Dr Paul Swan & Narelle Rice

Foundation

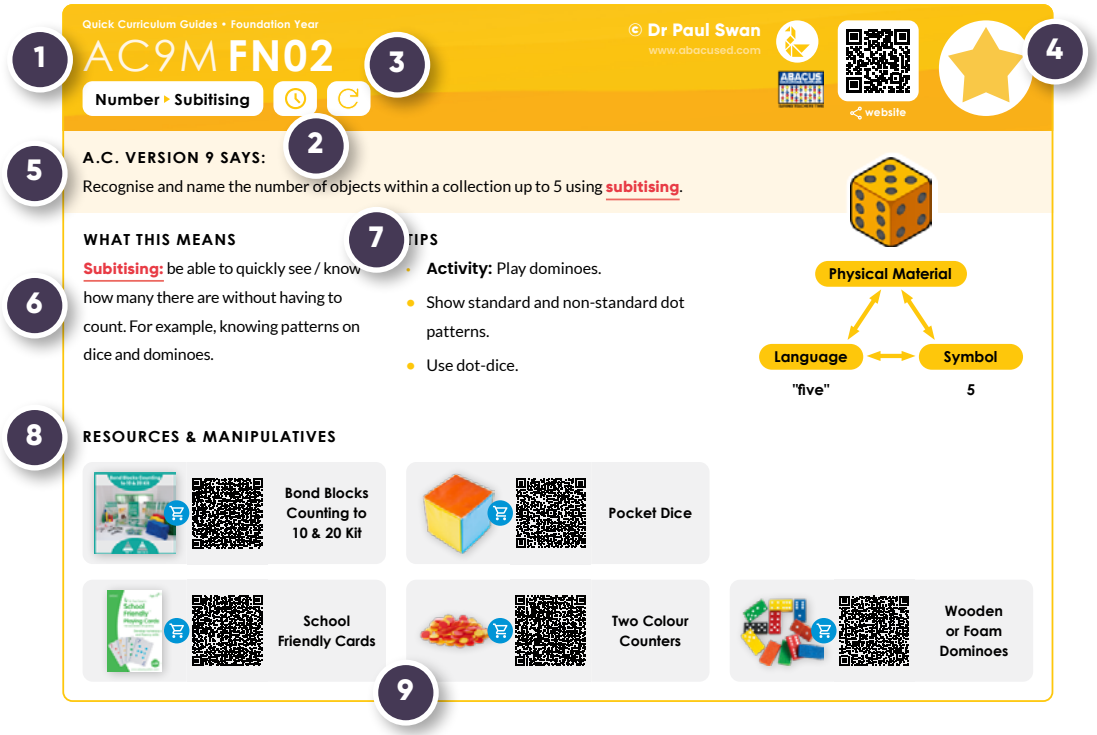
Quick Curriculum Guide

A reference and guide to the Australian Curriculum Version 9

These **Quick Curriculum Guides** have been designed to take a look at the new Australian Mathematics Curriculum (AC9), explain terminology and provide interpretations. Narelle and I have used our professional judgement to put forward what is appropriate for students at this year level.

Using the Guide Cards

1. The Curriculum 9 code, strand, and our categorisation of content.
2. Our estimate of teaching time required.
   - = a short time (1 or a few lessons)
   - = more time (a few weeks)
   - = lots of time (3 weeks+)
3. This icon means we think this content is best approached with multiple exposures (interleaving).



4. The filled in star means, in our opinion, this is one of the most vital topics for the year level. Often these are pre-requisites for later learning.
5. Text from the curriculum. Terms we define are highlighted.
6. Our explanations, inferences, clarifications and suggestions.
7. Practical tips and sometimes activity ideas.
8. Resources and materials recommendations.
9. Links to other descriptors.
   Bottom left: previous year
   Middle: within this year
   Bottom right: next year

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Acknowledgements

Authors: Dr Paul Swan & Narelle Rice

We would like to also thank Linda Marshall and David Dunstan for comments and assistance.

