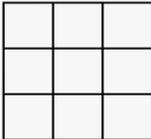


BONDING WITH NUMBERS

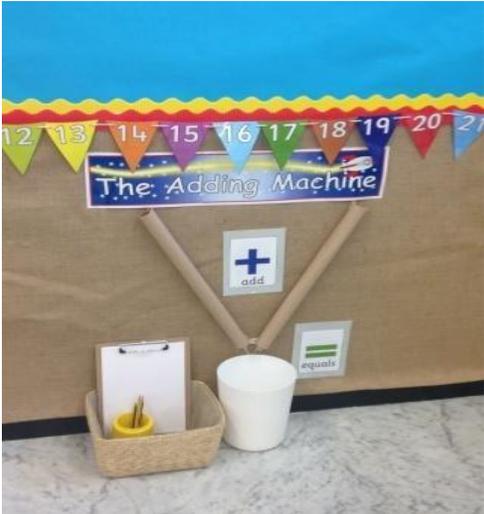
Ages 4 to 5 (Level 1)

Description:	Learners will Play & design his/her games to grasp the concept of number bonds (1-10) while learning simple addition up to 10.
Leading question:	"Can you use numbers to create other numbers?"
Age group:	4-5
Subjects:	Math, English
Total time required:	4 days, 1 hour per day
Self-guided / Supervised activity:	Parents supervision – high
Resources required:	Cardboard, paper, glue or tape, pencil, scissors, colors, any container, rectangular shaped household item, item with straight edge or ruler, plate (paper or plastic), counters (buttons ,beans, stones)

Day	Time	Activity and Description
1	10 minutes	<p>Learners will learn simple addition up to 5 & number bonds for numbers 3-5</p> <p>Introduction: Facilitator introduces part of the whole: Facilitator/parent asks learner to say or draw part of the following: 1. Tree, 2. Bed, 3. T-shirt</p> <p>Facilitator explains that tree is the whole and the leaf is a part of it, bed is the whole and a leg is a part of it, and t-shirt is a whole and a sleeve is a part of it</p>
	15 minutes	<p>Bingo: Learners play bingo with parents/siblings to review numbers 1-20. Ask learners to draw a 3x3 grid of squares like the one shown below with the help of an adult on cardboard or on the sand. Each player must have a 3x3 grid with 9 different numbers from 1-20 and a pencil. They can use their finger if the grid is done on sand).</p>  <p>Parents will call out a number and if that number is on the players' bingo sheet, then they should cross it out, a player gets bingo (wins) when they cross out all the numbers in a horizontal, vertical, or diagonal line.</p> <p>Introduction to Addition:</p>

