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This Year's Content

- Uses content from the Quick Curriculum Guides for Parents & Teachers, based on the Australian Curriculum
- Take a look at what to do over the coming school year
- Pay extra attention to the items with a star \bigstar , they're very important!

Last Year's Content

- With weeks of holidays behind them, students will have forgotten a little bit. Using the first few weeks of class to refresh students on this content is a good time investment.
- Take a quick look over last year's content. Recommendation: spend a little bit more time looking back at the items with a star \bigstar .

Review / Assessment and Year Planning

- Review the starred \uparrow concepts that were in the previous year's Quick Curriculum Guide with your students.
- We have included 1 assessment item based on an important concept to help get you started at the back of this booklet.

More Help

- Get some helpful tips on planning from the full year right down to the individual lesson. See the booklet "A Guide to Teacher Planning"
- Free download at www.drpaulswan.com.au/planning

These materials are provided as-is and intended as assistance tools only.

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Quick Curriculum Guide for Parents and Teachers (Year Three)

These Quick Curriculum Guides have been designed to take a look at the Australian Mathematics Curriculum, explain the terminology and provide a few interpretations. This tool has been designed as a document to assist both parents and teachers. The activity ideas only use a minimum of materials, most of which can be found at home and can easily be adapted to the classroom. In places where there is ambiguity, Linda and I have used our professional judgement to put forward what we feel is **appropriate for students at this year level**.

About Year Three:

In Year 3 children are expected to recall the basic addition facts (0 + 0 to 9 + 9) and related subtraction facts (fact families)
 e.g. 7 + 2 = 9, 2 + 7 = 9

9 - 2 = 7, 9 - 7 = 2

- In Year 2 they learned strategies for this but in Year 3 they are expected to be able to recall them.
- Children start their multiplication (a.k.a the tables) facts.

For Teachers:

- You are welcome to send home these cards and activities to parents. A great way of organising your term might be cutting up the cards and adding to the activities ideas.
- Please note, some states and territories do not 100% match the national Curriculum in their state curriculums.

#1 Year Three (Number)

The Australian National Curriculum Says:

Investigate the conditions required for a number to be odd or even and identify odd and even numbers

What this means

- Be able to identify odd and even.
- Be able to notice patterns when working with odd and even numbers, e.g. odd + odd = even.

Activity Idea

Line up pairs of objects to show even numbers (2, 4, 6, ...) With an odd number, you cannot make pairs, there's 1 left over (1, 3, 5, ...).

Play "Odd One Out" (free game) from drpaulswan.com.au Teaching at Home - Quick Guide www.drpaulswan.com.au

For Parents:

- Keep in mind this is what children learn over the **whole year**, not just in one term.
- All children are different, so expectations will vary even between children within the same year level.
- For the listed activities, we think these are all worth trying / could be managed in a home setting even for those inexperienced with teaching at home. We have tried to avoid specialty equipment.
- Even if you're not too sure about teaching, just introducing the idea and some related vocabulary can be a great help.
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A sample card

Note the features of these cards:

- The text from the Australian Curriculum
- The star in the top right

Filled in: this means this is a topic that in our opinion is vital, perhaps as a building block to concepts in later years.
Not filled in: while still important, we consider this secondary.

- A simplified explanation of what the curriculum is describing
- A single activity or game idea. Some will reference free games and downloadables that you can find on www.drpaulswan.com.au. The vast majority of these activity ideas can be done at home.

Note: Although we have put the entries of the Australian Curriculum in one box each, they are not equal in terms of their importance or the amount of time needed to provide an understanding. Some entries will only need one of two learning sessions. Others will benefit from more, and need re-visiting a number of times throughout the year. Some entries, after an initial learning session, can be given incidental mention as the occasion arises. Teachers will use their professional judgements when deciding how long to allow for each of the entries; often combining some of them within one or more learning sessions.

The full Australian Curriculum: Mathematics can be found at www.australiancurriculum.edu.au/f-10-curriculum/mathematics/ The AC:M is copyright of ACARA used with permission under the Creative Commons Licence

Acknowledgement to Linda Marshall for her assistance developing these notes.

