

Bond® Blocks

Information Overview

BUILDING STRONG MATHEMATICAL FOUNDATIONS

Developed by Narelle Rice
with the support of Dr Paul Swan

Core Kit

Year 1 - 3 Addition
and Subtraction
Curriculum Linked



✓ Tier 1: Mental Maths Years 1 - 3
Tier 2/3: Intervention

Counting to 10

Pre-Foundation

EYLF aligned



✓ Tier 1: Class Teaching (Pre-Foundation)
Tier 2/3: Intervention

Counting to 20

Foundation

EYLF aligned



✓ Tier 1: Class Teaching (Foundation)
Tier 2/3: Intervention



WINNER of the 2022
Primary Student
Resource Mathematics
(Numeracy) Award

100+ Sequenced Lessons with Activity Boards and Teaching Videos

Suitable for:

- Class Teaching Tier 1 -or-
- Tier 2 & 3 Intervention

- ✓ Placement test
- ✓ Monitoring tools
- ✓ Created with evidence-based methodology
- ✓ Curriculum linked & sequenced
- ✓ Differentiated
- ✓ Developed to support learning difficulties
- ✓ Explicit teaching
- ✓ Whole school approach
- ✓ Support for regional schools
- ✓ Continuity through staff turnover

Visit the website for more information

www.bondblocks.com

From Counting to Calculation

Concrete

Most manipulatives can be counted by ones.



Many students don't progress from counting by ones.

The Missing Link

Representational

Bond Blocks are a physical manipulative to support Singapore, bar-model maths.



The Missing Link to Abstract Calculation

Bond Blocks cannot be counted by ones.

- Learn number bonds (facts) in a self-correcting way.
- Relate addition and subtraction using Part-Part-Whole.

Abstract

$$3 + 2 = 5$$

$$2 + 3 = 5$$

$$5 - 3 = 2$$

$$5 - 2 = 3$$

Extend with algebraic thinking.

5	
3	?

$$5 - ? = 3$$

$$3 + ? = 5$$

Bond Blocks fill the **missing link** to help students move from concretely **counting by ones** to abstractly **adding with numbers and symbols**

Bond Blocks Tracks

Pick the right setup for your needs

(Tier 1) Bond Blocks as a School-wide Prevention Solution

A whole-school approach to Tier 1 teaching from Pre-Foundation to Year 3 in Counting and Addition/Subtraction.

Pre-Foundation (Age 4)



Counting to 10 Class Kit

Foundation (Age 5)



Counting to 20 Class Kit

Years 1 - 3 Addition & Subtraction



Bond Blocks Core Kit

Handy pre-configured kits for single and double stream schools available



12 Block + Materials Pack Add-on



Activity Boards - Whole School Licence Add-On

(Tier 2 & 3) Bond Blocks as a School-wide Intervention Solution

Intervention (Tier 2 and 3) working with a group of up to 4 students at one time.

Pre-Foundation (Age 4)



Bond Blocks Single Kit

Foundation (Age 5)

Years 1 - 3 Addition & Subtraction



Bond Blocks Core Kit

Or create your own setup! All parts are available individually.

Bond Blocks for Tutoring / Homeschool

Using Bond Blocks as teaching system at home or with tutoring students.

Pre-Foundation (Age 4)



Bond Blocks Single Kit

Foundation (Age 5)

Years 1 - 3 Addition & Subtraction



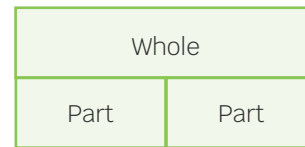
Bond Blocks At Home Core Kit

Number Bonds

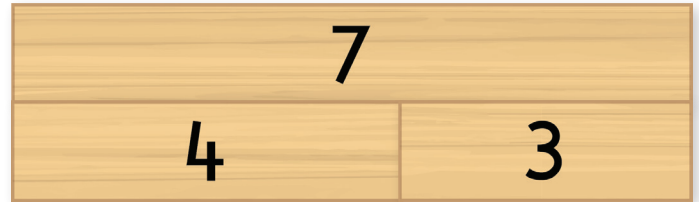
The term bond refers to the parts that join to make a whole.