15 minutes	<p>Learner draws a table with help of an adult using counters (anything can be used as a counter - stone, sticks, pencils, or any household items)</p> <p>To discover the sum of two numbers (from 1-5)</p> <table border="1" data-bbox="431 422 1365 699"> <thead> <tr> <th>First number of counters (count)</th> <th>Second number of counters (count)</th> <th>Count of the counters of the first column and second column together</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1</td> <td>1+1=2</td> </tr> <tr> <td>1</td> <td>2</td> <td>1+2=3</td> </tr> <tr> <td>1</td> <td>3</td> <td>1+3=4</td> </tr> <tr> <td>1</td> <td>4</td> <td>1+4=5</td> </tr> </tbody> </table> <p>Learners can do the same activity using their fingers with each hand representing one of the two columns of the table above. Learners will use their fingers to represent the number of each object and then count all the raised fingers to find the total.</p>	First number of counters (count)	Second number of counters (count)	Count of the counters of the first column and second column together	1	1	1+1=2	1	2	1+2=3	1	3	1+3=4	1	4	1+4=5			
First number of counters (count)	Second number of counters (count)	Count of the counters of the first column and second column together																	
1	1	1+1=2																	
1	2	1+2=3																	
1	3	1+3=4																	
1	4	1+4=5																	
15 minutes	<p>Introduction to number bond: Ask learners to draw 3 people – person 1 is themselves, person 2 is their father, and person 3 is their mother. Next, the learner will get 4 counters and write the number 4 next to them. Imagine they have 4 counters and had to split them between their mother and father – in how many ways can they divide this number? e.g. if the father has 1 stone, the mother will have 3.</p> <p>Draw a table to record the results</p> <table border="1" data-bbox="431 1194 1373 1442"> <thead> <tr> <th>I had</th> <th>I gave my mother</th> <th>I gave my father</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>1</td> <td>3</td> </tr> <tr> <td>4</td> <td>2</td> <td>2</td> </tr> <tr> <td>4</td> <td>3</td> <td>1</td> </tr> <tr> <td>4</td> <td>0</td> <td>4</td> </tr> <tr> <td>4</td> <td>4</td> <td>0</td> </tr> </tbody> </table> <p>Learners understand that there are different ways to form the number 4. Combinations include: (1, 3), (2, 2), (3,1), (0,4) etc. Explain that 4 is whole and 1,2, and 3 are parts of this number. Ask learners to repeat the same activity for number 3, 5 and find out how many ways that we can form those numbers. Number bond for 3: (1,2), (2,1), (3,0), (0,3) Number bond for 5: (1,4), (2,3), (3,2), (4,1), (5,0), (0,5) Or use the worksheets in the appendix. Explain that 5 is the whole and 1 is a part, 2 is a part etc.</p>	I had	I gave my mother	I gave my father	4	1	3	4	2	2	4	3	1	4	0	4	4	4	0
I had	I gave my mother	I gave my father																	
4	1	3																	
4	2	2																	
4	3	1																	
4	0	4																	
4	4	0																	
2	Learners will create number bonds for numbers 6 & 7																		

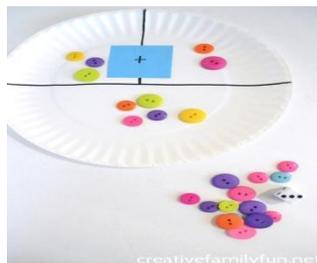
15 minutes	<p>Literacy activity :</p> <p>Ask learners to:</p> <ol style="list-style-type: none"> 1. Trace and write the new vocabulary from day 1 activities <ol style="list-style-type: none"> a. Square b. Tree c. Bed d. Shirt 2. Use those words in sentences. e.g., the shape of my window is a square. 																								
10 minutes	<p>Make a group number game:</p> <p>Learners will play this game with family members /friends:</p> <ul style="list-style-type: none"> - Players walk around in a circle while clapping - An adult will shout “Make a group of 3”, and players must quickly try to get into a group of that number - The players who do not get into the group or are extra in a group are out - Players can repeat the game to make groups of 2,3 & 5 depending on the number of players 																								
20 minutes	<p>Learners will repeat the same activity on day 1 to discover the number bonds for numbers 6 & 7:</p> <p>For example the table for number bonds of 6 will be</p> <table border="1" data-bbox="431 989 1373 1318"> <thead> <tr> <th>I had</th> <th>I gave my mother</th> <th>I gave my father</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>1</td> <td>5</td> </tr> <tr> <td>6</td> <td>2</td> <td>4</td> </tr> <tr> <td>6</td> <td>3</td> <td>3</td> </tr> <tr> <td>6</td> <td>4</td> <td>2</td> </tr> <tr> <td>6</td> <td>5</td> <td>1</td> </tr> <tr> <td>6</td> <td>6</td> <td>0</td> </tr> <tr> <td>6</td> <td>0</td> <td>6</td> </tr> </tbody> </table> <p>Number bonds for 6: (1,5), (2,4), (3,3), (4,2), (5,1), (6,0), (0,6). The whole is 6 and parts are 1, 2, 3, 4, 5, 0.</p>	I had	I gave my mother	I gave my father	6	1	5	6	2	4	6	3	3	6	4	2	6	5	1	6	6	0	6	0	6
I had	I gave my mother	I gave my father																							
6	1	5																							
6	2	4																							
6	3	3																							
6	4	2																							
6	5	1																							
6	6	0																							
6	0	6																							
15 minutes	<p>Number card game:</p> <ul style="list-style-type: none"> - Learners use any household items shaped like a rectangle (e.g. a small item like a phone) to draw a rectangle on cardboard or paper - Use the cutout to cut 28 rectangles in total with the help of an adult - Learners will write number 7 on two cards, number 6 on two cards, and all numbers from 0-5 on the remaining cards. There should be 4 cards for each number from 0-5 - All players sit in a circle with the deck of cards placed in the middle - Learners will mix all cards and place them face up - An adult says: “collect two cards whose numbers together create number 6”. Each player must quickly take two cards and say the number bond out loud. For example, a player picks up 2 and 4 and shouts “2, 4”! 																								