#1 Year Three (Number)

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What this means

- Be able to identify odd and even.
- Be able to notice patterns when working with odd and even numbers, e.g. odd + odd = even.

Activity Idea

Line up pairs of objects to show even numbers (2, 4, 6, ...) With an odd number, you cannot make pairs, there's 1 left over (1, 3, 5, ...).

Play "Odd One Out" (free game) from drpaulswan.com.au

Teaching at Home - Quick Guide

www.drpaulswan.com.au

#3 Year Three (Number)

(Number)

The Australian National Curriculum Says:

Apply place value to partition, rearrange and regroup numbers to at least 10 000 to assist calculations and solve problems

What this means

- In Year 3 children learn how to split up numbers make it easier to do calculations.
- Caution: Schools teach this in slightly different ways across the country.

Activity Idea

Check with your child's school for their preferred method.

Teaching at Home - Quick Guide

www.drpaulswan.com.au

#5 Year Three (Number)



The Australian National Curriculum Says:

Recall addition facts for single-digit numbers and related subtraction facts ...

What this means

- In Year 2 they learn the facts 0 + 0 to 9 + 9 (and related subtraction) with the help of materials, in Year 3 they are expected to *remember* the facts.
- This does not mean they have to be able to recite it instantly. Under 3 seconds is a good benchmark.

Activity Idea

If struggling, play "Build To" and "Doubles Games" (free games from drpaulswan.com.au)

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www.drpaulswan.com.au

#2 Year Three (Number)

The Australian National Curriculum Says:

Recognise, model, represent and order numbers to at least 10 000

What this means

- The child can read four-digit numbers in numerals (e.g. 4002) and translate them to words ("four thousand and two") and vice versa.
- Be able to read numbers such as 4 520 and know that it is one more than 4 519.

Activity Idea

Write four-digit numbers on sticky notes and have the child arrange them in order.

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www.drpaulswan.com.au

#4 Year Three (Number)



The Australian National Curriculum Says:

Recognise and explain the connection between addition and subtraction.

What this means

The child can explain all these parts are related,

elated, 15 ?

19

e.g.: 15 + 4 = 19, 15 + ? = 19, 19 - ? = 15, etc.

Activity Idea

Draw "Part Part Whole" diagrams as above and put numbers in them.

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www.drpaulswan.com.au

#6 Year Three (Number)



The Australian National Curriculum Says:

Recall multiplication facts of two, three, five and ten, and related division facts

What this means

- Note *Recall*, as per Card 5.
- Typically called 'the tables' note that division is also included.
- *Related facts* means one fact: 3 x 4 = 12 has related facts 4 x 3 = 12, 12 ÷ 4 = 3 and 12 ÷ 3 = 4.

Activity Idea

Play "Arrays Game (Milestones Edition)" from www.drpaulswan.com.au (free games)

Teaching at Home - Quick Guide

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#7 Year Three (Number)



Represent and solve problems involving multiplication using efficient mental and written strategies and appropriate digital technologies

What this means

- Understands multiplication words such as 'by', 'lots of', 'groups of', 'times as many,' etc. Can 'translate' from the words to the number sentence.
- *Efficient strategies:* Does not get bogged down in too many steps or forget where they're up to.

Activity Idea

Download "Word Problems Multiplication & Division" and the interactive version on drpaulswan.com.au

Teaching at Home - Quick Guide

www.drpaulswan.com.au

#9 Year Three (Number)



The Australian National Curriculum Says:

Represent money values in multiple ways and count the change required for simple transactions to the nearest five cents

What this means

- 50c and \$0.50 are equivalent.
- 100 and 200 are the same, etc.
- Student can give change. e.g. a \$1.70 item, \$2 tendered, student may count back a 10c and say
- "one dollar eighty" and 20c saying "two dollars."

Activity Idea

Play shops, using method above. Use catalogues.

Teaching at Home - Quick Guide

www.drpaulswan.com.au

#11 Year Three (Measurement)

The Australian National Curriculum Says:

Measure, order and compare objects using familiar metric units of length, mass and capacity

What this means

• Unlike Year 2, we use standard units (m, kg, L) etc.

