Bond Blocks Support

Bond Blocks Support Book:

Differentiation

- **Bonds of 5) Part-Part-Whole:** Desk Visual
- **Doubling and Halving to 10) Part-Part-Whole:** Desk Visual
- **Five Plus Bonds) Part-Part-Whole:** Desk Visual
- **Bonds of 10) Part-Part-Whole:** Desk Visual
- **Bonds of 10 and Doubles) Part-Part-Whole:** Desk Visual 1
- **Bonds of 10 and Doubles) Part-Part-Whole:** Desk Visual 2
- **Bonds of 6, 7, 8, 9) Part-Part-Whole:** Desk Visual
- **41 - Ten Plus Bonds) Sequencing Numbers to 20:** Cards
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- **Comparison Language Chart**
- **Part-Part-Whole:** Blank Cards
- **Part-Part-Whole - Equation:** Recording Sheet
- **Place Value Arrow Cards** and **Number Expanders**
- **Ten Frame Cards**

Bond® Blocks
bondblocks.com

drpaulswan.com.au

Narelle Rice
& Dr Paul Swan

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Bond Blocks Support Book - Differentiation

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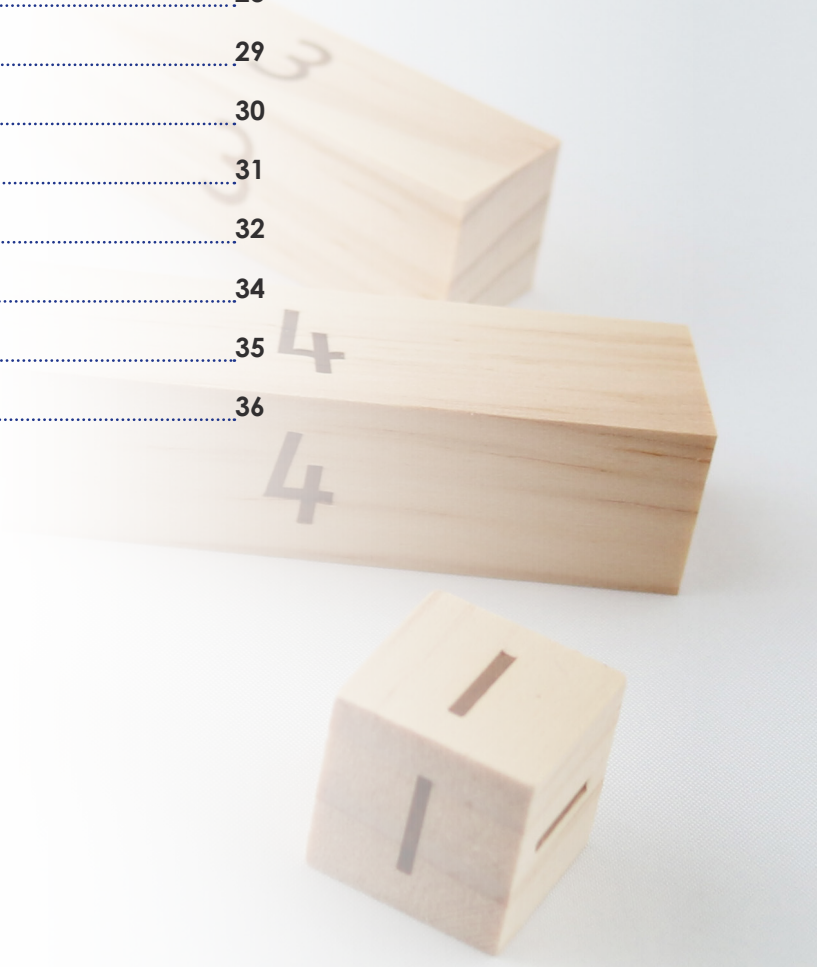
Thank you for purchasing Bond Blocks.

We hope they help build

Curiosity,
Connections and
Confidence with maths.

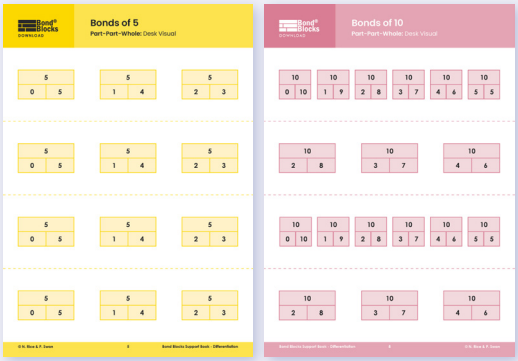
- Narelle and Paul.

Contents



About This Book

Each activity's web page contains differentiation ideas.
Each differentiation activity download is located on the related activity web page.



These examples show Part-Part-Whole desk visuals for the Bonds of 5 and Bonds of 10.

Desk Visuals

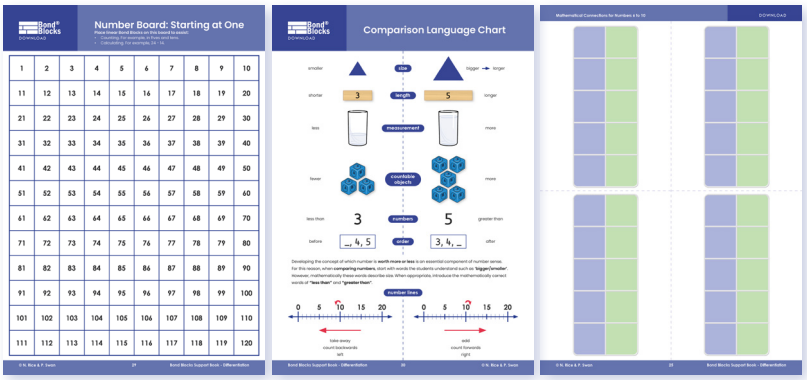
These support students with working memory difficulties. There is a related Teacher Note document titled "Using Part-Part-Whole Desk Visuals" that explains how to use them.

There is one desk visual for every bond made of two, single-digit numbers. This set of bonds is referred to as **'basic facts'**.

Generic Downloads

Generic downloads that can be used to differentiate a range of activities.

These examples show generic downloads for **"Place Value Arrow Cards'** and **"Number Expanders"** and **"Comparison Language Chart."**



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Bonds of 5

Part-Part-Whole: Desk Visual

5	
0	5

5	
1	4

5	
2	3

5	
0	5

5	
1	4

5	
2	3

5	
0	5

5	
1	4

5	
2	3

5	
0	5

5	
1	4

5	
2	3

Bond® Blocks
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Doubling and Halving to 10

Part-Part-Whole: Desk Visual

2		4		6		8		10	
1	1	2	2	3	3	4	4	5	5

2		4		6		8		10	
1	1	2	2	3	3	4	4	5	5

2		4		6		8		10	
1	1	2	2	3	3	4	4	5	5

2		4		6		8		10	
1	1	2	2	3	3	4	4	5	5

Five Plus Bonds

Part-Part-Whole: Desk Visual

6		7		8		9	
5	1	5	2	5	3	5	4

6		7		8		9	
5	1	5	2	5	3	5	4

6		7		8		9	
5	1	5	2	5	3	5	4

6		7		8		9	
5	1	5	2	5	3	5	4

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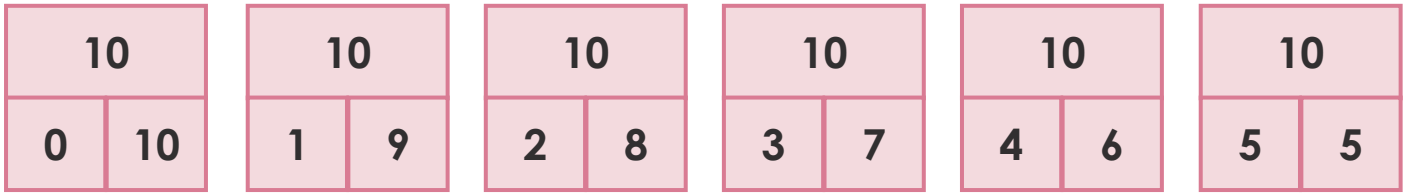
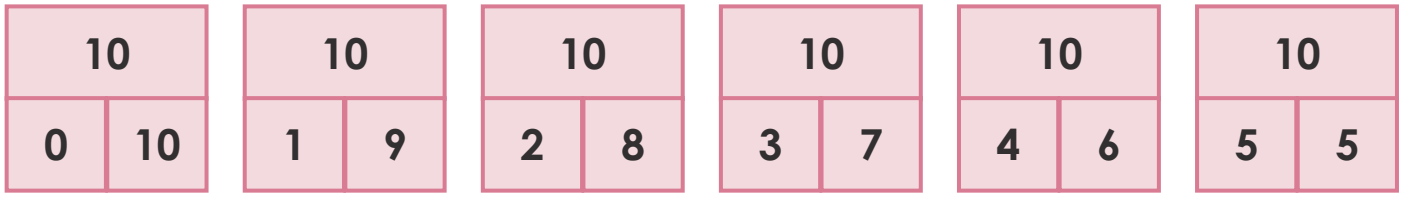
Bonds of 10

Part-Part-Whole: Desk Visual





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Bonds of 10 and Doubles

Part-Part-Whole: Desk Visual 1

Smaller part-part-whole visuals.