Number Bonds are also referred to as **Number Facts** and **Fact Families**.

This diagrammatic concept is known by a number of names including ‘part-part-whole’, ‘bar model maths’ and ‘Singapore maths’.



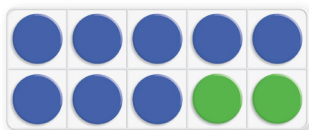
Parts BOND together to make a whole.



Concrete-Representational-Abstract

The Bond Block system is built using the **Concrete-Representational-Abstract** approach.

Concrete



Representational



Abstract

Part + Part = Whole

$$8 + 2 = 10$$

$$2 + 8 = 10$$

Whole - Part = Part

$$10 - 8 = 2$$

$$10 - 2 = 8$$

$$8 + ? = 10$$

$$10 - ? = 8$$

Bond Blocks support students moving from counting to calculating with numbers.



Physical Material

Language

“Seven subtract four equals three.”

Symbols

$$7 - 4 = 3$$

Explicit Connections

Link Bond Blocks to **Mathematical Language and Symbols** to develop robust understandings.

Sequential Curriculum

Bond Block activities are organised in Chapters. Bond Blocks covers every addition and subtraction curriculum content descriptor from Years 1 to 3.

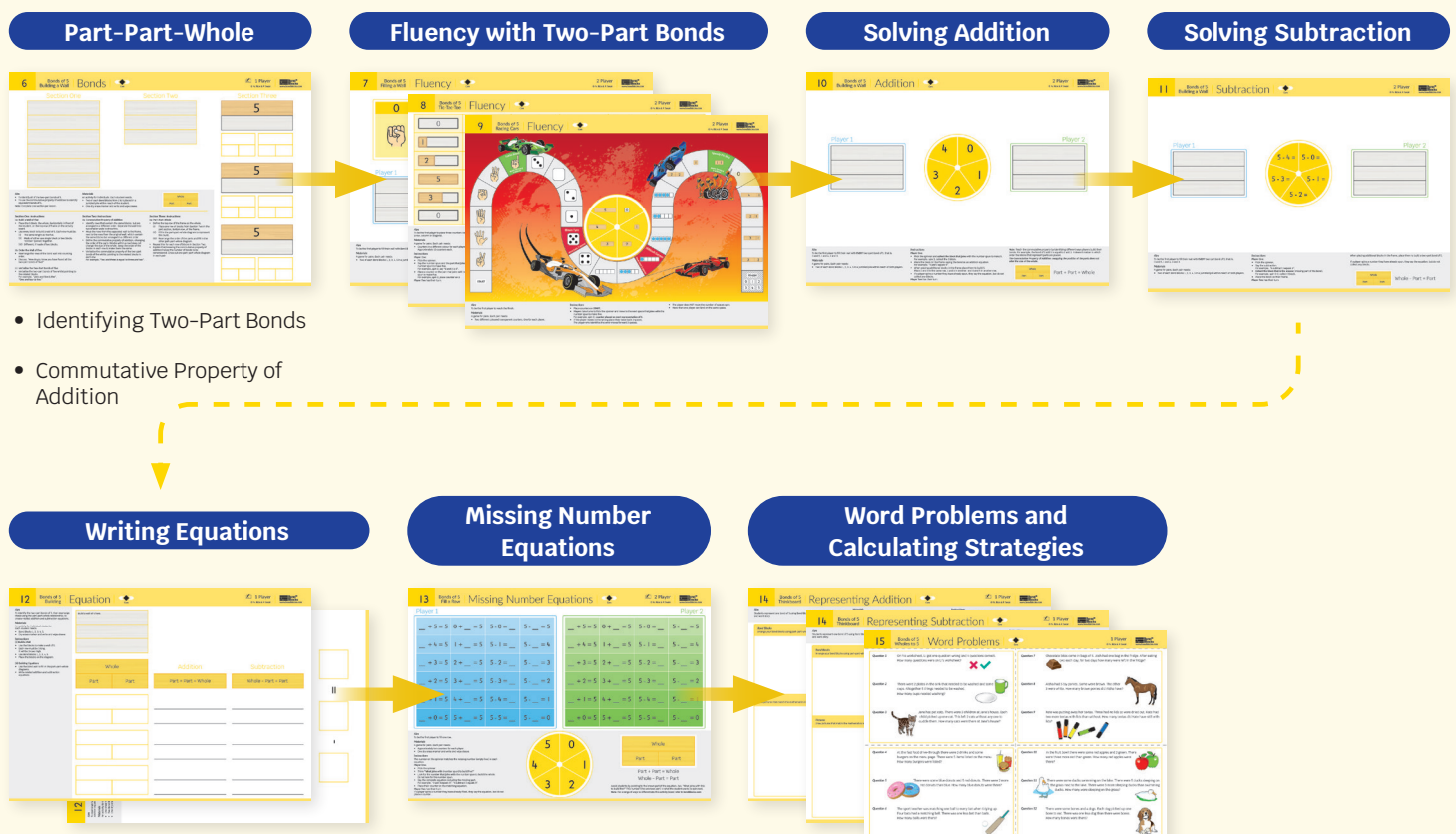
Year	Yr 1	Yr 2	Yr 3
Chapter & Activities	Counting to 20 Activities 1 to 5	Bonds of 10 Activities 26 to 33	Doubling and Halving to 20 Activities 57 to 63
	Bonds of 5 Activities 6 to 15	Bonds of 6, 7, 8, 9 Activities 34 to 40	Bonds of 11 to 20 Activities 64 to 71
	Doubling and Halving to 10 Activities 16 to 20	Ten Plus Bonds Activities 41 to 56	
	Five Plus Bonds Activities 21 to 25		