Visual Overview

For a visual overview / planner, see our accompanying overview documents.

We have illustrated the direct connections that exist between and within year levels.

With this information, you can check out the directly related cards in the previous / next year. This is helpful to:

- understand what the students should be bringing in from previous years, and what might need revision,
- the exact difference in understanding from previous years to this year,
- the content that you may be able to bundle together, and,
- what the curriculum describes for next year, so you can avoid accidentally teaching beyond the year level.

These documents serve as general advice only and do not take into account your specific needs and conditions. While best care has been taken in compiling these materials, mistakes may exist.

AC9M FN01

website

Number ▸ Counting

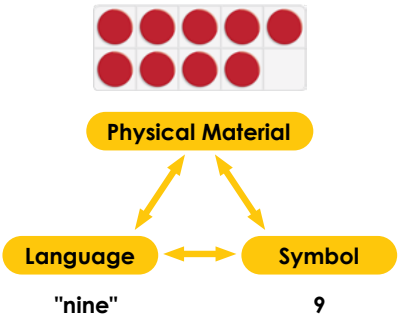
A.C. VERSION 9 SAYS:

Name, represent and order numbers including zero to at least 20, using physical and virtual materials and numerals.

WHAT THIS MEANS

Connecting number names to quantities to numerals.

- Count 1 to 10 first, then extend to 20. Naming, reading and writing teen numbers requires explicit teaching.



RESOURCES & MANIPULATIVES

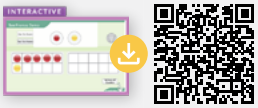
Bond Blocks Counting to 10 & 20 Kit

Bead String 1-20

Interactive Bead String

Ten Frames

Pegs on a String



Interactive Tens Frames

***Click the icon or QR to add resources to your cart.*

Linked to Year 1 ▸ AC9M1N01

AC9M FN02

website

Number ▸ Subitising

A.C. VERSION 9 SAYS:

Recognise and name the number of objects within a collection up to 5 using **subitising**.

WHAT THIS MEANS

Subitising: be able to quickly see / know how many there are without having to count. For example, knowing patterns on dice and dominoes.

TIPS

- **Activity:** Play dominoes.
- Show standard and non-standard dot patterns.
- Use dot-dice.

RESOURCES & MANIPULATIVES

Bond Blocks Counting to 10 & 20 Kit

Pocket Dice

***Click the icon or QR to add resources to your cart.*

School Friendly Cards

Two Colour Counters

Wooden or Foam Dominoes

AC9M FN03

website

Number ▸ Counting

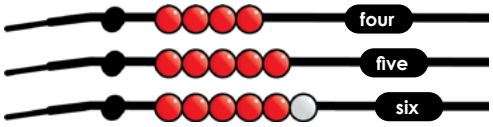
A.C. VERSION 9 SAYS:

Quantify and compare collections to at least 20 using counting and explain or demonstrate **reasoning**.

WHAT THIS MEANS

Put a number to a collection and compare collections

- Language of comparing: using words like **more**, **fewer** and **the same**
- **Reasoning;** for example, "*6 is more than 4 because it goes further on the bead string*" is an example of reasoning.

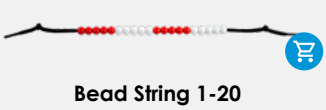


TIP

- **Activity – Grab:** In pairs, each student grabs one handful of objects and drops them on the table in front of them. After comparing the two collections each player makes the statement "I have more", or "You have more", or "We have the same."

RESOURCES & MANIPULATIVES

Bond Blocks Counting to 10 & 20 Kit



Bead String 1-20

Two Colour Counters

Maths Cubes

***Click the icon or QR to add resources to your cart.**

AC9M FN04

website

Number ▸ Partitioning

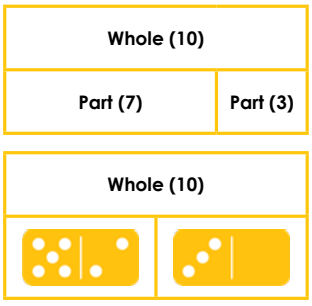
A.C. VERSION 9 SAYS:

Partition and combine collections up to 10 using **part-part-whole** relationships and subitising to recognise and name the parts.