These can be taped to the back of a ruler and used discretely. Cut on the dashed line.

10		10		10		12		14		16		18	
2	8	3	7	4	6	6	6	7	7	8	8	9	9

10		10		10		12		14		16		18	
2	8	3	7	4	6	6	6	7	7	8	8	9	9

10		10		10		12		14		16		18	
2	8	3	7	4	6	6	6	7	7	8	8	9	9

10		10		10		12		14		16		18	
2	8	3	7	4	6	6	6	7	7	8	8	9	9

10		10		10		12		14		16		18	
2	8	3	7	4	6	6	6	7	7	8	8	9	9

10		10		10		12		14		16		18	
2	8	3	7	4	6	6	6	7	7	8	8	9	9

Bonds of 10 and Doubles

Part-Part-Whole: Desk Visual 2

Smaller part-part-whole visuals.

These can be taped to the back of a ruler and used discretely. Cut on the dashed line.

10		10		10		12		14		16		18	
2	8	3	7	4	6	6	6	7	7	8	8	9	9

10		10		10		12		14		16		18	
2	8	3	7	4	6	6	6	7	7	8	8	9	9

10		10		10		12		14		16		18	
2	8	3	7	4	6	6	6	7	7	8	8	9	9

10		10		10		12		14		16		18	
2	8	3	7	4	6	6	6	7	7	8	8	9	9

10		10		10		12		14		16		18	
2	8	3	7	4	6	6	6	7	7	8	8	9	9

10		10		10		12		14		16		18	
2	8	3	7	4	6	6	6	7	7	8	8	9	9

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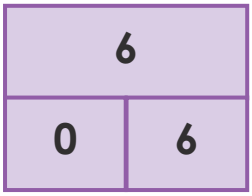
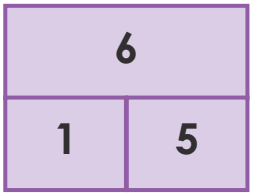
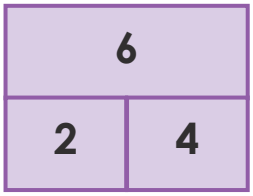
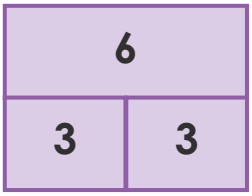
Bonds of 6, 7, 8, 9