Activity Idea

- Comparing containers (capacity): Use the measuring jug from your cooking cupboard to fill up 3 containers, record

the millilitres or litres each holds. Order them from "holds least" to "holds most" water.



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#8 Year Three (Number)

The Australian National Curriculum Says:

Model and represent unit fractions including 1/2, 1/4, 1/3, 1/5 and their multiples to a complete whole

What this means

- A unit fraction is where the numerator (top number) is 1.
- *Model:* use materials e.g. paper strips.
- Multiples: 1/4 + 1/4 + 1/4 + 1/4 (or $4 \times 1/4$) is 4/4 or 1.
- *Represent*: show as a picture e.g. on a number line.

Activity Idea

Fold paper strips.

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www.drpaulswan.com.au

#10 Year Three (Number)



The Australian National Curriculum Says:

Describe, continue, and create number patterns resulting from performing addition or subtraction

What this means

• Able to continue a pattern such as 5, 9, 13, 17 ... and 50, 47, 44, 41, 38, __, ... and describe what is happening in each step.

Activity Idea

Calculator activity: Press +5 = = = ... and the calculator will count in 5's. Change the first number to start anywhere (e.g. 7 + 5 = = =).

Count backwards: Try 40 - 2 = = = ...

Teaching at Home - Quick Guide

www.drpaulswan.com.au

#**12** Year Three (Measurement)



The Australian National Curriculum Says:

Tell time to the minute and investigate the relationship between units of time

What this means

- Can tell time to the minute
- 60 min to 1 hr, 60 seconds to 1 minute, etc.

We recommend the use of both analogue and digital clocks. Help the child see that, for example, 22 minutes past 4 can be written as 4:22.

Activity Idea

Play "Time Match Minute" from drpaulswan.com.au Make references to the clocks nearby during the day.

Teaching at Home - Quick Guide





#13 Year Three (Geometry)

The Australian National Curriculum Says:

Make models of three-dimensional objects and describe key features

What this means

 Key features = Vertices (corners), Faces and Edges



Activity Idea

Use toothpicks and blu-tack to make a cube and a pyramid.

Teaching at Home - Quick Guide

www.drpaulswan.com.au

#15 Year Three (Geometry)

The Australian National Curriculum Says: Identify symmetry in the environment

What this means

 There are two types of symmetry, line symmetry and rotational symmetry.
 Students need to know these in order to properly 'identify' symmetry in the environment





Try a Google image search on the term 'Symmetry'.

Teaching at Home - Quick Guide

#17 Year Three (Stats & Probability)

The Australian National Curriculum Says:

Conduct chance experiments, identify and describe possible outcomes and recognise variation in results

What this means

• Roll dice, flip coins, flick spinners, etc.

Activity Idea

• Using a standard 1-6 dice, how many rolls do you need to get all of the numbers 1, 2, 3, 4, 5 and 6 at least once? Try several times.

#14 Year Three (Geometry)

The Australian National Curriculum Says:

Create and interpret simple grid maps to show position and pathways

What this means

- Shows position. They can draw lines to show a path (e.g. Treasure Map)
- A B C D E F
- Read across then up. Gives (D,2)

Activity Idea

Use the 10 & 20mm Grids Printable download from www.drpaulswan.com.au to play "Hidden Treasure" in your backyard/sandpit or somewhere inside the house.

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www.drpaulswan.com.au

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#16 Year Three (Geometry)



The Australian National Curriculum Says:

Identify angles as measures of turn and compare angle sizes in everyday situations

What this means

Teaching at Home - Quick Guide

- Does NOT mean using protractors.
- *Measures of turn*: Relate quarter turn to 90 degrees and turning around as 180 degrees (a u-turn).
- Comparing angle sizes: (Requires 2 pairs of scissors) show that angle is not related to size. In this case of these two pairs of scissors, one pair is bigger than the other but the angle is the same.

www.drpaulswan.com.au

#18 Year Three (Stats & Probability)

The Australian National Curriculum Says:

Collect data, organise into categories and create displays using lists, tables, picture graphs and simple column graphs, with and without the use of digital technologies

What this means

- Children can collect data They could use this data to produce tables, lists and graphs.
- In picture graphs one picture represents one item.

