Quick Curriculum Guide for Parents and Teachers
- Year 4

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, Dr Paul Swan and Linda Marshall have used our professional judgement to put forward what we feel is **appropriate for students at this year level.**

About Year 4

- The mathematics tends to become **much** harder in Year 4.
- Students finish learning all of their **multiplication** tables and the **related division facts**, while at the same time need to **consolidate** their basic **addition** and **subtraction** facts.
- Fraction work increases and they move from whole numbers to two decimal places (e.g. 2.57).

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 all the activities once!*

For Teachers

- You are welcome to send home these cards and activities to parents. A great way of organizing 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.

Sample card
Note the features of the sample card:

#1 Year Four (Number)

The Australian National Curriculum Says:
Investigate and use the properties of odd and even numbers.

What this means
- Even + Even = Even
- Odd + Odd = Even
- Even + Odd = Odd
- Odd + Even = Odd

Activity Idea
Ask the child to determine what happens when you add two even numbers. Two odd numbers? They should be the ones to come up with the 'rules' of Even + Even = Even, etc.

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1
- The star in the top right
  - ⭐ : means this is an important topic considered to be a building block to future learning.
  - ☆ : still important but considered to be secondary.

2
- Simplified explanation of what the curriculum is describing

3
- A single activity or game idea. Some will reference free games and downloadables that can be found at 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.

#1 Year Four (Number)

What this means

- Even + Even = Even
- Even + Odd = Odd
- Odd + Odd = Even
- Odd + Even = Odd

Activity Idea

Ask the child to determine what happens when you add two even numbers. Two odd numbers? They should be the ones to come up with the 'rules' of Even + Even = Even, etc.

#2 Year Four (Number)

What this means

- Students correctly read, write and say these larger numbers.
- Note that we no longer use a comma in numbers of five digits or more, but a gap between groups of 3 digits; so we would have 23356 not 23356.

Activity Idea

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

#3 Year Four (Number)

What this means

- the child can 'break down' (partition) numbers into their place value parts, and then look at different combinations of them. For example, know that:

9415 = 9000 + 400 + 10 + 5

9415 = 9000 + 415

9415 = 8000 + 1400 + 15,   etc.

Note: Methods of calculation vary, check with your child's school for their preferred method.

#4 Year Four (Number)

What this means

The *multiples* of a number are any numbers into which it will divide without a remainder, e.g. the multiples of 3 are 3, 6, 9, 12, 15, ...

Activity Idea

Use a Number Board (download a template from drpaulswan.com.au), ask the student to look for patterns in the each of the tables 3 - 9.

Ask "What are the patterns in 8, 16, 24, ... 49, 42, 35..."

#5 Year Four (Number)

What this means

- Typically called 'the tables' note that division is also included.
- *Recall means that the student does not have to work out the answer, they remember it. This does not mean they have to be able to recite it instantly. Under 3 seconds is a good benchmark.*

Activity Idea

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

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#6 Year Four (Number)

What this means

- *Efficient strategies:* Does not get bogged down in too many steps or forget where they're up to.
- *Written strategies:* Note these vary from school to school.

Activity Idea

Play the "COMBO" Card Game, available for purchase from www.drpaulswan.com.au
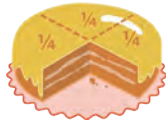
#7 Year Four (Number)

The Australian National Curriculum Says:

investigate equivalent fractions used in contexts.

What this means

- Equivalent fractions are different names for the same fraction number, e.g. $\frac{1}{2}$ is the same as $\frac{2}{4}$ and $\frac{3}{6}$, so $\frac{1}{2}$, $\frac{2}{4}$ & $\frac{3}{6}$ are **equivalent** fractions.
- Match the **fraction** (e.g. $\frac{3}{4}$), **the words** "three quarters" and **images**.

Activity Idea

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

#8 Year Four (Number)

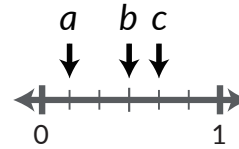***The Australian National Curriculum Says:***

Count by quarters halves and thirds, including with mixed numerals. Locate and represent these fractions on a number line.