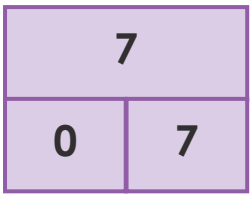
Part-Part-Whole: Desk Visual

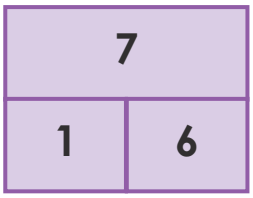


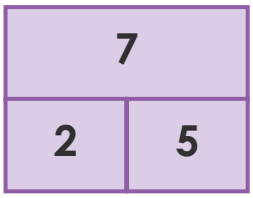


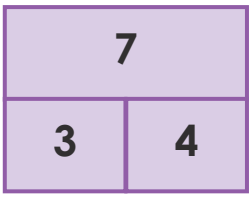


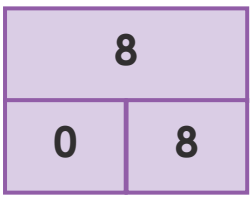


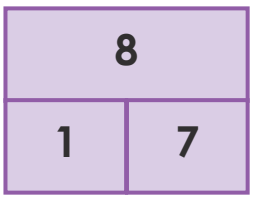


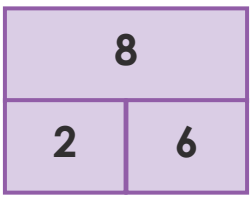


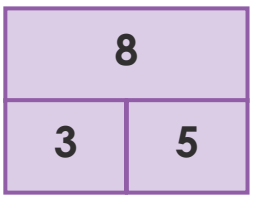


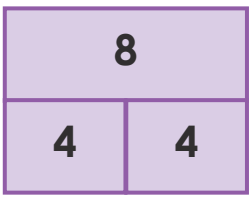


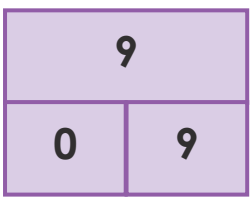


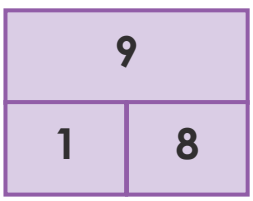


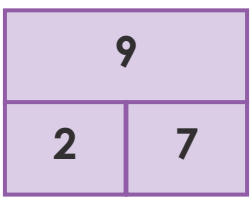


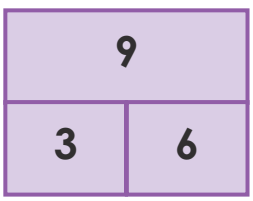


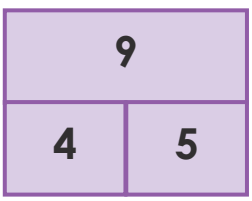






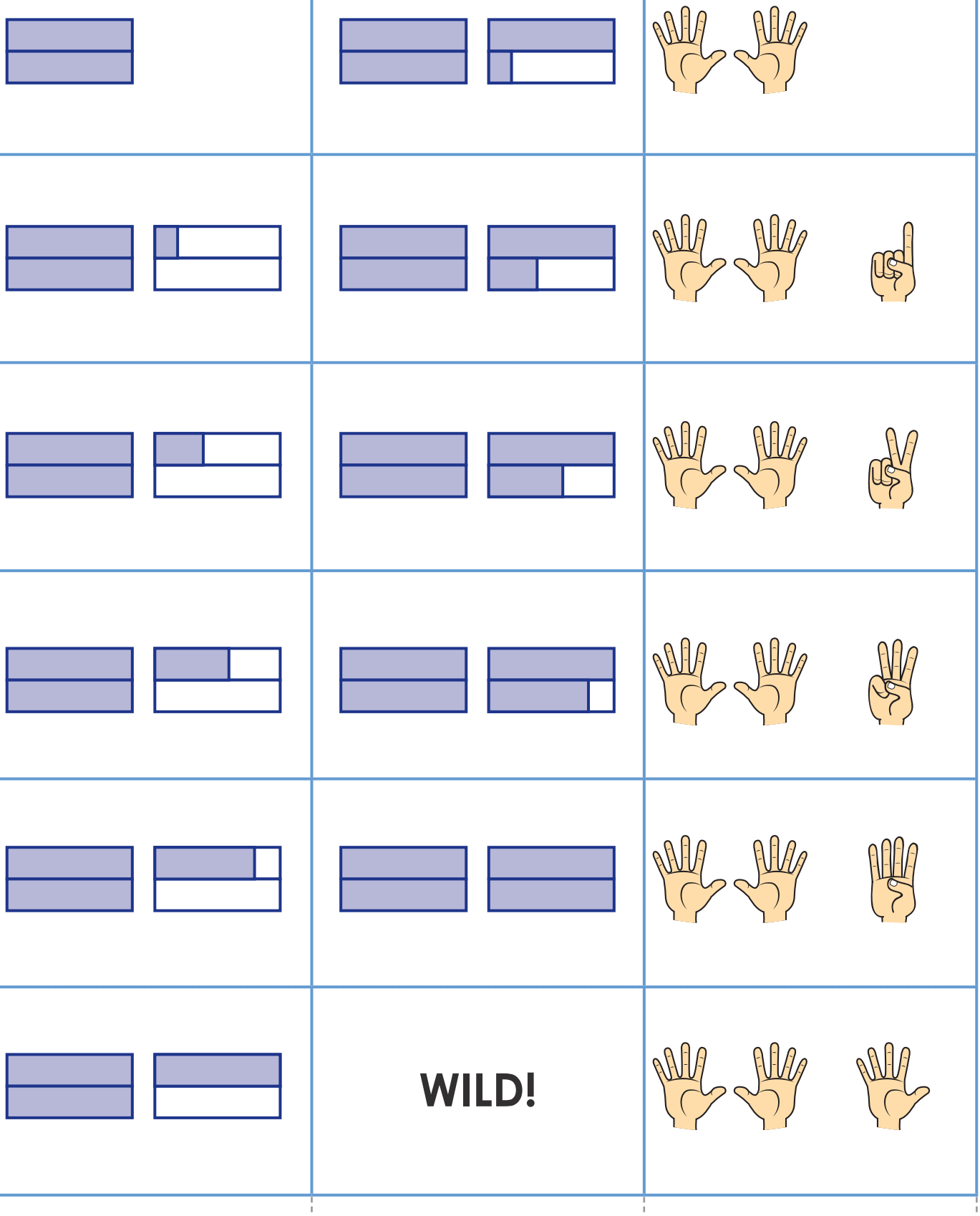


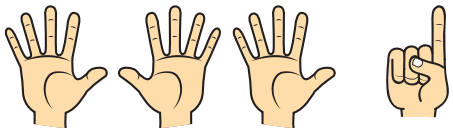
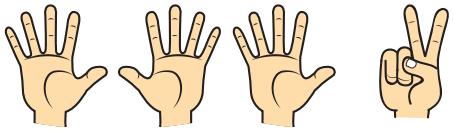
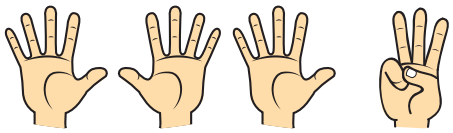
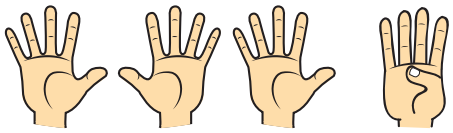
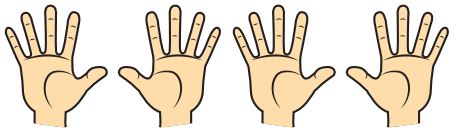




41 Ten Plus Bonds

Sequencing Numbers to 20: Cards



	10	16
	11	17
	12	18
	13	19
	14	20
WILD!	15	WILD!

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Doubling and Halving to 20

Part-Part-Whole: Desk Visual

12	
6	6

14	
7	7

16	
8	8

18	
9	9

12	
6	6

14	
7	7

16	
8	8

18	
9	9

12	
6	6

14	
7	7

16	
8	8

18	
9	9

12	
6	6

14	
7	7

16	
8	8

18	
9	9

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Bonds of 11 to 20

Part-Part-Whole: Desk Visual

11	
2	9

11	
3	8

11	
4	7

11	
5	6

12	
3	9

12	
4	8

12	
5	7

13	
4	9

13	
5	8

13	
6	7

14	
5	9

14	
6	8

15	
6	9

15	
7	8

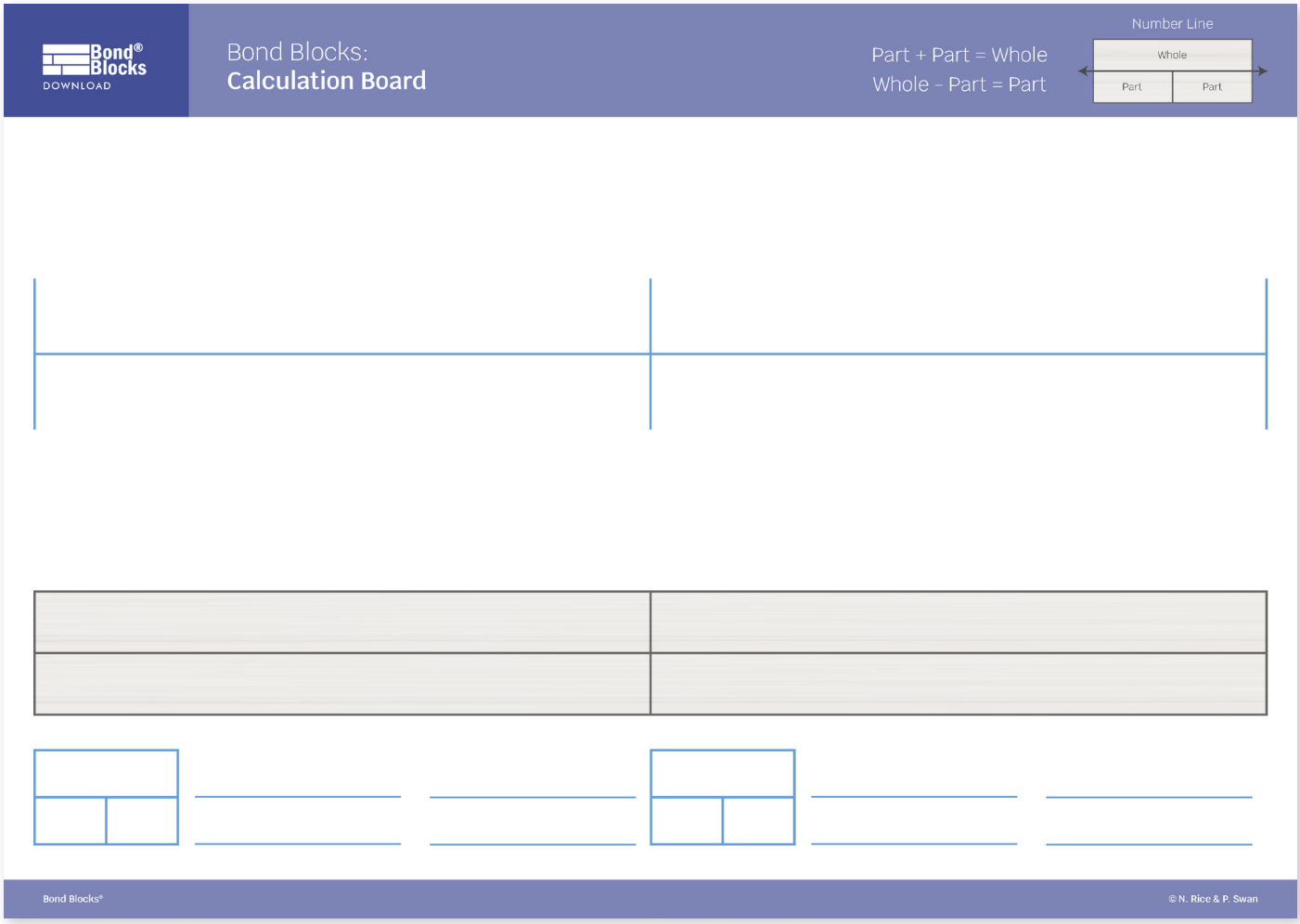
16	
7	9

17	
8	9

Bonds Blocks

Calculation Board

The generic **Bond Blocks: Calculation Board** is an A3 download available from http://bondblocks.com/general-resources/



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Mathematical Connections

For numbers 1 - 5

Purpose

- Make connections between: the physical material, language and symbols, for numbers 1 to 5.
- To make connections about numbers in relation to other numbers. For example, 4 is one less than 5.

Activity

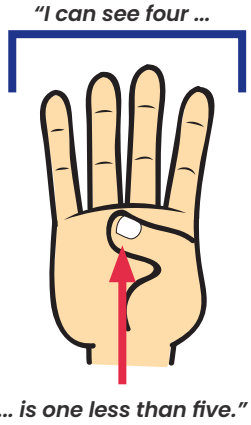
The teacher or leader rolls a dice. Students make this amount on their hand and say the matching number word. Then students fill their frame with the amount of counters rolled on the dice.

Teacher Notes

This is a subitising activity. Students need to see and make the quantity without counting by ones. Students can see the quantities of one, two and three without counting.

Four is seen as one less than five. Explicitly relate the number of cells on the five frame to the five fingers on their hand. When making four on their hand, one finger is held down, this matches the empty cell on the five fame.

Students do NOT clear the frame of counters after making each number. Instead students alter the number of counters on the frame to make the new quantity. Doing this helps students learn about the comparative size of numbers.
For example, 4 is 1 less than 5.

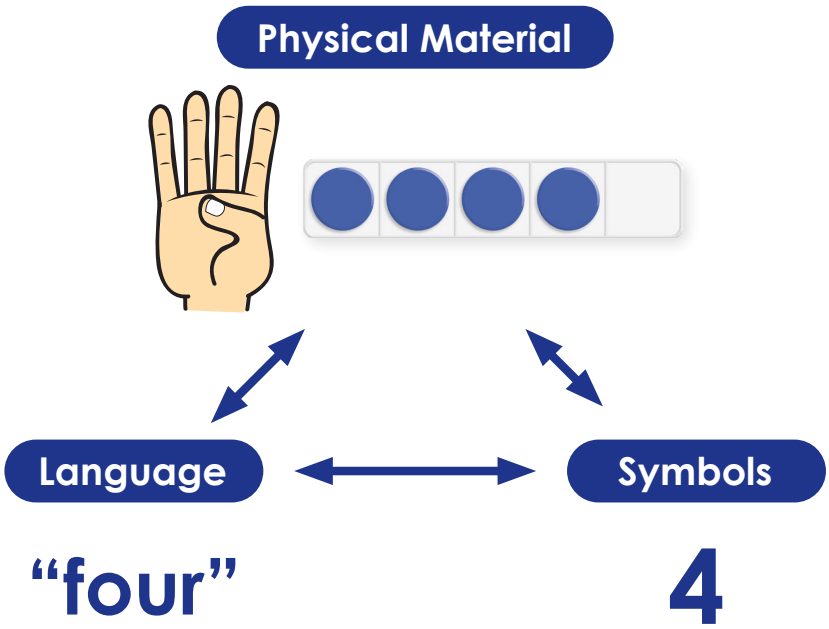


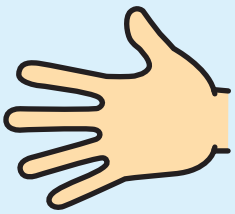
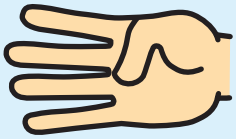
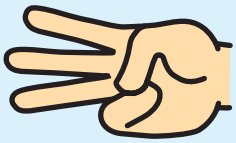
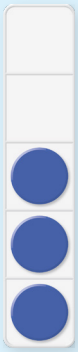
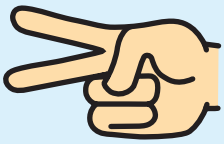
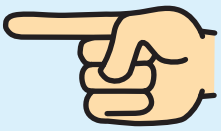
Variations