WHAT THIS MEANS

Split and combine collections.

- Develop part-part whole thinking
- Show that parts can be rearranged.
- Note a whole may be partitioned into two or more parts.



TIPS

- **Activity:** Shake and Spill

Shake and Spill

Activity from: Counters in the Classroom

RESOURCES & MANIPULATIVES

Ten Frames

School Friendly Cards

Bead String 1-20

Wooden or Foam Dominoes

See also: Teaching with Ten Frames Book, and Beadstring Mathematics Book

Math Cubes

***Click the icon or QR to add resources to your cart.**

Linked to Year 1 ▸ AC9M1N04

AC9M FN05

website

Number ▸ Adding & Subtracting

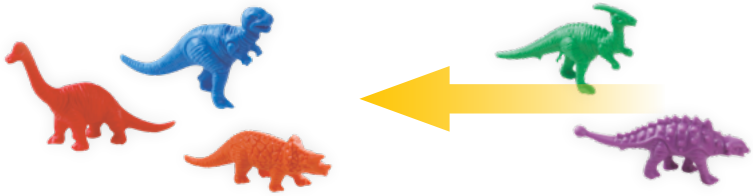
A.C. VERSION 9 SAYS:

Represent practical situations involving addition, subtraction and **quantification** with physical and virtual materials and use counting or subitising strategies.

WHAT THIS MEANS

Given addition and subtraction story problems (orally) students use materials to act out the situation.

- For example, "I have three toy dinosaurs and my friend gave me two more dinosaurs. How many dinosaurs do I have now?"



- **Quantification;** the act of counting and measuring, expressing something as an amount or number.

TIP

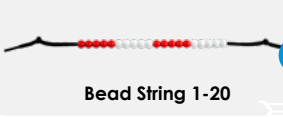
- The addition and subtraction situations would involve numbers up to ten using subitising or counting to work out the answer.

MANIPULATIVES

Maths Cubes

Themed Counters (Dinosaurs, Bears, Bugs, Transport, etc.)

Ten Frames



Bead String 1-20

***Click the icon or QR to add resources to your cart.**

AC9M FN06

website

Number ▸ Division

A.C. VERSION 9 SAYS:

Represent practical situations involving equal **sharing** and **grouping** with physical and virtual materials and use counting or subitising strategies.

WHAT THIS MEANS

Given division (sharing and grouping) story problems (orally) students use materials to act out the situation.

- **Sharing** problems. Share 12 counters equally among 3 people. One for you one for you one for you … until all counters are **shared**. How many will each person have? (4)
- **Grouping** problems. 15 pencils. How many **groups** of 3 pencils can you make? Students move groups of three until there are none left. How many groups of 3? (5). When students move these groups of 3 they are using a subitising strategy.

MANIPULATIVES

Math Cubes

Themed Counters (Dinosaurs, Bears, Bugs, Transport, etc.)

Two Colour Counters

***Click the icon or QR to add resources to your cart.**

TIPS

- The groups need to be clearly seen. Bowls will help.
- Acting out sharing and grouping with materials lays the foundation for multiplication and division in Year One.

Linked to Year 1 ▸ AC9M1N06

AC9M FA01

Algebra ▸ Patterns

A.C. VERSION 9 SAYS:

Recognise, copy and continue repeating patterns represented in different ways.

WHAT THIS MEANS

Given a pattern, children replicate this identically at first and later, continue patterns.

- The different ways might be patterns involving colour, shape, different materials or actions such as jumping or clapping.

