Bond Blocks Support

Bond Blocks Support Book:

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- Identifying the Teaching Focus
- Monitoring Progress
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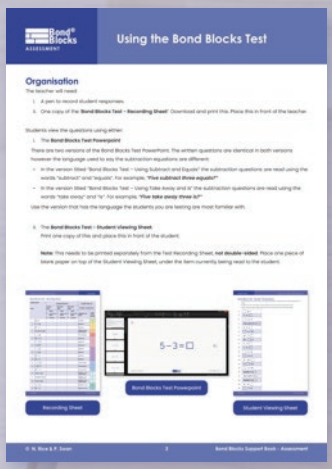

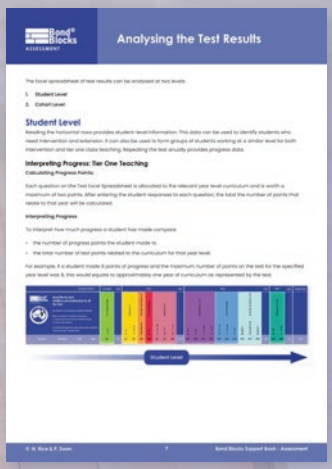

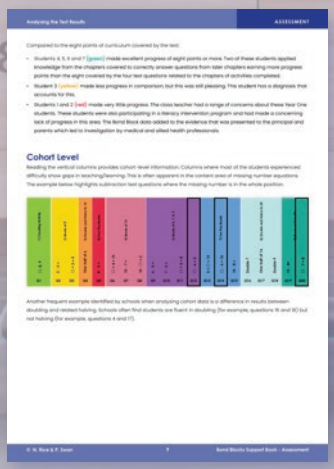

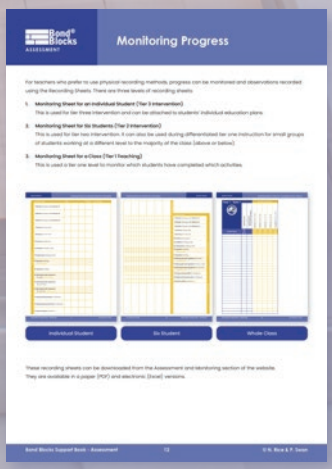

Bond® Blocks

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Contents

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Thank you to Daniel Swan for design.

Using the Bond Blocks Test

Organisation

The teacher will need:

i. A pen to record student responses.

ii. One copy of the '**Bond Blocks Test - Recording Sheet'**. Download and print this. Place this in front of the teacher.

Students view the questions using either:

i. The **Bond Blocks Test Powerpoint**

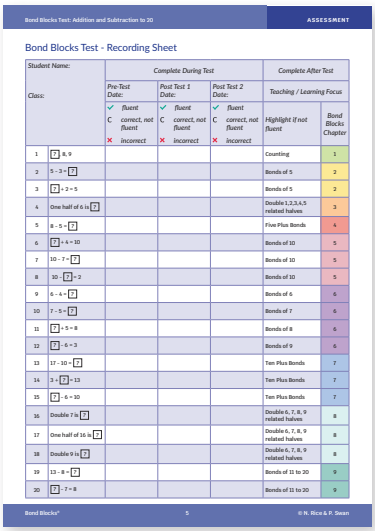
There are two versions of the Bond Blocks Test PowerPoint. The written questions are identical in both versions however the language used to say the subtraction equations are different:

- In the version titled "Bond Blocks Test – Using Subtract and Equals" the subtraction questions are read using the words "subtract" and "equals". For example, ***"Five subtract three equals?"***
- In the version titled "Bond Blocks Test – Using Take Away and Is" the subtraction questions are read using the words "take away" and "is". For example, ***"Five take away three is?"***

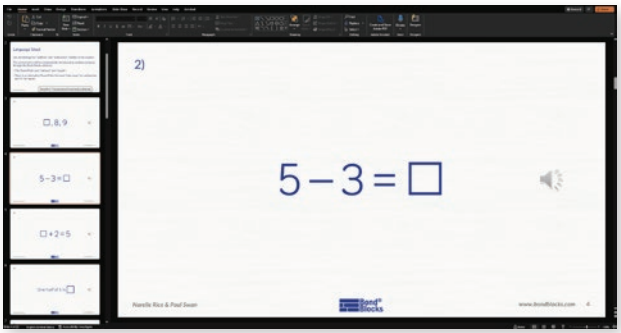
Use the version that has the language the students you are testing are most familiar with.

ii. The **Bond Blocks Test - Student Viewing Sheet**.
Print one copy of this and place this in front of the student.

