

Monday 18th October 2021 – Friday 22nd October 2021.

Plattsburg Public School

Learning from Home

2/3B

Group 2



This booklet belongs to

Choose 10 words and practise daily.

Year 2 Focus: The quadgraph /eigh/ making the sound "A" as in eight

Year 3 Focus: The split digraph /a-e/ making the sound "a" as in tape

Say the word, write the word	Monday	Tuesday	Wednesday	Thursday
Red Spelling Words				
eight				
sleigh				
weigh				
tape				
space				
fake				
Orange Spelling Words				
eighteen				
eighty				
weight				
safety				
blame				
shave				
Green Spelling Words				
neighbour				
freight				
debate				
earthquake				
estimate				

Lesson 5

Lesson 6

Lesson 7

Lesson 8

Date:

Date:

Date:

Date:

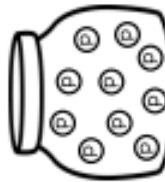
47

ODD
EVEN

What would I use to measure the length of my hand?

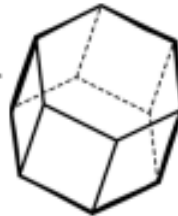
- (A) 30cm ruler
- (B) scales
- (C) measuring jug
- (D) 5m tape measure
- (E) tablespoon

What's the chance of pulling a purple marble from the jar?



IMPOSSIBLE	UNLIKELY
LIKELY	CERTAIN

How many faces?



$2 \times 9 = \square$

What is the value of 4 in

164?

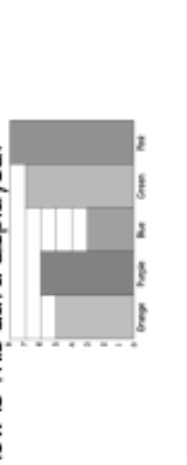
thousands	hundreds	tens	ones
-----------	----------	------	------

What's my angle?



straight angle	right angle	acute angle	obtuse angle
----------------	-------------	-------------	--------------

How is this data displayed?



What is the value of 3 in

531?

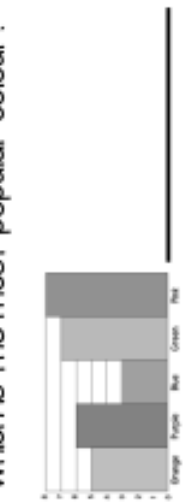
thousands	hundreds	tens	ones
-----------	----------	------	------

What's my angle?



straight angle	right angle	acute angle	obtuse angle
----------------	-------------	-------------	--------------

Which is the most popular colour?



What is the value of 6 in

1674?

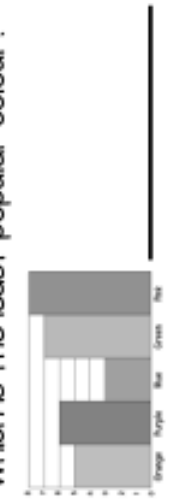
thousands	hundreds	tens	ones
-----------	----------	------	------

What's my angle?



straight angle	right angle	acute angle	obtuse angle
----------------	-------------	-------------	--------------

Which is the least popular colour?



Write in 24 hour time.

seven o'clock AM

Write the numeral for six.

Write in 24 hour time.

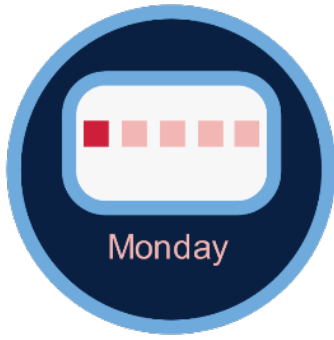
four thirty PM

Write the numeral for twenty one.








Write in 24 hour time.

seven sixteen AM

Write the numeral for thirty eight.



Things you need

Activity	You will need
Most activities	 workbook  lead pencil and coloured pencils  paper
Physical activity	 A tissue or piece of scrap paper  A small soft ball, pair of socks or mini bean bag (for throwing)  A target, such as a bucket, small toy or a hoop  Water bottle
Maths activities	 A few sheets of paper  Scissors  Sticky tape  Pencils or markers
Creative arts	 paper or cardboard  textas, pencils or crayons  paint  paintbrush or something to stamp with

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 – My Favourite Place

On a piece of paper draw your favourite place or somewhere you would like to go or visit.

While you are drawing think about:

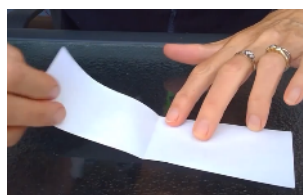
- What makes this place special?
- What makes it your favourite place?
- What can you see?
- What can you hear when you are at your favourite place?
- What can you smell?
- What can you touch?
- Who is there with you at your favourite place?



Brain break – Paper Caterpillar Walking

Today you will make a crawling caterpillar that moves using your breath.

1. Cut a 4cm wide rectangular strip of paper.
2. Fold it in half, make a crease and open it back out again.
3. Fold one end into the middle crease. Leave it folded.
4. Fold the same end into the middle again. Leave it folded.
5. Repeat step 3 and 4 for the other end of the strip of paper.
6. Unfold it and shape it to make an arch.
7. Draw a face on one end.
8. Aim your breath at the back end to make it crawl just like a real one.



Physical activity – Throwing

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



Today you are working on your throwing skills.

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. Practise your throwing pose (see picture)
4. Using the piece of scrunched up paper or tissue and practice your throws. Hold your item beside your ear and do an overarm throw.
5. How many overarm throws can you do in 30 seconds?
6. Place a target away from you. Using a soft ball, throw your ball using an overarm throw and try to hit your target (if you don't have a target, you could throw the ball at a wall).
7. How many times can you hit your target in 30 seconds?
8. Can you beat your own score? Try again. How many times can you hit your target in 30 seconds?
9. Challenge: Move the target further away or challenge someone at home to do it too!



English – Activity 1 – Symbol hunt and storytelling



Scan the QR code to listen to today's lesson or read the task below. Symbols everywhere! They can give us a message or tell us a story without using words. If you are in another country, you might be able to look at symbols and know exactly what they mean, even if you can't speak the language.

are
and



Here are some symbols you may have seen. They don't use any words but you probably know what they mean.



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Go on a hunt around your home to see if you can find any symbols (you might be able to find the recycling symbol above!). A good place to start looking is on food packaging and clothing labels. Record your symbols and their meaning in your workbook.



This is a photo of a carving. Carvings can be used to tell stories. What symbols can you see? Can you see people and animals? What do you think the symbols mean? Do you think there is a symbol for water? What message do you think the author was recording?

"Acheology petroglyph" by Max Pixel is licensed under [CC BY 4.0](#)



In your workbook, write down in a few sentences the story this carving MIGHT be telling us.

English – Activity 2 – Symbols – School Logo



If you would like to watch the lesson, scan the QR code.

A school logo is a way of representing the identity of a school. You can find logos on school badges, on a sign out the front of the school, or maybe on the school uniform.

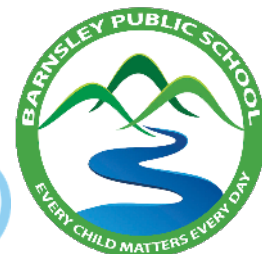


This school logo uses symbols to explain who they are.

- The tree represents lifelong learning and belonging. At this school, curious learners thrive and grow like a tree.
- The yellow arrows are pointing north. This shows that learning is a journey at Northbourne Public School and they're heading 'upward'
- The blue wavy lines represent Wiannamatta, which is the Aboriginal word for mother place and represents South Creek which is where the school is located.



Look at the logos from other schools. In your workbook, record some of the symbols that you can see in these logos. What do you think they mean? Look carefully at the colours, shapes and sizes. Which logo do you like the best and why?



Think now about your own school logo. What is on your logo? What colours are used? What symbols are used? What do you think they mean? Write a short paragraph explaining your school logo and what you think the symbols and colour choices mean.

English – Activity 3 – Writing about symbols



Scan the QR code if you would like to watch the lesson.

Imagine your school principal has asked you to design a new school logo for your school. Do you have water, hills, plains or suburbia nearby? What colours would be most appropriate to represent your school?

What symbols will you choose to represent your school? Think about what your school considers to be important and how could you represent these things using symbols.



When designing your logo, think about what the shape of the logo would be. In the previous activity, you saw some logos shaped like shields, circles and even one that was in the shape of a platypus.



Draw your new logo in your workbook, on a device, or on a piece of paper.

Challenge

Write a description of your new logo and explain each of the features.

Design a new school logo and write a persuasive letter to your Principal about why they should choose your logo.

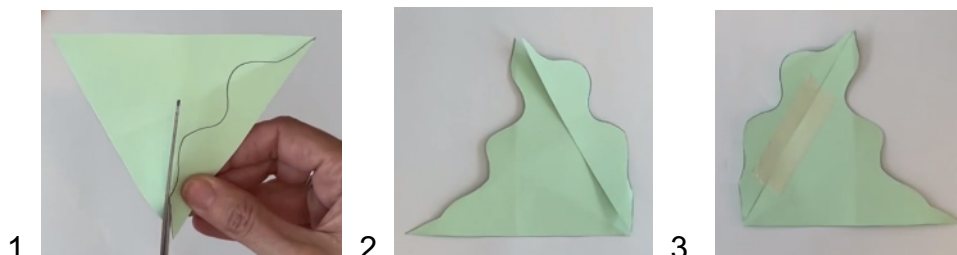
Maths – Activity 1 – Playing with tessellations



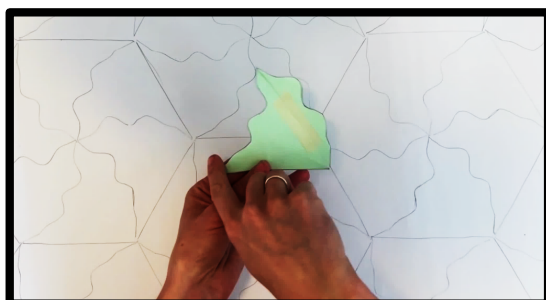
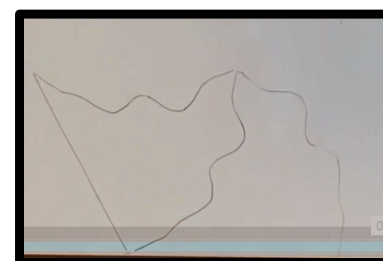
To begin you will need to make an equilateral triangle. The steps for how to do this are on the video which you can watch by scanning the QR code. An equilateral triangle has all three sides the same length.