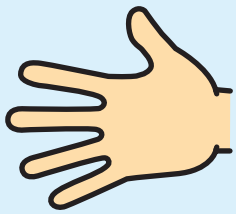
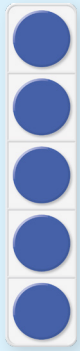
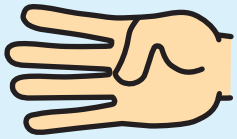
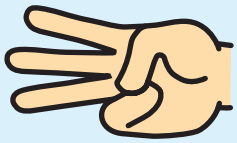
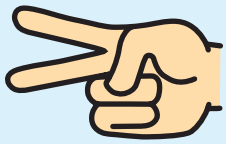
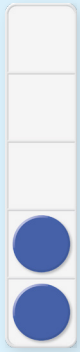
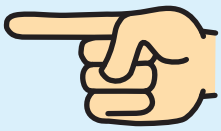
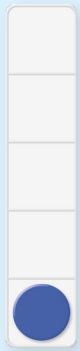
Alter the activity by changing the representation on the face of the dice. You will need to use a Pocket Dice.
Follow this progression using dice with:

- Finger images.
- The written number word.
  This is said by the teacher,
  NOT read by the student.
- Numbers 0 to 5.

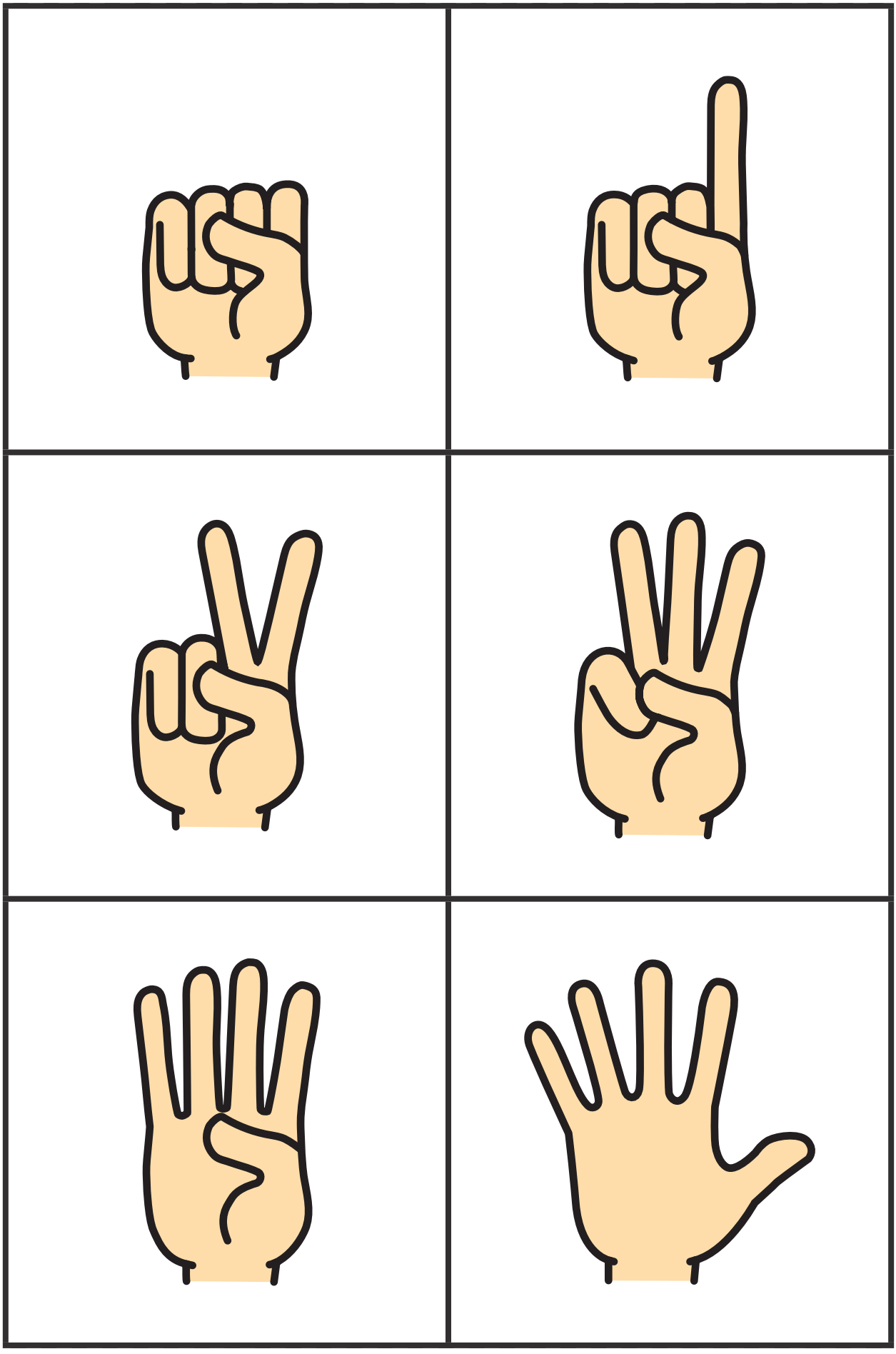
Once students are fluent making each of these quantities, saying the matching word and recognising the matching written number repeat this activity, altering it so that students represent ***one more*** than was rolled by the teacher. Once students have mastered this progress to having students represent ***one less*** than was rolled by the teacher.