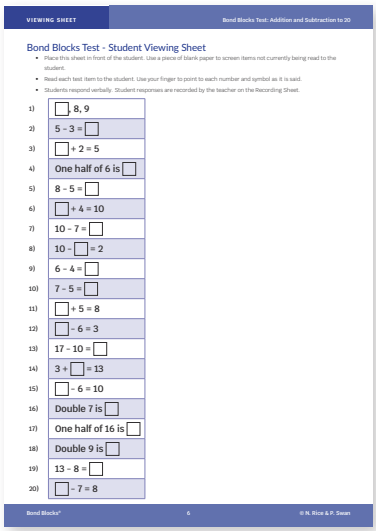
Note: This needs to be printed separately from the Test Recording Sheet, **not double-sided**. Place one piece of blank paper on top of the Student Viewing Sheet, under the item currently being read to the student.



Recording Sheet



Bond Blocks Test Powerpoint



Student Viewing Sheet

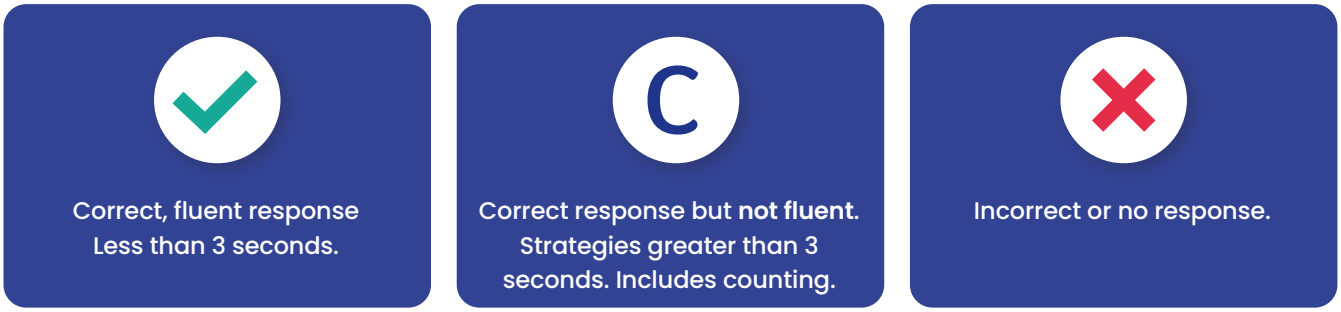
Administering the Test

Teacher Instructions

The test is administered to students one at a time.

- Sit next to the student being tested.
- Place the Recording Sheet and pen in front of yourself.
- Place the test questions in front of the student. This will be either a device showing the PowerPoint or the Student Viewing Sheet.
- Read the first test item to the student. Use your finger to point to each number and symbol as it is said aloud. Use terminology for 'addition' and 'subtraction' familiar to the student. The correct terms will be systematically introduced as students progress through the Bond Blocks activities.

Students respond verbally. Record the student's response on the Recording Sheet using one of these symbols:



The test becomes increasingly difficult.

Tier One Class Teaching

When testing for **tier one class teaching** STOP testing after three responses that are not correct, fluent responses. For example, three C responses or two C responses and one ✕.

- Doing this will provide enough information to identify the starting point for groups of students and, in the future, monitor progress.
- This will take approximately 3 minutes per student. Allocate between 60 to 90 minutes to test a class.

Tier Two or Three Intervention

When testing students in **Year 1 and 2** for **intervention**, stop after three responses that are not correct, fluent responses. These students do not complete the whole test because it contains curriculum that is beyond their year level.

When testing students from **Year 3 on** for **intervention**, administer the whole test to identify gaps in their learning.

- Testing students who might require intervention takes longer than testing at a tier one level. Allow 10 to 15 minutes per student when testing students for intervention.
- If students are very young, have maths anxiety or attentional difficulties split the testing into two short sessions.

Entering Results

Enter results in the **Bond Blocks Test - Results and Tracking Tool Excel** document.