The mathematical concepts in each chapter of activities follows this progression:

- Part-Part-Whole
- Identify Two-Part Bonds
- Commutative Property of Addition
- Fluency with Two-Part Bonds
- Solving Addition
- Solving Subtraction
- Writing Equations
- Missing Number Equations
- Word Problems
- Calculating Strategies

Concepts are repeated in relevant chapters with increasing complexity.

Mathematical Concepts in Bonds of 5 - Activities 6 to 15



Bond Block Features

Bond Blocks are a **representational manipulative** that have been designed to help students move **from counting to calculating** with numbers.

They are a **representational manipulative** because the quantity of the number is represented by:

- i. The length of the block and
- ii. The written number on the block.

Other unique features:

- They are **not scored** with individual unit lines.
- The **length** of the block helps develop the concept of a mental number line.
- The **natural wood** (sustainably sourced from New Zealand pine) reduces the distraction of coloured plastic and focuses attention on the **written number**.
- They can be used with other common manipulatives, such as 2 cm cubes because they match in size.
- Self-checking. Encourage number sense and estimation.

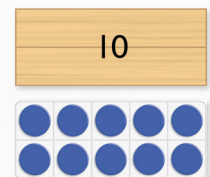
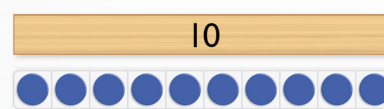


Linear Ten Block

Similar to ten strip.

Empty Ten Block

Similar to ten frame.



Thank you for looking into purchasing Bond Blocks. During my 20 years teaching I kept seeing students hit the same roadblocks when adding and subtracting. It didn't matter if they were in Year 2 or Year 9. They tended to count by ones to add and only had one concept of subtraction, that of taking away by counting backwards. This affected their ability to learn higher maths and their view of themselves. I wanted them to experience success and see the beauty and the connectedness of maths. When I looked for a ready-to-go resource to help it was slim picking. So, I created Bond Blocks, a system that could be used for intervention but also to teach well in the first place from Pre-Foundation to Year 3, reducing the number of students who need intervention.

I want to thank Dr Paul Swan for his support and guidance, and his small team for helping me build Bond Blocks to what you see today.

- Narelle (Bond Blocks Creator & Educator)



See what others are saying!

Positive testimonials from Teachers, Homeschoolers and Students.

Online at www.bondblocks.com/testimonials

Bond Blocks for Pre-Foundation and Foundation

Build the prerequisite skills required for the Bond Blocks Core Kit.

Counting to 10

With Bond Blocks Kit

Pre-Foundation

EYLF aligned



This Class Kit includes everything a classroom needs to implement "Counting to 10 with Bond Blocks: Pre-Foundation" working in rotations with 4 – 8 students.

For more information about Bond Blocks for Pre-Foundation visit:
www.bondblocks.com/counting-to-10

Counting to 20

With Bond Blocks Kit

Pre-Foundation

EYLF aligned



This Class Kit includes everything a classroom needs to implement "Counting to 20 with Bond Blocks: Pre-Foundation" working in rotations with 4 – 8 students.

For more information about Bond Blocks for Foundation visit:
www.bondblocks.com/counting-to-20

Target counting skills identified by **research** as **key predictors** of difficulties in maths at this stage of development as assessed in **early years state testing** with:

- **Student led play** using the Introductory Activities.
- **Guided play** using the Activity Cards.
- **Teacher led instruction** using the Counting Activities.

Linked to:

- the Australian Curriculum
- *ABLEWA*
- the Victorian Curriculum (Levels A to D) to support students with learning disabilities.

Suitable for:

- **Class Teaching Tier 1 -or-**
- **Tier 2 & 3 Intervention**

- ✓ **Assessment skills checklists**
- ✓ **Sequenced curriculum**
- ✓ **Monitoring tools**
- ✓ **Created with evidence-based methodology**
- ✓ **Differentiated**
- ✓ **Developed to support learning difficulties**
- ✓ **Explicit teaching**
- ✓ **Mathematical language specified**
- ✓ **Concrete-representational-abstract approach**

Bond Blocks Core Kit

2023 Edition -
Curriculum Version 9

Year 1 - 3 Addition
and Subtraction

\$1980 inc. GST

Kit Includes:

- 1× Set of 108 A3 Activity Boards printed on high quality card & personal licence*
- 4× Sets of Bond Blocks
- 1× Materials Pack (everything needed for 4 students, plus spares)
- 1x Bond Blocks USB with downloaded digital copies of the teacher materials and online materials.
- 10× A3 Wallets for Bond Blocks activity board chapters



Teacher Materials:

- Placement and Monitoring Test
- Bond Blocks 100 Minute PL Video and onboarding videos
- Implementation Planner - week by week
- 1× “Bond Blocks Implementation” book
- 1x “Bond Blocks Assessment and Monitoring” book
- 1× “Bond Blocks Teacher Notes” book
- 1× “Bond Blocks Differentiation” book
- 1× “Bond Blocks Answers” book

Online Materials (available at bondblocks.com)

- Over 100 Support Videos (one for every Activity Board)
- Activity Notes for Explicit Teaching
- Pre-made “A little easier” & “A little harder” Differentiated Tasks
- Pre-made PDF and Excel Sheets for Monitoring Activity Progress

Every Activity in the Core Kit features:



Either an Individual or Pair Activity

- Complete in 8 minutes.
- Repeat 3 times a week to develop fluency.



One A3 Activity Board

- Reusable.
- Requires minimal setup.
- Specifies use of mathematical language.



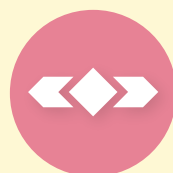
Free Webpage of Teacher Notes

- Explanation of the mathematics.
- Mathematical language specified.
- Assessment and Monitoring.
- Free Teacher Notes for Professional Learning.



Teaching Modelled in Video

- Explicit teaching of the activity (publically available on bondblocks.com).
- Demonstrating to teachers how to link the mathematical manipulative, the language and symbols.



