote. That still left thousands of men and all of them were allowed to attend meetings and vote on any issues that were important to them. The ancient Greeks were some of the first people to experiment with better ways of leading their people. While their system was far from fair, it was a pretty revolutionary idea while it lasted.

As time went on, new rulers took over. Things changed and democracy kind of died out for a while. By the Middle Ages, monarchies had become popular. That's where Kings and Queens rule and the people don't get a say. But an important document called Magna Carta evened things up a little by promising people some very basic rights. Slowly over the next few hundred years the idea of democracy started to take hold again.

Fast forward to today and democracy is the most popular form of government around the world. But it works very differently to how it did in ancient Greece. In

Australia we have something called a representative democracy. That means that unlike ancient Greece where everyone went to meet and vote on laws, we elect a representative to do that for us. They're our politicians and they represent us in Parliament. It's their responsibility to keep in touch with their voters and make sure their voices are heard on a national level.

Some really important values also form the basis of our democracy here in Australia. We're guaranteed the freedom to express our views without getting into trouble. Equal rights for people from all different backgrounds and the right to justice, and a fair and independent trial. That's democracy in Australia.

Well done and I hope you have a clearer understanding of what democracy means.

**Some democracy value key words you may have highlighted:**

- Freedom
- Equality
- Fairness
- Justice
- Freedom of election and being elected
- Freedom of assembly and political participation
- freedom of speech
- rule of law

**Reflection:**

What is democracy? In your workbook you wrote down what you thought democracy was at the start of the lesson. Has your understanding has changed? Write a new definition for Democracy

## HSIE – Activity 2 – Key figures and events

Scan the QR code to watch the teaching videos on Key figures and events Part 1 and Part 2 or read the instructions below.



Part 1



Part 2

The Parliamentary Education Office Video can be accessed through the website: <https://edu.nsw.link/vjz9ye> or you can read the information below.

In this activity we will be continuing to learn about democracy. You will be learning to understand the process of, and the people who contributed to, the Federation of Australia.



### **Information:**

On 1 January 1901 Australians celebrated not only a new year but the birth of our new nation.

100 000 people gathered in Centennial Park to watch as Queen Victoria's representative, the Governor-General Lord Hopetoun, proclaimed the Commonwealth of Australia. They cheered as Edmund Barton was sworn in as Australia's first Prime Minister.

Before 1901 Australia was not a nation. Rather, it was 6 separate British colonies. They were like 6 different countries. Each one had its own parliament, laws, and small defence force. They each taxed goods brought in from the other colonies. They also issued their own stamps, and even built different railway systems, which made travel across the continent very difficult.

The people living in these colonies began to identify themselves as 'Australians' and started to think that the colonies would work better if they united as a nation. They felt a national government should look after things like defence, trade, immigration, and foreign policy.

During the 1890s, representatives from each colony met to create a set of rules for how this new nation would work. These rules are known as the Constitution.

In 1899 and 1900 the people in each colony agreed to the Constitution by voting in referendums. It was the first time in history that a group of people voted to create a new nation.

But the colonies were still under the law-making power of Britain. Before they could unite, they needed the approval of the British Parliament.

In July 1900, the British Parliament passed a law—the Commonwealth of Australia Constitution Act. The 6 colonies became the 6 states of Australia and federal Parliament was created. This is known as federation.

On 1 January 1901 federation was celebrated across Australia with parades, street parties, picnics, and fireworks.

The first federal Parliament met later that year in Victoria's Parliament House. Australians were ready to unite as 'one people', under 'one flag' with 'one destiny'.

Many people made significant contributions to the Federation of Australia



### **Research task:**

Option 1: Choose to research one person, or more if you wish from this list:

- Sir Henry Parkes
- Edmund Barton
- Louisa Lawson
- Vida Goldstein
- Alfred Deakin

In your workbook – your notes should include the name of the key person and an explanation of their contribution in the development of Australian democracy.

Key questions for your research:

- Who was the person?
- What was their viewpoint on Federation?
- What was their contribution to the establishment of Federation?

Option 2: If you are unable to research, make notes using the information provided above and create a presentation about Federation

### **Present your work:**

Think of a creative way you could present your work for others to view.

You might use your workbook or piece of paper and present your research as a report.

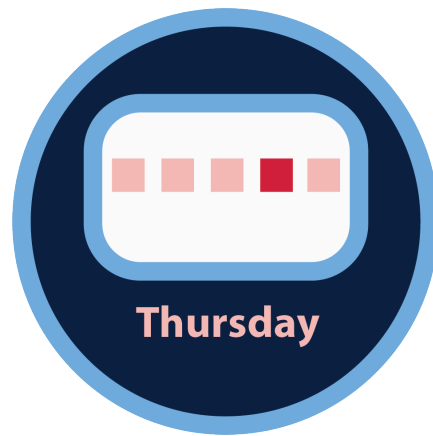
You could use a computer or device. You could create a Google Slides or PowerPoint presentation. A poster or written answers to the questions.

You could choose to do a video. You could do a news report or record your voice reading your research.








Make sure you send you finished product to your teacher.







## Things you need

Activity	You will need
<b>Most activities</b>	 Workbook,  pen or lead pencil, Optional: iPad, phone or computer
<b>Brain Break</b>	 Timer
<b>Same and different</b>	 Coloured pencils or textas
<b>Hit it</b>	0-9 dice or playing card Ace to 9 or numeral cards.
<b>PD/H/PE</b>	<p>a soft object to throw (for example,  soft ball, pair of socks, soft toy, scrunched-up paper)</p> <p>3 objects to create targets for objects to hit (for example,  bucket, a long piece of string laid in a circle, an 'X' formed by two pieces of tape/material, a t-shirt laid on the ground, a chair/bench, a wall, a tree)</p> <p>3 or more different unbreakable objects to act as an  obstacle</p>

During the day make sure you take time to

- do a care and connect
- take a brain break
- do some physical activity

## Care and connect – Category Challenge

Challenge yourself to write down your responses as quickly as possible that starts with each letter of W E D N E S D A Y. Press the timer. GO!

Something that you can wear – W

Something that you can eat for breakfast – E

Something people are afraid of – D

Something you love – N

Something physical you can do – E

Something in the sky – S

Somewhere you can go on holidays – D

A country – A

A four-letter word – Y

## Brain break – Balance on one leg



Can you balance on one leg and count to 30?

Next, try to balance on your other leg for 30 seconds?

Which one was easier?

How long can you balance without putting your foot down?

[This Photo](#) by Unknown  
Author is licensed under [CC](#)  
[BY-SA-NC](#)



## English – Activity 1 – Speaking and vocabulary: Sandcastles



"Sandcastle" by [FabianZepeda](#) is licensed under [CC BY 4.0](#)

Look at the picture of the sandcastle. In your workbook, brainstorm words that you could use to describe the sandcastle. You could include adjectives (describing words, for example rough, crystallised), adverbs (a word that describes a verb, for example, majestically) and figurative language (for example, similes – rough as sandpaper).

Don't forget to include descriptions about colour, size and shapes. Remember to use your five senses. What can you see, hear and smell? What are the textures you can feel? Would the sandcastle be fragile or strong?

If you can, describe the sandcastle to someone in your home. You may also like to record your description on a recording app on a phone or computer.