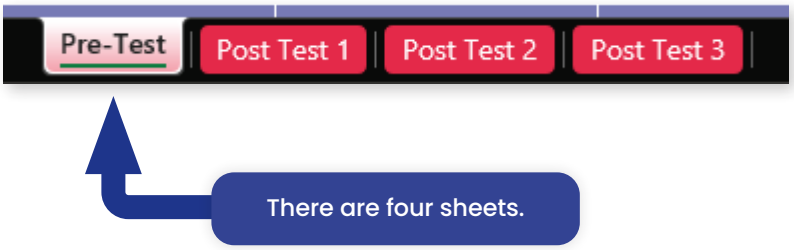
- 2 - Correct, fluent response.
- C 1 - Correct response but not fluent. Includes counting.
- 0 - Incorrect or no response.

There is a curriculum version 8 and version 9 test excel.

Excel Tips

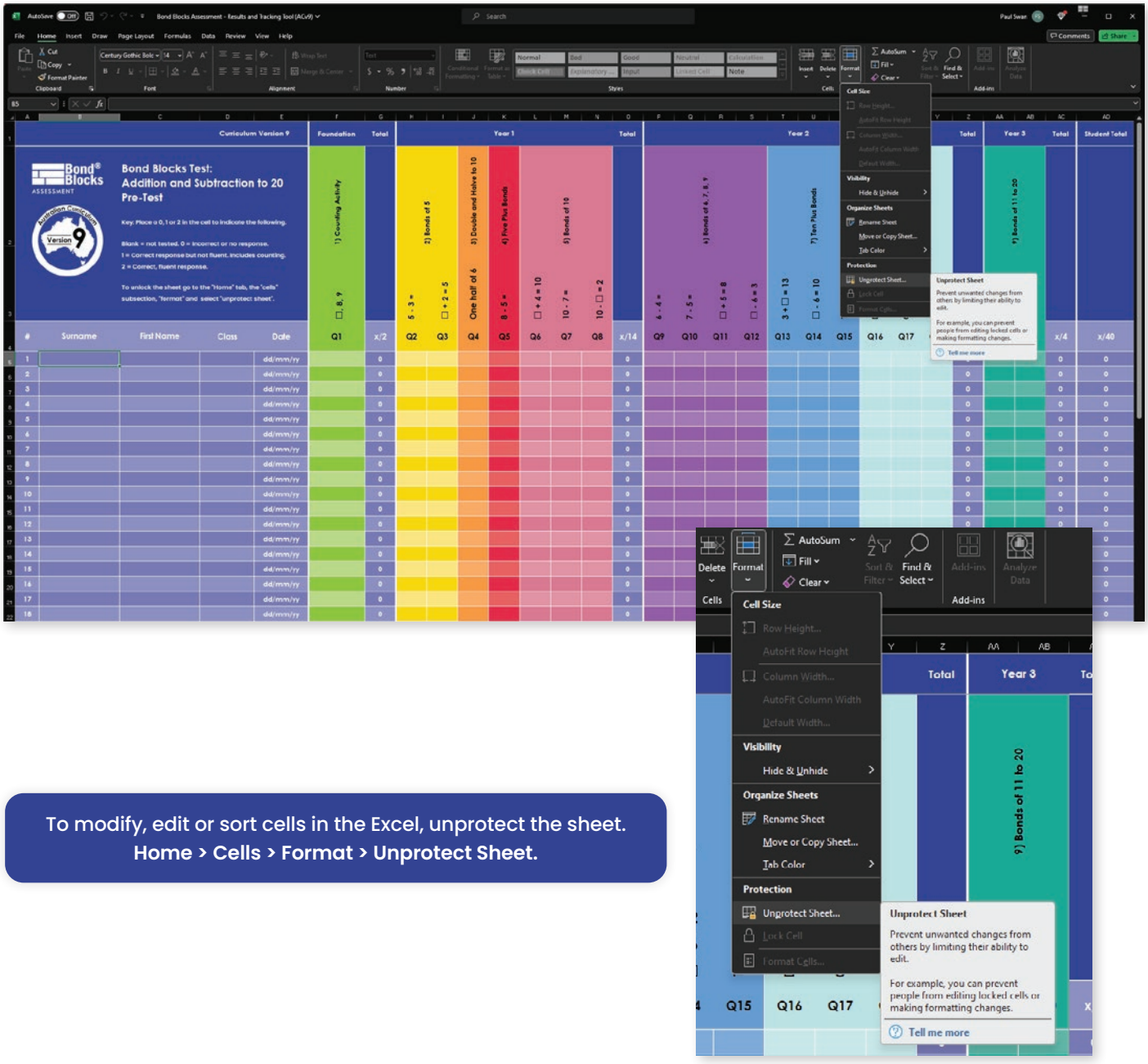
Download and save one copy of the file per Year Level. File > Save As. This will help administration monitor year level cohorts. Class teachers can sort data by Column D "Class" to access their student list.