Differentiation

- Free downloads and website instructions to make each activity a little easier or harder.

***Personal Licence** Included – The licenced teacher can photocopy their original set of boards for the students they teach. E.g. a Classroom teacher can copy for their own class or an Intervention teacher for all of their intervention students.

The **Whole School Licence** (next page) is required if you will be using Bond Blocks Activities with multiple teachers/classes.

Small Schools (< 100 students) are allowed to photocopy boards for use across the whole school.

Bond Blocks Core Kit Resources

These resources may be required if you are using the Bond Blocks Core Kit as Tier 1 class teaching.

Activity Boards - Whole School Licence Add-On

\$550 inc. GST



An add-on to the Bond Blocks Core Kit (**required**) for Whole-School Tier 1 Teaching. One off (not subscription) purchase for an upgraded school level licence to print boards on-site.

- PDF download of game board files of EVERY Activity Board & **School Licence** to print for every student in your school.
- In addition to Intervention across the whole school use Bond Blocks for **Mental Maths in Years 1 to 3** and **Homework**.
- Pair with 4 sets of additional wooden Bond Blocks and 1 Materials Pack per 4 students.

4 Block + Materials Pack

~~\$348~~ **\$330** inc. GST



An add-on to the Bond Blocks Core Kit.

Supports 4 more students for Intervention and 8 for Mental Maths.

- 4× sets of wooden Bond Blocks valued at \$277.20.
- 1× Materials Pack (enough for 4 students) valued at \$71.50.

12 Block + Materials Pack

~~\$1006~~ **\$941** inc. GST



An add-on to the Bond Blocks Core Kit.

Supports 12 more students for Intervention and 24 for Mental Maths.

- 12× sets of wooden Bond Blocks valued at \$792.
- 3× Materials Pack (enough for 12 students) valued at \$214.50.

Extra Materials Pack

\$71.50 inc. GST



The other non-Blocks materials you need (plus some spares) for 4 students to complete every activity.

- 5× A3 Plastic Sleeves
- 5× Dry Erase Markers
- 5× Round Spinners
- Two-Sided Counters
- 4× Beadstrings
- Transparent Tokens

Other Bond Blocks Items

Counting to 10 and 20 with Bond Blocks Single Kit



\$299 inc. GST

A combination kit of the Counting to 10 and Counting to 20 books and cards along with 1 set of Bond Blocks, 5 spinners and 1 set of Maths Cubes. Ideal for Mathematics Intervention Teachers, Early Years Teachers in small schools, Maths Intervention in a split class, tutors, home-schoolers and parents.

- 1× Counting to 10: Book
- 1× Counting to 10: Activity Cards
- 1× Counting to 20: Book
- 1× Counting to 20: Activity Cards
- 1× set of Bond Blocks
- 5× plastic spinners
- 1× set of Maths Cubes

Bond Blocks Basics Set



\$79.20 inc. GST

An easy to read introduction for parents and teachers.

Activities you can do with just one set of Bond Blocks.

Mathematics from beginning counting to addition and subtraction with two-digit numbers.

- 1× Set of Wooden Bond Blocks
- 1× “Bond Blocks Out of the Box” book

Bond Blocks Set



\$69.30 inc. GST

A set of Bond Blocks.

Made of wood sustainably sourced from New Zealand Pine.

- 1× set of Bond Blocks in a hardy plastic box

Bond Blocks Bulk Set



~~\$831.60~~ **\$792** inc. GST

A 12 set of Bond Blocks for those who have the materials already. If you need materials see the **12 Block + Materials Pack**.

Made of wood sustainably sourced from New Zealand Pine.

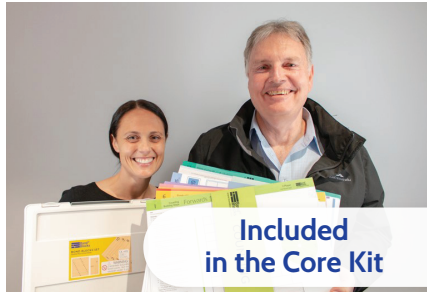
- 12× set of Bond Blocks in a hardy plastic box

Professional Learning

Video and In-Person PL for Bond Blocks

You can look at the Bond Blocks website (www.bondblocks.com) and see the activities without having to purchase anything. There are no ongoing subscription fees.