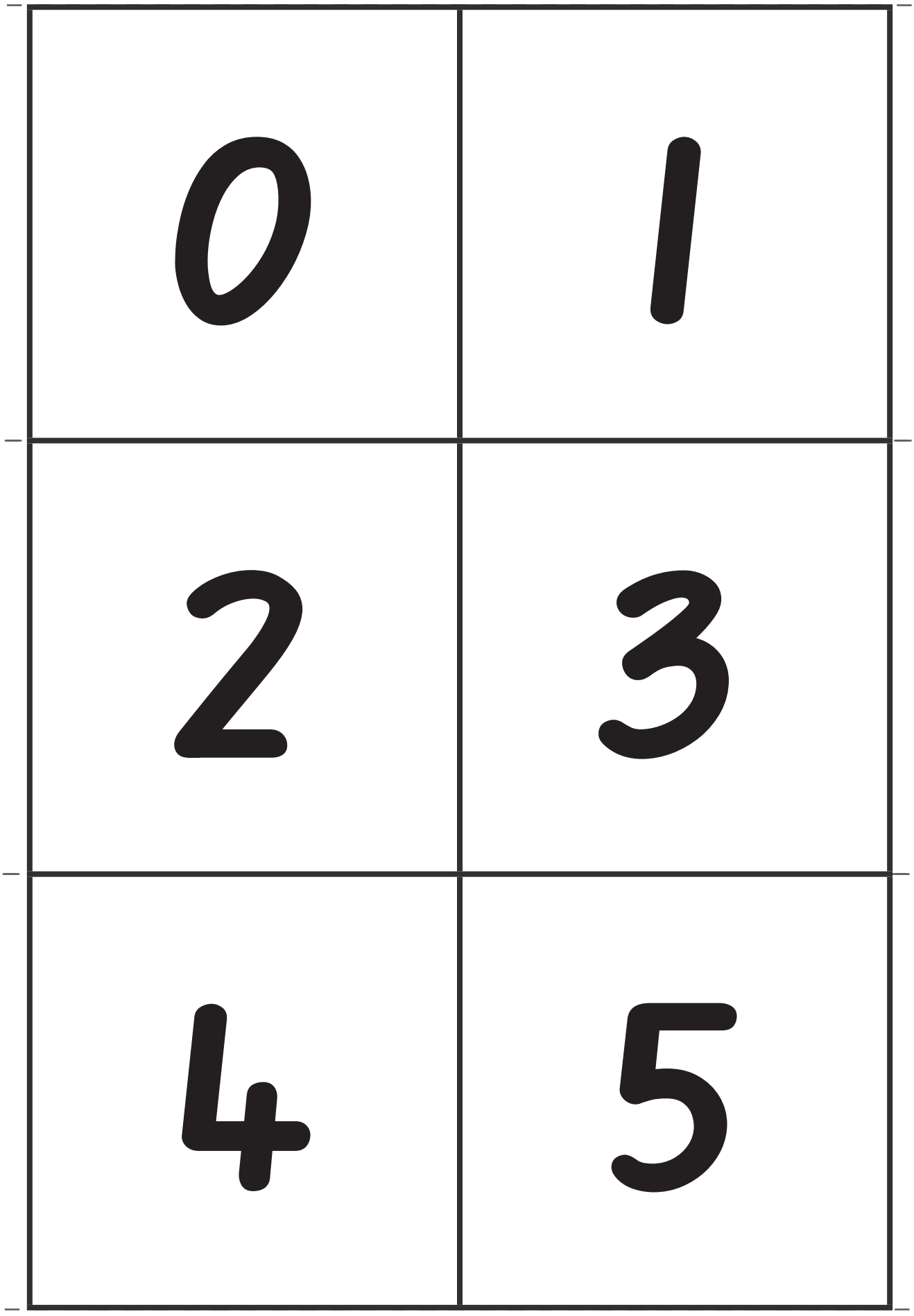
5		
4		
3		
2		
1		

5		
4		
3		
2		
1		

Fingers (0 - 5)



Numbers (0 - 5)



Number Words (0 - 5)

zero	one
two	three
four	five

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Mathematical Connections

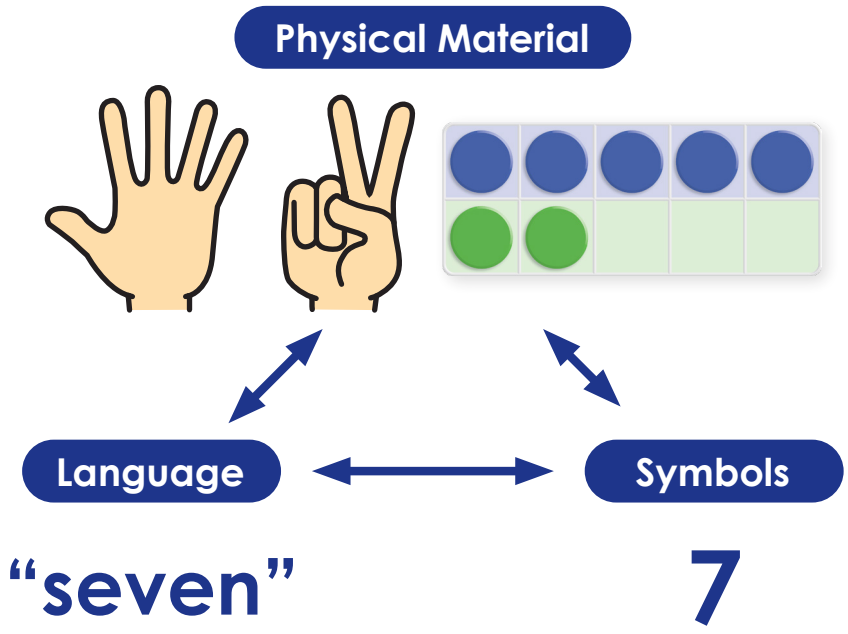
For numbers 6 – 10

Purpose

- Make connections between: the physical material, language and symbols, for numbers 6 to 10.
- To make connections about numbers in relation to other numbers. For example, 7 is two more than 5.
- This is a subitising activity. Students need to see and make the quantity without counting by ones.

Activity

The teacher or leader rolls a dice. Students make this amount on their hand and say the matching number word. Then students fill their frame with the amount of counters rolled on the dice.



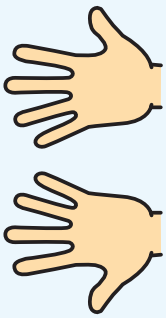
Variations

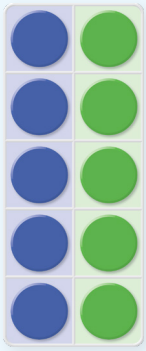
Alter the activity by changing the representation on the face of the dice. You will need to use a Pocket Dice. Follow this progression using dice with:

- Finger images.
- The written number word. This is said by the teacher, NOT read by the student.
- Numbers 6 to 10.

Once students are fluent making each of these quantities, saying the matching word and recognising the matching written number repeat this activity, altering it so that students represent ***one more*** than was rolled by the teacher. Once students have mastered this progress to having students represent ***one less*** than was rolled by the teacher.

10





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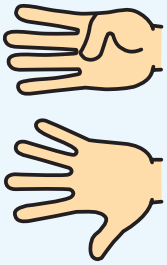

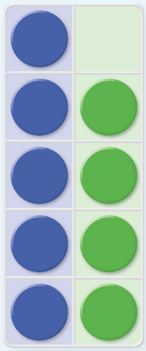

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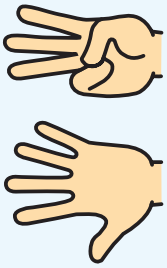

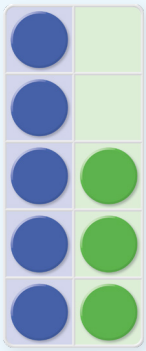

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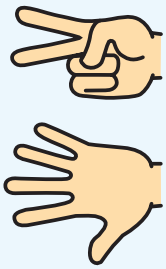

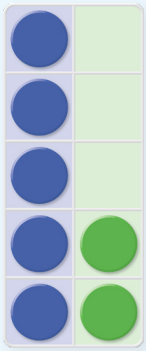

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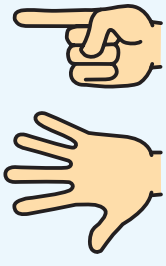

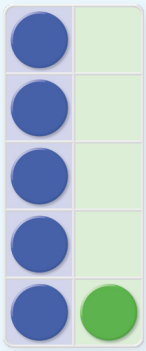

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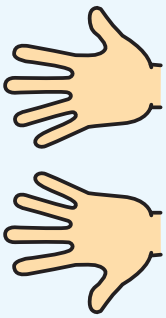

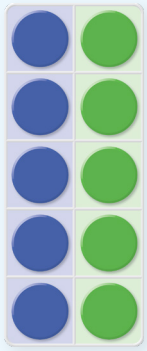

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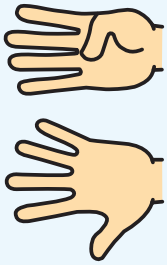

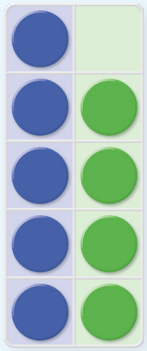

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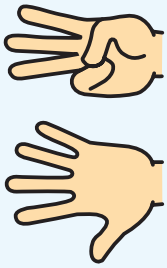

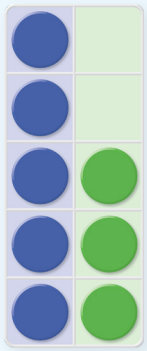

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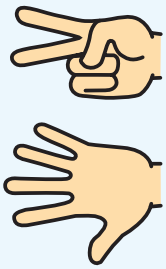