The test is repeated **annually**. Record the results for each test on a **new sheet**.



The progress points between sheets will be automatically calculated.

Each Excel sheet needs to be **'unprotected'** in order to highlight rows and sort. **Home > Cells > Format > Unprotect Sheet**. This will need to be done for each sheet.



To modify, edit or sort cells in the Excel, unprotect the sheet.
Home > Cells > Format > Unprotect Sheet.

Analysing the Test Results

The Excel spreadsheet of test results can be analysed at two levels:

1. **Student Level**
2. **Cohort Level**

Student Level

Reading the horizontal rows provides student-level information. This data can be used to identify students who need intervention and extension. It can also be used to form groups of students working at a similar level for both intervention and tier one class teaching. Repeating the test anually provides progress data.

Interpreting Progress: Tier One Teaching

Calculating Progress Points:

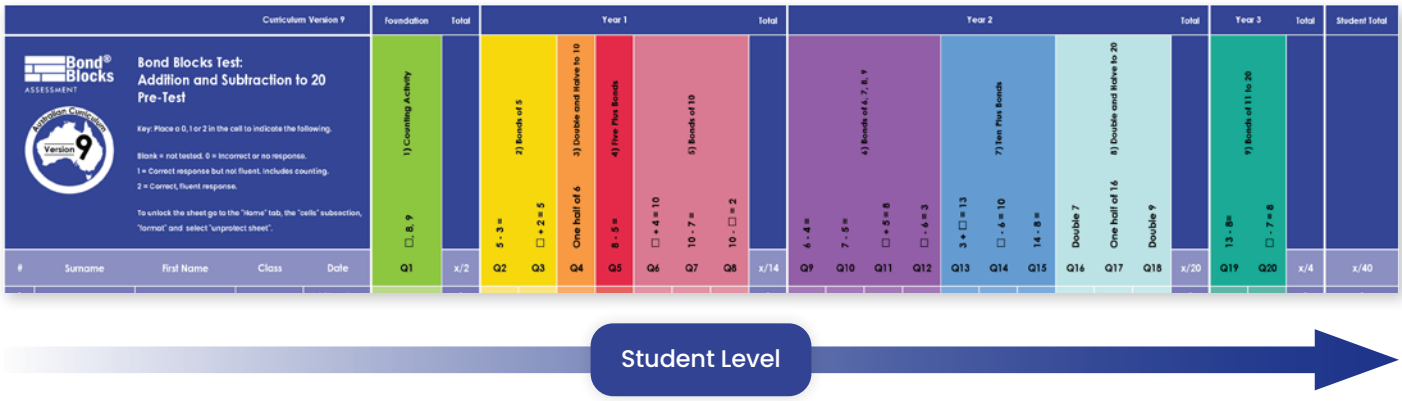
Each question on the Test Excel Spreadsheet is allocated to the relevant year level curriculum and is worth a maximum of two points. After entering the student responses to each question, the total the number of points that relate to that year will be calculated.

Interpreting Progress

To interpret how much progress a student has made compare:

- the number of progress points the student made to
- the total number of test points related to the curriculum for that year level.

For example, if a student made 8 points of progress and the maximum number of points on the test for the specified year level was 8, this would equate to approximately one year of curriculum as represented by the test.



Interpreting Progress: Intervention

When interpreting progress for intervention students compare:

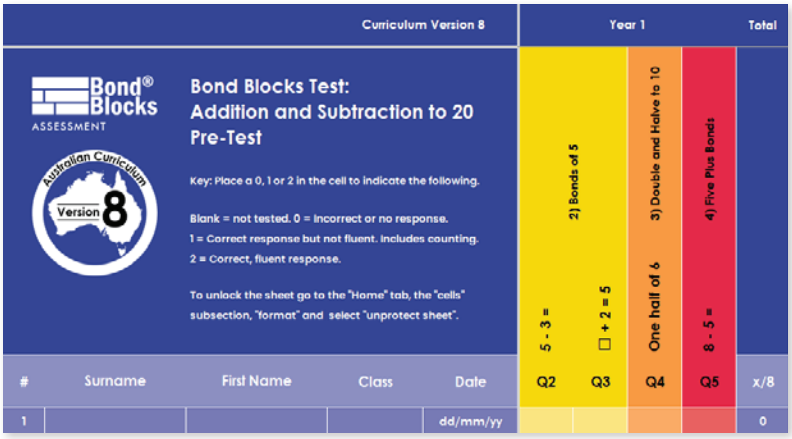
- the number of progress points the student made between annual tests to
- the total number of test points related to the Bond Block chapters they have covered.