Cut a section off one of your sides like they have in the picture. Your line can be different to this one. Attach it to another side as shown. Tape this together carefully.



Now use this shape and try to make a tessellating pattern by tracing your template onto some plain paper on paper as shown. If you rotate the shape, you can see there are no gaps left which is what we need in a tessellation.



Continue and fill your page to see what your tessellation looks like. Can you see the hexagons hiding in here? Decorate your tessellating design to share with your teacher.

Over to you mathematicians...

1. Create your own tessellating design using a triangle.
2. What other shapes can you create a tessellating design with?
3. What shapes can you find 'hiding' in your pattern?

- What happens if you create a tessellating design with different kinds of triangles (scalene or isosceles)?
- Why do you think this happens?



If you have access to a device watch this MathXplosion episode '[...It's a Metamorphosis](#)' to see some really cool ways to use tessellations.



Creative arts – Option 1 – Let's Boogie Woogie Music and Dance



Scan the QR code to watch the teaching video on Let's Boogie Woogie or read the instructions below.

Today we are learning about Boogie Woogie music.

Listen to a jazzy style piece of music you know. You might even be able to find some pieces in a Boogie Woogie style. Move along to the beat of the music.

Warm up your body by moving to the song and pretending to play the instruments used in this style of music:

- Guitar
- Tenor saxophone
- Drums
- Piano



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

Make up some movements (improvise) to match the words of the song. Practise while you sing the lyrics (words) with the song. Now that you are warmed up, see if you can make up (improvise) some dance steps to go with the music. Start slowly and when you are comfortable add these steps to the song. The most common dance step to go with the boogie woogie style of music is the jive. Do you know what the jive looks like?

Optional Challenge:

- Research the Jive.
- Learn some Jive dance steps
- Can you add these to your improvised dance?

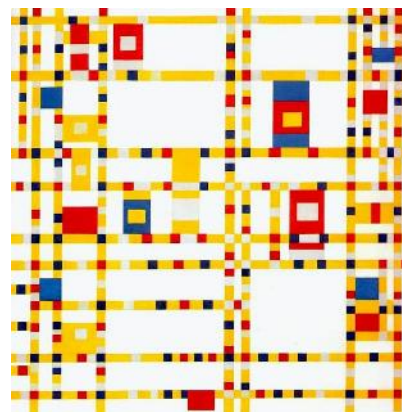
Creative arts – Option 2 – Let's Boogie Woogie Visual Arts



Scan the QR code to watch the teaching video on Let's Boogie Woogie (skip to 3:30 for the Art lesson) or read the instructions below.

Today we are learning about Boogie Woogie inspired art.

Artist Piet Mondrian was interested in boogie woogie music too and used it to create the artwork included. It is called the 'Broadway Boogie Woogie' (1942-43).

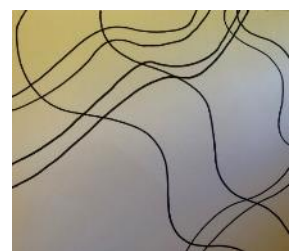


Learn more about Piet Mondrian's 'Broadway Boogie Woogie': <https://edu.nsw.link/cjyvRD>

The grid pattern in his artwork looks like the streets of New York with the effect of blinking lights and cars.

Activity: Create your own artwork in the abstract style of Mondrian to represent a map.

9. Step 1 – draw some intersecting lines using a black texta, pencil or crayon. Your 'map' artwork might use curvy, straight or even zig-zag lines depending on where you live but should not show exact details or any words. It should have patterns of lines and intersecting lines.

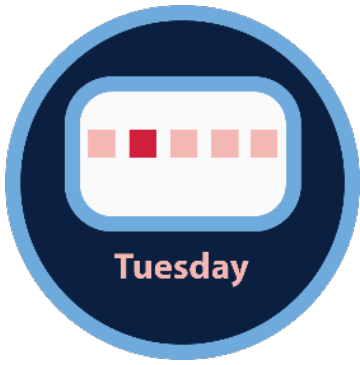


10. Colour or paint your artwork. Fill in your map the colours you think best represent your place. You can see some examples included.








with place.





Things you need

Activity	You will need
<p>Most activities</p>	<p>  workbook  paper  lead pencil and coloured pencils </p>
<p>Maths activities</p>	<p>  <i>A piece of ribbon or string</i>  <i>Assorted objects to make the mandala (for example pegs, leaves, sticks, flower petals, rocks, small stones)</i> </p>

During the day make sure you take time to

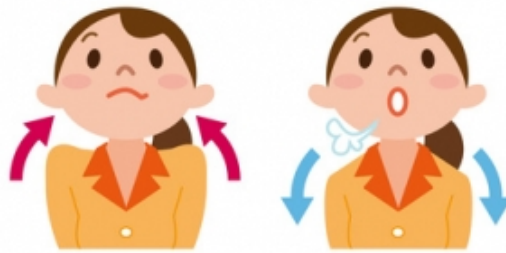
- do a care and connect
- take a brain break
- do some physical activity



Care and connect – Gratitude breath

Think of someone you are grateful for. It could be someone at home, a friend or even your teacher. Think about all the things they have done that you are grateful for.

As you breathe in think of that person. As you breathe out send them a smile. You might even smile as you are breathing out.



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Brain break – Air guitar

Pretend you are holding a guitar. Play some music to air guitar to. It might even be your favourite song. You could even air guitar with the people in your house. Who does the best air guitar?



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Writing a Paragraph

Name: _____
Date: _____

Choose one of the topics and fill in the graphic organizer by writing a topic sentence and three supporting details.

Topics: **Movies** **Summer** **Mini Golf**

Topic Sentence: _____

Detail #1: _____

Detail #2: _____

Detail #3: _____

Write a complete paragraph using the topic sentence and details you have provided above.

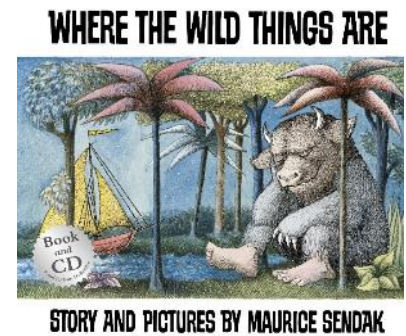


English – Activity 1 – Reading and viewing: Symbols and symbolism in texts

Picture books can be read purely for enjoyment, however often hidden in the beautiful stories and illustrations, you may also find great symbolism. Perhaps you have read a story with a lion. What did that character represent? Often a lion symbolises courage or royalty. Symbols might also symbolise mood or emotion. For example, if you see a character with a cloud over their head, it may symbolise that they are sad.



Today we will read the story 'Where the wild things are' by Maurice Sendak. Scan the QR code to listen to the text. If you don't have a device, you could read your own picture book and try to find symbols in the story.



In this story, think about the symbolism of the wolf suit, forest, crown and hot food. What ideas or qualities are these objects symbolising?

'Where the Wild Things Are' by Maurice Sendak © 2015. Used with kind permission from Penguin Random House Australia



Complete the following table with your ideas.

Symbols	What does it symbolise?
hot food	comfort, warmth, life
wolf	
wolf suit	
forest	
crown	

Challenge

Symbols can be different for each person. Can you think of other symbols in books that you have read? What do they symbolise to you? Does the colour red or a rainbow symbolise anything to you? How?

Write why you think wolves are often used as 'bad' characters in a story. If you were to write a story about a wolf, try to make the wolf a 'good' character.

Are there other animals that are used in books that are often the 'bad' character?

English – Activity 2 – Create your own personal logo (Part 1)



Scan the QR code to hear the lesson or read on for the written instructions.

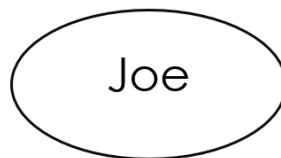
We are going to create our own personal logo which tells our story.

In your workbook, put your name in the middle and complete a mind map with the headings:

- My strengths – what are you good at? For example, dancing, swimming, I'm a good friend, good listener
- My ambitions – what do you want to do in life? For example, be a teacher, travel
- Interests – what do you love to do? For example, learn about bugs, play music, make jewellery
- Special places and people – For example, family, pets, friends, the mountains or beach.
- Favourite colours

Under each heading, write or draw your ideas for each of the categories. Try to draw a symbol which represents each of your ideas. For example:

My Strengths



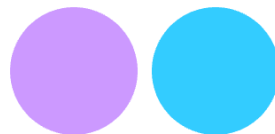
My Ambitions



My Interests



Favourite colours



Special places and people



English – Activity 3 – Writing and representing: Create a personal logo (Part 2)

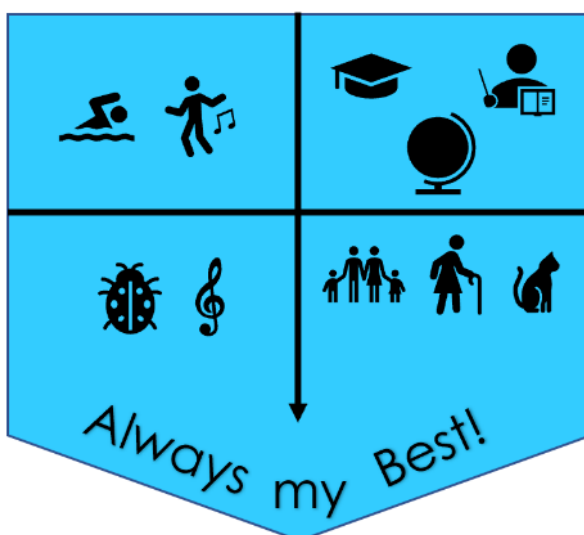


Scan the QR code for the lesson or read the following information.

In the previous lesson, you thought about symbols that represent who you are as a person.