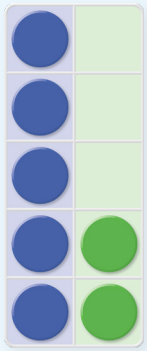

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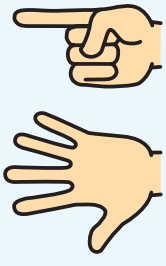
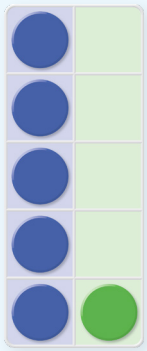
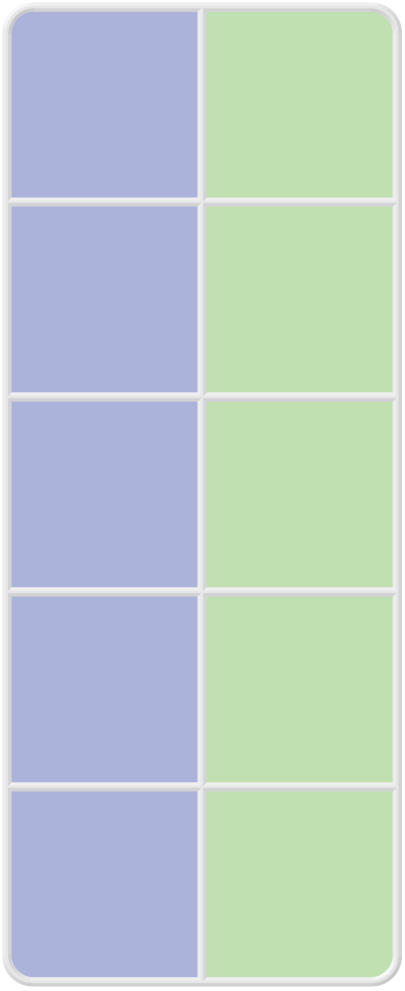
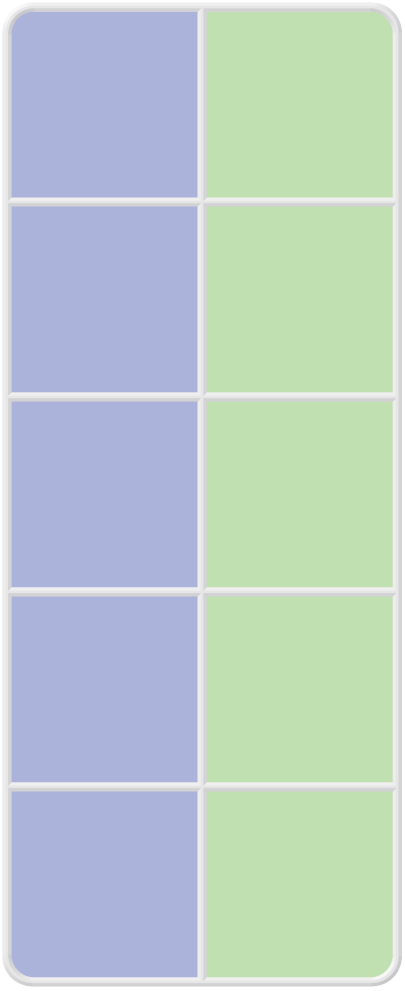
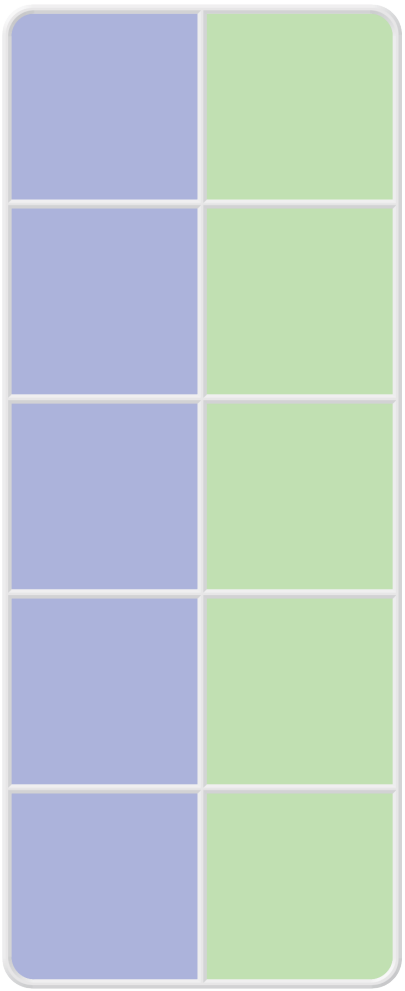
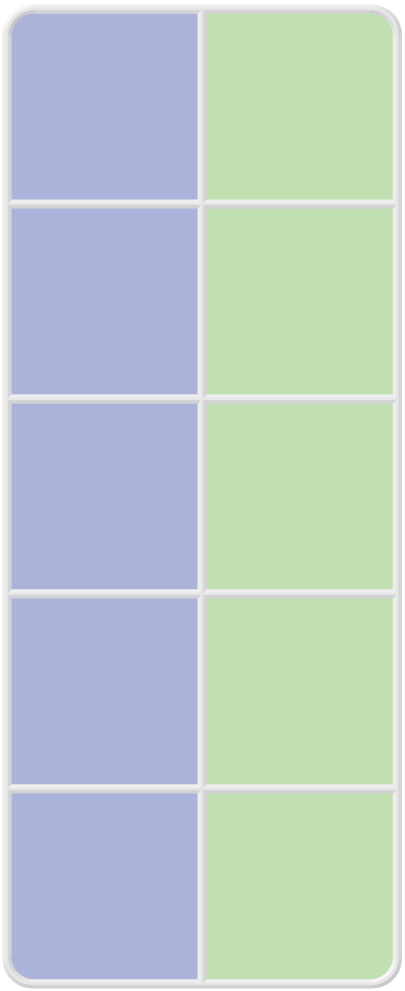




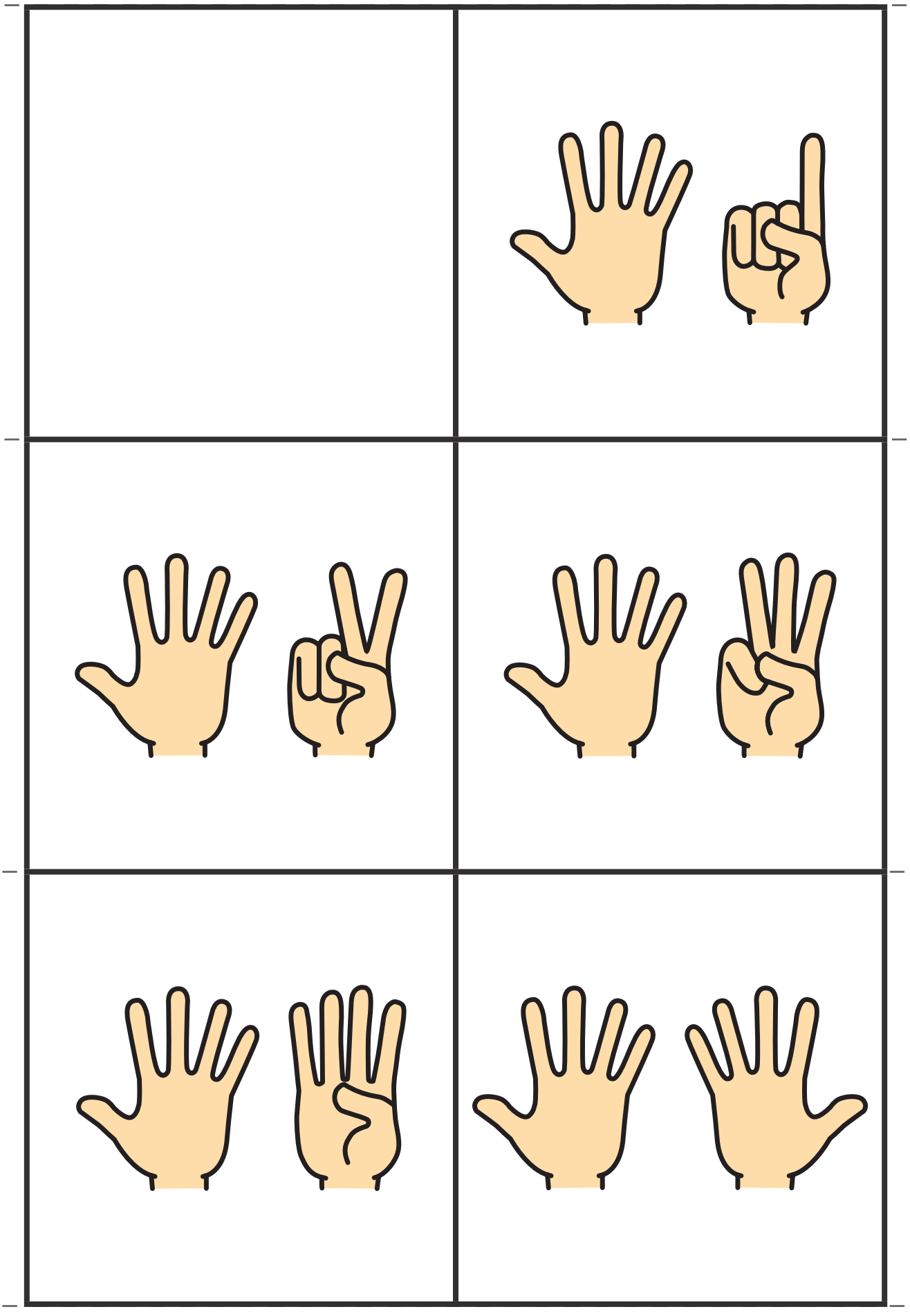








Fingers (0 - 5)



Numbers (0 - 5)

	6
7	8
9	10

Number Words (0 - 5)

	six
seven	eight
nine	ten

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Number Board: Starting at One

Place linear Bond Blocks on this board to assist:

- Counting. For example, in fives and tens.
- Calculating. For example, 24 - 14.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120