For example, if a student had covered Chapters 6 and 7, these chapters have 7 test questions which is a maximum of 14 points. The student's test score should be interpreted in light of 14 points.

- A score of 12 for a tier two student would be considered excellent.
- A score of 7 points for a tier three student could also be considered as excellent progress because of the number of 'missing number' questions in these chapters.

Student progress needs to be interpreted considering their neurological profile.

Please refer to the Tier Two and Three Implementation Support Book pages 15 to 19 that outlines how intervention is differentiated.



Case Study

The following data was collected from a West Australian school. These **Year 1** students participated in Bond Blocks as intervention only. They completed Chapters 2, 3 and 4.

The total number of test points covered by these four test questions, is 8 points. Each students' progress points is compared to 8.

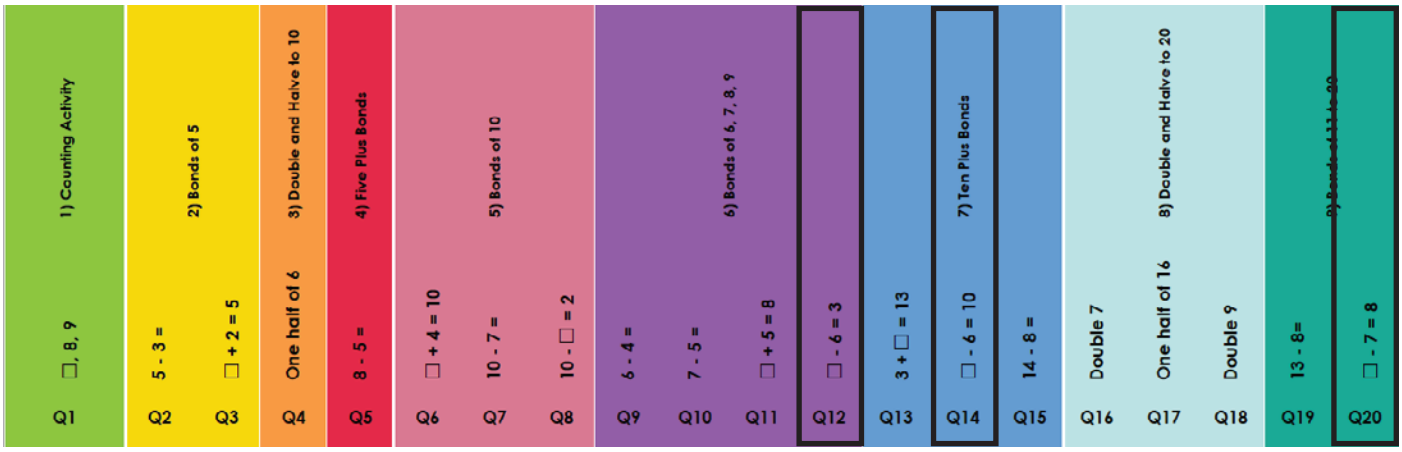
Student	Pre-Test March 2021	Post Test 1 November 2021	Progress Points	
Student 1	2	4	2	Concerning lack of progress.
Student 2	2	4	2	
Student 3	2	7	5	Accounted for, reduced progress.
Student 4	2	10	8	Excellent progress
Student 5	0	8	8	
Student 6	2	11	9	
Student 7	2	14	12	

Compared to the eight points of curriculum covered by the test:

- Students 4, 5, 6 and 7 **(green)** made excellent progress of eight points or more. Two of these students applied knowledge from the chapters covered to correctly answer questions from later chapters earning more progress points than the eight covered by the four test questions related to the chapters of activities completed.
- Student 3 **(yellow)** made less progress in comparison, but this was still pleasing. This student has a diagnosis that accounts for this.
- Students 1 and 2 **(red)** made very little progress. The class teacher had a range of concerns about these Year One students. These students were also participating in a literacy intervention program and had made a concerning lack of progress in this area. The Bond Block data added to the evidence that was presented to the principal and parents which led to investigation by medical and allied health professionals.