You are now going to use those symbols to create a draft logo like the example here. Think about which symbols you would like to include. You could draw your symbols or use digital images. Consider what shape your logo will be. Will it be circular? Will you use a shield shape? What is your motto?

Plan your draft in your workbook, on a piece of paper or on a digital device.



Write a short paragraph for each category explaining your choice of symbols and colours.

Challenge

Use your draft and create a final copy of your logo. You might like to paint or colour your logo. You could use materials to create a sculpture of your logo. You could use digital publishing tools.

Maths – Activity 1 – Making Mandalas

It is proven that a kite which is symmetrical will fly much better as it balances. Think of the animals that fly, birds, butterflies and insects are all symmetrical.

In this activity you are going to create symmetrical designs also known as mandalas



Collect assorted objects from around your house and outside. You will need to collect a pair of each object (same colour, same size, same shape). Remember to ask permission before using natural materials.

Select a pair of objects (two objects that are the same colour, size and shape) and place one object down as your starting point.

Here is an example of a completed mandala made from the objects from the picture. Can you see all the lines of symmetry in this design?



with the

Create your own mandala using the objects you have collected by rotating, translating and reflecting the objects.

- You can check the lines of symmetry using a ribbon to see if each side is a mirror image.
- Take a picture of it for your teacher

You will need your mandala for the next activity.

HSIE – Option 1 – International Celebrations



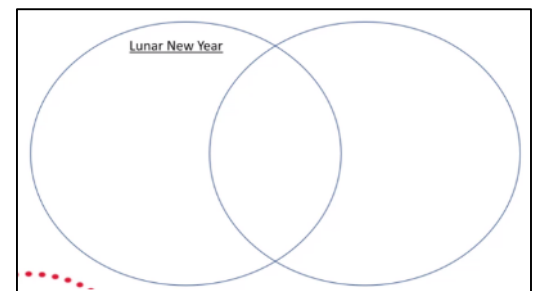
Scan the QR code to watch the teaching video on International Celebrations or read the instructions below.

Today we are learning about celebrations around the world.

There are all kinds of celebrations and commemorations that occur all over the world. These include religious and cultural celebrations, historical commemorations and local or family events.

You are going to compare 2 celebrations today. Choose a celebration your family recognises/celebrates and compare it to Lunar New Year. The pictures and information about Lunar New Year can be found below. You can also choose your own international celebration if you'd like. You will need to research your chosen celebration

In your workbook create a Venn diagram to write similarities and differences between Lunar New Year and your celebration. Write the title of your celebration in the top of the right circle. Record the things which make each celebration different to the other celebration under the relevant heading. Record the things which are similar or the same for both celebrations where the circles overlapped.



Think about the following to make your comparison:

- colours and symbols
- month/day of celebration
- food
- traditions
- music

Lunar New Year

Chinese New Year also known as Lunar New year is traditionally celebrated by people in China and other countries in Asia. They follow a lunar calendar where each month is marked by the cycle of the moon.

Lunar New Year is held on the second new moon of winter in the Northern Hemisphere. It is on a different day every year. 1.5 billion people celebrate Lunar New Year around the world. It celebrates the coming of Spring and celebrations last for 15 days.

There is an old legend which says red clothes and loud noises like rattles, gongs and fireworks scare away a make believe monster called Nian. Families celebrate with gatherings and feasts of lots of yummy foods. Every New Year is dedicated an animal from the Chinese Zodiac. It is believed the animal of the year you were born gives you the qualities of that animal.



A dragon in Chinatown New York City Lunar New Year as part of a street parade.

["Dragon in Chinatown NYC Lunar New Year"](#) by [heypatrick](#) is licensed under [CC BY 2.0](#)



Decorations above shops - Macau Lanterns at Taipa Village for Lunar New Year 2014.

["Macau | Lunar New Year 2014 | Lanterns at Taipa Village"](#) by [travel oriented](#) is licensed under [CC BY-SA 2.0](#)



Lunar New Year Fireworks Display

["Lunar New Year Fireworks Display"](#) by [rmlowe](#) is licensed under [CC BY 2.0](#)

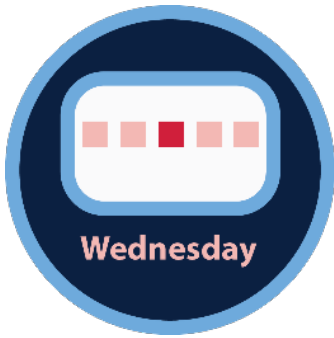


4 children in traditional dress (clothing), holding lucky red money envelopes.









["Ao Dai and Lucky Money"](#) by [northernrays](#) is licensed under [CC BY-NC-ND 2.0](#)

Optional Challenge:

- Research the origins of Lunar New Year.
- What is it celebrating? When did it begin? What time of year does it happen?



Things you need

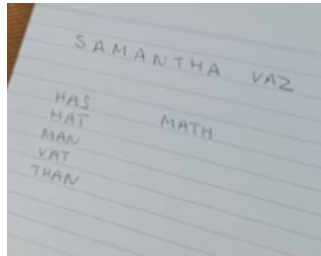
Activity	You will need
Most activities	 workbook  paper  lead pencil and coloured pencils
Brain Break	 A deck of cards  A target (you could use a bucket, a teddy or a lego figure)
Maths activities	 Paper for folding planes  3 x 6-sided dice (you could also use playing cards A-6 or a number spinner)  2 pencils or markers

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 – Connect Words in your Name

Using a piece of paper and a pen/pencil – write your full name (first and last name) at the top. Challenge how many words can you make using only the letters of your name? the words must have 3 or more letters.



Brain break – Card Throw

Can you flick cards across the room and hit a target?

1. Hold the card between 2 fingers. Curl the card in towards the palm of your hand. Quickly straighten your two fingers holding the card and let the card go in the direction of your target. Keep trying until you hit your target.



Introductory Clauses



Use commas after introductory clauses. Common starter words for introductory clauses include after, although, as, because, if, and many more. It is good to remember to place the comma after the clause when followed by a very extreme contrast.

Example

While I was driving, my mother called me.

COMMA

INTRO. CLAUSE



YOU TRY

Place a comma after each introductory clause in the sentences below.

1. Because Sally's car was broken she couldn't make it to the interview.
2. If you don't feel good you should go home.
3. Once it stops raining I will walk you home.
4. Since we got caught in traffic we missed the show.
5. Although I received a poor grade on the test I still passed the class.
6. As of tomorrow we will be on vacation.
7. If you finish your chores you can go out and play with your friends.
8. Holda was still upset although she had already won the event.
9. To find a good seat it is necessary to arrive at 9:00.
10. Yes I would like to go camping with you guys.
11. While I was walking the cat ran up the tree.
12. When our parents get home we should be finished with our homework.

English – Activity 1 – Personification

Personification is a figure of speech. It is when an author gives human or animal qualities to things, animals or abstract nouns (for example love, power or fear). Authors use it to help us get a picture in our minds of how an object looks, moves or sounds. We can relate to a 'humanised' object much easier.

Examples:

The trees sighed and moaned in the wind.

A tree doesn't actually sigh and moan. That is something humans do. But the author helps us to picture and hear the sound of the tree as the wind blows.

The hen said to the fox.....

Animals don't speak like humans. But this author helps us picture the animals communicating.

Fear was holding me tightly by the arm.

Fear does not physically hold your arm. In this example, the author helps us to picture a character being overcome by fear.



["Treetops"](#) by Anastasiya Romanova is licensed under [CC BY 4.0](#)



In your workbook, write your own definition of personification. Write your definition as a short, sharp sentence and make sure that it is clear.

Challenge

Find examples of personification in texts. Use these examples to create a definition of personification for others to understand.

You might like to record a short video, write a definition, make a play or create an animation to explain personification.

English – Activity 2 – Personification in Poetry



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

The Sweeper

By Beverly McLoughland

Sun, with **his** shining broom of light,
Begins each and every day
Sweeping out the dusty dark –
Whisking all the stars away.



In this poem, the author has given the sun human characteristics. She has made the sun a male by using the pronoun 'his'. Also notice that the sun is 'sweeping' and 'whisking'.



In the poem below, highlight the noun (person, place or thing) being personified. In a different colour, highlight the human characteristic the author uses.

The Walrus and the Carpenter by Lewis Carroll

“The sun was shining on the sea,

Shining with all his might:

He did his very best to make

The billows smooth and bright —

And this was odd, because it was

The middle of the night.

The moon was shining sulkily,

Because she thought the sun

Had got no business to be there

After the day was done —

"It's very rude of him," she said,

"To come and spoil the fun."

Why do you think the author used personification in this poem?

English – Activity 3 – Writing: Using personification in writing



Scan the QR code if you would like to view the online lesson.



We are going to create our own examples of personification.

For example, ‘Lightning danced across the sky.’
Lightning can’t dance the way humans do, however this example helps us to picture the lightning’s movement.

"Lightning" by Michael Tindeil is licensed under [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)



Complete the following table below. Write nouns in the left column, and in the right column, give the nouns human characteristics. Two examples have been done for you.

Noun	Human characteristics
The stars	winked in the night sky.
The wind	howled.



Choose one of your ideas and write a paragraph using your personification example.

For example,

The forest closed in overhead allowing only faint shafts of moonlight to reach the damp earth below. I was all alone. Somewhere behind me a twig snapped. Fear crept over me. Another twig snapped. My mind screamed at me to run, but I was frozen in terror.