Activity Idea

Sort a pack of lollies into the different colours. Make a column graph from the results. Keep gaps between each column. Download grid paper from drpaulswan.com.au





www.drpaulswan.com.au

Free Support: Addition / Subtraction

A suggested order for teaching basic addition and subtraction facts (related to card #4) can be found at www.drpaulswan.com.au/planning

Milestones: Basic Facts Addition & Subtraction (Free Download)



Teaching at Home - Quick Guide

Further Support: Language of Maths

If we're unsure of what a word means in English, we look up a dictionary. Here are two maths dictionaries to help define and explain maths terms.



Further Support: Games

Ideal games for Year 3 are the card games ROWCO and COMBO



Instructions on how to play as well as extra games you can play with the cards are available at Youtube.com/user/DrPaulSwan Purchase from www.drpaulswan.com.au/shop

www.drpaulswan.com.au

Free Support: Multiplication / Division

A suggested order for teaching basic multiplication and division facts can be found at www.drpaulswan.com.au/planning

Milestones: Basic Facts Multiplication & Division (Free Download)



Further Support: Tables

The Networking Tables series of books is available for ebook download

The books applicable for Year 3 are:



Available from www.drpaulswan.com.au/shop In Year 4 students learn the rest of the tables. You can buy the full set at a discount.

Teaching at Home - Quick Guide

www.drpaulswan.com.au

Free Support: Downloadable Games

Games suitable for Year 3, including the Time Match and Arrays Games mentioned in this document, can be downloaded from drpaulswan.com.au/games/



Quick Curriculum Guide for Parents and Teachers (Year Two)

These Quick Curriculum Guides have been designed to take a look at the Australian Mathematics Curriculum, explain the terminology and provide a few interpretations. This tool has been designed as a document to assist both parents and teachers. The activity ideas only use a minimum of materials, most of which can be found at home and can easily be adapted to the classroom. In places where there is ambiguity, Linda and I have used our professional judgement to put forward what we feel is **appropriate for students at this year level**.

About Year Two:

• Again, year two builds a lot on year one content, for example in year one children *recognise coins* but in year two they *count* coins and later notes. Likewise they tell time to the half hour in year one but in year two this is extended to quarter hour. It therefore makes sense to review some of these ideas before starting on year two content. See the Quick Curriculum Guide for Parents and Teachers (Year One) for more information.

For Teachers:

- You are welcome to send home these cards and activities to parents. A great way of organising your term might be cutting up the cards and adding to the activities ideas.
- Please note, some states and territories do not 100% match the national Curriculum in their state curriculums.

#2 Year Two (Number)

The Australian National Curriculum Says: Recognise, model, represent and order numbers to at least 1000

What this means

- The child can read three-digit numbers in numerals (e.g. 642) and translate them to words ("six hundred and forty two") and vice versa.
- This does not mean doing calculations with three digit numbers.

Activity Idea

Write three-digit numbers on sticky notes and have the child arrange them in order.

Teaching at Home - Parent Guide www.drpaulswan.com.au 🧎

For Parents:

- Keep in mind this is what children learn over the **whole year**, not just in one term.
- All children are different, so expectations will vary even between children within the same year level.
- For the listed activities, we think these are all worth trying / could be managed in a home setting even for those inexperienced with teaching at home. We have tried to avoid specialty equipment.
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A sample card

Note the features of these cards:

- The text from the Australian Curriculum
- The star in the top right

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Acknowledgement to Linda Marshall for her assistance developing these notes.

Linda Marshall and Paul Swan

#1 Year Two (Number)

The Australian National Curriculum Says:

Investigate number sequences, initially those increasing and decreasing by twos, threes, fives and tens from any starting point, then moving to other sequences

What this means

- Skip counting by 5s; e.g. 57, 62, 67,...
- Backwards by 3s; e.g. 25, 22, 19, ...

Activity Idea

Calculator activity: Press +5 = = = ... and the calculator will count in 5's. Change the first number to start anywhere (e.g. 7 + 5 = = =). Count backwards: Try 40 - 2 = = = ...

Teaching at Home - Parent Guide

www.drpaulswan.com.au

Year Two (Number)



etc.