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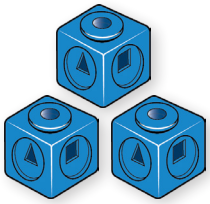
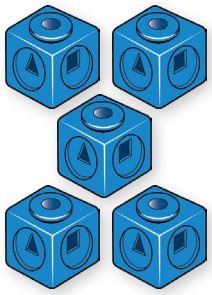
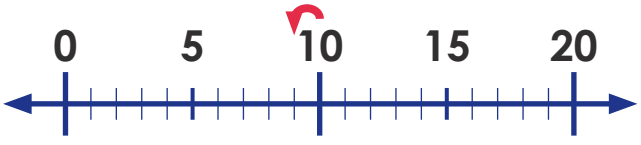
Comparison Language Chart

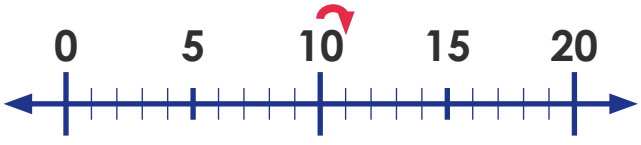
smaller	 **size** 	bigger → larger
shorter	 **length** 	longer
less	 **measurement** 	more
fewer	 **countable objects** 	more
less than	3 **numbers** 5	greater than
before	_, 4, 5 **order** 3, 4, _	after

Developing the concept of which number is **worth more or less** is an essential component of number sense. For this reason, when **comparing numbers**, start with words the students understand such as **'bigger/smaller'**. However, mathematically these words describe size. When appropriate, introduce the mathematically correct words of **"less than"** and **"greater than"**.

number lines



take away
count backwards
left



add
count forwards
right

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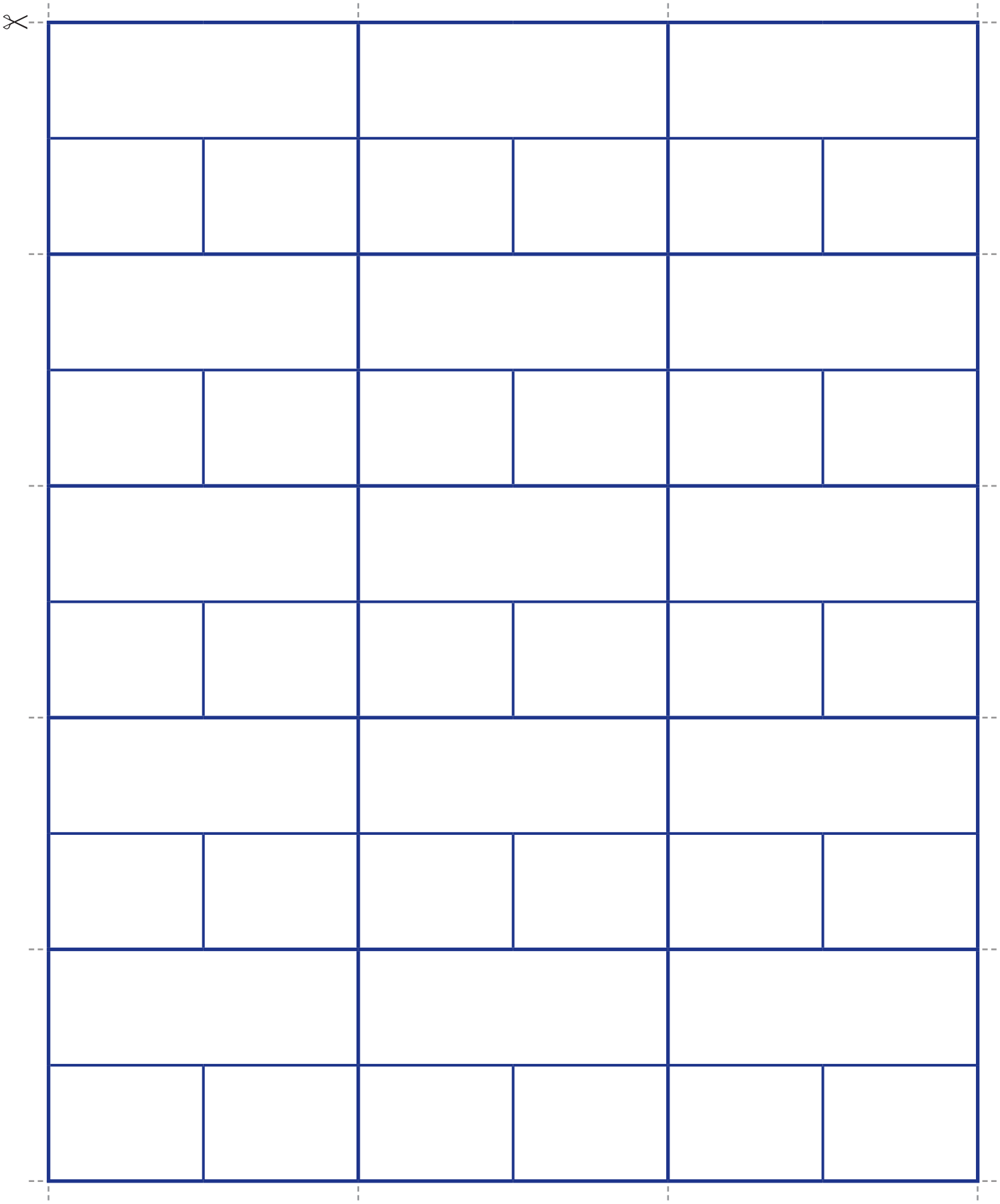
Part-Part-Whole:

Blank Cards



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Part-Part-Whole

Equation: Recording Sheet

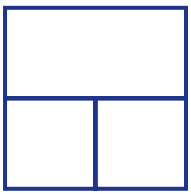
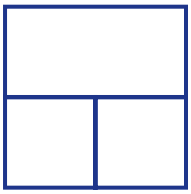
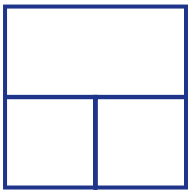
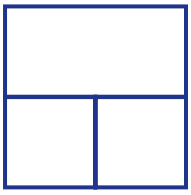
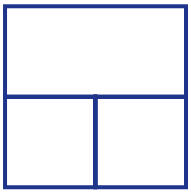
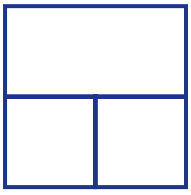
Name: _____

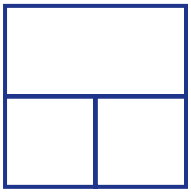
Date: _____

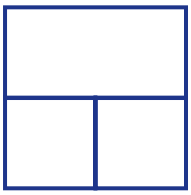
Whole	
Part	Part

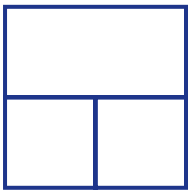
Part + Part = Whole

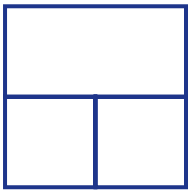
Whole - Part = Part

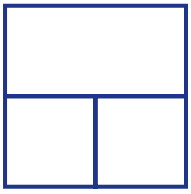
	Addition	Subtraction
	+ =	- =
	+ =	- =
		
		
		
		
		