Name: _____

NUMBER of the DAY

____ Thousands ____ Hundreds ____ Tens ____ Ones

_____ + _____ + _____ + _____ = _____

One less: _____

ODD or EVEN

+10	-10



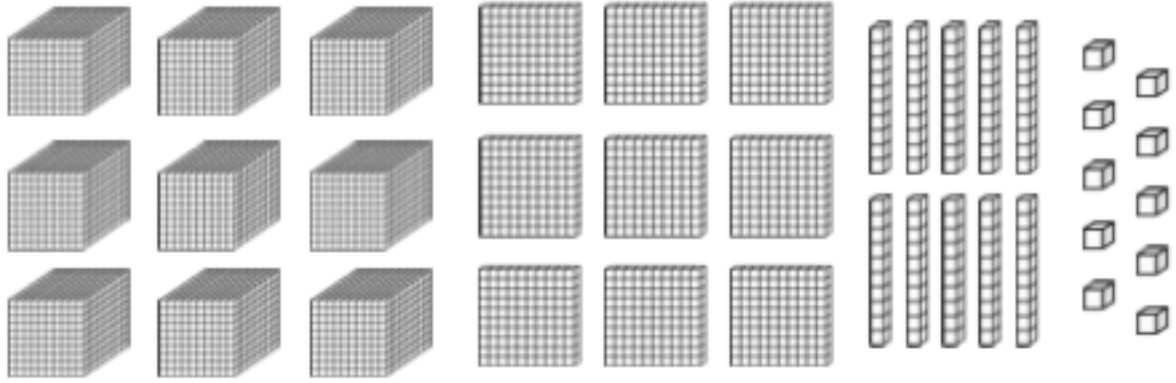
One more: _____

Th	H	T	O

Record on a number line:



What my number looks like using base 10 materials



Record a number pattern starting at your number:

My number in words: _____

Maths – Activity 1 – Paper planes

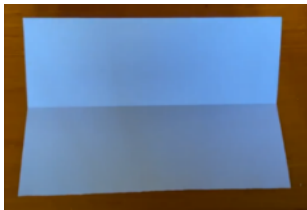
For today's activity you will need:



- Paper for folding paper planes
- Recording materials

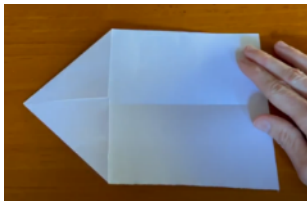


Today you are going to be investigating symmetry. You are going to create two planes to help you learn how symmetry affects how things fly.

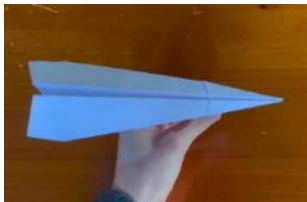


To keep your plane symmetrical, each side of the centre fold line needs to be a mirror image. That means that any fold that you make on the right-hand side of the centre fold line needs to be mirrored on the left-hand side.

Create your symmetrical paper plane.



1. To do this, fold your piece of paper in half to create a line of symmetry. Then, fold the top corner down on both sides so they are exactly the same.



2. Continue to fold the paper to create the wings for your plane. Remember, to keep it symmetrical, so whatever you do to the left side you need to do exactly the same to the right side.
3.

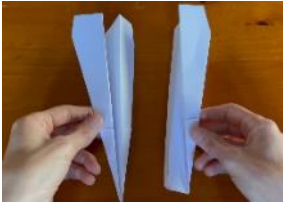
Create your asymmetrical (means NOT symmetrical) plane.



1. To do this fold your piece of paper in half to create a line of symmetry. Fold one half of your paper in the exact way as you did to create your symmetrical plane. Then fold the other corner in a different way (so the two sides don't match)



2. Continue to fold the paper to create the wings but remember to make each side different so your plane is asymmetrical.



You should now have two planes. One that is symmetrical and one that is asymmetrical.

Inquiry - Will the symmetrical plane fly further?



Mathematicians know they need data to help them draw conclusions. So, we are going to use a table to collect some more data.

- Fly each plane 5 times and record results in your table by placing a tick for the one that flew the longest distance.
- Make sure you create a fair test by flying each plane from the same starting point each time.



Plane that flew further		
Flight	Symmetrical	Asymmetrical
1		
2		
3		
4		
5		

What do you notice in the data you collected? Did one plane fly further more often than the other plane? Did you notice anything interesting? Record your thinking here.

Want to learn more about how symmetry works? Scan this QR code to watch MathXplosion Go fly a kite!



Maths – Activity 2 –Around the house



Scan the code to watch the video or follow the instructions below.

You will need:



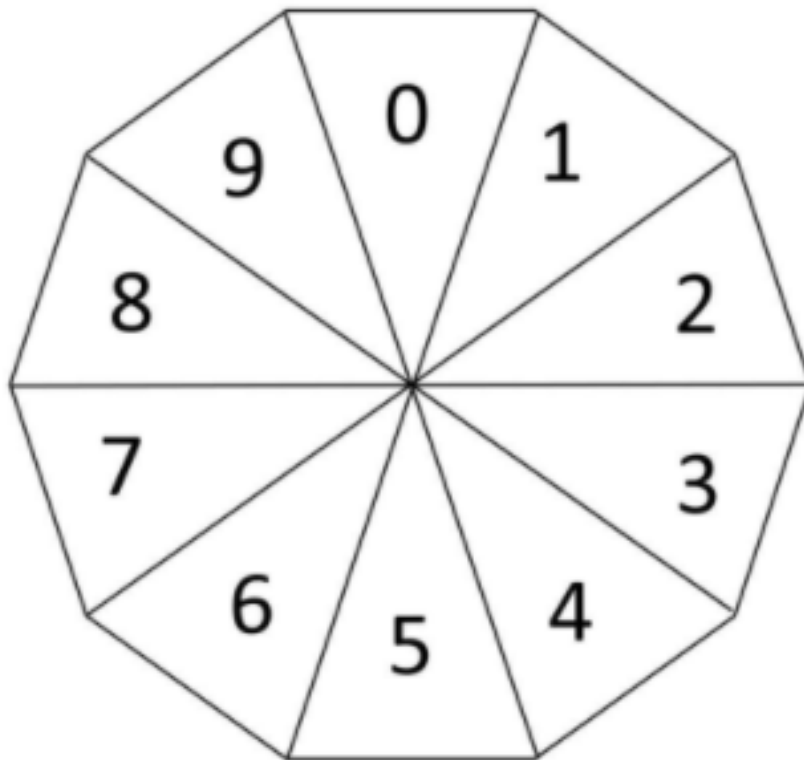
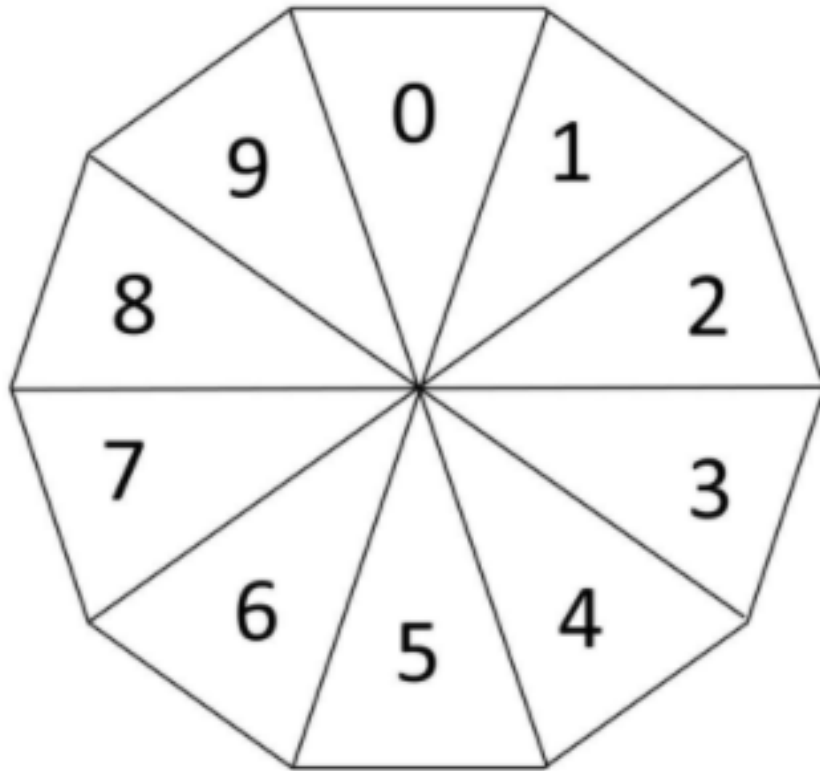
- 3 x 6-sided dice (you could also use playing cards A-6 or a number spinner)
- paper
- 2 pencils or markers

Steps	Pictures
<ul style="list-style-type: none"> • Draw a 'house' shape. • Write the numbers 1-10 in order around the house. 	
<ul style="list-style-type: none"> • Roll all 3 dice. • Choose to use just 2 of your dice or you can use all of them to make 1. For example, you might roll 3, 5 and 2. You can make 1 by starting with 3 and then taking away 2. 	
<ul style="list-style-type: none"> • If a player can't form a total of 1, the other player rolls the dice and has a go at writing an equation number sentence) that is equivalent in value to 1. • If a player can go, once he or she has found a way to make 1, cross the '1' out on the game board. Then, without rolling the dice again, try to create 2. 	
<ul style="list-style-type: none"> • Continue taking turns, moving around the house in order from 1 to 10. • Your turn is over when you can't make the next number around the house with the dice you rolled. • The player to cross out the '10', wins! 	

Other ways to play:

- Use all operations (addition, subtraction, multiplication and division).
- Each player has their own house to travel around.
- Mark off numbers in any order, instead of moving from 1 to 10.

0-9 spinners



•

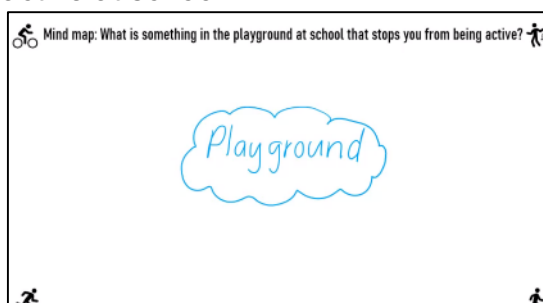
PDHPE – Option 1 – Improving how we are active at school



Scan the QR code to watch the teaching video: Improving how we are active at school or read the instructions below.

Today we are thinking about ways we can be more active at school.

In your workbook make a mind map of the things which stop you being active in the playground. Write playground in the middle of your page. Write some of the things which stop you being active around the outside of the word playground.



Some reasons might be:

- not having enough space
- not enough equipment
- students not following the rules to games

Can you think of different reasons or other reasons?

How could this be changed?

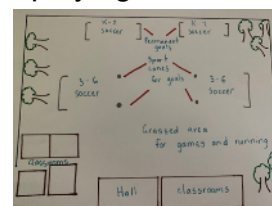
Activity 1:

Identify something within your school playground that stops you from being active and then create a plan to improve it.

For example, playing soccer on the oval, there is not enough space, there is limited equipment (goals), and everyone has their own set of rules. This makes playing soccer at school challenging and not enjoyable.

A plan to allow everyone to be active and improve this could be:

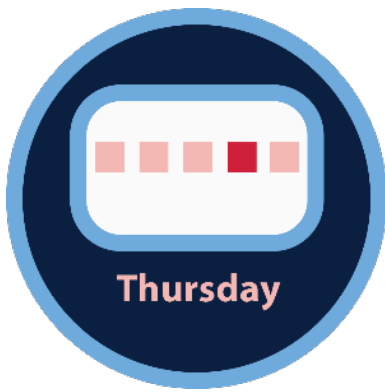
- A map of designated playing fields within the oval.
- Agreed rules and contract everyone must sign.
- A whole school roster for allocation of days for each grade/stage.
- Substitute equipment.



















Soccer contract	
1. Be respectful to all players.	
2. Be safe.	
3. Be fair with all ability players.	
4. 6 players per side is maximum.	
5. Do not be rough.	
6. Nominate a captain.	
7. Listen to each other.	
8. Support each other.	
9. Have fun!	
I agree to follow the rules at all times.	
Name:	Sign:

Soccer roster	
K-2	
Kindergarten – Monday	
Year 1 – Tuesday & Thursday	
Year 2 – Wednesday & Friday	
3-6	
Year 3 – Monday	
Year 4 – Tuesday	
Year 5 – Wednesday	
Year 6 – Thursday	

Activity 2: Be active



Things you need

Activity	You will need
Most activities	 workbook  lead pencil and coloured pencils  paper
Physical activity	 A large ball  Water bottle  A small soft ball, pair of socks or mini bean bag  A target, such as a bucket, small toy or a hoop
Maths activities	 nine sided dice or spinners (included)  Paperclips for spinners
Science and Technology	 thin cardboard (an empty cereal box folded flat would work)  scissors  tape  Chalk  something round (large saucepan lid, compass and pencil)  compass to find north and south (phone app)
Science and Technology	 Tea light candle or playdough



Skewer or thin stick



Chalk

During the day make sure you take time to

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



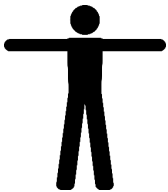
Care and connect – Stretches

Stand in open space. Make sure you have room to bend and stretch.

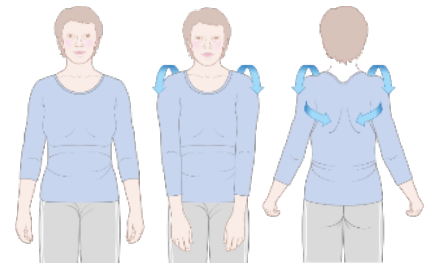
Stand nice and tall with your feet shoulder width apart.

Roll your shoulders back 10 times. Wiggle and shake them out.

Roll your shoulders forward 10 times. Wiggle and shake them out.



Hold your arms out as wide as you can to make your body a t shape. Stretch as wide as you can and hold for 5 seconds. Wiggle and shake your shoulders and arms. Hold your arms out and repeat for 5 seconds. Wiggle and shake again.



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Brain break – Camouflage Hide and Seek

In Normal hide and seek you hide behind things. In camouflage hide and seek you have to be out in the open and camouflage with your surroundings. Camouflage is where you blend in with the things around you to keep you hidden. For example: if you are wearing all black you could sit on a black chair.

Look at what you are wearing.

What things around you house or garden are similar colours to what you are wearing. Maybe you could hide in a garden like a plant, lay on a bed like a doona, curl up like a cushion on the lounge or stand in between coats on a coat rack.



Check with someone at home and see if you can get changed out of what you are wearing to do this activity. The clothes will only be on for only a short time while you play this game. They shouldn't get dirty if you are careful and hopefully will not need washing.

Physical activity – Advanced Throwing

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



Today you are working on your throwing skills.

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. Practice your chest pass. Hold both hand at chest height and pretend you are holding a large ball. Push the ball away from your body. As you push the ball away step one foot forward (whichever foot feels more comfortable).
4. Using your large ball practice your chest passes. If you have someone at home, you could ask them to do chest passes with you.
5. How many chest passes can you do in 30 seconds? (if you have a partner – how many chest passes can you do in a row without dropping it in 30 seconds)
6. Practise your catapult throw (see pictures). Pull your non-throwing arm towards your body as your throwing arm catapults your soft ball over your head.



7. Using your soft ball or bean bag, practice your catapult throw.
8. How many catapult throws can you do in 30 seconds?
9. Place a target away from you. Using your small ball or bean bag, catapult throw your object and try to hit your target (if you don't have a target, you could throw the ball at a wall).
10. Challenge: Move the target further away or challenge someone at home to do it too!

English – Activity 1 – Personification in texts



Scan the QR code to listen to the extract from the novel 'Blueback', by Tim Winton. If you can't listen to the extract, you can read it below.



In the text below, find the examples of personification the author uses. Highlight the noun in one colour and the human characteristics in another colour.

Blueback by Tim Winton, 2008

Reluctantly he stuck the snorkel back in his mouth and put his head under. Near the bottom, in the mist left from their abalone gathering, a high blue shadow twitched and quivered. There it was, not a shark, but the biggest fish he had ever seen. It was gigantic. It had fins like ping-pong paddles. Its tail was a blue-green rudder. It looked as big as a horse.

'Come down,' said his mother. 'Let's look at him.'

'I-I thought it was a shark.'

'He sure took you by surprise,' she said laughing. 'That's a blue groper. Biggest I've ever seen.'

Abel and his mother slid down into the deep again and saw the fish hovering then turning, eyeing them cautiously as he came. It twitched a little and edged along in front of them to keep its distance. The big gills fanned. All its armoured scales rippled in lines of green and black blending into the dizziest blue. The groper moved without the slightest effort. It was magnificent; the most beautiful thing Abel had ever seen.

After a few moments his mother eased forward with an abalone in one outstretched hand. The groper watched her. It turned away for a moment, and then came round in a circle. Abel couldn't hold his breath much longer but he didn't want to miss anything so he hung there above his mother and the fish with his lungs nearly bursting. The groper arched back. The mosaic of its scales shone in the morning sun. His mother got close enough to touch the fish with the meat of the abalone. The fish trembled in the water and then froze for a moment as though getting ready to flee. She ran the shell meat along its fat bottom lip and let go. The fish powered forward, chomped the abalone and hurtled off into a dark, deep hole.

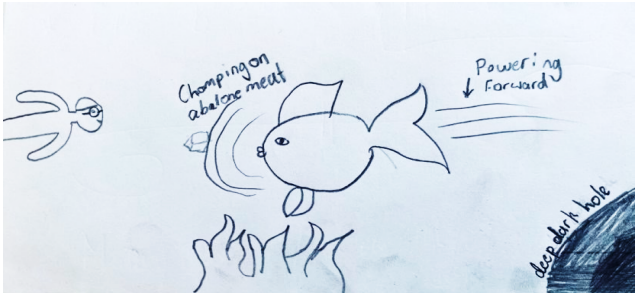


"Blue groper" by David Clode is licensed under [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)

English – Activity 2 – Personification in texts



In the table below are some of the personification examples you may have found in the Blueback text. Draw an illustration of what you visualise when you read the phrase.

Example of personification	What I visualise
<p>The fish powered forward, chomped the abalone and hurtled off into a dark, deep hole.</p>	
<p>A high blue shadow twitched and quivered.</p>	
<p>... saw the fish hovering then turning, eyeing them cautiously.</p>	
<p>The groper watched her.</p>	
<p>The fish trembled in the water and then froze for a moment as though getting ready to flee.</p>	

English – Activity 3 – Writing: Personification

In this extract, Tim Winton uses personification to describe a setting to help the reader create an image in their minds.

Great, round boulders and dark cracks loomed below. Thin silver fish hung in nervous schools. Seaweed trembled in the gentle current.
(Extract from Tim Winton's 'Blueback', 2008)



Using the image below for inspiration, write your own descriptive paragraph including examples of personification. What human characteristics could you give to the coral? Add some human characteristics to the fish, to personify them. Use an abstract noun in your personification (for example, joy)



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

Addition mental strategies – look for a ten

- 1 Let's warm up with some addition grids. Write these answers as fast as you can by counting on:

a

+	2	3	0
6			
17			
13			
12			

b

+	3	0	2
9			
16			
11			
14			

c

+	2	3	0
7			
13			
8			
5			

- 2 Adding more than two numbers together is easier if we look for a ten. Circle the numbers that add to 10 first, then add what is left:

a $\boxed{6} + \boxed{3} + \boxed{4} = \square$

b $\boxed{1} + \boxed{5} + \boxed{5} = \square$

c $\boxed{9} + \boxed{5} + \boxed{1} = \square$

d $\boxed{7} + \boxed{6} + \boxed{3} = \square$

e $\boxed{5} + \boxed{6} + \boxed{4} = \square$

f $\boxed{2} + \boxed{1} + \boxed{8} = \square$

- 3 Loop the numbers that make 10. Look for sets going across and down. One set has been looped for you. How many more can you find?

6	3	1	6	9	2	8	5
4	1	3	3	3	8	3	5
3	7	1	4	6	2	5	3
3	3	9	6	3	1	2	7

Some numbers may be in more than one set.



DISCOVER

- 4 Look for a ten and change the order of the numbers in each addition problem to make it faster to add.

a $4 + 5 + 3 + 5 + 6 = \square$

b $9 + 3 + 7 + 1 + 5 = \square$

Maths – Activity 1 – Empty number chart

From Teaching Mathematics by Siemon, Warren, Beswick, Faragher, Miller, Horne, Jazby, Breed, Clarke and Brady, 2020

Normally when we look at a 100 chart, we are using the numbers from 1 to 100. We can use our knowledge of 10 to help us fill the missing numbers in columns. The charts you will solve today don't start at 1 and they don't finish at 100. You can still use your knowledge of a number chart to help you fill in the missing white boxes though.