The Australian National Curriculum Says:

Group, partition and rearrange collections up to 1000 in hundreds, tens and ones to facilitate more efficient counting

What this means

Partitioning: Splitting numbers up,

492 = 4 hundreds + 9 tens + 2 ones e.g.: 492 = 400 + 90 + 2

etc.

Rearranging: rearrange your partitions

492 = 300 + 192

90 + 400 + 2 e.g.:

Activity Idea

Play Place Value Express 202 (Interactive Materials)

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www.drpaulswan.com.au

#5 Year Two (Number)



The Australian National Curriculum Says:

Solve simple addition and subtraction problems using a range of efficient mental and written strategies

What this means

- Without materials answer single digit problems (#4)
- With materials, answer teen and two-digit problems

Activity Idea

See Dr Paul Swan video "Place Value: Bundling & Trading" and play a trading game (e.g. rolling a dice and adding to the collection of popsticks/matchsticks/pencils)

#2 Year Two (Number)

The Australian National Curriculum Says:

Recognise, model, represent and order numbers to at least 1000

What this means

- The child can read three-digit numbers in numerals (e.g. 642) and translate them to words ("six hundred and forty two") and vice versa.
- This does not mean doing calculations with three • digit numbers.

Activity Idea

Write three-digit numbers on sticky notes and have the child arrange them in order.

Teaching at Home - Parent Guide

#4 Year Two (Number)



The Australian National Curriculum Says: Explore the connection between addition and subtraction

What this means

The child can explain all these parts are related,

9 5 2 e.g.: 5 + 4 = 9, 5 + ? = 9. 9 - ? = 5etc.

www.drpaulswan.com.au

Activity Idea

Flashcards: Write the three parts of an addition / subtraction fact on a diagram (as above). Cover one part and ask what is missing and all the related facts.

Teaching at Home - Parent Guide

www.drpaulswan.com.au

#6 Year Two (Number)



The Australian National Curriculum Says:

Recognise and represent multiplication as repeated addition, groups and arrays

What this means

Links multiplication with:

- Repeated addition
- Groups
- Arrays (e.g. Muffin Tray) •

Activity Idea

Array: Look at a muffin tray (4 x 3) or egg carton (6 x 2), rotate to show 3 x 4 and 2 x 6, respectively.

Teaching at Home - Parent Guide

www.drpaulswan.com.au



#7 Year Two (Number)



Recognise and represent division as grouping into equal sets and solve simple problems using these representations

What this means

There are two types of division:

- Sharing: e.g. 12 biscuits shared among 6 children • "one for you, one for you..." until they're all divided.
- Grouping: e.g. 80 lollies, making bags with 10 lollies in each, "how many bags?"

Activity Idea

Try the two situations above. Read The Doorbell Rang by Pat Hutchins

Teaching at Home - Parent Guide

www.drpaulswan.com.au

Year Two (Number)



The Australian National Curriculum Says:

Count and order small collections of Australian coins and notes according to their value

What this means

Use real money. Children are given a few coins/small notes (\$5, \$10) and work out how much it is altogether.

Small collections: we suggest no more than \$20.

Activity Idea

Moneybox count: Empty the money box or coin collection and count it.

Teaching at Home - Parent Guide

www.drpaulswan.com.au

#11 Year Two (Number)



The Australian National Curriculum Says:

Solve problems by using number sentences for addition or subtraction

What this means

- An addition number sentence would be 5 + 4 = 9.
- Also required here is translating a word problem into a number sentence e.g. "I had 5 lollies and my friend gave me some lollies and now I have 9, how many did they give me?" There are variations of this including subtraction (see Card 4).
- Given a number sentence e.g. 5 + 4 = ? write an appropriate word problem "I had five lollies ... "

#8 Year Two (Number)

The Australian National Curriculum Says:

Recognise and interpret common uses of halves, quarters and eighths of shapes and collections

What this means

• Children need to link the picture with the symbol and the word (One eighth of a cake or one eight of 8 lollies with $1/_{8}$ and the words "one eighth").

Activity Idea

Fold strips of paper lengthways in half then fourths (half of a half) and eighths (half of a half of a half).