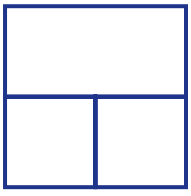


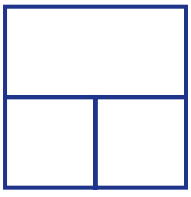


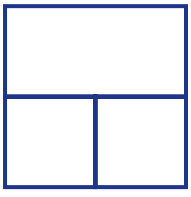










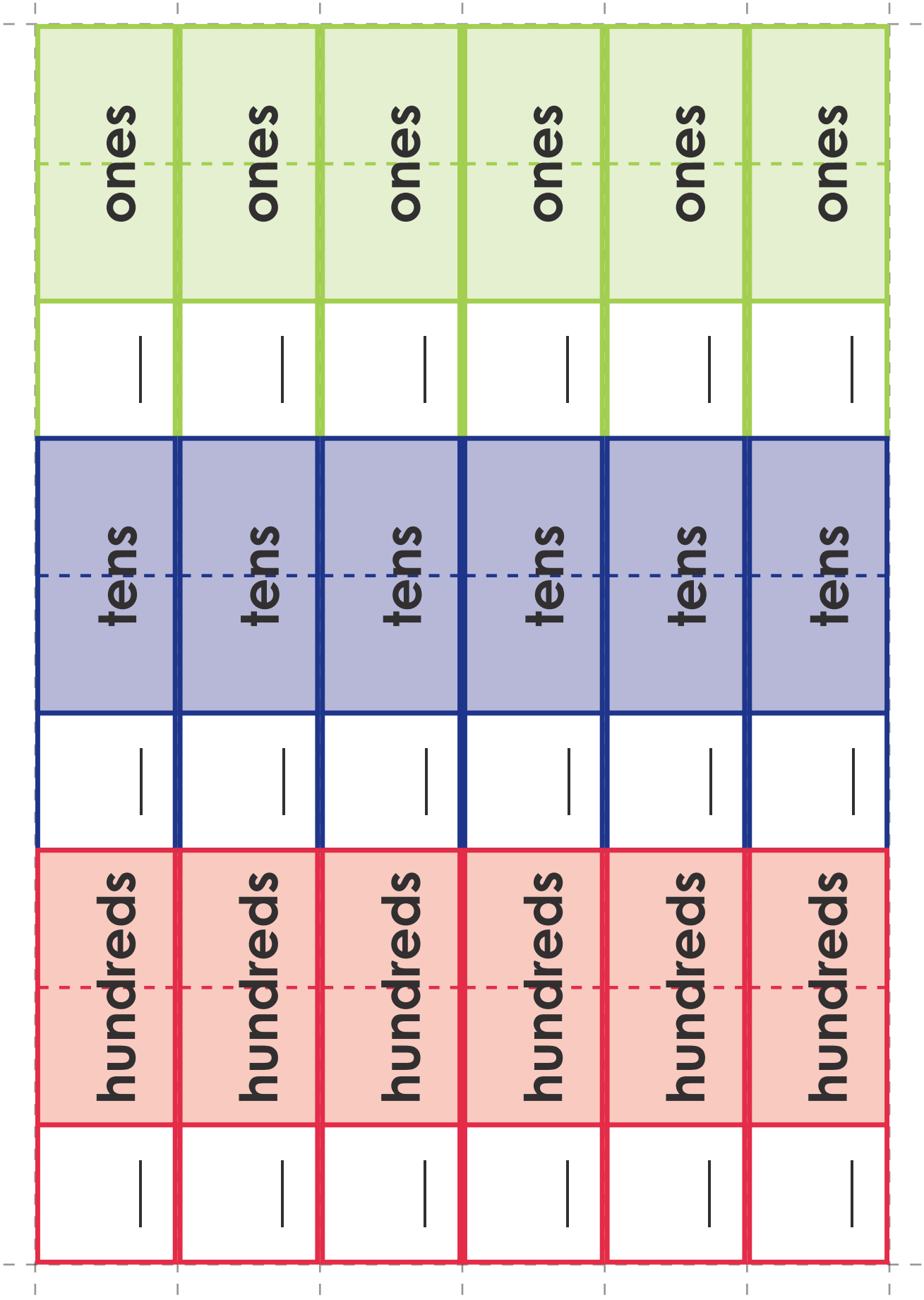


Place Value Arrow Cards

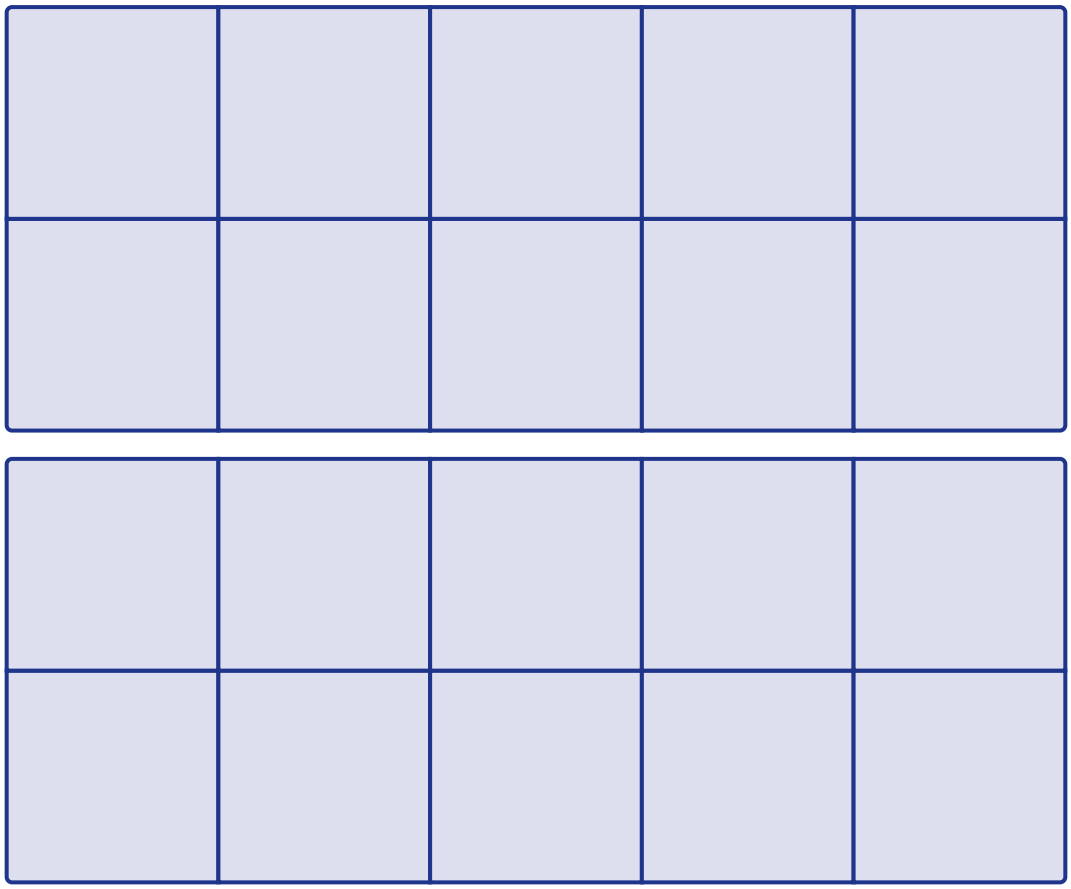
1	0	2	0	0
1	0	2	0	1
1	0	2	0	2
1	0	2	0	3
1	0	2	0	4
1	0	2	0	5
1	0	2	0	6
1	0	2	0	7
1	0	2	0	8
1	0	2	0	9
		3	0	0

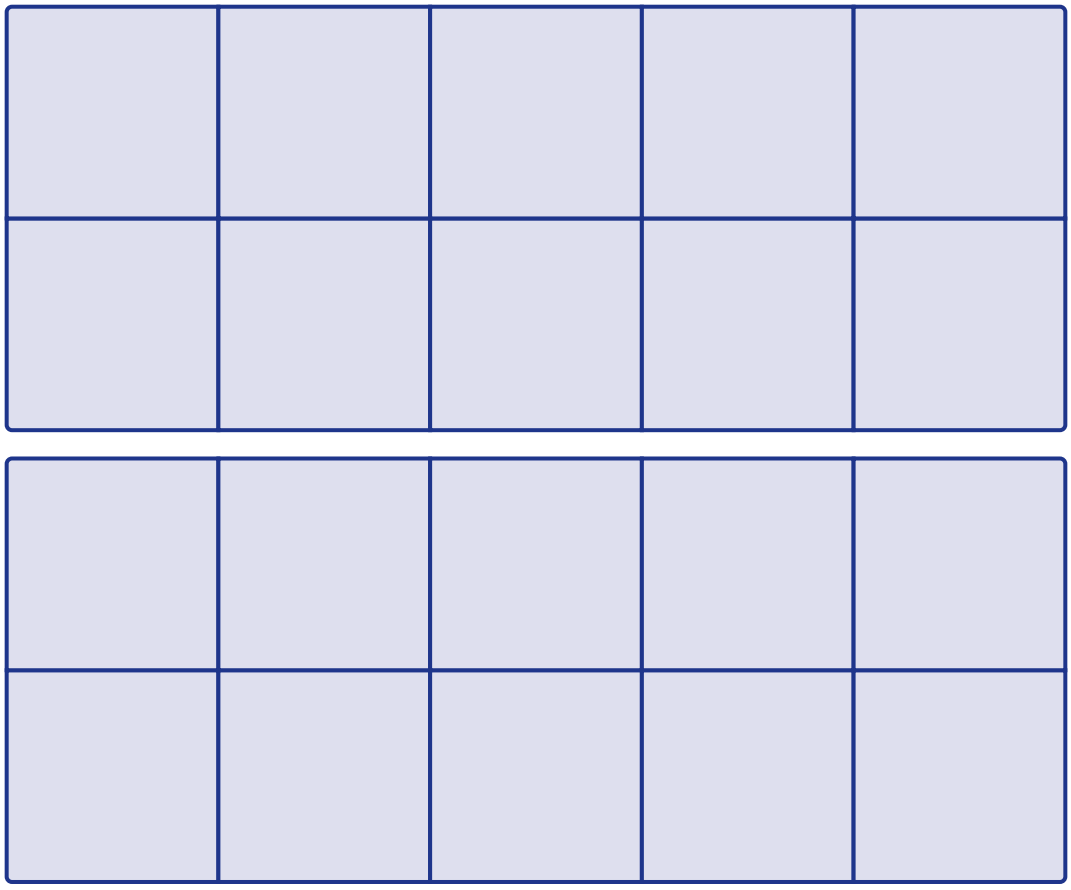
Bond® Blocks
DOWNLOAD

Place Value
Number Expanders



Ten Frame Cards






6
7
8
9
10
3 3
4
4
2
2
1
1