Your challenge is to determine the number sequence through the mazes below.

Hundreds maze

									147



- Use what you know to decide what numbers are missing and to justify the number you placed.
- You do not need to follow the maze in sequential steps if you know the value of a place on the maze. For example, using your knowledge of standard hundreds-chart, you know the number 2 boxes directly above 147 is 127. You also know the box to the left one less than 147 which is 146.

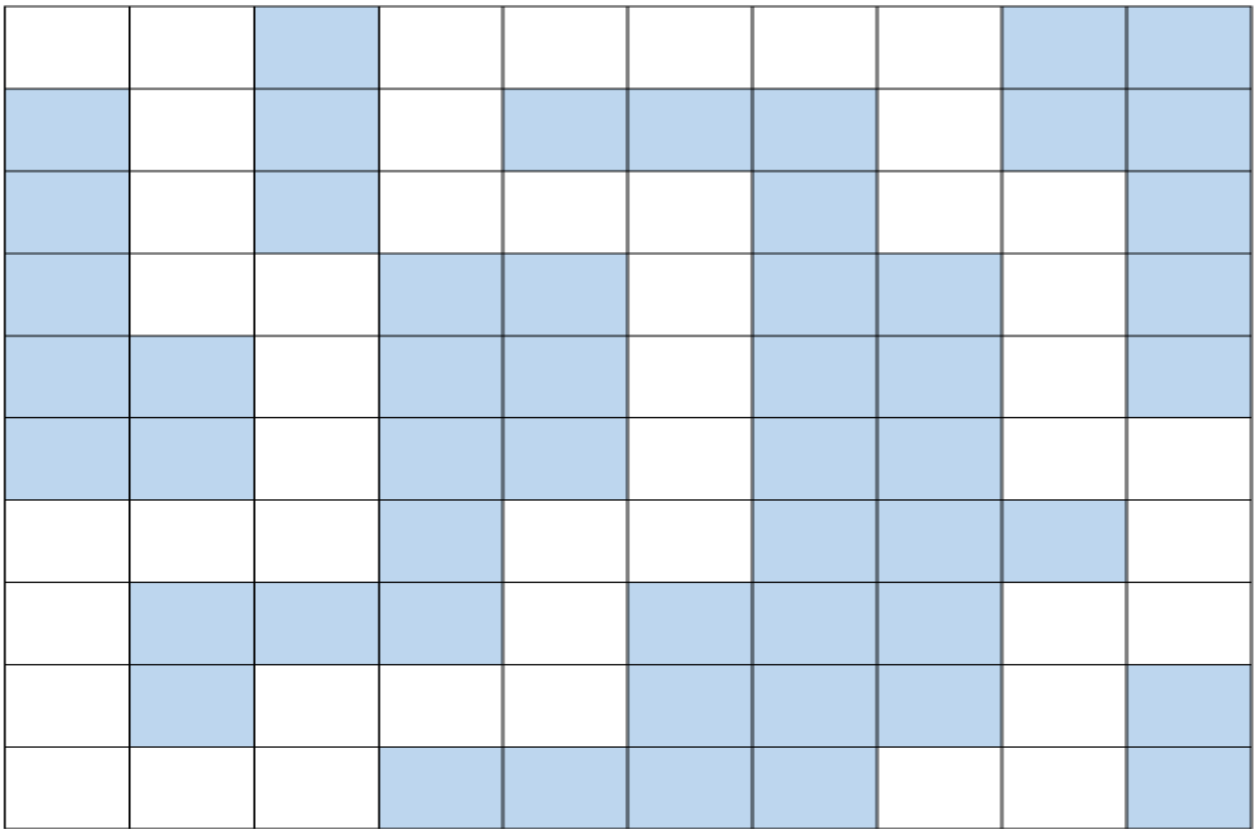
When you are feeling confident with this you can try the blank chart on the next page. You can ask someone to put a mystery number in and you can solve it from there.



If you need some more assistance scan the QR code to watch how you might start the challenge.



Blank maze 2





Maths – Activity 2– Hit it

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

To watch this game being played scan the QR code or you can read the instructions below.

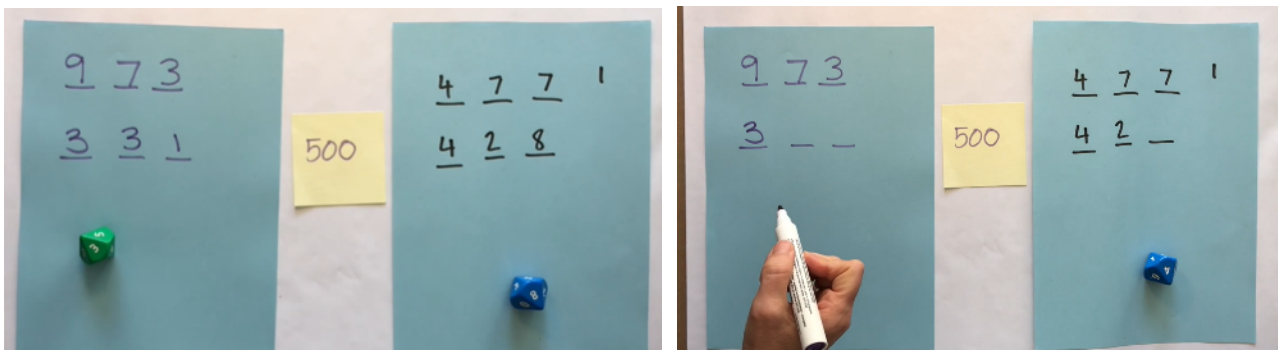
You will need:



nine-sided dice or spinners (on next page)



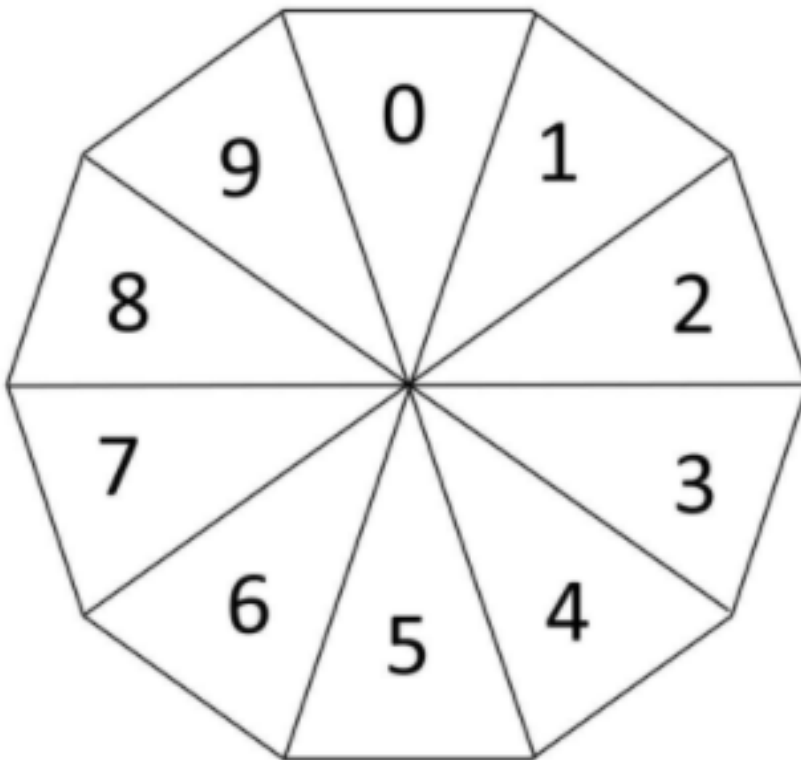
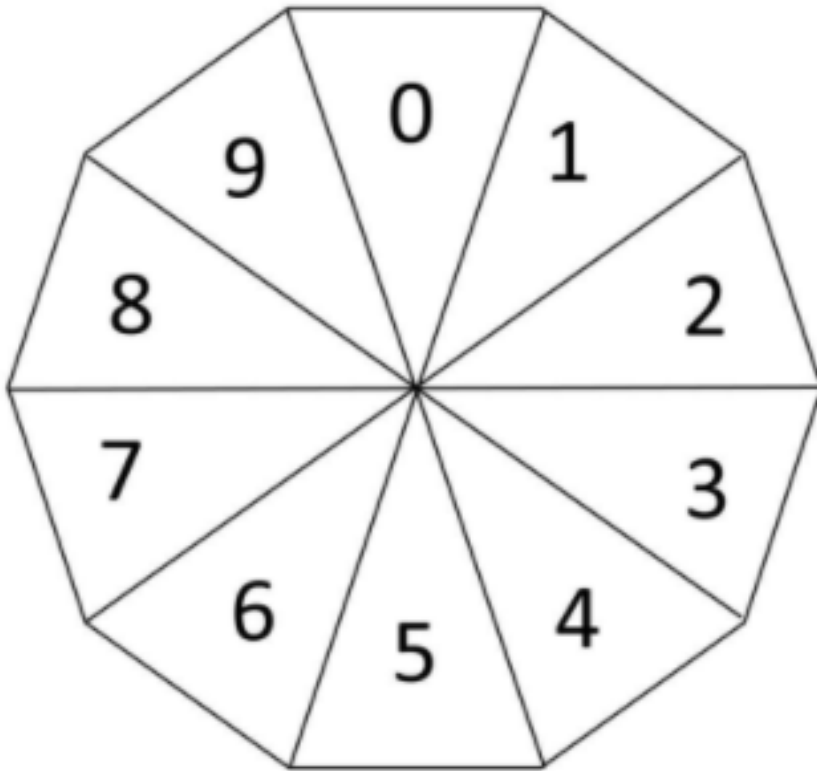
Paperclips for spinners



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.

0-9 spinners



Science and Technology – Option 1 – Sundial science



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

Today we are learning to tell the time using the sun position during the day.

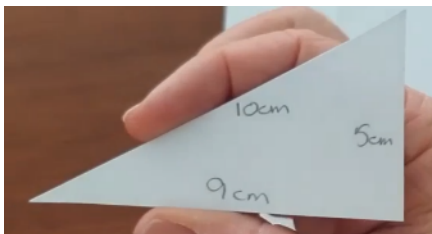
We are investigating shadows that help us understand the position of the sun in the daytime sky. We will make a sundial that can be used as a clock.