Cohort Level

Reading the vertical columns provides cohort-level information. Columns where most of the students experienced difficulty show gaps in teaching/learning. This is often apparent in the content area of missing number equations. The example below highlights subtraction test questions where the missing number is in the whole position.



Another frequent example identified by schools when analysing cohort data is a difference in results between doubling and related halving. Schools often find students are fluent in doubling (for example, questions 16 and 18) but not halving (for example, questions 4 and 17).

Once these content areas are identified use the **'Mathematical Concepts Covered by Each Bond Block Activity'** table to find activity numbers related to those topics. Complete these activities with the cohort.

Numbers represent activity board numbers.

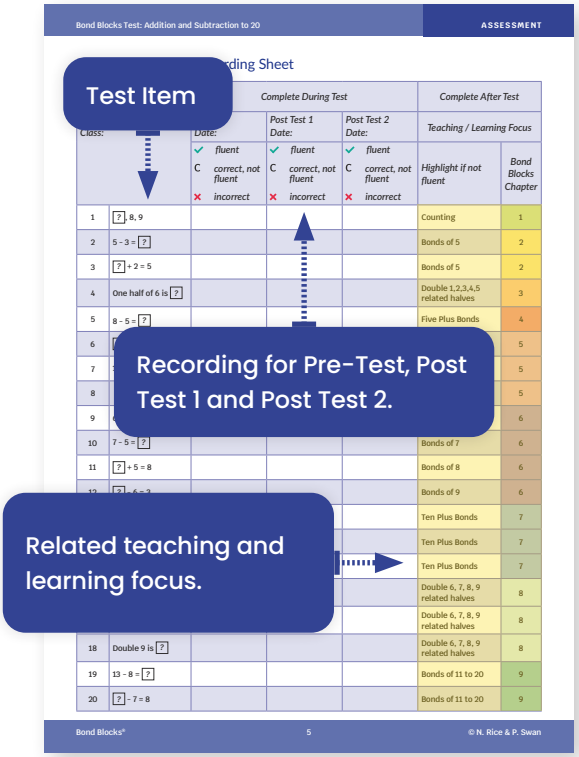
Mathematical Concepts Covered by Each Bond Block Activity								
Activity Chapter	Bonds	Fluency	Addition	Subtraction	Equation Building	Missing Number Equations	Word Problems	Calculating Strategies
2) Bonds of 5	6	7, 8, 9	10	11	12	13	14, 15	
3) Doubling and Halving to 10	16	17, 18						19, 20
4) Five Plus Bonds	21, 22	23	24	25				
5) Bonds of 10	26	27, 28	29	30	31	32	33	
6) Bonds of 6, 7, 8, 9	34	36, 37		35	38	39	40	
7) Ten Plus Bonds	41, 42, 43		44, 45, 47	48 (Set A)	46	48 (Set B), 49		50, 51, 52, 53, 54, 55, 56
8) Doubling and Halving to 20	57	58, 59, 60, 61						62, 63
9) Bonds of 11 to 20			64	65	66	67	68	69, 70, 71
Teacher Notes	Using Part-Part-Whole: Desk Visuals		Building Equations: Using Part-Part Whole			Solving Missing Number Equations	Solving Word Problems	Solving Subtraction using Taking Away or Adding On

The table is particularly helpful when using Bond Blocks at a whole school level. Schools new to Bond Blocks often test the whole cohort of students, for example Year 4 students. Doing so helps to identify (i) those who need intervention and (ii) cohort gaps in teaching/learning.

Identifying the Teaching Focus

After the test the teacher uses a highlighter marker on the Recording Sheet to highlight the Teaching/Learning Foci column next to every response tested that was **not a 'correct fluent response'**.

If the student counted correctly to solve the test item they still need to complete the relevant chapter. The goal is correct, fluent responses.



Students need to **complete the whole chapter** of activities for **every response** that was **not a 'correct fluent response'**. For example, there are three test questions for the Bonds of 10 chapter. If a student answered two of the questions with correct fluent responses and one question with a correct response but not fluent (counted or took greater than 3 seconds, recorded with a C), they still have to complete the whole Bonds of 10 chapter. This is because the questions are representative of typical difficulties.