TIPS

- The pattern should only be two parts at this stage (see image for example)
- **Activity:** Thread or lace materials.
- **Activity:** Act out patterns e.g. jump, jump, clap, jump, jump, clap...

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RESOURCES & MANIPULATIVES

Bond Blocks Counting to 10 & 20 Kit

Pattern and Structure Mathematics Awareness Program (PASMAP) Book 1

Math Cubes

Pattern Blocks

See also: Pattern Blocks Book, Threading Beads & Laces, and Geo Pegs

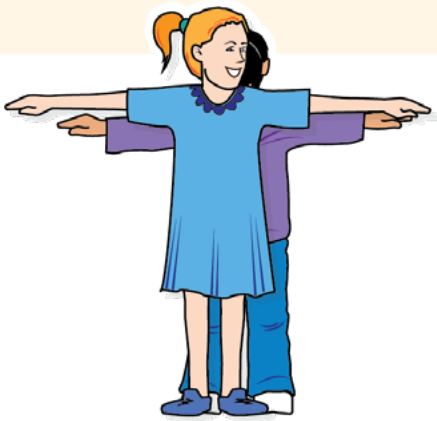
Linked to Year 1 ▸ AC9M1A01 & AC9M1A02

AC9M FM01

Measurement ▸ Direct Comparison

A.C. VERSION 9 SAYS:

Identify and compare attributes of objects and events, including length, capacity, mass and duration, using **direct comparisons** and communicating reasoning.



WHAT THIS MEANS

When comparing length an item might be **longer** or **shorter** than another item.

Direct comparison example: placing two sticks next to each other to compare the lengths.

- At this level, students are not using units of measurement.
- Students also aren't ordering yet (comparing 3 objects) - that is in Year 1.

TIPS, RESOURCES & MANIPULATIVES

- **Activity:** Have students stand back-to-back using the language 'shorter' and 'taller'.

Bond Blocks Counting to 10 & 20 Kit

***Click the icon or QR to add resources to your cart.*

Capacity Comparisons
e.g. "Holds more" / "Holds less"

Mass Comparisons
e.g. "Is heavier" / "is lighter"

Duration Comparisons
e.g. "longer time" / shorter time"

Linked to Year 1 ▸ AC9M1M01

AC9M FM02

Measurement ▶ Time

A.C. VERSION 9 SAYS:

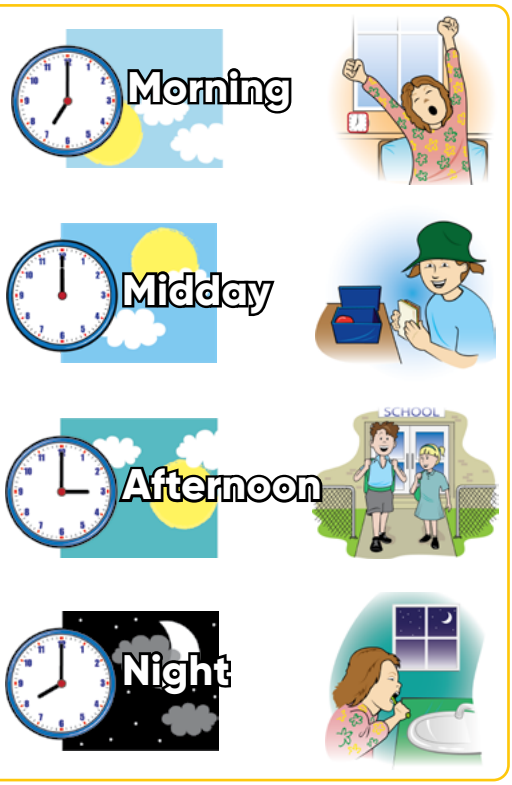
Sequence days of the week and times of the day including morning, lunchtime, afternoon and night time, and connect them to familiar events and actions.

WHAT THIS MEANS

Know the days of the week in order and common time-related events morning, afternoon, night.