Materials

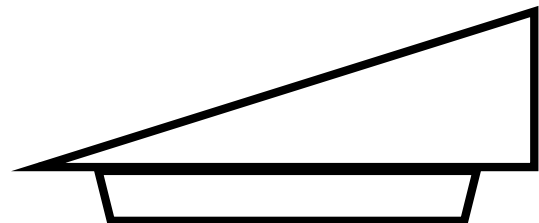
- thin cardboard (an empty cereal box folded flat would work well)
- scissors
- pencil
- tape
- something round (large saucepan lid, plate, container lid, compass and pencil)
- compass to find north and south (you could use a phone app for this)

Instructions

1. Place the saucepan lid onto the cardboard and trace around it.
2. Repeat step 1 so you have 2 cardboard circles.
3. Cut out both circles. Don't throw away the rest of the cardboard as we will use more.
4. Take 1 circle and fold it in half. While it is folded in half, fold it in half again to make quarters.
5. Unfold the circle and lay it over the top of the flat cardboard circle. Press your pencil tip into the centre of the circle (where the folds cross over). Don't press too hard. We don't want to make a hole we just want to dent the cardboard circle underneath.
6. Remove the folded circle and use your pencil to draw a dot in the centre of the flat cardboard circle (you should see the dot imprint in the centre of the circle).
7. Draw a triangle 9cm base (L) x 5cm side (H) x 10cm diagonal (D) out of cardboard.



8. Along the 9cm side draw a trapezium to make a foldable edge.

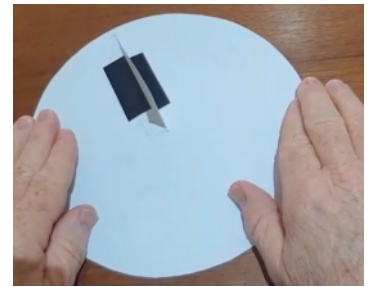


9. Cut around the outside of both shapes (don't cut the line joining the triangle and trapezium).

10. Fold the triangle and trapezium join line. The trapezium will be used to sticky tape the triangle to the sundial so the triangle stands upright.



11. On the unfolded cardboard circle, line up the triangle to the centre point of the circle and tape it in place. Tape the triangle each side so it stands up nice and straight.
12. Take the sundial outside to a sunny spot in your yard. It needs to be a spot which is in the sun all day.
13. Use your compass (or app on a device which tells north and south). The triangle needs to be lined up with the small end of the triangle pointing towards the north and the tall end of the triangle pointing towards the south.
14. Visit your sundial on the “o’clock” and mark the position of the shadow.
15. When you have marked the shadow position from 8.00am through the day until 5.00pm, your sundial is complete. You may need to do this over a day or 2. You might need to set it up today and finish the shadow marking tomorrow morning! You might even need to set an alarm to remind you each o’clock.



You have created your very own clock that accurately tells the time!

Optional Challenge:

Research sundials to find the answers to these questions:

- Why do sundials place the “stick” at an angle towards the South Pole?
- Why is the “stick” angled towards the North Pole in the northern hemisphere?
- Why does the angle change for sundials in different places on the Earth?

Science and Technology – Option 2 – Sunshine science



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

Today we will think about how the position of the sun changes by recording the position and length of a shadow through the day. We will make a simple sun dial to mark the position and length of a shadow.

Materials

- Tea light candle or playdough
- Skewer or thin stick
- Chalk

Instructions

11. Insert the skewer/stick into the tealight candle/playdough. The skewer/stick needs to be able to stand up on its own.
12. Stand the skewer/stick in a very sunny spot on a hard surface that you can draw on with chalk (check with someone at home to find a good spot). Make sure it's a place that is in the sun all day. If it's on the grass you might need to use sticks or rocks to mark the shadow ends each hour.
13. Visit your sundial every hour, on the o'clock, through the day.
14. To record the shadow made by the skewer/stick draw the shadow line with chalk or take a picture or place a marker.
15. Repeat this every hour.

At the end of the day, look carefully at your shadow marks.



Think about the questions:

- Where is the shortest shadow?
- Where is the longest shadow?
- Do you notice any patterns?
- Why do you think there are long shadows and short shadows?

Tell someone at home what you noticed about the shadows.

Alternative activity:

Observe the shadows made by a nearby building. Record the shadows as they move across the building.

- Take a picture each hour.
- Draw the building with its shadow.

Look at the drawn pictures or photos at the end of the day and think about:

- Where were the shadows in the morning?
- Where were the shadows in the afternoon?
- Did you notice if the shadows changed in size through the day?

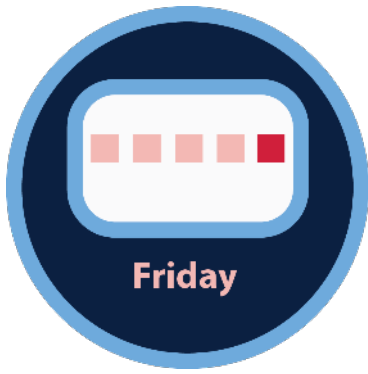
Tell someone at home what you noticed about the shadows.

Optional Challenge:
















Research sundials to find the answers to these questions:

- Why do sundials place the “stick” at an angle towards the south pole?
- Why is the “stick” angled towards the north pole in the northern hemisphere?

Why does the angle change for sundials in different places on the Earth?



Things you need

Activity	You will need
Most activities	 workbook  paper  lead pencil and coloured pencils
Care and Connect	 A mirror (a mirror on a wall will work well)
Brain Break	 Sun shining on a wall, a lamp or a torch
Maths activities	 48 counters (they don't have to be the same)  Egg Carton  2 paperclips for spinners  0-9 dice or spinner  2 counters
STEM	 straws  clingwrap  tape  string  plastic cup



container filled with water, such as a sink or bucket

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 – Mirror Mirror

Find a mirror and look at your reflection.

Say 3 nice things to yourself. Maybe something nice about your hair, how you make people laugh or something that you're good at, like running.

How did you feel when you said kind things to yourself?

Now find someone to say 3 nice things to.

How did it feel when you said kind things to someone else?

How did it make them feel?

Remember it's important to be kind to ourselves and be nice to others.

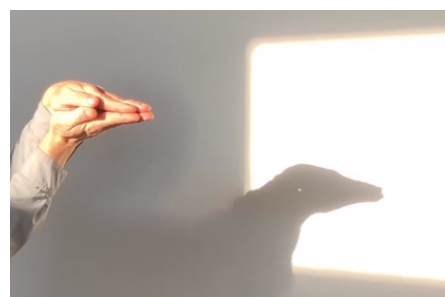


Brain break – Shadow Animals

You will need a wall with sunshine shining onto it or, a lamp or torch shining onto a wall.

Hold your hands in front of the light and make shapes with your hands. Look at the shadow you make on the wall.

Can you make some animal shape



English – Activity 1 – Reading: Personification in Poetry



If you would like to view today's lesson online, scan the QR code.



Read the following poem.

Storm by Janeen Brian

Across the sky
the grey slid and spread.
The wind whipped up
turned on its head
hammered the rain
drove each thick drop.
Lightning sparked.
Thunder boomed, 'Stop!'
Branches screamed.
Umbrellas scattered.
Gutters choked.
Bridges shattered.
Wildness raged,
it ripped and tore.
The earth ran to rivers,
could swallow no more.
At last, the storm shrugged
and gave a sigh,
cleared the last of the raindrops
from off the sky.
'Job well done,' the storm then said.
'Good-o,' yawned the wind.
'I'll rest now instead.'



["Electrical storm"](#) by Max LaRochelle is licensed under [CC BY 4.0](#)



In the table, write two or three examples of personification you found in the poem. Write what you believe the meaning of the personification is. Highlight the noun in one colour and the human characteristics in another colour.

Example of personification	The meaning of the personification
At last, the storm shrugged and gave a sigh	The storm is finally almost over. Sighing is a softer word and showed that the storm is no longer as threatening.

English – Activity 2 – Personifying a character



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

Have a look around your home and find an object that you could personify.

Use your imagination and create a character from your object. Brainstorm ideas about your character.

For example:



Pete the Personification Pineapple – “The Masked Pineapple”

Likes:

Adventure, listening to rock music, reading mystery novels, jam sandwiches, walking along the beach and salsa dancing

Lives:

With his ginger cat

Describing words:

Adventurous, jolly, quiet, happy, waddles, avid reader,

mystery sleuth

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Plan your character here.

- Character name
- What does your character like to do?
- Where do they live? Who do they live with?
- What words could you use to describe your character?

English – Activity 3 – Personifying a character (Part 2)

After creating your character, you will write a narrative using your ideas.

Before writing, you need to plan your ideas. Remember that narratives include an orientation, complication and a resolution (beginning, middle, end). Your character must want something, even if it's nothing to do with the other characters.

For example, Pete the Personification Pineapple goes undercover at a birthday party to discover the balloon thief.



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In your workbook, complete a planning table with your ideas

Orientation	Complication	Resolution
<ul style="list-style-type: none"> • When (time) • Where (setting) • Who (characters) 	<ul style="list-style-type: none"> • Event or events that start the action • Event or events that happen when the character tries to solve the problem 	<ul style="list-style-type: none"> • How is the problem solved? • How does the story end?



You are now ready to write your narrative in your workbook. Remember to include:

- Different types of sentences - simple, compound and complex. Try to use a range of sentence beginnings.
- Adjectives and similes - help your reader get a clear picture in their mind.
- Dialogue - can your characters speak? Include interesting spoken text.
- Paragraphs – remember to group your ideas.
- Range of punctuation – full stops, exclamation marks, speech marks.
- Interesting vocabulary – use attention-grabbing words. Can you use a different word to explain your character walking, for example, dawdled, sauntered, ambled.

Re-read your writing to ensure you have included detail. Don't forget to check your spelling and punctuation are correct.

Challenge

Create a poem featuring your object and using personification.

Maths – Activity 1 – Play Mancala- an ancient game of strategy

Scan the code to watch the video or follow the instructions below.