What this means

- Mixed numerals have a whole number and a fraction, e.g. 3½

Activity Idea

a   b   c

0 ——————— 1

- What fractions do a, b, and c represent?

a
b
c

#9 Year Four (Number)

The Australian National Curriculum Says:

Recognise that the place value system can be extended to tenths and hundredths. Make connections between fractions and decimal notation.

What this means

2.16

hundredths
tenths

2.16 is read as "two and sixteen hundredths" rather than "two point one six" which allows children to see how place value allows you to name numbers.

2.16 is equal to:
- 2 + 1/10 + 6/100
- 2 + 16/100

Used during other activities (e.g. Card #10)

#10 Year Four (Number)

The Australian National Curriculum Says:

Solve problems involving purchases and the calculation of change to the nearest five cents with and without digital technologies.

What this means

- Student can give change. e.g. a $3.75 item, $5 tendered, student may count back 5c and say "three dollars eighty" and 20c saying "four dollars" and count back another dollar and say "five dollars"

Activity Idea

Play shops, using method above. Use catalogues.

#11 Year Four (Number)

The Australian National Curriculum Says:

Explore and describe number patterns resulting from performing multiplication.

What this means

- Do multiplications and look for patterns.

Activity Idea

- Explore multiples patterns on a number grid (download from drpaulswan.com.au).
  e.g. the multiples of 11.

"The multiples of 11 go diagonally because ..."

#12 Year Four (Number)

The Australian National Curriculum Says:

Solve word problems by using number sentences involving multiplication or division where there is no remainder.

What this means

- There are many words and phrases used to describe multiplication and division ('groups of', 'times as many,' 'by', 'of', etc.) Children need to translate the words into the number sentence.

Activity Idea

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

#13 Year Four (Number)

The Australian National Curriculum Says:
Find unknown quantities in number sentences involving addition and subtraction and identify equivalent number sentences involving addition and subtraction.

What this means

• These are early forms of *algebra*. Boxes, lines, ? marks and later letters may be used to represent missing elements of a number sentence.

Activity Idea

23 + ___ = 20 + 8

27 + 6 = 40 - ?

2734 = 2000 + ☐ + 70 + 4   *Create more of your own*

#14 Year Four (Measurement)

The Australian National Curriculum Says:
Use scaled instruments to measure and compare lengths, masses, capacities and temperatures.

What this means

• A scaled instrument is one that has markings or gradations on it; e.g. the mm and cm marks on a ruler, or the 25 mL marks on a measuring jug.

Activity Idea

Anything involving these; Cooking, measuring/weighing two objects, etc.

#15 Year Four (Measurement)

The Australian National Curriculum Says:
Compare objects using familiar metric units of area and volume.

What this means

• This does not mean using calculations or formulas to determine the area or volume of something. Grid paper and cubes may be used.

Activity Idea

Trace your hand onto 1 cm grid paper. Count squares to determine the area. Then try your foot. Compare.

#16 Year Four (Measurement)

The Australian National Curriculum Says:
Convert between units of time.

What this means

• Working out whether you need to multiply or divide when converting between units.

e.g. 60 minutes = 1 hour, so 1.5 hours = 90 minutes.

Activity Idea

Have you been alive for 1000000 seconds? This requires a calculator.

#17 Year Four (Measurement)

The Australian National Curriculum Says:
Use 'am' and 'pm' notation and solve simple time problems.

What this means

• Children need to understand am refers to morning and pm refers to afternoon/evening.

Activity Idea

• Solve simple time problems like: "I leave home at 11:30 am, and the walk to station takes 45 minutes. What time will I arrive at the station?"

#18 Year Four (Geometry)

The Australian National Curriculum Says:
Compare the areas of regular and irregular shapes by informal means.

What this means

• This does not include the use of formulas. Shapes can be drawn on grid paper and the number of squares counted to find and compare the areas.

Activity Idea

Draw a blob (an irregular shape) onto 1 cm grid paper. Count squares to determine the area.

#19 Year Four (Geometry)

The Australian National Curriculum Says:
Compare and describe two dimensional shapes that result from splitting common shapes, with and without the use of digital technologies.

What this means

- How many ways can a rectangle be cut in half so that each part is exactly the same as the other half?