Online PL Course: “Introducing Bond Blocks”



100 minute course with Narelle Rice and Dr Paul Swan

This course will introduce you to the Bond Blocks Core Kit. Purchasing this course allows every teacher in your school to watch and re-watch the 4-part course at your own pace, allowing you to up-skill new staff.

- Cost effective, whole-school, professional learning. Up-skill everyone involved.
- View at a time that suits you, without paying for teacher relief.
- Part-time and new staff can be up-skilled easily. This enables consistent, long term, whole-school implementation.
- Easy access for remote schools.

In-Person PL (Western Australia)



Narelle (metro) or Paula (metro & regional) will come and work with your staff.

- Customise Bond Blocks to your context.
- Various session lengths available – from 1.5 hour to full day PL.

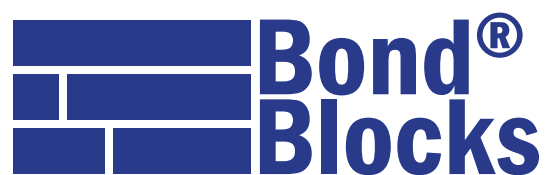
Built-in Professional Learning:

Bond Blocks was created with the principle of Professional Learning being reinforced through using the system. This is done in 3 levels:

1. **“Introducing Bond Blocks.”** This 100 min Professional Learning Session outlines the nuts and bolts of how to get started and is great for staff buy in.
2. **Gradual Learning.** Every activity is **modelled** in a video and has a publicly accessible web-page outlining the mathematical content and language. The Bond Blocks model is drip feed. The teacher and the students learn new knowledge at the point of need as they progress through the system. Teachers, just like students, can only take on so much at one time.
3. **Deep Learning.** Once schools have implemented Bond Blocks over at least 12 months they will be ready for some deeper learning. The **Teacher Notes** section contains deep learning on each topic within Bond Blocks. Schools can ask their staff what topic they feel they need up-skilling in and focus on this.

Testimonials

"Dear Paul & Narelle; just an update on how our school has implemented the Core Kit. We have assigned a full time maths intervention teacher, who is working predominantly with the program with identified students in our year 3 to 6 cohort. Adding to this we also have several of our support staff engaging in small group work using the program. **We have seen an absolute 100% turn around in our students' confidence, alongside their ability to respond with a deeper understanding of the concepts they have been addressing. It is so heart-warming to see.** The program has allowed all the staff involved to see how rich and crucial the concepts are. As a school we are now converts to the value of the Bond Blocks as a mathematical tool that support building strong mathematical foundations, hence our latest purchase to support our year 1/2 students 'nail' their understanding of counting and addition and subtraction. Thank you so much for creating such a valuable resource for our students." - *Terri T, Teacher in Victoria*



"Dear Narelle, I just wanted to follow up with a little testimonial for your wonderful Bond Blocks. **My lovely little grade 1 student who was not able to successfully use counters or a number line to do a class maths assessment (one question out of 45 were correct) has now completed two thirds of it in a few sessions using the Bond Blocks with 100% accuracy.** I have sat with him 1:1 but he is using the check strategy with the Bond Block to see if his answer is equal to what he thinks. Sometimes, he is one off and can see that quickly and adjusts his answer and re-checks with the block. He is working towards commutative thinking so if questions repeat after each other, he is doing it again. Interestingly, a few times he was wanting to use a "one block instead of a zero cause there is no zero block"... at these times I have assisted him with his thinking. The last couple of questions containing a zero, he has remembered what to do. **Thanks so much! Nothing was working. This is wonderful! The smile on his face today was worth a million dollars!** I am going to send home the counting on spinner games for him and his nan to try out. - *Jo S, Year 1 Teacher, Victoria*