You will need:



- a game board- you can make it from an egg carton
- 48 counters (or other items such as beans, dried pasta, LEGO bricks, paper clips or buttons). They do not need to be the same object. Place 4 items in each hole.
- someone to play with (you can also play this game in teams so you can share your brainpower!)



Instructions	Picture
<p>Get ready:</p> <ul style="list-style-type: none"> • Each player sits opposite each other facing the long side of the game board (egg carton). • Players place 4 beans into each of the cups. • The collection cups (mancala stores), are placed at each end of the game board, and remain empty of beans. 	
<p>Goal:</p> <ul style="list-style-type: none"> • Get beans into your keep tray 	
<p>How to play:</p> <ul style="list-style-type: none"> • Pick up all the beans from one cup. • Moving to the right, drop a bean into each cup (including the keep tray) until your hand is empty. • If you finish on a keep tray, have another turn. • The winner is the player with all beans in the keep tray. 	

Maths – Activity 2 – Race to zero



Scan the code to watch the video or follow the instructions below.

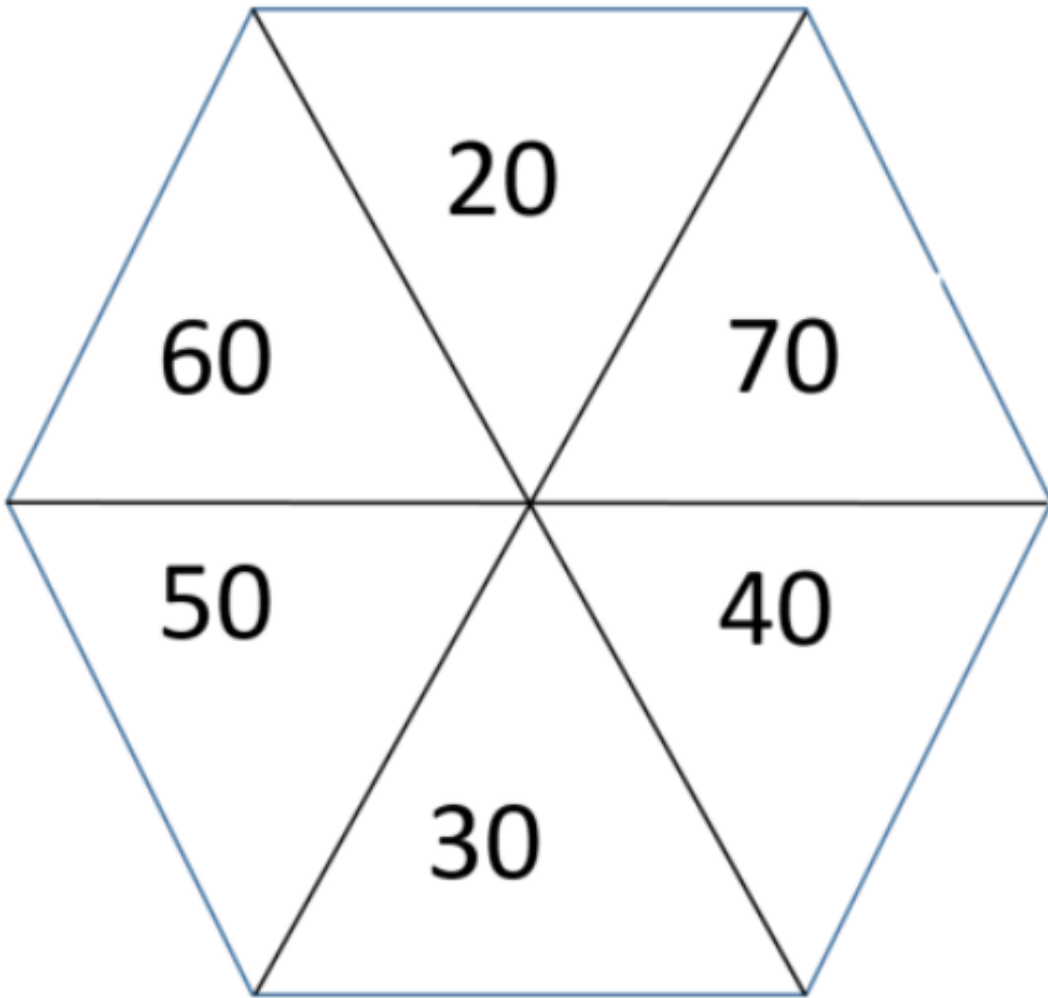
You will need:



- 2 counters
- 2 paperclips
- 0-119 hundreds chart for the gameboard (see next page)
- 0-9 spinner (see Thursday)
- 20-70 spinner
- Pen

Instruction	Picture
<p>Players place their counters at the end of 119. The person whose birthday is closest to February 29 goes first.</p>	
<p>Players take turns to spin both spinners and decide which to use, subtracting the amount from their current position. For example, a player rolled 60 and 4. He or she can choose to subtract 60 or 4. Players explain where they need to move their counter to and explain their thinking. If their partner agrees, they move the counter to the corresponding position.</p>	
<p>Players take turns until someone has been able to land exactly on zero. Players miss a turn if they cannot move. If a roll means they would move into negative numbers, they have to move their counter back to 25.</p>	

110 one- hundred and ten	111 one- hundred and eleven	112 one- hundred and twelve	113 one- hundred and thirteen	114 one- hundred and fourteen	115 one- hundred and fifteen	116 one- hundred and sixteen	117 one- hundred and seventeen	118 one- hundred and eighteen	119 one- hundred and nineteen
100 one- hundred	101 one- hundred and one	102 one- hundred and two	103 one- hundred and three	104 one- hundred and four	105 one- hundred and five	106 one- hundred and six	107 one- hundred and seven	108 one- hundred and eight	109 one- hundred and nine
90 ninety	91 ninety- one	92 ninety- two	93 ninety- three	94 ninety - four	95 ninety- five	96 ninety- six	97 ninety- seven	98 ninety- eight	99 ninety- nine
80 eighty	81 eighty- one	82 eighty- two	83 eighty- three	84 eighty- four	85 eighty- five	86 eighty- six	87 eighty- seven	88 eighty- eight	89 eighty- nine
70 seventy	71 seventy- one	72 seventy - two	73 seventy- three	74 seventy- four	75 seventy- five	76 seventy- six	77 seventy- seven	78 seventy- eight	79 seventy- nine
60 sixty	61 sixty-one	62 sixty-two	63 sixty- three	64 sixty- four	65 sixty-five	66 sixty-six	67 sixty- seven	68 sixty- eight	69 sixty- nine
50 fifty	51 fifty-one	52 fifty-two	53 fifty- three	54 fifty-four	55 fifty-five	56 fifty-six	57 fifty- seven	58 fifty- eight	59 fifty-nine
40 forty	41 forty- one	42 forty- two	43 forty- three	44 forty- four	45 forty-five	46 forty-six	47 forty- seven	48 forty- eight	49 forty- nine
30 thirty	31 thirty- one	32 thirty- two	33 thirty- three	34 thirty- four	35 thirty- five	36 thirty-six	37 thirty- seven	38 thirty- eight	39 thirty- nine
20 twenty	21 twenty- one	22 twenty- two	23 twenty- three	24 twenty- four	25 twenty- five	26 twenty- six	27 twenty- seven	28 twenty- eight	29 twenty- nine
10 ten	11 eleven	12 twelve	13 thirteen	14 fourteen	15 fifteen	16 sixteen	17 seventeen	18 eighteen	19 nineteen
0 zero	1 one	2 two	3 three	4 four	5 five	6 six	7 seven	8 eight	9 nine



STEM – Watercraft (boat) challenge



Challenge

Design and build a boat that can hold the weight of $\frac{1}{4}$ cup of water for at least 10 seconds without sinking.

Rules

16. You can only use the materials on the list, but you do not have to use all the materials.
17. Your boat needs to hold a weight of $\frac{1}{4}$ cup of water for at least 10 seconds without sinking.
18. The boat must float by itself (you cannot hold onto the boat).

Materials

- straws
- clingwrap
- tape
- string
- plastic cup
- container filled with water, such as a sink or bucket



Instructions

- Read the rules.
- Collect materials and think about how they could be used for the challenge.
- Record your ideas and results in your workbook.

Step 1: Brainstorm and design your boat

- Test the materials by floating them in the container of water.
- Think about how you are going to construct the boat.
- What shape are you going to make the boat?
- How will you support the heavy weight?
- Sketch some designs in your workbook.
- Does your design meet the challenge rules?
- Which solution are you going to trial? Why did you choose that solution?

Tip: Shape matters! Try tying or taping the straws together to make a **raft shape** or a **boat shape** and see which one floats best.

Step 2: Time to build! Make and test your boat

- Build your boat.
- Make your design and test it.
- Does it float? Can it hold the weight of $\frac{1}{4}$ cup of water?

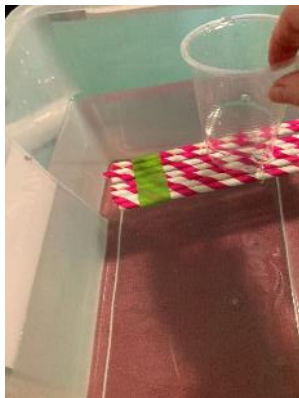
- Draw or take a photo of your design.
- Why do you think it did/did not work?
- What else could you try?



Tip: Shape matters! Try tying or taping the straws together to make a raft shape or a boat shape and see which one floats best.

Step 3: Test, improve and present

- Redesign or make improvements to your boat.
- What improvements did you make? Note this in your workbook.
- How many times did you have to test your design before you were successful?
- Did you meet the challenge?



Tips:

If your boat sinks easily, try changing the width of the boat or the height of its sides.

If your boat tips easily, try moving the cup of water to another position.

Too easy?

- How much weight can your boat hold? Keep adding weights until it sinks!
- OR
- Change the materials you make your boat out of. What is the best design?

What makes it float?

Shape matters when you want something to float. Buoyancy is a force on an object making that object rise or move upward (float). An object will float if the volume of water it displaces weighs more than the object. An object will sink if the volume of water it displaces weighs less than the object.