Please use **teacher judgement** when interpreting the test results. For example, if a student answered Question 1 incorrectly but the next three questions correctly, the error would mostly likely be caused by the student settling into the testing, rather than a lack of knowledge in the counting sequence. Confirm this in a later session by asking similar questions to Question 1.

Note: Fluent responses are not an appropriate goal for students with diagnosed memory difficulties. Correct response is the appropriate goal for these students.

Tier Level Instructions

The teacher sets activities for the student from the relevant Bond Block chapter.

- For **tier one whole class teaching** the results will indicate the starting chapter. Students will then progress through all the chapters in order.
- For **tier two and three intervention** students will progress through the activities in order but only complete the chapters of activities they did **not** give a **'correct, fluent response'** (recorded with a tick).

The first time students use Bond Blocks they should always engage in the **Exploratory Play Activity**, outlined in the Implementation section of the Bond Blocks website. During this activity students develop familiarity with the different blocks and learn the correct language for the different types of blocks.

Student Reflection and Goal Setting

Students use their test results to set learning goals using the 'Bond Blocks Test – Student Reflection and Goal Setting' sheet.

Student Reflection and Goal Setting

Monitoring Progress

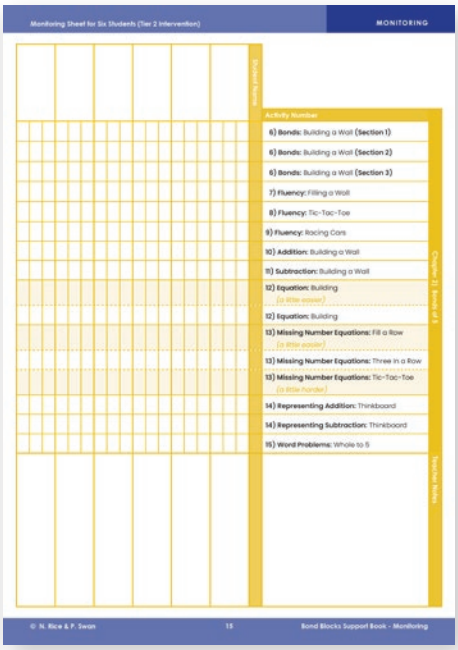
For teachers who prefer to use physical recording methods, progress can be monitored and observations recorded using the Recording Sheets. There are three levels of recording sheets:

1. **Monitoring Sheet for an Individual Student (Tier 3 Intervention)**
   This is used for tier three intervention and can be attached to students' individual education plans.

2. **Monitoring Sheet for Six Students (Tier 2 Intervention)**
   This is used for tier two intervention. It can also be used during differentiated tier one instruction for small groups of students working at a different level to the majority of the class (above or below).

3. **Monitoring Sheet for a Class (Tier 1 Teaching)**
   This is used a tier one level to monitor which students have completed which activities.

Individual Student



Six Student

Whole Class

These recording sheets can be downloaded from the Assessment and Monitoring section of the website.
They are available in a paper (PDF) and electronic (Excel) versions.

Retesting

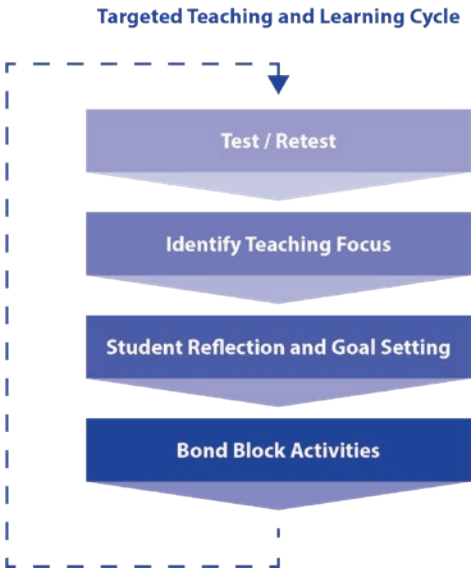
Retesting: Tier One

At a tier one level the Bond Blocks Test is administered three times:

- Start of Year One.
- End of Year One.
- End of Year Two.

Each time the results are recorded on a separate sheet in the Bond Block Test Excel Results and Tracking Tool.

The test is **administered one-to-one** and takes approximately 3 minutes per student. Stop testing after three responses that are not correct, fluent responses. The test becomes increasingly difficult. Doing this will provide enough information to identify the starting point for groups of students and, in the future, monitor progress. Allocate between 60 to 90 minutes to test a class.