### Challenge

In your workbook, write a descriptive paragraph describing the sandcastle.

Describe the sandcastle to someone else and see if they can draw your description.

# English – Activity 2 – Reading: Creating similes



Scan the QR code for today's lesson, or read the following information.

Revisit the information about similes from your last lessons.

**Remember**, a simile compares two things and uses the words “like”, “as... as” or “as if”. Authors use similes to engage their readers, create clear images and use less words.

Some examples:

- He was as slow as a snail who was running on an empty battery.
- The kite took flight as if an albatross launching with the wind from the highest peak.



## Task

In your workbook, create your own descriptive similes to help your reader imagine exactly what you are seeing.

- The saucepan bubbled....
- He was as quick as...
- She ran....

Similes can bring characters to life! We'll begin with a brainstorm of a character. This is Miss Trunchbull from the book 'Matilda' by Roald Dahl.



<b>Looks like</b> <ul style="list-style-type: none"><li>• tank</li><li>• brick wall</li><li>• thick eyebrows</li><li>• wiry hair</li><li>• dirt encrusted</li><li>• bulging stomach</li></ul>	<b>Sounds like</b> <ul style="list-style-type: none"><li>• foghorn</li><li>• loudspeaker</li><li>• rough</li><li>• screeching bird</li></ul>
<b>Smells like</b> <ul style="list-style-type: none"><li>• moth balls</li><li>• dust</li><li>• musty leather</li></ul>	<b>Feels like</b> <ul style="list-style-type: none"><li>• oily face</li><li>• scaly legs</li></ul>

'Matilda' by Roald Dahl © 2014. Used with kind permission from Penguin Random Publishing Australia.

Choose one of the descriptive words from the above table and create your own similes. Remember the simile needs to compare two things. For “Looks like”, we have compared her stomach to a tightly strung ham. Finish the other three quadrants.

<p>Looks like</p> <p>Her stomach bulged like a tightly-strung ham</p>	<p>Sounds like</p> <p>Her voice boomed.....</p>
<p>Smells like</p>	<p>Feels like</p>

Now choose your own character from a story. Write descriptive words for your character. Choose one of your descriptive words from each quadrant and create a simile.

<p>My character is:</p>	<p>Looks like</p>	<p>Sounds like</p>
	<p>Smells like</p>	<p>Feels like</p>
<p>My similes</p>		

# English – Activity 3 – Writing: First time simile event



Scan the QR code for today's lesson or read the following information.

We are going to write a description using similes. For this task, you need to think of an activity you did for the first time and describe this event.

Let's look at an example of how you might be feeling when you go on a skiing trip for the first time.

	Feeling	Simile
How were you feeling before the event?	Excited	I was as excited as a dog when he sees a large bone.
How were you feeling during the event?	Nervous	I was feeling as nervous as an acrobat on a trapeze.
How were you feeling after the event?	Exhilarated	I was feeling as exhilarated as an athlete winning a medal at the Olympics.



## Task

Think of something you are doing for the first time. In the table, record your feelings. Think of a simile that compares your feeling to something else. Remember to use "like", "as...as" or "as if".

	Feeling	Simile
How were you feeling before the event?		
How were you feeling during the event?		
How were you feeling after the event?		

# Mathematics – Activity 1 – Same and different

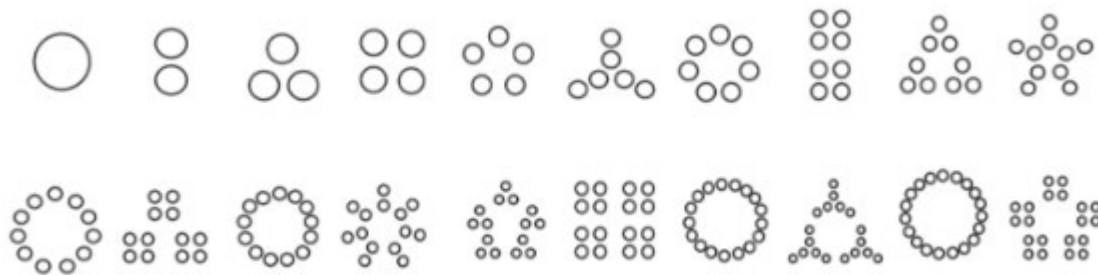
Numbers and patterns are interesting things. They are in the world around us everywhere. We all see things differently and notice different things.



Look closely at the picture with all the circles. Can you see they are the numbers 1-20? Can you see any patterns that interest you?



Colour in the numbers to 20 and show some of the patterns you can see. You can do it here on the picture.



Can you explain some of the patterns and why you coloured things in a certain way?





Now let's look at the coloured numbers. Why do you think they have used different colours in different numbers?



Write here some of the things you notice.

### What is some of the mathematics here?

We can see that bigger numbers are made up of smaller numbers, and these visuals help us see the composition of numbers.

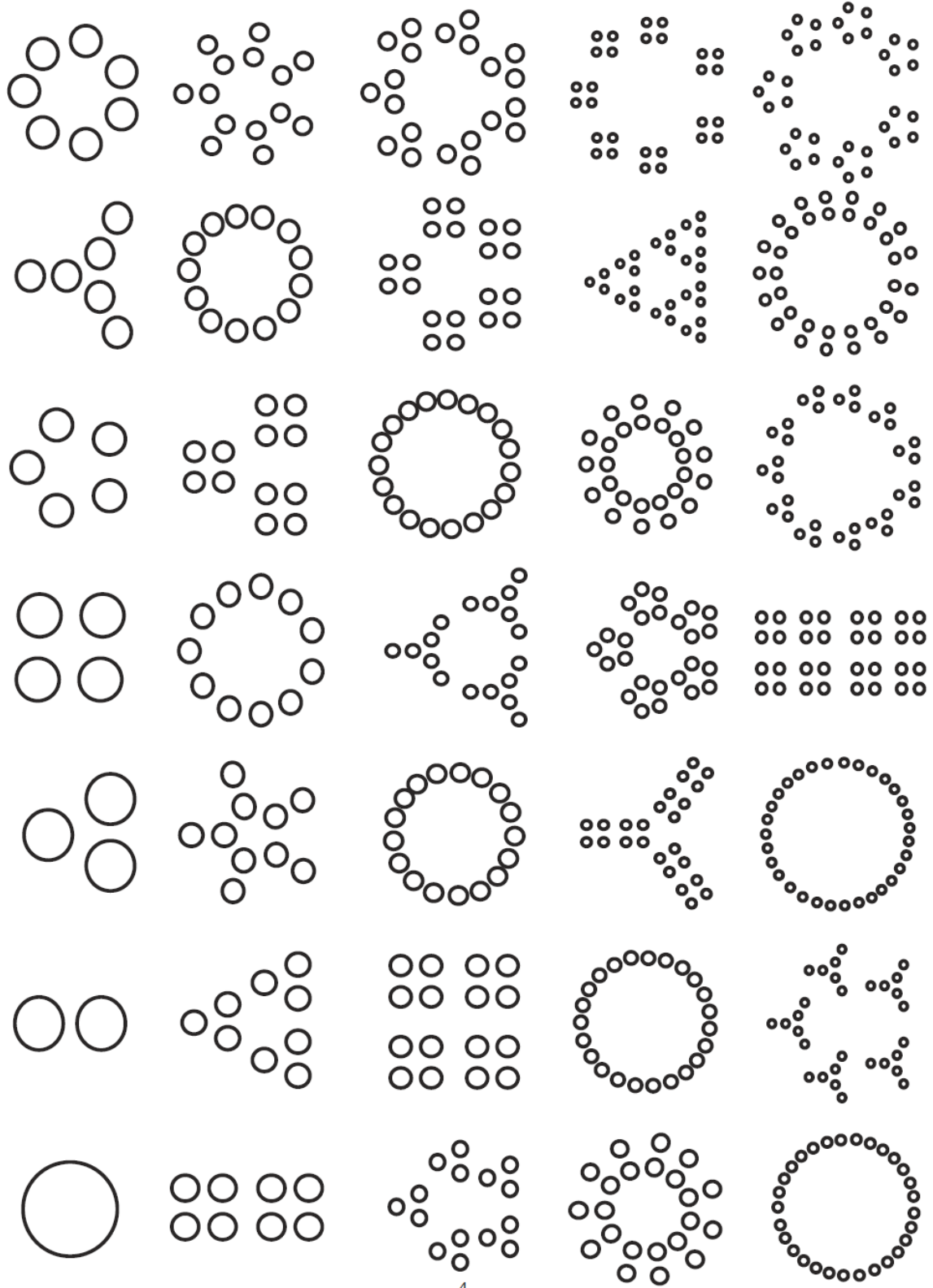
Some numbers can be partitioned into equal groups in different ways, and other numbers can't be partitioned into equal groups at all.

Numbers can have the exact same value, but look quite different. Just look at these two ways of representing 8.

If you have time why not try the next page which has numbers to 50. What patterns can you see?

Scan the QR code to see what the Maths team found interesting when they looked at this.







## Mathematics – Activity 2 – Hit it!

You will need:



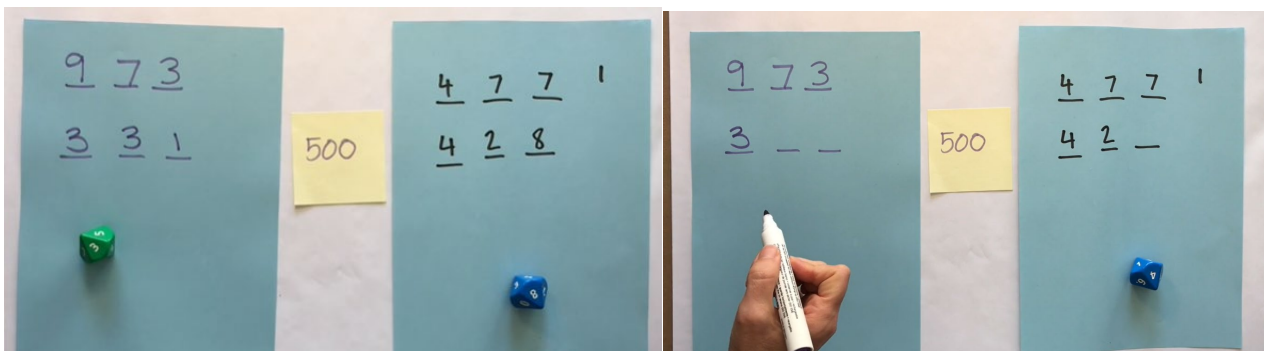
- pencils



- your workbook



- 0-9 dice or playing card A-9 or numeral cards.



This is a two-player game.

- You need to come up with a target number, which is the same number for both of you. It needs to be a multiple of 100 (for example 200 or 500).
- Each player, on their own piece of paper, put three dashes ( \_ \_ \_ ). This is where they will write their numbers on to.
- Player one will roll their dice and think about one of the dash's to put their number into. The goal is to get as close to the target number as possible. If I roll a 7 I can put it as 7 \_ \_ so 7 hundreds or \_ 7 \_ for 7 tens or \_ \_ 7 for 7 ones.
- Keep rolling, filling in your dashes till you and your partner have a three-digit number. Explain to your partner how close you are. Whoever is closest wins.
- Play again with the same target number or maybe try a bigger number (still a multiple of 100) but with four digits like 5000.



## PDHPE – Option 1 – Being active



Scan the QR code to watch the teaching video on 'Being active' or read the instructions below.

### **What does the word active mean?**

Being active means moving your body.

You can be active both inside and outside your home.

Being active can include actively playing with your family and friends, playing a sport or other exercise such as skipping.

### **What are the benefits of being active?**

- Stronger bones and muscles
- Feeling happy
- Better sleep
- Improved balance, coordination and skills
- Improved concentration
- Meeting new people

### **How do different environments help us to be active?**

We can use different natural and built environments to be active. Examples of natural environments include the beach, national park, river and bushland. Examples of built environments include a playground, gym, stadium, backyard, home and school play space.



### **Complete the activity:**

Choose a natural or built environment that you have access to. Once you choose your environment you need to explain how you can be active in the space. For example, in your workbook you might write a letter to a friend explaining how they could be active in the environment, you might create a map that shows someone how they could be active in the environment, or you might record a list of activities and explain how you could do them in the environment.



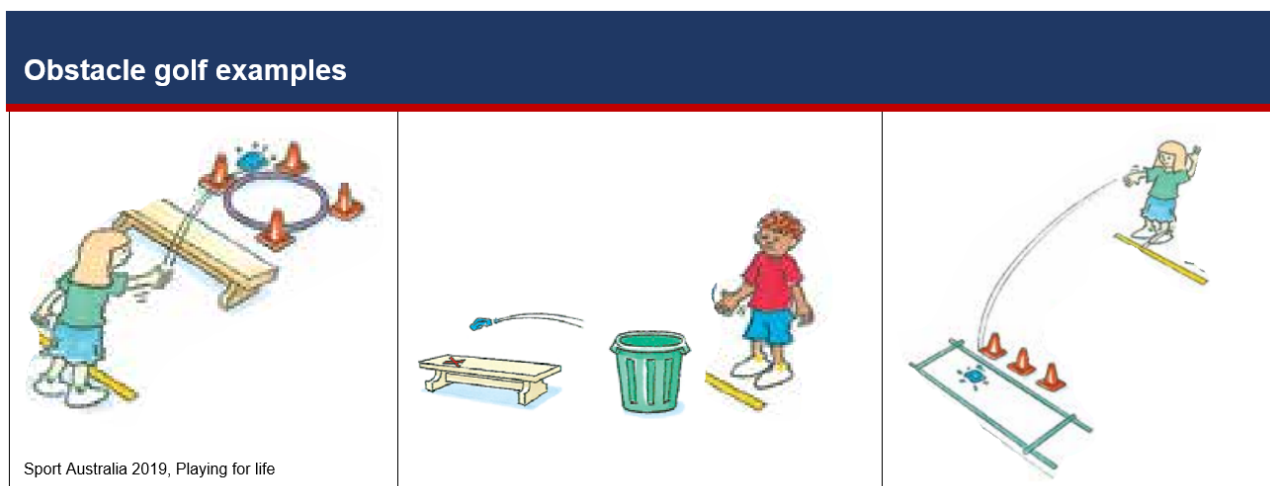
## PDHPE – Option 2 – Obstacle Golf



### advanced

Scan the QR code to watch the teaching video on Obstacle Golf advanced or read the instructions below.

1. Create 3 targets that you can safely throw a soft object towards. Choose a 'starting point' where you will throw the object from. Place each target at different distances from the 'starting point'. Where possible, create targets that are different to ones created in previous lessons (if you completed previous weeks). Consider the size, shape and whether the object to be thrown needs to hit it or land inside it.
2. Choose or create at least one object that will act as an obstacle. The obstacle needs to be placed between the 'starting point' and the target.



Your challenge is to create an inclusive learning environment by modifying rules and scoring systems. To do this you will play 'Obstacle golf – advanced – opposite hand'. An inclusive environment is where everyone can participate.

Imagine your preferred throwing hand is representing you while your opposite hand is representing one of your peers. In other words, your right hand is versing your left hand.

Your preferred hand is the one you use to throw most of the time while your opposite hand is the hand you don't usually use.

Consider how your throwing may be more accurate when using your preferred hand and any differences in technique and success to when you use your opposite hand.

Create rules and a scoring system that will allow both hands to be fairly evenly matched.



**In your workbook** - record the rules and scoring system you have developed or modified to make the game of 'Obstacle golf – advanced – opposite hand' inclusive and evenly matched.

Example rules include:

Preferred hand

- must take 3 steps back to the first throw
- uses the object that has many corners in many different directions
- has first attempt so the opposite hand can evaluate their strategies and use them to plan their own strategies.

Example scoring systems include:

Opposite hand

- receives one bonus throw that is not counted to the score
- scores a bonus throw if they can get the object to rebound off the obstacle
- scores bonus points when throwing overarm because it is more difficult than underarm.

### **Play 'Obstacle golf – advanced – opposite hand'**

1. Throw the object towards the target. You should aim to hit the target. Pick up the object from where it landed and throw the object again until the target has been hit.

2. Repeat the challenge 5 times for each of the 3 targets.

3. Draw the table into your workbook and record how many throws it took to hit each target.

How many throws did it take to hit the target?	Attempt 1	Attempt 2	Attempt 3	Attempt 4	Attempt 5
Target 1 – preferred hand					
Target 1 – opposite hand					
Target 2 – preferred hand					
Target 2 – opposite hand					
Target 3 – preferred hand					
Target 3 – opposite hand					

## **Reflection**

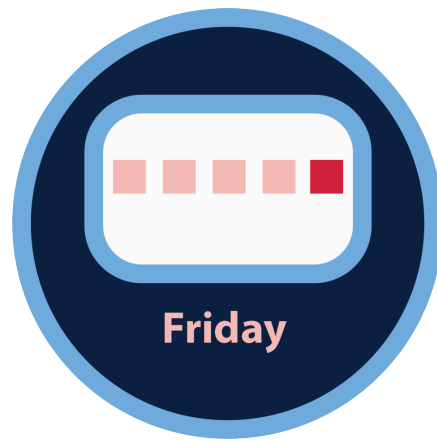
Reflect upon your performance in the game of 'Obstacle golf – advanced – opposite hand' and record your responses in your workbook.

Explain how you refined your strategy and throwing technique during the game Obstacle golf to effectively use the rules and scoring system.







Explain any changes you would suggest to make the game more inclusive.







## Things you need

Activity	You will need
<b>Most activities</b>	 Workbook,  pen or lead pencil, Optional: iPad, phone or computer
<b>Brain Break</b>	 Ball (inside options – teddy bear, rolled up socks or rolled up piece of paper)
<b>Physical Activity</b>	 6 small soft balls (or 6 pairs of socks or similar small soft objects) Tennis or squash racquet (or similar)  A washing basket or bucket Water bottle
<b>Science and Technology</b>	 Cardboard to make 6 cards. (size, approximately 10x15cm).

During the day make sure you take time to

- do a care and connect
- take a brain break
- do some physical activity

## Care and connect – Category Challenge

Can you beat your previous times? You know the rules – one word for each letter of T H U R S D A Y. Here we go. Press the timer. GO!

Something you wear on your feet – T

Something in your house – H

A four letter word – U

Something that tastes nice – R

Something fun you do on a school day – S

Something you take to the beach – D

A vegetable – A

Something that is yellow – Y

## Brain break – Throw and Clap



[This Photo](#) by Unknown  
Author is licensed under [CC](#)  
[BY-SA](#)

If you're outside: use a tennis ball (make sure you have plenty of space around you).

If you're inside: use a teddy, a rolled-up pair of socks or a scrunched up piece of paper (make sure you have plenty of space around you).

Throw the ball up in the air and catch.

Throw the ball up, clap while it's in the air and catch.

Throw the ball up, clap twice while it's in the air and catch.

Challenge: What is the most number of claps you can do before you catch the ball?



## Physical activity



Scan the QR code to watch the Physical Activity video or read the instructions below.

8. Collect the items you need (see the things you need list)
9. Warm up your body – Run on the spot for 30 seconds, star jumps for 30 seconds, squats for 30 seconds, jumping side to side for 30 seconds. Spend 3 minutes stretching your muscles.
10. Using your racquet pick up 1 ball and do 10 little hits up then pick up the next ball and do 10 little hits. How many balls can you get through in 30 seconds?

11. Stand side on. Hold your racquet and practice slowly swinging your racket in the forehand motion (see picture) and pretending to hit a ball.

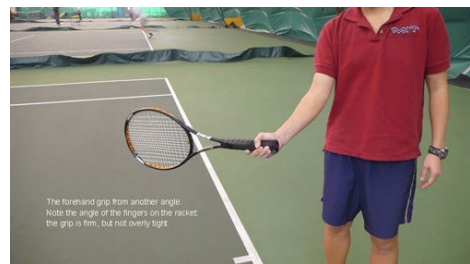
12. Using a ball of socks and your basket or bucket practice standing side on and hitting the socks gently towards the basket or bucket. How many times can you hit the basket or bucket with the socks in 30 seconds?

13. Turn and face the other side. Hold your racquet in the same hand and practice slowly swinging your racket in a backhand motion and pretending to hit a ball.

14. Repeat step 5 doing your backhand with

15. If you don't have a racquet you could do these activities using your hand

16. Challenge: How far away can you have the basket or bucket and still hit your socks into it?



[This Photo](#) by Unknown Author is licensed under [CC BY-SA-NC](#)



[This Photo](#) by Unknown Author is licensed under [CC BY-SA-NC](#)

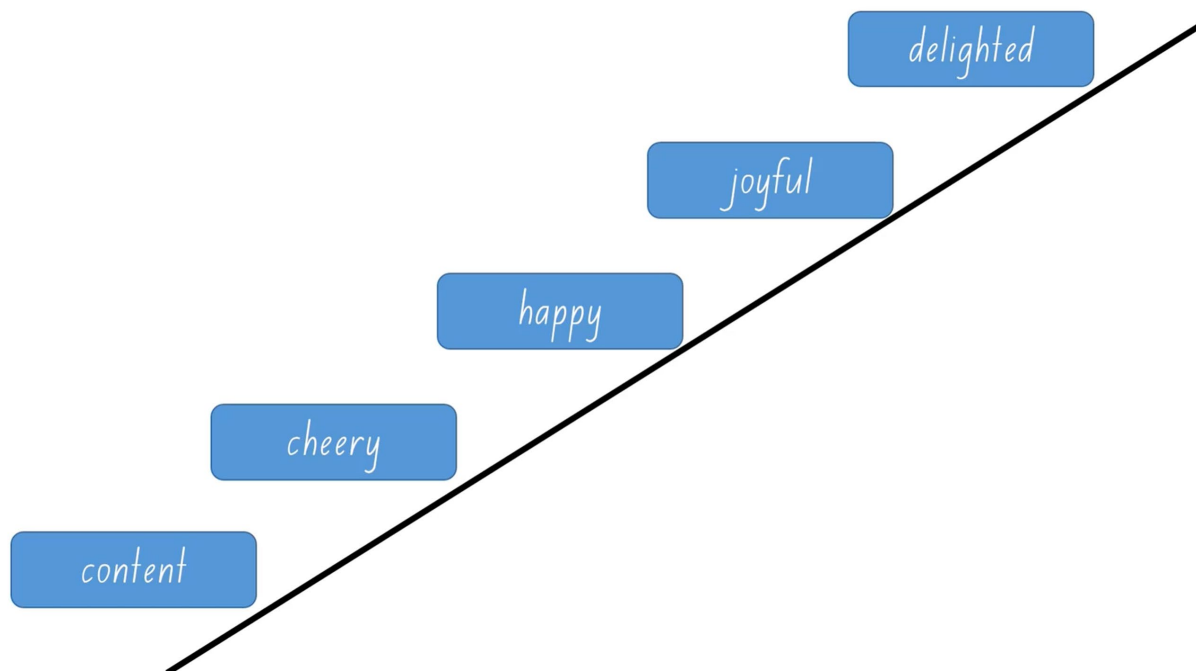
# English – Activity 1 – Vocabulary: Word cline



Scan the QR code for today's lesson or read the following information.

A word cline shows words that have a similar meaning. The words are placed on a 'cline' (or along a line) in the order of their strength.

For example:

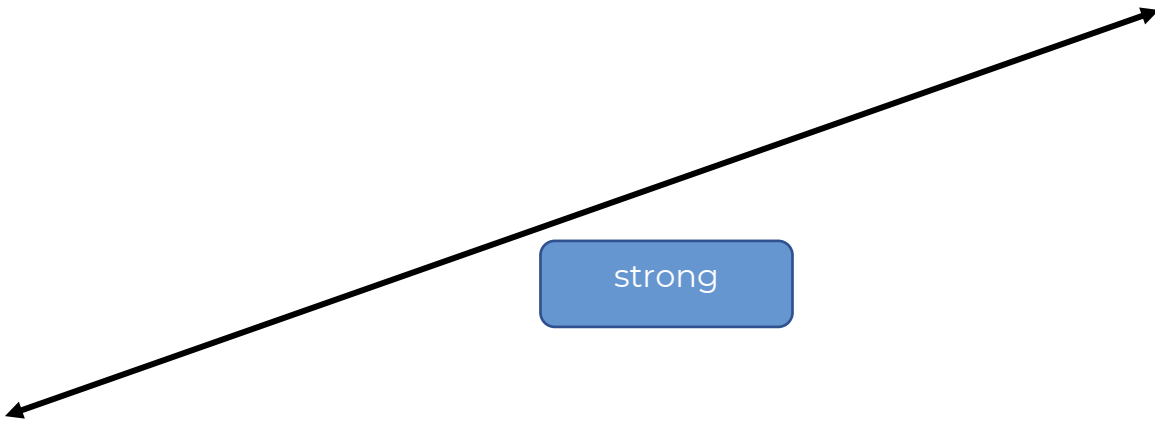


In this example, happy is in the middle. If you are feeling happier than happy, you might be feeling delighted. That word goes higher on the cline. If you are feeling content, you can still be happy, but you are not necessarily cheery. That word will go lower on the cline.



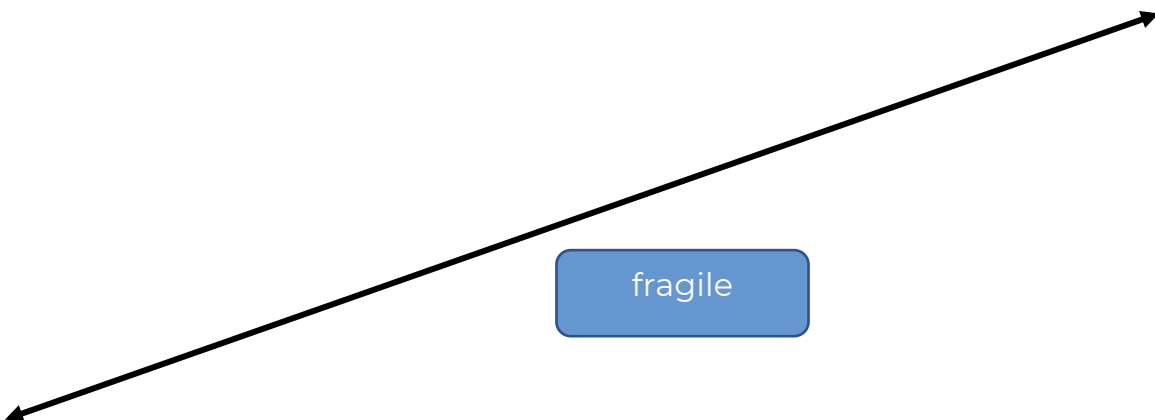
Use these five words and put them in order. Strong has been placed on the cline for you. What word means the strongest? Put that at the top of the cline. What word means the least strong? That word goes at the bottom.

- powerful
- firm
- sturdy
- tough



Complete the task for words that mean fragile. Which word means the most fragile? Which word means the least fragile?

- weak
- flimsy
- delicate
- frail



# English – Activity 2 – Reading and vocabulary: The Sea – Part 1



Scan the QR code for today's lesson or read about the activity below.

## The Sea by Paula Stevenson

I can smell it first—  
the salty air, feel it  
crusting my skin,  
stiffening my hair.

On the sandy floor  
of the rock pool  
three red starfish  
gaze at the sky above.

Then I can hear it—  
the engine of the sea  
roaring, churning.

I race across  
the stinging sand  
to the cool fringes  
of the waves.

My toes disappear—  
footless I stand  
like a statue  
on a strange shore.

The waves unroll  
then retreat  
exposing my feet  
on corrugated ridges.

Above me gulls shriek  
diving like arrows,  
piercing the skin  
of the sea.

I trace a trail  
past glowing bluebottles  
and beaded seaweed.









## Task 1

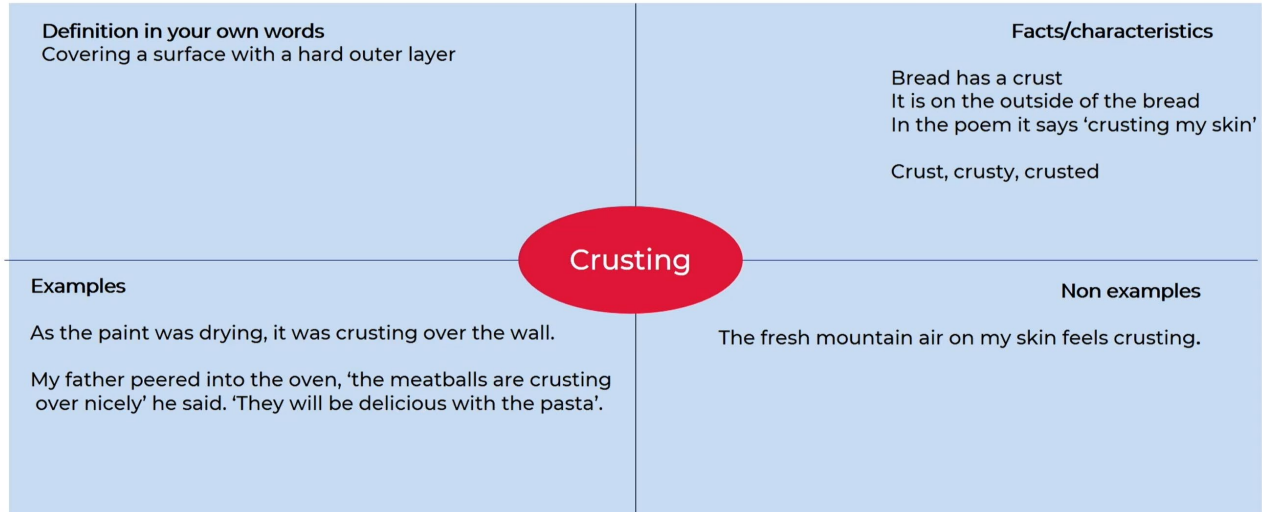
As you read the poem, sketch the images that come into your head. Add some nouns, adjectives and verbs to describe your sketch. Use a thesaurus to find other words to help you describe what this poem helps you to see in your mind.



## Task 2

A “Frayer model” helps us to look at words closely. We have completed an example for you, focusing on the word “crusting”.

### Frayer Model



Choose a different word from the poem 'The Sea' by Paula Stevenson that you are unfamiliar with or one that you would like to investigate further. Write the word in the circle.

Complete the Frayer model for the word you chose. You might like to use an online dictionary to help you.

Definition in your own words	Facts/ Characteristics
Examples	Non examples

○

# English – Activity 3 – Writing: Simile poem - 'All about me'



Scan the QR code for today's lesson or read the instructions below.

If someone described you, what are five words that they would use to describe you? For example, you might be busy, creative, hardworking, happy and sleepy.



Write your five words that describe you.



For each word, you are going to write a simile. For example,

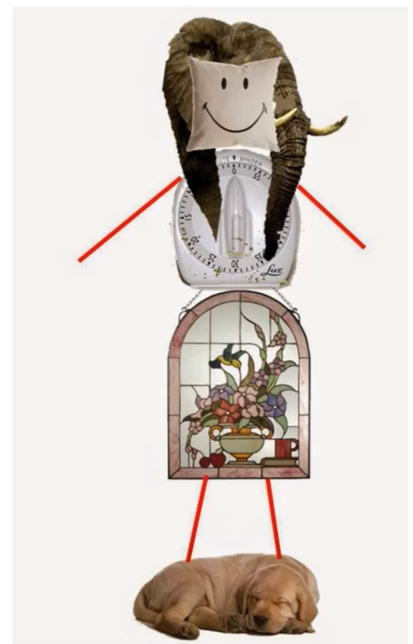
*I'm as busy as a timer,*

*As creative as a stained-glass window,*

*As hardworking as an elephant,*

*As happy as a well-loved dog,*

*And as sleepy as a pillow.*





Write your own poem and draw or create an image of yourself using the objects from your simile poem.

A large, empty rectangular box with a black border, intended for the student to write a poem and draw or create an image.

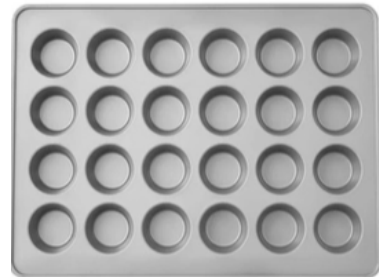


# Mathematics – Activity 1 – reSolve bakery 1

Today we will be looking at delicious cupcakes and assisting Charlie the baker work out how many cupcakes he bakes a day.



Charlie is a baker who has his own cupcake shop. It is a small shop but very popular. Each day he bakes fresh cupcakes to be sold and this is the tin he uses.



- How many cakes can be baked at one time in this tin?
- How do you know?

Each day, eight different flavours of cupcakes are made. One full tray of cupcakes for each flavour. There is one tray of chocolate, one of vanilla and one of red velvet. There is one tray of strawberry, white chocolate, raspberry, and peppermint-choc. There is even a tray of chocolate marshmallow and one of salted caramel. Don't they look delicious?



Charlie bakes 8 trays of different flavoured cupcakes each day.

- How many cupcakes does Charlie bake a day?

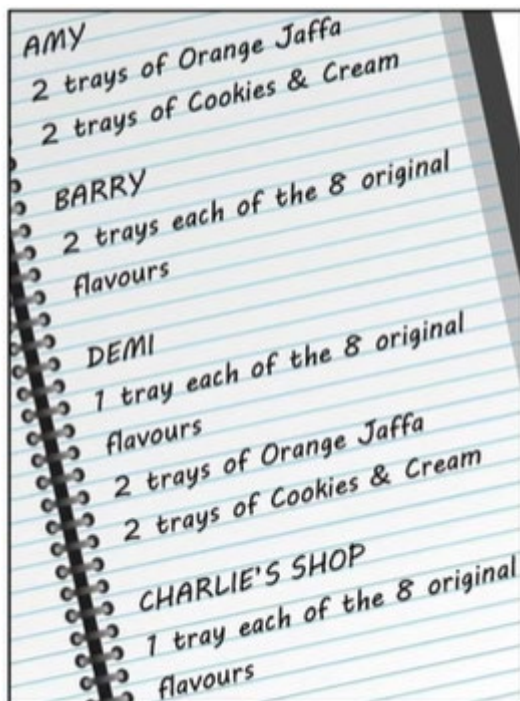
Now it is your turn to create a poster to show how you solve the problem. You might like to use a copy of the cupcake array to help explain how your strategy works.



## Mathematics – Activity 2 – reSolve bakery 2

How hungry are you after that last activity? If you have a device to scan the QR code, you can see several different strategies to solve the problem. There is also a new challenge for Charlie, and he needs your help.

Charlie's cupcakes shop might only be small, but he takes a lot of orders. His cakes are used for school fundraisers and are also a favourite at birthday celebrations. Today is a big day as there are a lot of cakes to bake.



- Amy has put in a special order. She would like Charlie to bake 2 special flavours for a very special birthday celebration. Orange Jaffa and cookies and cream. She would like 2 trays of each.
- Barry has ordered two trays of original flavour for his school's fate.
- Demi has ordered cupcakes to serve after a show in the Town Hall. She has ordered one tray of each original flavour. She would like to try Orange Jaffa and Cookies and Cream and so she has ordered two trays of these as well.
- Charlie also needs to make an extra tray of the 8 original flavours to be sold in his shop. That is 4 trays of each flavour. Four trays of 10 flavours.

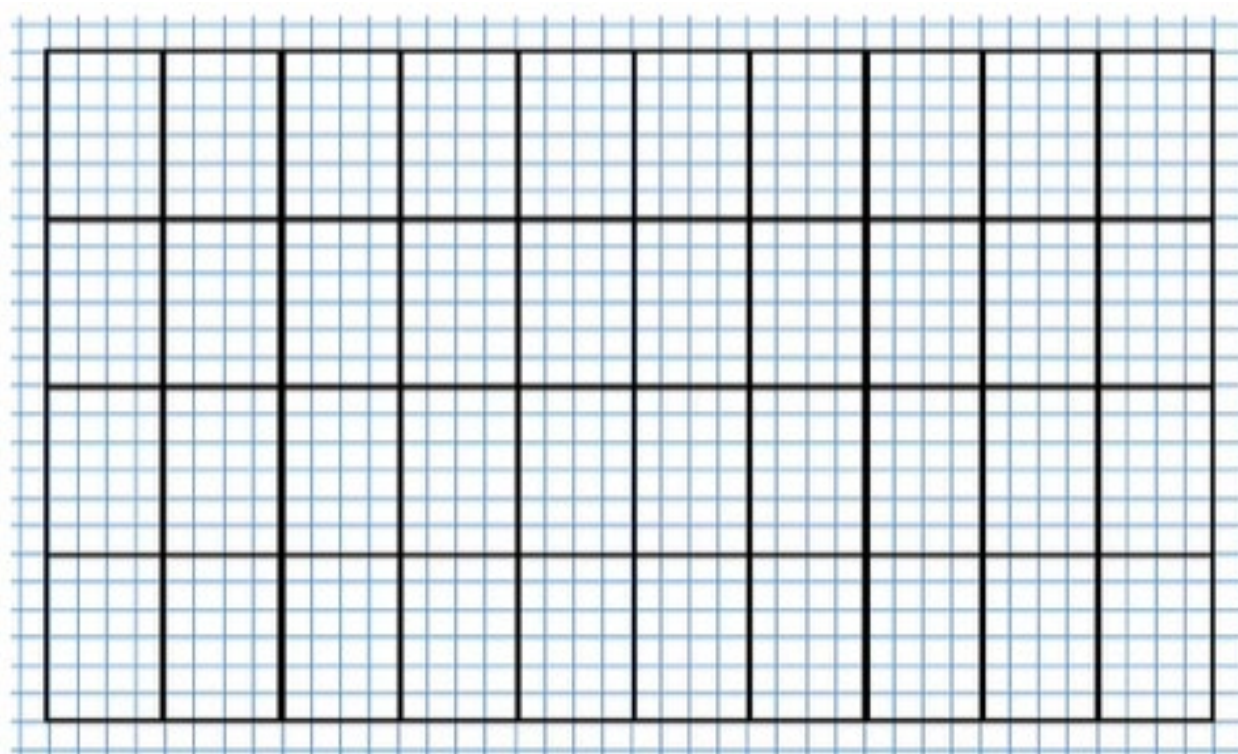
How could we look at this problem? One way is that we could use a grid. On the next page you will see how this could be done.

40 trays of cakes can be represented as a grid.

Each large rectangle represents one tray of cupcakes, each small grid square is that rectangle in that rectangle represents an individual cake.

How many cakes does Charlie need to bake?

Create a poster to show how you solve the problem. You might like to use a copy of the grid array to help explain how your strategy works. You might also like to think about the strategies used in the cupcakes example and how we could use those to help you solve this. Think about if you could partition, use equivalent values, double, skip count.



The QR code on the next activity reSolve bakery 3 has some answers once you have tried it. Does one of your ideas match or did you have another strategy?



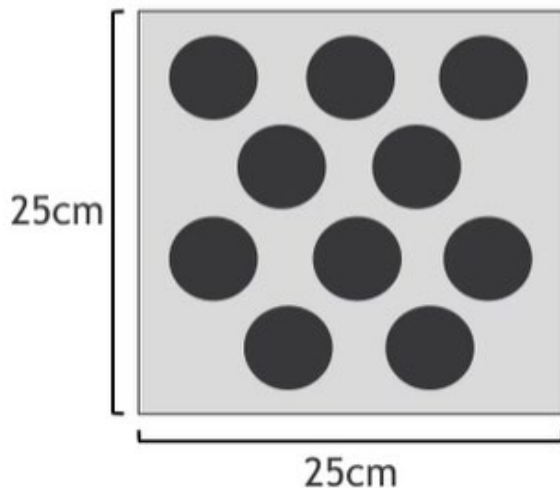
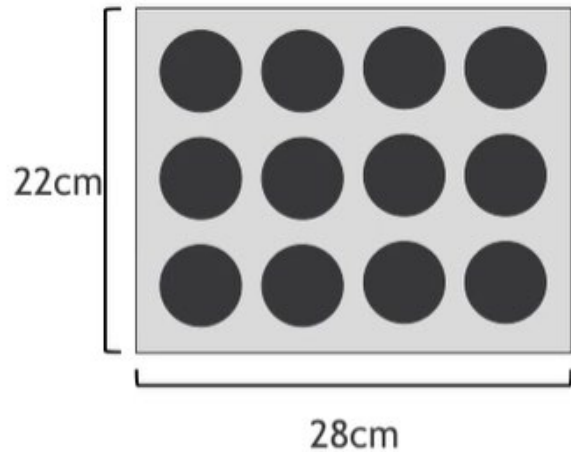
## Mathematics – Activity 3 – reSolve bakery 3



Charlie has a box that has twelve cakes and he has a box that holds ten cakes.

Inside each box is a flat cardboard tray.

The tray fits snugly in the boxes and has circles cut out of it so the cakes have places to safely sit



Charlie was folding up boxes for ten and twelve cakes. He put the tray into the box for ten cupcakes. He noticed that the packaging said one side of the tray was twenty five centimetres and the other side was also twenty five centimetres. It was a square.

He looked at the tray for twelve cupcakes. It measured twenty two centimetres on one side and twenty eight centimetres on the other.

**Both sets of side lengths added to fifty.** Charlie was surprised.

- Does this mean that both trays would be the same size? Surely, he thought the tray that holds twelve cupcakes would have a bigger area than the tray that held ten cupcakes.
- Do you think the trays have the same area? If not, which tray do you predict has the biggest area? Select an efficient strategy to determine which area is larger. Remember to show your working out.

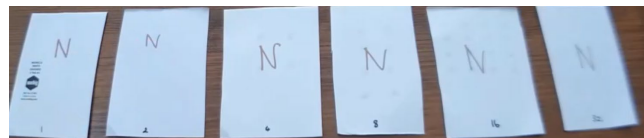
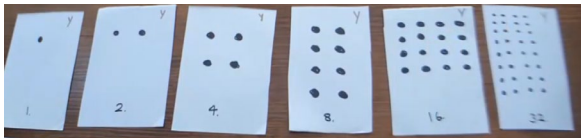
# Science and Technology – Activity 1 – Representing numbers



Before the video, make your data cards in one of 2 ways:

1. Cut 6 rectangles of approximately 10cm x 15cm from cardboard
2. Draw dots and a matching number on one side of each card in the following ways:

Card 1 (1 dot), card 2 (2 dots), card 3 (4 dots), card 4 (8 dots), card 5 (16 dots), card 6 (32 dots).