Compare the sizes of each fraction. The half is the biggest, then the $^{1}/_{4}$ and the $^{1}/_{8}$ is the smallest piece.

See also that $^{2}/_{4}$ are the same as $^{1}/_{2}$, etc.

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#10 Year Two (Number)



The Australian National Curriculum Says: Describe patterns with numbers and identify missing elements

What this means

Example: 2, 4, 6, _, 10 Describe: the child can explain the pattern is going up by twos Identify: they can answer that the missing number is 8.

Activity Idea

Put out cards in a pattern, e.g. 1, 3, 5, 7, 9, 11 and turn one of the cards 7, 9 or 11 over. Ask what's missing.

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#12 Year Two (Number)



The Australian National Curriculum Says:

Compare and order several shapes and objects based on length, area, volume and capacity using appropriate uniform informal units

What this means

Appropriate uniform informal units: Not formal (e.g. millimetres) but rather using the same unit in your measurement experiments, e.g. measuring the length of all the books on the bookshelf using paperclips. Watch for gaps and overlaps between the paperclips (or units)

Activity Idea

Measure larger items around the home in handspans.

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#13 Year Two (Measurement)

The Australian National Curriculum Says:

Compare masses of objects using balance scales

What this means

This is referring to this sort of balance.

Comparisons are made in terms of heavier/lighter.



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Activity Idea

Cooking: If using scales, just refer to heavier/lighter rather than reading the value (e.g. 250 g)



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#15 Year Two (Measurement)

The Australian National Curriculum Says: Name and order months and seasons

What this means

- How many months in a year? Name them in order.
- How many seasons in a year? Depending on where you live, this may be 4 (spring, summer, autumn and winter) or 2 (wet season and dry season), etc.

Activity Idea

Refer to calendars on the wall.

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#17 Year Two (Geometry)

The Australian National Curriculum Says: Describe and draw 2D shapes with and without digital technologies

What this means

- We think they should know both regular and irregular shapes from Triangles to Octagons.
- Can they identify the key features? E.g. a triangle ٠ has 3 sides. Can they draw a shape when asked?
- Digital technologies = apps / computer programs
- Note: Angles are not formalised at this point. You can point them out but don't measure them.

Activity Idea

"Draw a three sided shape" & "Draw a triangle" etc.

#14 Year Two (Measurement)

The Australian National Curriculum Says:

Tell time to the quarter hour using the language of 'past' and 'to'

What this means

Try to use both analogue and digital clocks. See that, for example, quarter past 2 is the same as 2:15, and that guarter to 7 is the same as 6:45.

Activity Idea

Time Match Quarter Hour Game

(available from drpaulswan.com.au/games)

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#16 Year Two (Measurement)



The Australian National Curriculum Says:

Use a calendar to identify the date and the number of days in each month

Activity Idea

- Use the rhyme, "Thirty days has September, April,
- Use a calendar to look to find and write today's date and to mark in special dates, for example, ANZAC Day, show them written in several ways, e.g. 25 April 2020, 25/4/2020, 25.04.2020.
- Name before and after dates, e.g. "What day of the week was three days before the 2nd of May?"

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#18 Year Two (Measurement)



The Australian National Curriculum Says:

Describe the features of three-dimensional objects

What this means

- Shapes are flat, objects are three dimensional.
- Objects are made up of faces, corners (vertices) and edges



Activity Idea

Cut up cereal and toblerone boxes and investigate the faces, edges and vertices

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Time to the Quarter Hour Review

Name	:	Date:		
1.	What time does this clock show?			
	9 3 8 4 7 6 5	 3:07 3:35 7:03 7:15 		
2.	What time does this clock show?			
	9 3 8 4 7 6 5	 10:09 8:09 9:45 8:45 		
3.	3. What time does this clock show?			
	9 3 8 4 7 6 5	 quarter to two quarter past two quarter to three quarter past three 		
4.	Draw a digital clock showing 6:45. Show this on the analogue clock.			
		11 12 1 10 2 9 3 8 4 7 6 5		
5.	Write down in words what time this clock shows.			
	11 12 1 10 2 9 3 8 4 7 6 5			

Answer: _