		<ul style="list-style-type: none"> - The fastest player will get 3 points, the second fastest will get 2 points, and the third fastest will get 1 point - Repeat the game for a couple of rounds. Record the points at the end of each round for each player 			
3	<p>20 minutes</p> <p>20 minutes</p>	<p>Learners will learn simple addition up to 10 and create number bonds for numbers 8 & 9</p> <p>Ask learners to create their own game to form numbers 2 to 7 with help of an adult. The game could be for one number bond (e.g only for number 3) or for multiple numbers bonds for more than one number. Learners will play their game with family members/friends. Domino blocks can also be used instead of cards or counters.</p> <p>Addition machine activity: Learners create an addition machine with the help of an adult using two tubes or large pieces of paper</p> <ul style="list-style-type: none"> - Fold the two pieces of paper to create a cylindrical shape and glue the two cylinders on the wall making sure that they are touching on one end, creating a V-shape - Underneath the two tubes, place a bucket or container. (See the image below or the appendix for other ideas on how to create addition machines) - Learners pass a number of counters or stones through the tubes. For example, 4 stones pass through the first tube and 3 stones through the second tube. Learners will then count the total number of counters in the container (which will be 7 in our example). - Repeat the activity with a different number of counters  <ul style="list-style-type: none"> - Learners will record their results in a table: <table border="1" data-bbox="430 1791 1377 1864"> <tr> <td>Number of counters in tube 1</td> <td>Number of counters in tube 2</td> <td>Number of counters in the container (tube 1 + tube 2)</td> </tr> </table>	Number of counters in tube 1	Number of counters in tube 2	Number of counters in the container (tube 1 + tube 2)
Number of counters in tube 1	Number of counters in tube 2	Number of counters in the container (tube 1 + tube 2)			

		<table border="1"> <tr> <td>4 counters</td> <td>2 counters</td> <td>6</td> </tr> <tr> <td>.....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table> <p>Through the activity above, learners will understand how to add two numbers (up to 10).</p> <p>Learners will repeat the same activity from day 1 to discover the number bonds of numbers 8 & 9.</p> <p>For example the table for number bonds of 8 will be</p> <table border="1"> <thead> <tr> <th>I had</th> <th>I gave my mother</th> <th>I gave my father</th> </tr> </thead> <tbody> <tr><td>8</td><td>1</td><td>7</td></tr> <tr><td>8</td><td>2</td><td>6</td></tr> <tr><td>8</td><td>3</td><td>5</td></tr> <tr><td>8</td><td>4</td><td>4</td></tr> <tr><td>8</td><td>5</td><td>3</td></tr> <tr><td>8</td><td>6</td><td>2</td></tr> <tr><td>8</td><td>7</td><td>1</td></tr> <tr><td>8</td><td>8</td><td>0</td></tr> <tr><td>8</td><td>0</td><td>8</td></tr> </tbody> </table> <p>Number bonds for 8: (1,7), (2,6), (3,5), (4,4), (5,3), (6,2), (7,1), (8,0), (0,8)</p>	4 counters	2 counters	6				I had	I gave my mother	I gave my father	8	1	7	8	2	6	8	3	5	8	4	4	8	5	3	8	6	2	8	7	1	8	8	0	8	0	8
4 counters	2 counters	6																																							
.....																																							
I had	I gave my mother	I gave my father																																							
8	1	7																																							
8	2	6																																							
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8	5	3																																							
8	6	2																																							
8	7	1																																							
8	8	0																																							
8	0	8																																							
4	<p>10 minutes</p> <p>15 minutes</p>	<p>Learners will create number bonds for number 10 & add up to 10 using a paper plate & counters.</p> <p>Ask learners to reflect on what they have learned over the last 3 days:</p> <ul style="list-style-type: none"> - What did you learn in the last 3 days? - Which part did you enjoy? - Which part did you find difficult? - What are some number parts of number 5? List at least two parts - What are parts of number 8? List at least two parts <p>Paper plate activity for addition up to 10:</p> <ul style="list-style-type: none"> - Materials: paper plates, one or two dice, counters (any small objects buttons, stones, leaves, sticks etc.). You can also use a round piece of regular paper - With the help of an adult, the learner will draw a line across the centre of the plate using any item that has a straight edge to divide it into two equal parts. Next draw a line to divide the top part into half again. - Draw a plus sign “+” between the smaller halves (quarters). 																																							