Activity Idea

Download the Tangram Puzzles from drpaulswan.com.au

#20 Year Four (Geometry)

The Australian National Curriculum Says:
Use simple scales, legends and directions to interpret information contained in basic maps.

What this means

- Maps become more formal and this involves reading maps and paying attention to the key features of scales, legends (keys) and compass directions.

Activity Idea

Use the Maps app on your phone and discuss with your child. Point out scale, local landmarks and compass directions.
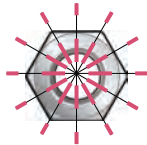

#21 Year Four (Geometry)

The Australian National Curriculum Says:
Create symmetrical patterns, pictures and shapes with and without the use of digital technologies.

What this means

- Student understands the two types of symmetry: line symmetry and rotational symmetry.
- Students use this knowledge to draw pictures.

Activity Idea

Try a Google image search on the term 'Symmetry'. Many drawing apps include a 'symmetry' mode.

#22 Year Four (Geometry)

The Australian National Curriculum Says:
Compare angles and classify them as equal to, greater than, or less than, a right angle (90°)

What this means

- A right angle measures 90°. Example: where a wall meets the floor is a right angle.

Classifications: right angle (90°), acute angle (less than 90°), obtuse angle (greater than 90° but less than 180°), straight angle (180°), reflex angle (greater than 180°).

Activity Idea

Look at a pair of scissors or garden shears Consider the angles made.

#23 Year Four (Stats & Probability)

The Australian National Curriculum Says:
Describe possible everyday events and order their chances of occurring.

What this means

- The word impossible means there is no chance of an event occurring, whereas possible describes a range of possibilities. Children will need to be exposed to a variety of language in order to describe and order events.

Activity Idea

Listen to/read *"A Very Improbable Story"* by Edward Einhorn (available on Youtube)

#24 Year Four (Stats & Probability)

The Australian National Curriculum Says:
Identify everyday events where one cannot happen if the other happens.

What this means

- "If there is no power, we cannot watch TV."

Activity Idea

Try activities using two dice where you add the results.

Can I get a total of 12 if I roll a 2 on the first dice?

Can I get a total of 5 if I roll a 6 on the first dice?

Example

• If I flip a coin and get four heads in a row, it would not affect the chance of getting a head or tail on the next flip.

Activity Idea

Flip a coin, discuss chances after a run of the same outcome e.g. 3 heads in a row. What do you think will come up next? Why?

What this means

• Data displays = a graph or table.

• One picture can represent more than one item.

Activity Idea

Make a table of the different-coloured lollies in a lolly packet. On grid paper, produce a column graph. Keep gaps between each column.

Further Support: Games

An Ideal game for Year 4 is the card game **COMBO**
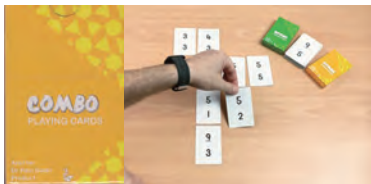
Instructions on how to play as well as extra games you can play with the cards are available on Youtube

The Multispin and Spindiv games are perfect for practising the multiplication (2x - 9x) and division (÷2 - ÷9) facts.

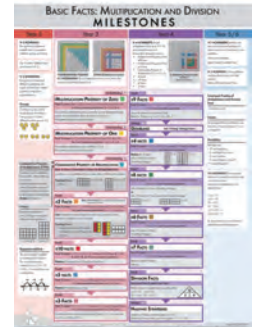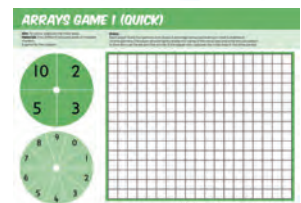Purchase from www.drpaulswan.com.au/shop

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Free Support: Multiplication / Division

The Basic Facts Milestones: A helpful suggested order for teaching basic multiplication and division facts:
https://edxeducation.com/teacher-parent/resources/

Arrays Games can be downloaded from
drpaulswan.com.au/games

Related Products
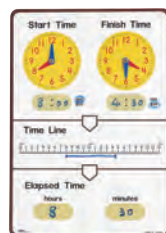
Number Board 120

Tell Elapsed Time Dry Erase Board

Number Lines (Fractions)

Related Products

Tangram

GeoStix

Classroom Dot Dice Set