3. On the backs of the cards write a capital N in the middle of each card and the number from the front on the bottom of the cards
4. On the dots side of the card write a capital Y in the top right corner of each card

**Scan the QR code to watch the teaching video on representing numbers or read the instructions below.**



This lesson is the first step to understand the type of information used by computers.

Computers process information to 'decide' how to display pictures, transmit our voices through phones, operate traffic lights and much more. In this lesson we will represent numbers in a way that can be changed to a "yes" or a "no".

## **Activity:**

We will now represent the numbers 3 and 19 together

Complete steps 1-7 with your cards:

1. Lay the cards out in order with the dots side up. Did you notice the pattern? The dots on each card increase by multiplying by two. Card 1 - one dot. Card 2 (1x2) has 2 dots. Card 3 (2x2) has 4 dots. Card 4 (4 x 2) has 8 dots. Card 5 (8 x 2) has 16 dots. Card 6 (16 x 2) has 32 dots.

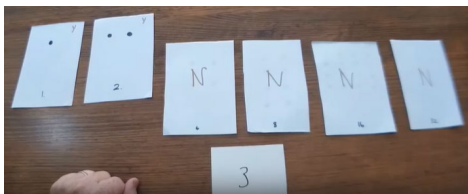
2. Today's lesson is about how to represent numbers with a combination of Y and N letters. We can represent numbers by turning the cards over or not turning the cards over. The Y means "yes, we turned the card over". The N means "No, we did not turn the card over".

3. Turn the cards over so the dots are facing up.

4. How do we represent the number 3? The number three only needs three dots. They are card 1 (1 dot) and card 2 (2 dots). Turn all of the rest of the cards over so the N is facing up. N means no and the Y on the dots side means yes.

5. Instead of writing "3", or writing "3 dots", we will represent 3 by writing either a Y or an N for the 6 cards. So the number 3 is written as

Y Y N N N N

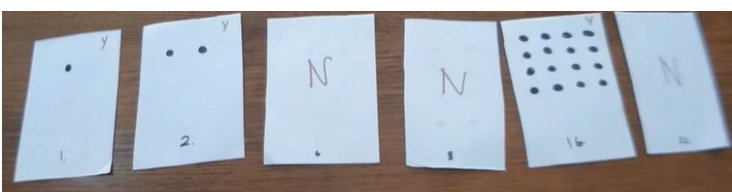


6. Turn all cards over so the dots are facing down.

7. How do we represent 19? The card with 32 dots is too high. What about the card with 16 dots? 16 is less than 19 so let's use that card. We cannot use the card with 8 dots because  $16 + 8$  is more than 19. The next card has 4 dots.  $16 + 4$  is still higher than 19. We won't use the card with 4 dots. Is  $16 + 2$  less than 19? Yes. We will turn over the card with 2 dots. Now,  $16 + 2 = 18$ . We will need to turn over the card with 1 dot. Checking:  $16 + 2 + 1 = 19$ .

8. Let's write 19 with a Y or N: Remember, if you turned a card over to show the dots, use Y. If you left the card facing down and not showing the dots, use N.

Y Y N N Y N



We have represented numbers 3 and 19 with a Y or N. You can see this in the table below.



9. Draw this table in your workbook. Solve numbers 21 and 35 on your own. As an extra challenge there are 2 empty rows to choose your own numbers.

	1	2	4	8	16	32
3	Y	Y	N	N	N	N
19	Y	Y	N	N	Y	N
21						
35						

# Science and Technology – Activity 2 – Representing letters and numbers



For this activity we are exploring how letters can be represented by using numbers (dots), and then we will convert the numbers to a yes or a no.

Computers process this information to 'decide' how to display words, which letters to print on a page and how messages are transmitted and received as texts.

This lesson will introduce us to how letters are represented in a way that computers can use.

Use the cards from the previous activity or make them now (see activity 1 for card instructions)

**Scan the QR code to watch the teaching video on Representing letters and numbers or read the instructions below.**



Today you're going to learn how to change the alphabet into a number system and then change the number system into a series, or a row of, yes's and no's.

Computers use that type of information to process the data that we enter.

Computers don't actually use a yes and a no, they actually use a one and a zero, but we're not talking about that today.

Today you will learn how to convert letters into something that is either a yes or no.

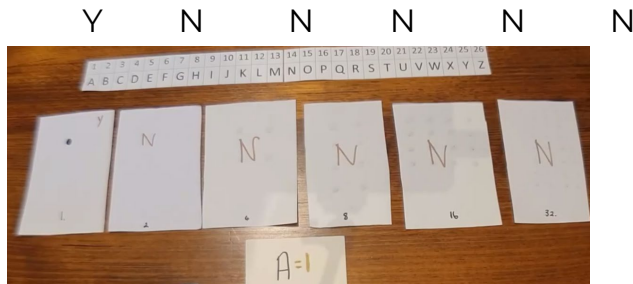
Use the table to see which number corresponds to which letter. (E.g. Q = 17)

1	2	3	4	5	6	7	8	9	10	11	12	13
A	B	C	D	E	F	G	H	I	J	K	L	M

14	15	16	17	18	19	20	21	22	23	24	25	26
N	O	P	Q	R	S	T	U	V	W	X	Y	Z

1. How do we represent the letter A? The letter A = 1. How do I represent number one? The number one only needs one dot. We only need card 1 (1 dot). Turn all of the rest of the cards over so the N is facing up. N means no and the Y on the dots side means yes.

2. Instead of writing "1", or writing "1 dot", we will represent by writing either a Y or an N for the 6 cards. So the number 1 is written as

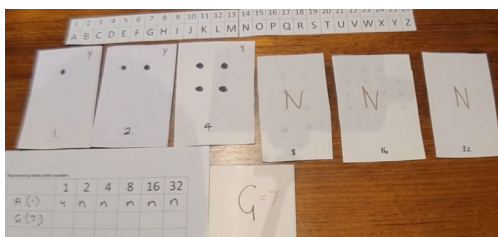


3. Turn all cards over so the dots are facing down.

4. How do we represent G?  $G = 7$ . The card with 32 dots is too high. 16 and 8 are also too high. The next card has 4 dots. 4 is less than 7. We can use 4. Turn 4 so the dots are facing up. Is  $4 + 2$  less than 7? Yes. Turn over the card with 2 dots. Now,  $4 + 2 = 6$  which is less than 7. We will need to turn over the card with 1 dot. Checking:  $4 + 2 + 1 = 7$ .

5. Let's write 7 with a Y or N: Remember, if you turned a card over to show the dots, use Y. If you left the card facing down and not showing the dots, use N.

Y    Y    Y    N    N    N



6. We have represented numbers 3 and 19 with a Y or N. You can see this in the table below.



7. Draw this table in your workbook. Solve letters D (4), O (15), T (20) and S (19). As an extra challenge you could add empty rows to choose your own numbers.

	1	2	4	8	16	32
A=1	Y	N	N	N	N	N
G=7	Y	Y	Y	N	N	N
D=4						
O=15						
T=20						
S=19						