- Roll the die. Place a number of counters in the first section of the plate equal to the number you got when you rolled the die. Roll the die again. Place that number of counters in the second section.
- Add the two sections together and put the correct number of buttons in the bottom half of the plate.
- Remove the buttons and play again.

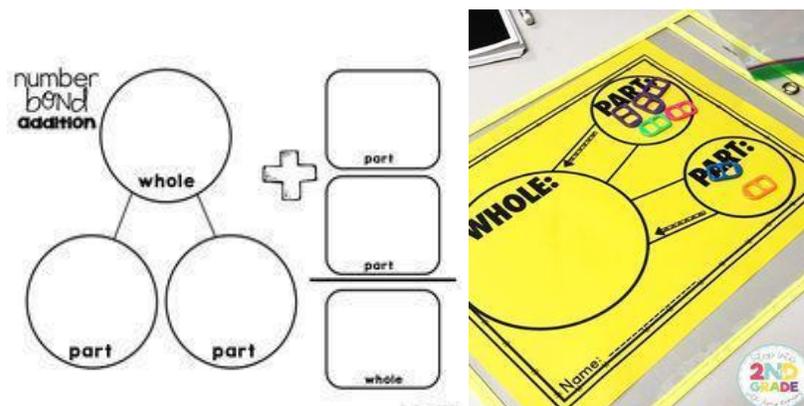


15
minutes

Learners will repeat the same activity from day 1 to discover the number bonds for number 10.

The whole is 10 and the parts are 1, 2, 3, 4, 5, 6, 7, 8 & 9. Learners can complete the worksheet in the appendix.

Ask the learner to create a poster using drawing to explain number bonds for his/her favorite number using the words whole & part. Ask learners to be creative and use different materials. Refer to the appendix for more ideas.



	20 minutes	Learners share their poster with family members and explain how to form numbers using number bonds and the difference between a whole and a part.
Assessment Criteria:		<ol style="list-style-type: none"> 1. Adding numbers up to 10 accurately 2. Creativity in designing number bond poster 3. Recognizing number bonds of numbers 1-10 accurately

Learning outcomes:	<p>Learner will be able to</p> <ul style="list-style-type: none"> - Add numbers and the sum is up to 10 - Recognize the number bonds for all numbers 1-10
Required previous learning:	Count numbers up to 10
Inspiration:	<p>https://www.pinterest.com.au/pin/69383650497554114/ https://creativefamilyfun.net/paper-plate-addition-game/</p>
Additional enrichment activities:	Learner can find out the number bonds of number 11-20

DAY 1

<https://www.pinterest.com.au/pin/69383650497554114/>

Number Bonds for 3, 4 & 5
Fill in the missing number to complete the number bonds.

