

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.

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.
- Regular routines are beneficial for children. Many of these activities can be repeated, which will help the children retain what they learn. You can do the activity the same way or make slight changes to keep it interesting. ***It is better to pick one or two activities and repeat them than it is to try them all once!***

#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 

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 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, ... etc.

Activity Idea

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

Count backwards: Try $40 - 2 = = = \dots$



#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.



#3 Year Two (Number)



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,

e.g.: $492 = 4 \text{ hundreds} + 9 \text{ tens} + 2 \text{ ones}$

$492 = 400 + 90 + 2$

$492 = 300 + 192$

etc.

Rearranging: rearrange your partitions

e.g.: $90 + 400 + 2$

Activity Idea

Play Place Value Express 202 (Interactive Materials)



#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	?

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

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.



#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)



#6 Year Two (Number)



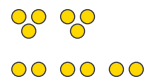
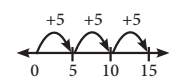
The Australian National Curriculum Says:

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.



#7 Year Two (Number)



The Australian National Curriculum Says:

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



#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 $\frac{1}{8}$ 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 $\frac{1}{4}$ and the $\frac{1}{8}$ is the smallest piece.

See also that $\frac{2}{4}$ are the same as $\frac{1}{2}$, etc.



#9 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.



#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.



#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..."



#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.



#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.



Activity Idea

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



#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 quarter to 7 is the same as 6:45.

Activity Idea

Time Match Quarter Hour Game
(available from drpaulswan.com.au/games)



#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.



#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?"



#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 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.



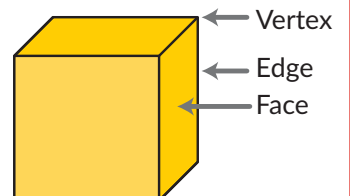
#18 Year Two (Measurement)



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 tobleron boxes and investigate the faces, edges and vertices



#19 Year Two (Geometry)



The Australian National Curriculum Says:

Interpret simple maps of familiar locations and identify the relative positions of key features

What this means

Can interpret rough maps and directions with no reference to scale, compass directions, etc. The maps should properly reflect reality (e.g. the park is on the way home from school).

Activity Idea

Read out instructions for the child to make an obstacle course. e.g. "Put the ball first, then the box, then the pillow ..."



#20 Year Two (Geometry)



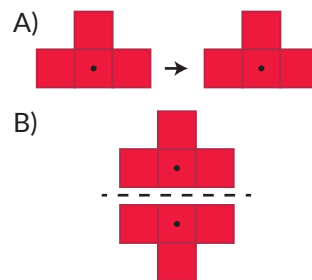
The Australian National Curriculum Says:

Investigate the effect of one step slides and flips with and without digital technologies

What this means

A) Slides (translation) and

B) flips (reflections) do not change the shape or size of an object.



Activity Idea

Cut out some shapes and flip / slide them.



#21 Year Two (Geometry)

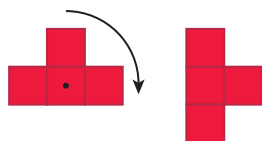


The Australian National Curriculum Says:

Identify and describe half and quarter turns

What this means

Rotate shapes and objects. Do not refer to 'degrees' at this time.



Activity Idea

Play a game where the child becomes a 'robot', and you 'program' it with statements such as, "take one step forward, make a quarter turn; take 3 steps forward and make a half turn", etc.



#22 Year Two (Stats & Probability)



The Australian National Curriculum Says:

Identify practical activities and everyday events that involve chance. Describe outcomes as 'likely' or 'unlikely', and identify some events as 'certain' or 'impossible'

What this means

Practical activities here means looking at familiar situations e.g. when playing a game they can describe possibilities in one of those four general terms. "It is unlikely that I will roll three sixes in a row."

Activity Idea

Ask the question "What do you think the chances are that ..."



#23 Year Two (Stats & Probability)



The Australian National Curriculum Says:

Identify a question of interest based on one categorical variable. Gather data relevant to the question

What this means

One categorical variable means that there is only one type of data collected; e.g. favourite types of sport, or hair colour.

The child can ask family members / friends about their favourite meal, TV show, ice-cream, etc. and collect the data.

Activity Idea

Conduct a poll and collect data



#24 Year Two (Stats & Probability)



The Australian National Curriculum Says:

Collect, check and classify data

What this means

Checking data: For example, does the number of responses recorded match how many people were asked? Tally marks are a useful tool here.

Once the child has collected their data (see Card 23) they classify it in some way; e.g. in a table according to the hair colours / variable they collected data for.

Activity Idea

Expand on the poll data taken in Card 23



#25 Year Two (Stats & Probability)



The Australian National Curriculum Says:

Create displays of data using lists, tables and picture graphs and interpret them

What this means

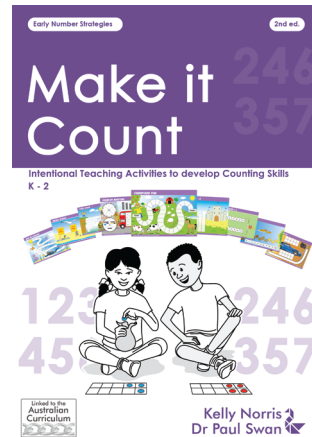
The child can sort some objects into different categories, e.g. a child might list toy cars according to colour.

Picture graphs: only do ones where one picture = 1 item.

Activity Idea

The child makes a list and then creates a table of books according to categories.

Further Support



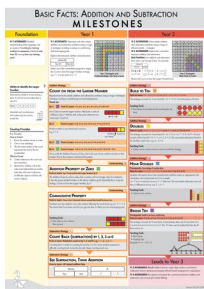
Designed for early childhood right through to Year 2 this book includes a variety of practical ideas and games suited for young children.

Clear links between the strategies and the Australian Curriculum are made.

Free Support

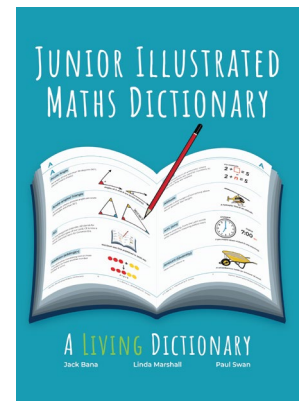
A suggested order for teaching basic addition and subtraction facts (related to card #4) can be found at www.drpaulswan.com.au/planning

Milestones: Basic Facts Addition & Subtraction (Free Download)



Further Support

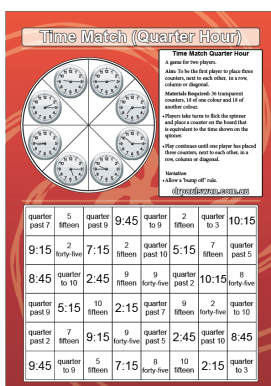
Some further activities and assistance can be found in: Junior Illustrated Maths Dictionary



Free Support

Some free A4 downloadable games are available for Year 2

go to <https://drpaulswan.com.au/games/>



Further Support

Pocket Dice Book A for Years F - 2 has a series of versatile activities that cover a lot of this content.