TIP

- A calendar should be displayed so the sequence of days of the week and how they repeat every seven days can be seen. Refer to events on the calendar as they come up.



Linked to Year 1 ▶ AC9M1M03

AC9M FSP01

Space ▶ Shapes

A.C. VERSION 9 SAYS:

Sort, name and create familiar shapes; recognise and describe familiar shapes within objects in the environment, giving reasons.

WHAT THIS MEANS

- Familiar shapes would include **circles**, **squares**, **rectangles** and **triangles**.
- Students would need to recognise that a tissue box is made up of a number of rectangles. A tin can has circles on the ends.
- Creating shapes may involve drawing them, using stamps, or making them out of playdough.
- Shapes may be photographed in the playground.

TIP

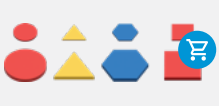
- **Activity:** *Read the book The Greedy Triangle by Marilyn Burns* and identify the shapes shown in the page. Look for these on an outdoor walk.

RESOURCES & MANIPULATIVES

Bond Blocks Counting to 10 & 20 Kit
(Exploratory & Guided Play Cards)

Pattern Blocks

Pattern Blocks Book



Attribute Blocks

Attribute Blocks Book

***Click the icon or QR to add resources to your cart.*

Linked to Year 1 ▶ AC9M1SP01

AC9M FSP02

Space ▶ Location

A.C. VERSION 9 SAYS:

Describe the position and location of themselves and objects in relation to other people and objects within a familiar space.

WHAT THIS MEANS

The student can use mathematical language (prepositions) to describe location, e.g. “the train is **next to** the station" or e.g. “the teddy is **on**/**above** the chair."

TIPS

- Use real-life items. It can be difficult to describe and explain prepositions if they are shown on paper.
- Photograph students in the playground standing **on** top of, sitting **above**...
- Give instructions to place a pencil **under** the chair, **behind** the chair, **beside** the chair...

RESOURCE & MANIPULATIVE

Bond Blocks Counting to 10 & 20 Kit
(Exploratory & Guided Play Cards)

***Click the icon or QR to add resources to your cart.*

Linked to Year 1 ▶ AC9M1SP02

AC9M FST01

Statistics ▶ (1) Gather, (2) Display, (3) Communicate

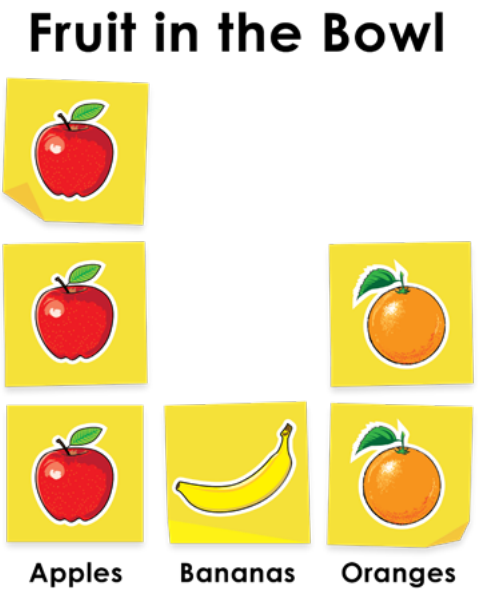
A.C. VERSION 9 SAYS:

Collect, sort and compare data represented by objects and images in response to given investigative questions that relate to familiar situations.

WHAT THIS MEANS

Sort objects into categories.

- Discuss and interpret simple one-to-one charts where one mark represents one item.
- Collect simple statistics such as favourite fruit.



TIPS

- To create a chart you need the same size object or sticker. We recommend using post-it notes to keep the items consistently sized.
- Help students evenly space the post-it notes.

ELEMENTS OF STATISTICS:

(1) GATHER
Ask a question

→

(2) DISPLAY
Table, Graph

→

(3) INTERPRET & COMMUNICATE

Linked to Year 1 ▶ AC9M1ST01 and AC9M1ST02