Name _____

Apple Addition

  $2 + 3 = \underline{\quad}$	  $1 + 4 = \underline{\quad}$
 $4 + 0 = \underline{\quad}$	  $3 + 1 = \underline{\quad}$
  $2 + 2 = \underline{\quad}$	  $3 + 2 = \underline{\quad}$
  $4 + 1 = \underline{\quad}$	  $1 + 2 = \underline{\quad}$

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DAY 2

<https://www.pinterest.com.au/pin/69383650497554114/>

NUMBER BONDS: 7
Fill in the missing numbers

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

FILL IN THE MISSING PART

6	6	6
0		1
6	6	6
3		4
6	6	6
6		2
6	6	6
6		3

DAY 3

<https://www.pinterest.com.au/pin/69383650497554114/>

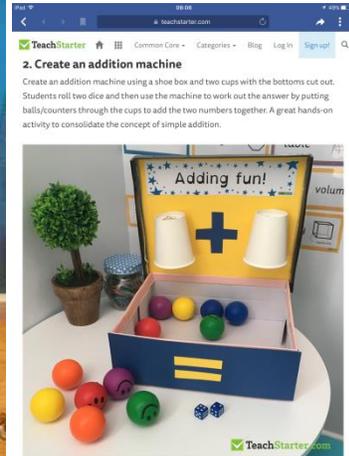
Name: _____

Number Bonds to 8

Is nine EVEN or ODD?
Color brown if even
and green if odd.

Can you show what 9 looks like
in a 10 frame?

Complete the clover leaf number bonds below.
The top leaf is the total, and the left and right leaves are parts of the total.



DAY 4

<https://www.pinterest.com.au/pin/27232772735371575/>

Name: _____

Domino Addition Up to 10

INSTRUCTIONS: Count and write how many dots are on each half of the domino. Next, add the numbers together to discover the total number of dots on each domino.

 $\underline{\quad} + \underline{\quad} = \square$	 $\underline{\quad} + \underline{\quad} = \square$
 $\underline{\quad} + \underline{\quad} = \square$	 $\underline{\quad} + \underline{\quad} = \square$
 $\underline{\quad} + \underline{\quad} = \square$	 $\underline{\quad} + \underline{\quad} = \square$

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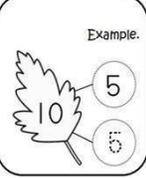
Name _____

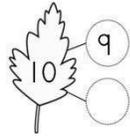
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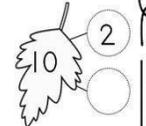
Leafy Number Bonds

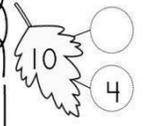
Write the missing numbers.

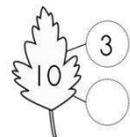
Example.

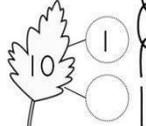








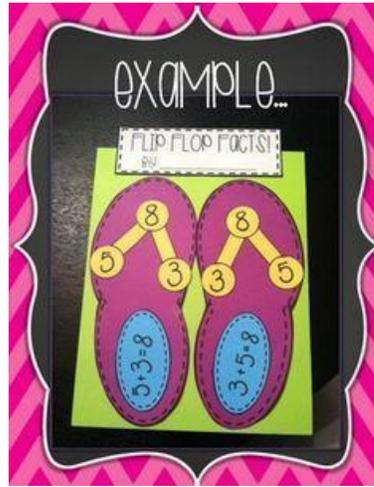
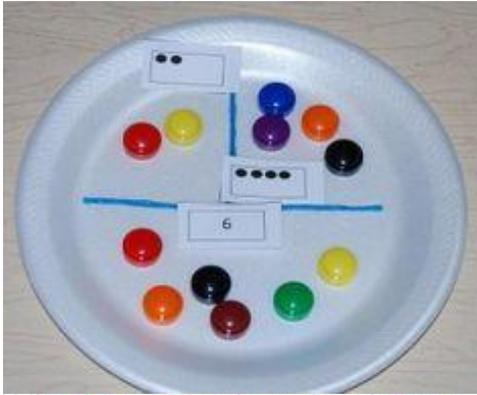




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Samples of posters to show number bonds



NUMBER BOND

$6+3=9$	9	$9-3=6$
$3+6=9$	whole/sum	$9-6=3$
6		3
part/addend		part/addend

Part-Part-Whole

