

*Promoting the expertise of schools to meet the needs of pupils with specific learning difficulties through advisory work, training and exemplar teaching*

## Baseline Number Assessment

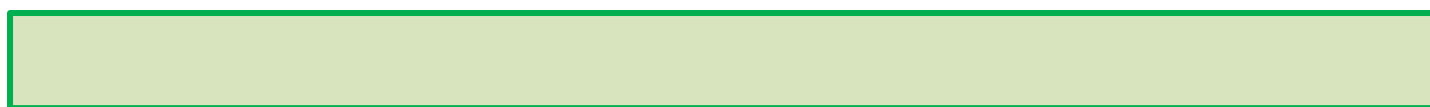
September 2018



This assessment is intended to support schools with the assess-plan-do-review cycle for pupils with **early number difficulties**. It provides a baseline summary for number skills and separate tracking summaries for each of the five number strands covered. This is designed to help school identify teaching targets and monitor progress.

The number strands covered are:

1. Numerosity
2. Counting
3. Understanding number including place value
4. Maths facts
5. Calculating



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*\* For the calculating strand please print off separate booklet*

## Assessment Guidelines

### General Guidelines:

1. Assess one pupil at a time in a quiet area. Make sure the pupil is seated comfortably. The pupil will need a pencil for some sections of the assessment.
2. Assessment tasks can be completed in one sitting, with a rest break or over several sessions depending on the pupil. The test will take approximately 30 - 45 minutes depending on the pupil's progress through each strand.
3. **Do not help** the pupil during the assessment task. However, support them by being positive and encouraging them to have a go. Use non-specific praise for effort e.g. *Thanks for that or you are working hard.*
4. Before starting the number assessment use the 'I can do..' sheet as a discussion to gain pupil voice.
5. **Stop** each strand once targets for the pupil have been identified/the pupil is struggling.  
To get a fuller understanding of a pupil's needs get them to try **each strand** to help identify strengths and weaknesses. Within the calculation strand try some from each operation.

### You will need:

1. Assessment record sheets (p. 5 - 22), pen and ring binder



2. Calculation pupil booklet



3. Equipment - see each strand but if completing all strands you will need:

#### Base 10



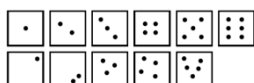
#### Counters



#### Whiteboard and pen



See resources section  
for:



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

9	10	11
12	13	14
15	16	17

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

Print these resources  
single sided on cream  
card and cut up in  
advance.

Familiar concrete materials: this will depend on what the pupil uses in class for example....



### Scoring and transferring results to the summary /progress tracker:



1. Be discreet when recording the pupil's response on record sheets so that the pupil cannot see what you are writing e.g. put the record sheets inside a ring binder. What the adult **does** is in **blue font** and what is **said** to the pupil is in **green font**. Use the record sheets to record if the answer is correct or not and also **observations** - how the pupil worked and or what they said. This will help in discussions about next steps.
2. Note: the initials **CPA** stand for Concrete/Pictorial/Abstract
3. After assessment, transfer the information onto the summary sheet if all the strands have been completed - use the traffic light system so you can quickly see strengths, areas for consolidation and gaps in a pupil's learning. Highlight or dot in the corresponding colours.



Unknown - New learning

Not secure - For consolidation

Secure

Patterns and Numerosity (1.1)	Dice patterns		Random patterns	
Counting Objects (2.1)	1:1		conservation	How many fingers

### Using the assessment:

The assessment is designed to help school identify gaps and misconceptions for a pupil not making progress in early number. Areas of weakness can occur earlier than might be expected, meaning the pupil is building current number work on weak foundations. The aim is to identify areas of weakness so they can be addressed. The ultimate aim is that the pupil can work in the abstract, within an increasing larger number range and be able to apply that knowledge to different situations.

1. Once the baseline assessment is complete, use the summary of baseline results to help you select targets.
2. When selecting a target to work on, fill in the baseline part of progress tracker for the relevant strand so that it can be used for review. If CPA is in the column, circle the level the pupil is working confidently within.
3. Provide time to work with the pupil 1:1 or in a small group (if pupils have the same areas of weakness). Pupils with specific difficulties in number may well need to work at the concrete level longer than some of their peers but the links to the pictorial and then the abstract level should be made clearly to them. Introduce mathematical language carefully and review regularly to ensure they are retained. Praise strategies rather than getting all the answers correct. Ideally use equipment that the pupil has access to in class to help them transfer knowledge from intervention to class.
4. Once targets have been addressed in intervention, recheck using that section of the assessment and fill in the review. If appropriate, select new targets. Do this as part of your assess-plan-do-review progress checks.

# BASELINE ASSESSMENT SUMMARY SHEET

## All Number Strands



Unknown - New learning  
Not secure - For consolidation  
Secure

Name: ..... Dob: ..... CA: .....

School: ..... Year group: ..... Baseline Assessment Date: .....

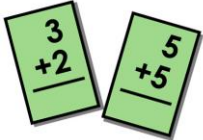
Patterns and Numerosity (1.1)	Dice patterns				Random patterns			
Counting Objects (2.1)	1:1		conservation			How many fingers		
Rote Counting in Ones (2.2, 2.3, 2.4)	Oral Forwards	Oral backwards	Number track along	Number track back	Number square along	Number square back		
Numbers and place value Making & ordering (3.1)	Making two digit numbers & matching		Ordering two digit numbers		Positioning two digit numbers on number line			
Understanding place value (3.2)	Partition & recombine 2 digit Nos		10 more		1 more		10 less	1 less
Writing and reading 2 to 4 digit numbers (3.3)	Writing numbers			Reading numbers				
	2 digit	3 digit	4 digit	2 digit		3 digit	4 digit	
Number facts (4.1)	Number facts to 5 + /-		Number facts to 10 + /-			Decade pairs making 100		
Step counting (4.2)	Forward & backwards in 10s		Forward & backwards in 2s			Forward & backwards in 5s		
Odd/even (4.3) doubles/halves (4.4)	Odd/even		Halves			doubles		
Calculation – addition (5.1)	Within 10		Within 20		Within 100		Within 1000	
Calculation – subtraction (5.2)	Within 10		Within 20		Within 100		Within 1000	
Addition/subtraction inverse (5.3)	Addition commutative law				Addition/subtraction inverse			
Applying x and ÷ (5.4 & 5.5)	Applying x	Division						
		Apply	sharing		grouping	remainders		
I can do..... Pupil voice	Comment:							

# I can do...

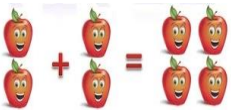
Counting



Number facts



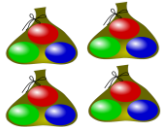
Adding



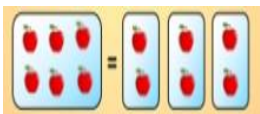
Subtracting



Multiplying



Dividing



Mental Maths



Myself





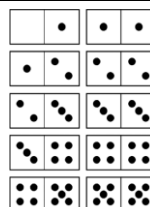
# Strands 1 & 2: Pattern, Numerosity and Counting



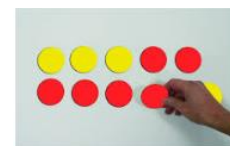
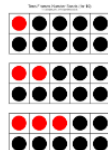
Progress Tracker - Strands 1 and 2	Baseline	Review 1	Review 2	Review 3
Dice patterns (1.1)	Date:	Date:	Date:	Date:
Random patterns (1.1)	Date:	Date:	Date:	Date:
Counting objects within 10 (2.1)	Date:	Date:	Date:	Date:
Counting in 1s oral forwards & backwards within 20 (2.2)	Date:	Date:	Date:	Date:
Counting in 1s oral forwards & backwards within 100 (2.2)	Date:	Date:	Date:	Date:
Counting in 1s oral forwards & backwards 100 + (2.2)	Date:	Date:	Date:	Date:
Counting in 1s number track (2.3)	Date:	Date:	Date:	Date:
Counting in 1s number square (2.4)	Date:	Date:	Date:	Date:

## Approaches and strategies

**Early dice pattern & early counting** - Encourage parents/carers to play board games/dominoes with pupil or set up a lunchtime club.



**Random patterns & 1:1 counting**- use sorting trays, use tens frames to give structure. Talk about 'seeing' numbers within numbers e.g. 10 has a 3 and a 7 in it / a 5 and a 5 in it - double sided counters are good to show this visually.



**Counting aloud**- Make it fun and multisensory. Use spaced practice ('little and often'). Use counting sticks, counting in P.E. e.g. as throwing & catching, whilst moving around the school. Help the pupil to visualise number lines and 'internalise' them.

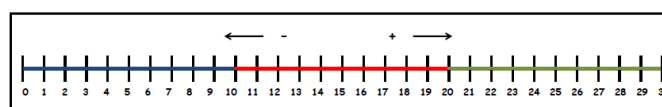


**Number lines /squares**- make reasonable adjustments for pupils having difficulty accessing class versions. Consider the following:

- Enlarge
- Print/copy onto pastel colours
- Put arrows on a number line to help with counting forwards and backwards
- On a number square colour decades in different colours
- Cut up a 100 square to work only with the pupil's number range
- Use card to cover up the parts of the number square not being used to help the pupil focus on the part being studied
- Using a Numdrum\*



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



1. Patterns and Numerosity		
Knowledge and Skills		1.1 Subitising- Recognising 'how many' without counting
Activity	Task and Question	Responses and Observations Strengths/Difficulties
a) Dice pattern	a) Show a dice (or tens frames or Numicon tile) or cards of dice patterns. Show briefly or encourage saying without counting. <ul style="list-style-type: none"> <li>How many spots?</li> </ul>	Observations - do they quietly count?
b) Random pattern (up to 4 objects)	b) Briefly display the random dot cards <ul style="list-style-type: none"> <li>How many spots?</li> <li>Why do you think that?</li> </ul>	

2. Counting		
Knowledge and Skills		2.1 Counting objects
Activity	Task and Question	Responses and Observations Strengths/Difficulties
1-1 Object counting	Place 5 counters in front of the pupil. How many counters? Repeat for 8 and 12 counters	Does the pupil count accurately?  Does the pupil touch/move the counters?
Conservation	Place 6 counters in front of the pupil. How many counters? (support 1:1 counting if an issue)  Move/muddle the counters around in view of the pupil. How many counters? Then repeat.  Next ask the pupil to muddle/move the counters. How many counters?	Does the pupil automatically know the quantity of counters remained the same after a) The adult has moved them?  b) The pupil has moved them?
How many fingers? (other manipulatives/visuals)	Show me 3/5/8/10 fingers	Does the pupil show fingers instantly or count out?



Knowledge and Skills		2.2 Rote Counting in ones
Forwards	<p>Can you count up to 10?</p> <p>Can you count up to 20?</p> <p>Can you count up from 4?</p> <p>(Stop the pupil at 20)</p> <p>Can you count up from 12?</p> <p>(Stop the pupil at 23)</p> <p>Can you count up from 37?</p> <p>(Stop at 42)</p> <p>Can you count up from 64?</p> <p>(Stop at 75)</p> <p>Can you count up from 95?</p> <p>(Stop at 103)</p> <p>Can you count up from 296?</p> <p>(Stop at 304)</p>	<p>Does the pupil use their fingers/tapping etc to support counting?</p> <p>Does the pupil have difficulties with the 'teen' numbers?</p> <p>Does the pupil have difficulties crossing the 10/100 boundaries?</p>
Backwards	<p>Can you count back from 10?</p> <p>Can you count back from 20?</p> <p>Can you count back from 8?</p> <p>Can you count back from 26?</p> <p>(Stop the pupil at 9)</p> <p>Can you count back from 37?</p> <p>(Stop at 28)</p> <p>Can you count back from 64?</p> <p>(Stop at 55)</p> <p>Can you count back from 104?</p> <p>(Stop at 98)</p> <p>Can you count back from 402?</p> <p>(Stop at 396)</p>	<p>Comment as above:</p>
Knowledge and Skills		2.3 Counting on a number track
along	<p>Place a number track in front of the pupil</p> <p>Starting at 3 count on 2 (5)</p> <p>Now count on 4 (9)</p> <p>Finally count on 7 (16)</p> <p>If the pupil needs support remembering write the start number and how many to count on to on a whiteboard.</p>	<p>Difficulty retaining numbers? Yes/No</p> <p>Able to locate starting number? Yes/No</p> <p>Accurate counting 1:1? Yes/No</p> <p>Able to use track to obtain answers? Yes/No</p>
back	<p>Place a number track in front of the pupil</p> <p>Starting at 9 count back 2 (7)</p> <p>Now count back 4 (3)</p> <p>If the pupil needs support remembering write the start number and how many to count on to on a whiteboard.</p>	<p>Comment as above:</p>

Knowledge and Skills		2.4 Counting on a number square
along	<p>Place a number square in front of the pupil</p> <p>Starting at 6 count on 2 (8)</p> <p>Now count on 4 (12)</p> <p>Now count on 10 (22)</p> <p>Finally count on 23 (45)</p> <p>If the pupil needs support remembering instructions write the start number and how many to count on to on a whiteboard.</p>	<p>Difficulty retaining numbers? Yes/No</p> <p>Able to locate starting number? Yes/No</p> <p>Does the pupil count with 1-1 correspondence?</p> <p>Does the pupil successfully cross the tens boundary? Yes/No</p> <p>Does the pupil point/say the correct final number without counting along the number square? Yes/No</p>
back	<p>Place a number square in front of the pupil</p> <p>Starting at 8 count back 2 (6)</p> <p>Starting at 14 count back 6 (8)</p> <p>Starting at 27 count back 10 (17)</p> <p>Starting at 34 count back 22 (12)</p> <p>If the pupil needs support remembering instructions write the start number and how many to count on to on a whiteboard.</p>	<p>Comment as above:</p>

# Strand 3: Numbers and Place value



Progress Tracker - Strand 3	Baseline	Review 1	Review 2	Review 3
Matching objects to numbers (3.1)	Date:	Date:	Date:	Date:
Ordering numbers (2 digits) (3.1)	Date:	Date:	Date:	Date:
Position numbers on a number line (3.1)	Date:	Date:	Date:	Date:
Partition & recombine 2 digit numbers (3.2)	Date:	Date:	Date:	Date:
10 more (3.2)	Date:	Date:	Date:	Date:
1 more (3.2)	Date:	Date:	Date:	Date:
10 less (3.2)	Date:	Date:	Date:	Date:
1 less (3.2)	Date:	Date:	Date:	Date:
Writing & understanding 2 digit numbers (3.3)	Date:	Date:	Date:	Date:
Writing & understanding 3 digit numbers (3.3)	Date:	Date:	Date:	Date:
Writing & understanding 4 digit numbers (3.3)	Date:	Date:	Date:	Date:
Reading 2 digit numbers (3.3)	Date:	Date:	Date:	Date:
Reading 3 digit numbers (3.3)	Date:	Date:	Date:	Date:
Reading 4 digit numbers (3.3)	Date:	Date:	Date:	Date:

## Approaches and strategies

Place value is a highly abstract mathematical concept which can take much longer to form than e.g. the concept of length. To understand the concept of place value, pupils need to work in bases and develop the habit of grouping and exchanging in each of these. Grouping in 10s is crucial to develop the concept of place value.

Use: Base 10 materials, straws, place value counters



Pupils have to learn to 'crack the code'.

The key principles are:

There are 10 digits (0, 1, 2, 3, 4, 5, 6, 7, 8, 9)

The column that a digit is placed in determines its value

A digit one place to left of another digit is worth 10 times its value

Zero is used as a place holder to represent an empty column

Use place value cards or sliders to secure this.



Use place value base boards with base 10 (known as Dienes) to help the pupil understand the position and value of numbers.

Hundreds	Tens	Ones

3. Identification of Numbers and Place Value		
Knowledge and Skills		3.1 Making & ordering-2 digit numbers
Activity	Task and Question	Responses and Observations Strengths/Difficulties
Match objects to number cards	Using place value material and a selection of digit cards. Can you make and then find 26? Can you make and then find 54?	Comment:
Ordering numbers	Randomly lay out the number cards 63, 76, 89, 92 in front of the pupil. Can you put these numbers in size order?	Circle: Quick/slow to order Whispered counting? Yes/No
Position numbers on a number line	32, 50, 79, 86- write these on a whiteboard. Can you write these numbers in size order on the blank number line?	Comment on strategies used:
Knowledge and Skills		3.2 Understanding place value
Partition and recombine 2 digit numbers into tens and ones	(27 - 2 tens 7 ones 32 - 3 tens 2 ones) (Pupil can write on dated paper or in the back of the pupil number booklet if being used) Can you partition and recombine 27 into tens and ones? Now try 32.	Comment:
10 more/1 more	10 more/1 more- oral What is 10 more than 3? What is 10 more than 26? What is 10 more than 45? What is 1 more than 62? What is 1 more than 14? What is 1 more than 29?	Circle: Quick/slow to generate answers
10 less/1 less	10 less /1 less - oral What is 10 less than 63? What is 10 less than 24? What is 10 less than 46? What is 1 less than 9? What is 1 less than 27? What is 1 less than 46?	Circle: Quick/slow to generate answers
Knowledge and Skills		3.3 Writing & reading numbers
Writing digits	(Pupil can write on dated paper or in the back of the pupil number booklet if being used) Can you write 24? Can you write 15? Can you write 47? What value is 4? Can you write 132? What value is 2? Can you write 305?	Comments:

	<p>Can you write 450? What value is 4?</p> <p>Can you write 1,462?</p> <p>5,052 How many hundreds are there?</p>	
Reading digits	<p>Write these 5 numbers one by one on a whiteboard and ask the pupil to read each one aloud. Can you read each number?</p> <p>17</p> <p>32</p> <p>401</p> <p>1,700</p> <p>9,300</p>	Comments:

## Strand 4: Number facts



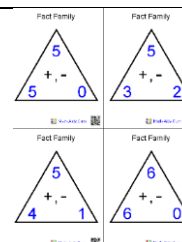
Progress Tracker - Strand 4	Baseline	Review 1	Review 2	Review 3
Number facts to 5 + & - (4.1)	Date:	Date:	Date:	Date:
Number facts to 10 + & - (4.1)	Date:	Date:	Date:	Date:
Decade pairs making 100 (4.1)	Date:	Date:	Date:	Date:
Step counting forwards & backwards in 10s (4.2)	Date:	Date:	Date:	Date:
Step counting forwards & backwards in 2s (4.2)	Date:	Date:	Date:	Date:
Step counting forwards & backwards in 5s (4.2)	Date:	Date:	Date:	Date:
Odd/even (4.3)	Date:	Date:	Date:	Date:
Halves (4.4)	Date:	Date:	Date:	Date:
Doubles (4.5)	Date:	Date:	Date:	Date:

### Approaches and strategies

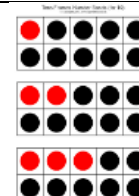
Pupils with SpLD can experience great difficulty developing automaticity with facts such as number facts. Make it fun to lower anxiety. Use games if possible e.g. card games, apps.



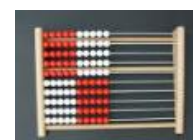
Use spaced practice ('little and often') - use methods such as flashcards and precision teaching monitoring.



Make the learning multisensory- e.g. 5 frames, 10 frames, Numicon shapes.



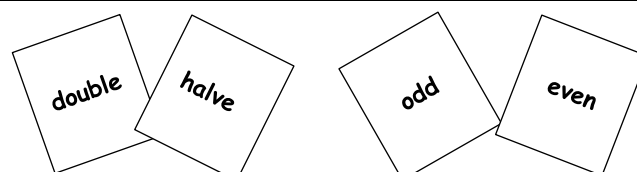
Use a Slavonic abacus to teach complements to 100.



Use Numicon shapes or cut up 10s frames to teach odd and even numbers as it is very visual.



Revise vocabulary such as double / halve/ odd /even frequently - use flashcards as you teach.



4. Number facts		
Knowledge and Skills		4.1 Number pairs:
Activity	Task and Question	Responses and Observations Strengths/Difficulties
Know number pairs to 5 for addition and subtraction	<p>Put up 3 fingers. How many more to make 5?</p> <p>What other numbers could we add together to make 5?</p>	<p>Pupil uses fingers for answer? Yes/No Circle: quick/slow to give answer</p> <p>What other bonds to 5 did the pupil know?</p>
Know number pairs to 10 for addition and subtraction	<p>Put up 7 fingers. How many more to make 10?</p> <p>What other numbers could we add together to make 10?</p>	<p>Pupil uses fingers for answer? Yes/No Circle: quick/slow to give answer</p> <p>What other bonds to 10 did the pupil know?</p>
Use number pairs to 10 for addition and subtraction for larger multiples of ten	<p>Place the following number cards on the table 10, 20, 30, 40, 50, 50, 60, 70, 80, 90. Say the number as the cards are placed.</p> <p>Can you show me two cards that when added together make 100?</p> <p>How many pairs can you make?</p>	<p>Did the pupil use a 'counting' strategy to calculate the answer?</p> <p>Circle: quick/slow to give answer</p> <p>Does the pupil show that they are using their knowledge of bonds to 10 to calculate the answer?</p> <p>What pairs does the pupil make?</p>
Knowledge and Skills		4.2 Step counting in 2s, 5s and 10s:
Count forwards and back in steps of 10	<p>Can you count in 10s from 0 to 100?</p> <p>Can you count back in 10s from 100?</p> <p>Can you count in 10s from 7? (Stop at 97)</p> <p>Can you count back in 10s from 57? (Stop at 7)</p>	<p>Number counted to:</p> <p>Counting fluent?</p> <p>Requested concrete materials? Yes/No</p>
Count forwards and back in steps of 2	<p>Can you count in 2s from 0 to 20?</p> <p>Can you count back in 2s from 20? (count back from 10 if the pupil was unable to count past 10 in the previous question)</p> <p>Can you count in 2s from 8? (Stop at 20)</p>	<p>Number counted to:</p> <p>Counting fluent?</p> <p>Requested concrete materials? Yes/No</p> <p>Strategies used:</p>



	Can you count back in 2s from 16? (Count back from 8 if the pupil is unable to count in 2s past 10)	
Count forwards and back in steps of 5	<p>Can you count in 5s from 0 to 50?</p> <p>Can you count back in 5s from 50?</p> <p>Can you count in 5s from 15? (Stop at 50)</p> <p>Can you count back in 5s from 40? (if the pupil was unable to count to 50 in the previous question ask them to count back in 5s from the largest number gave accurately)</p>	<p>Number counted to:</p> <p>Counting fluent?</p> <p>Requested concrete materials? Yes/No</p> <p>Strategies used:</p>
<b>Knowledge and Skills 4.3 Odd and even numbers</b>		
Odd and even numbers	<p>Place number cards 1-9 on the table.</p> <p>Can you show me an even number?</p> <p>Can you show me an odd number?</p> <p>Can you show me all the odd numbers?</p> <p>Can you show me all the even numbers?</p> <p>Repeat above but with number cards 10-20</p>	<p>Circle: quick / slow response</p> <p>Comments:</p>
<b>Knowledge and Skills 4.4 Doubles and Halves</b>		
Understanding halves	<p>Place 6 counters on the table</p> <p>Can you give me half the counters?</p> <p>What is half of 4?</p> <p>What is half of 10?</p> <p>What is half of 16?</p> <p>Can you write how we write <math>\frac{1}{2}</math> in our maths book on the whiteboard?</p>	<p>Does the pupil share the counters between 2 groups?</p> <p>The pupil able to group half of the counters straight away without sharing?</p> <p>Does the pupil use the counters?</p> <p>Does the pupil ask for more counters?</p>
Understanding doubles	<p>Place 10 counters on the table and move 4 counters in front of the pupil</p> <p>Can you double the number of counters?</p> <p>What is double 3?</p> <p>What is double 6?</p>	<p>Comment:</p> <p>Circle: counters/mental</p>

	What is double 14? What is double 20? What is double 25? What is double 50? What is double 100?	
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# Strand 5: Calculating



Progress Tracker - Strand 5	Baseline	Review 1	Review 2	Review 3
Addition within 10 (5.1)	Date: CPA	Date: CPA	Date: CPA	Date: CPA
Addition within 20 (5.1)	Date: CPA	Date: CPA	Date: CPA	Date: CPA
Addition within 100 (5.1)	Date:	Date:	Date:	Date:
Addition within 1000 (5.1)	Date:	Date:	Date:	Date:
Subtraction within 10 (5.2)	Date: CPA	Date: CPA	Date: CPA	Date: CPA
Subtraction within 20 (5.2)	Date: CPA	Date: CPA	Date: CPA	Date: CPA
Subtraction within 100 (5.2)	Date:	Date:	Date:	Date:
Subtraction within 1000 (5.2)	Date:	Date:	Date:	Date:
Inverse (5.3)	Date:	Date:	Date:	Date:
Application of multiplication (5.4)	Date:	Date:	Date:	Date:
Application of division (5.5)	Date:	Date:	Date:	Date:

## Approaches and strategies

Use concrete materials that a pupil can have access to in class so they are familiar with it and can transfer learning.	
Make links between areas of number and number facts explicit - use phrases such as 'If you know .....then you know.'	
Holding onto numbers while calculating can be challenging so encourage jotting.	
Use maths graphic organisers to help pupils organise their thinking when solving word problems.	
Try using colour coding to make formal calculation procedures more memorable.	

## 5. Calculating Use pupil booklet and uncover one question at a time.

### Knowledge and Skills

### 5.1 Addition

Activity	Task and Question	Responses and Observations Strengths/Difficulties/Strategies used
<p>Addition within 10</p> <p>You need:</p> <p>Pencil, Pupil number booklet (p.2), Card to cover questions and reveal one by one as required.</p> <p>Note:</p> <p><b>C</b> - familiar concrete materials</p> <p>e.g.</p>  <p><b>P</b>- pictorial could be :</p>  <p><b>A</b> -Abstract - written numbers/ mental methods</p> <p>.....</p> <p>Addition within 20</p> <p>(<b>Only</b> move to this number range if successful within 10 and able to work within the abstract level at least some of the time.)</p> <p>Blue Pupil Booklet (p. 3)</p> <p>.....</p>	<p>a. <math>7 + 3</math></p> <p>Solve this using one of these resources. (Offer pupil small selection of concrete materials= C)</p> <p>b. <math>4 + 5</math></p> <p>Show me how you would solve this using this number line. (P)</p> <p>c. <math>3 + 6</math></p> <p>Solve this in the quickest way you can. (ask how the pupil solved it if not obvious)</p> <p>d/e/f. Solve these missing number questions using a method that works for you.</p> <p>g. Ask the pupil to read the question aloud (if they struggle/you know they have a low reading age) read it for them. ) Solve this in a way that works well for you.</p> <p>.....</p> <p>a. <math>13 + 6</math></p> <p>Solve this using one of these resources. (Offer pupil small selection of concrete materials= C)</p> <p>b. <math>3 + 14</math></p> <p>Show me how you would solve this using this number line. (P)</p> <p>c. <math>15 + 4</math></p> <p>Solve this in the quickest way you can. (ask how the pupil solved it if not obvious)</p> <p>d/e/f. Solve these missing number questions using a method that works for you.</p> <p>g Solve this in a way that works well for you. (Read for the pupil if required.)</p>	<p>Preferred concrete material:</p> <p>Circle level pupil is working at within this number range: Concrete / Pictorial / Abstract (CPA)</p> <p>Missing numbers:</p> <p>Able to read the question? - Y/N</p> <p>C/P/A (circle)</p> <p>.....</p> <p>Which number does the pupil start counting from?</p> <p>C/P/A (circle)</p> <p>C/P/A (circle)</p>

<p>Addition within 100 (<b>Only</b> move to this number range if successful within 20 and able to work at the abstract level at least some of the time.) Blue Pupil Booklet (p. 4)</p> <hr/> <p>Addition 0-999 (<b>Only</b> move to this number range if successful within 100 and able to work at the abstract level at least some of the time.) Blue Pupil Booklet (p. 4)</p>	<p>a. <math>28 + 5</math> Solve this in a way that works well for you.</p> <p>b. <math>34 + 53</math> Solve this in a way that works well for you.</p> <p>c. <math>56 + 27</math> Solve this in a way that works well for you.</p> <p>d. Solve this in a way that works well for you.</p> <hr/> <p>a. <math>413 + 26</math> Can you write this out this sum set out in columns - use the squared paper to help you. Can you answer it now? (If the pupil has written it out incorrectly note and write it out for them to solve.)</p> <p>b. <math>645 + 17</math> Write out this sum in columns and solve it. (Write out for pupil if they had difficulties in a.)</p>	<p>C/P/A (circle) Bridging through 10 - Y/N</p> <p>Bar modelling? Formal methods/concrete/pictorial</p> <hr/> <p>Able to set out sum correctly? Y/N</p>
<p><b>Knowledge and Skills</b></p>		<p><b>5.2 Subtraction</b> Use pupil booklet and uncover one question at a time.</p>
<p>Subtraction within 10</p> <p>Complete as for addition above.</p> <p>Blue Pupil Booklet (p. 5)</p>	<p>a. <math>8 - 3</math> Solve this using (offer small selection of concrete materials= C)</p> <p>b. <math>7 - 4</math> Show me how you would solve this using this number line. (P)</p> <p>c. <math>6 - 2</math> Solve this in the quickest way you can. (ask how the pupil solved it if not obvious)</p> <p>d/e/f. Solve these missing number questions using a method that works for you.</p> <p>g. Solve this in a way that works well for you. (Read aloud for pupil if needed.)</p>	<p>Preferred concrete material:</p> <p>Circle level the pupil is working at within this number range: Concrete / Pictorial / Abstract (CPA)</p> <p>Missing numbers:</p> <p>Method used:</p>

<p>.....</p> <p>Subtraction within 20</p> <p>(<b>Only</b> move to this number range if successful within 10 and able to work within the abstract level at least some of the time.)</p> <p>Blue Pupil Booklet (p. 6)</p>	<p>.....</p> <p>a. 14 - 7 Solve this using (offer small selection of concrete materials= C)</p> <p>b. 13 - 6 Show me how you would solve this using this number line. (P)</p> <p>c. 18 - 5 Solve this in the quickest way you can. (ask how the pupil solved it if not obvious)</p> <p>d/e/f. Solve these missing number questions using a method that works for you.</p> <p>g. Solve this in a way that works well for you. (Read for pupil if required.)</p>	<p>.....</p> <p>Count back/count on method?</p> <p>.....</p>
<p>.....</p> <p>Subtraction within 100</p> <p>(<b>Only</b> move to this number range if successful within 20 and able to work at the abstract level at least some of the time.)</p> <p>Blue Pupil Booklet (p. 7)</p>	<p>.....</p> <p>a. 37 - 9 Solve this in a way that works well for you.</p> <p>b. 28 - 12 Solve this in a way that works well for you.</p> <p>c. 23 - 17 Solve this in the quickest way you can. (ask how the pupil solved it if not obvious)</p> <p>d. Solve this in a way that works well for you. (Read for pupil if required.)</p>	<p>.....</p> <p>Bar modelling? Formal methods/concrete/pictorial</p> <p>.....</p>
<p>.....</p> <p>Subtraction 0-999</p> <p>(<b>Only</b> move to this number range if successful within 100 and able to work at the abstract level at least some of the time.)</p> <p>Blue Pupil Booklet (p. 7)</p>	<p>.....</p> <p>a. 678 - 26 Can you write this sum set out in columns - use the squared paper in the booklet to help you. Can you answer it now? (If the pupil has written it out incorrectly note and write it out for them to solve.)</p> <p>b. 678 - 39 Write out this sum in columns and solve it. (Write out for pupil if they had difficulties in a.)</p>	<p>.....</p> <p>Able to set out sum correctly? Yes/No</p>

Knowledge and Skills		5.3 Addition and Subtraction Inverses Use pupil booklet and uncover one question at a time
Commutative law with addition sums Addition and subtraction inverse of each other. Blue Pupil Booklet (p. 8)	Using just these numbers how many sums can you make? What do you notice about any of these sums you have written?	Able to write inverse? $4 + 3 = 7$ / $3 + 4 = 7$ / $7 - 3 = 4$ / $7 - 4 = 3$ (circle ) Sums written like: $7 = 3 + 4$ are also correct
Knowledge and Skills		5.4 Multiplication Use pupil booklet and uncover one question at a time
Using strategies to solve a multiplication sum. Applying multiplication skills in a word problem. Blue Pupil Booklet (p. 8)	a. $4 \times 7$ Can you answer this? If you don't just know it, can you think how you could work it out? b. Solve this in a way that works well for you.	Known fact? Strategies to work out answer?
Knowledge and Skills		5.5 Division Use pupil booklet and uncover one question at a time
Using strategies to solve a division sum. Blue Pupil Booklet (p. 8)	a. $24 \div 4$ Can you answer this? If you don't just know it, can you think how you could work it out?	Using multiplication tables? Sharing /grouping/ drawing /concrete material?
Sharing	b. Solve this in a way that works well for you.	
Grouping	c. Solve this in a way that works well for you	
Remainders	d. Solve this in a way that works well for you	