For specific test administration instructions see the **'Administering the Bond Blocks Test Instructions'** in the Bond Blocks Assessment Support Book.

1. **Pre-Test**
   Administer the test to each student for the first time at the beginning of Year One, once the students have settled in. The test is given before the students start any Bond Block Core Activities.

2. **Post-Test 1**
   Readminister the test at the end of Year One to identify progress.

3. **Post-Test 2**
   The test will not need to be readministered at the start of Year Two. Instead the data from the end of Year One test will be used.
   Readminister the test for a third time at the end of Year Two.

Retesting: Intervention

1. **Pre-Test**
   Administer the test when students commence Bond Blocks, prior to the completion of any activities. This will establish a baseline. This often occurs in schools during March once students are settled.

2. **Post-Test 1**
   Readminister the test at the end of the year.

3. **Post-Test 2**
   Readminister the test at the end of the following year.

Please note, some Tier Three students do not respond well to tests and give responses that are not indicative of their actual achievement. For these students, use the observations recoreded on the Tier Three "Monitoring Sheet for an Individual Student" as a valid measure of their progress.

Bond Blocks Test - Recording Sheet

Student Name: *Class:*		*Complete During Test* ✓ fluent C correct, not fluent ✗ incorrect				*Complete After Test* *Teaching / Learning*	
		Pre-Test Date:	**Post Test 1** Date:	**Post Test 2** Date:	**Post Test 3** Date:	**Highlight if not fluent**	**Bond Blocks Chapter**
1	?, 8, 9					Counting	1
2	5 - 3 = ?					Bonds of 5	2
3	? + 2 = 5					Bonds of 5	2
4	One half of 6 is ?					Double 1,2,3,4,5 related halves	3
5	8 - 5 = ?					Five Plus Bonds	4
6	? + 4 = 10					Bonds of 10	5
7	10 - 7 = ?					Bonds of 10	5
8	10 - ? = 2					Bonds of 10	5
9	6 - 4 = ?					Bonds of 6	6
10	7 - 5 = ?					Bonds of 7	6
11	? + 5 = 8					Bonds of 8	6
12	? - 6 = 3					Bonds of 9	6
13	3 + ? = 13					Ten Plus Bonds	7
14	? - 6 = 10					Ten Plus Bonds	7
15	14 - 8 = ?					Ten Plus Bonds	7
16	Double 7 is ?					Double 6, 7, 8, 9 related halves	8
17	One half of 16 is ?					Double 6, 7, 8, 9 related halves	8
18	Double 9 is ?					Double 6, 7, 8, 9 related halves	8
19	13 - 8 = ?					Bonds of 11 to 20	9
20	? - 7 = 8					Bonds of 11 to 20	9

Bond Blocks Test - Student Viewing Sheet

- Place this sheet in front of the student. Screen items not being read using a piece of blank paper.

Read instructions in these boxes to the student before showing the adjacent question.

- Read each test item to the student. Use your finger to **point to each number and symbol as it is said**.
- Students respond verbally. Student responses are recorded by the teacher on the Recording Sheet.

"When counting, what number goes here?"
"Something (Point to the missing number box)***, eight, nine."***

"For the rest of the questions tell me what number goes in the missing number box."

1)	☐, 8, 9
2)	5 - 3 = ☐
3)	☐ + 2 = 5
4)	One half of 6 is ☐
5)	8 - 5 = ☐
6)	☐ + 4 = 10
7)	10 - 7 = ☐
8)	10 - ☐ = 2
9)	6 - 4 = ☐
10)	7 - 5 = ☐
11)	☐ + 5 = 8
12)	☐ - 6 = 3
13)	3 + ☐ = 13
14)	☐ - 6 = 10
15)	14 - 8 = ☐
16)	Double 7 is ☐
17)	One half of 16 is ☐
18)	Double 9 is ☐
19)	13 - 8 = ☐
20)	☐ - 7 = 8

Bond Block Test - Student Reflection and Goal Setting

Name: *Date:*

Circle how you feel after your test:

I feel like this because:

Tick what you need to focus on:

	Counting
	Bonds of 5
	Double 1, 2, 3, 4, 5 and related halves
	Five Plus Bonds
	Bonds of 10
	Bonds of 6, 7, 8, or 9
	Ten Plus Bonds
	Double 6, 7, 8, 9, 10 and related halves
	Bonds of 11 to 20

My goal is to:

Teacher comment:

Parent comment to their child: