



Addition

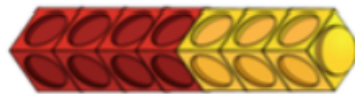
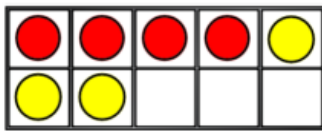
Addition – Stage 1

Add with numbers up to 20

1. Number

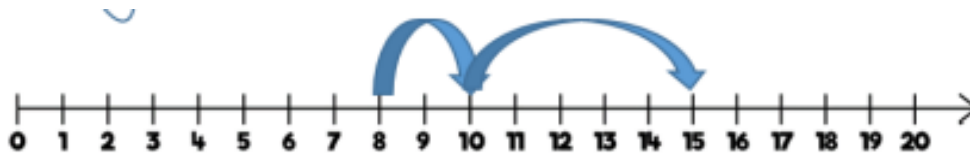
$$4 + 3 = 7$$

2. Concrete

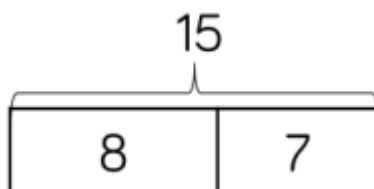


3. Number lines

$$8 + 7 = 15$$



4. Bar models



5. Partitioning number

$$8 + 7 = 15$$

Key vocabulary

Add, more, plus, and, make, altogether, total, equal to, equals, the same as, double, most, count on, number line.



Addition – Stage 2

Developing mental fluency with addition and place value involving 2-digit numbers, then establish more formal methods.

1. Mental addition: $23 + 36 = 59$

$$23 + 36 = 59$$

$$23 + 30 = 53 \text{ (add tens in head)}$$

$$53 + 6 = 59 \text{ (add units/ones in head) } 54, 55, 56, 57, 58, 59$$

2. Mental addition crossing tens boundary: $27 + 34 = 61$

$$27 + 34 = 61$$

$$27 + 30 = 57$$

$$57 + 4 = 61 \text{ (add units/ones in head) } 58, 59, 60, 61$$

Key vocabulary

Add, more, plus, and, make, altogether, total, equal to, equals, the same as, double, most, count on, number line, sums, tens, ones, partition, addition, column, tens boundary.



Addition – Stage 2

Developing mental fluency with addition and place value involving 2-digit numbers, then establish more formal methods.

1. Recording partitioning and recombining

T	O	+	T	O	=	T	O
3	7	+	4	2	=	7	9
3	0	+	4	0	=	7	0
	7	+		2	=		9
7	0	+		9	=	7	9

2. Recording partitioning and recombining with bridging

T	O	+	T	O	=	T	O
4	8	+	3	3	=	8	1
4	0	+	3	0	=	7	0
	8	+		3	=	1	1
7	0	+	1	1	=	8	1

1. Short partitioning and recombining

2	3	+	3	8	=		
5	0	+	1	1	=	6	1

2. Partition one number

2	3	+	3	6	=		
5	3	+		6	=	5	9

Key vocabulary

Add, more, plus, and, make, altogether, total, equal to, equals, the same as, double, most, count on, number line, sums, tens, ones, partition, addition, column, tens boundary.



Addition – Stage 3

Add numbers with up to 3 digits using the formal written method of columnar addition.

1. Expanded column addition

TO + TO with brackets

	6	3		
+	3	6		
<hr/>				
	9	(3 + 6)		
	9	0	(60 + 30)	
<hr/>				
	9	9		
<hr/>				

TO + TO

	7	8	
+	4	3	
<hr/>			
	1	1	
1	1	0	
<hr/>			
1	2	1	
<hr/>			

HTO + HTO

	3	9	7
+	2	4	3
<hr/>			
		1	0
	1	3	0
<hr/>			
	5	0	0
<hr/>			
	6	4	0
<hr/>			

2. Compact column addition

No carrying

	3	4	2
+	2	1	3
<hr/>			
	5	5	5
<hr/>			

Carrying

	4	6	9
+	1	4	2
<hr/>			
	6	1	1
<hr/>			

Cross out 1 after use

Addition – Stage 3

Add numbers with up to 3 digits using the formal written method of columnar addition.

1. Compact addition

$$24 + 13 =$$

	T	O	
	2	4	
+	1	3	

Tens	ones

1. First add units/ones

	T	O	
	2	4	
+	1	3	
		7	$4 + 3 = 7$ ones

Tens	ones

2. Then add the tens

	T	O	
	2	4	
+	1	3	
	3	7	$2 + 1 = 3$ tens

Tens	ones

So, $24 + 13 = 37$

2. Column addition with regrouping

$$24 + 17 =$$

	T	O
	2	4
+	1	7
<hr/>		

Tens	Units/ones

1. First add units/ones

	T	O
	2	4
+	1	7
<hr/>		
		1
	1	

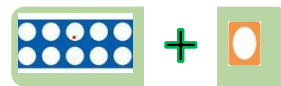
Tens	Units/ones

Regroup the units

11 ones = 1 ten and 1 one

2. Then add the tens

	T	O
	2	4
+	1	7
<hr/>		
	4	1
	1	



Tens	Units/ones

Cross out 1 after use

Key vocabulary

Add, more, plus, and, make, altogether, total, equal to, equals, the same as, double, most, count on, number line, sum, tens, ones, partition, plus, addition, column, tens boundary, hundreds boundary, increase, vertical, carry, expanded, compact.



Addition – Stage 4

(Compact Column Addition) -Add numbers with up to 4 digits using the formal written method of columnar addition where appropriate.

1. THHTO +THHTO

	TH	H	T	O
	7	4	9	5
+	1	6	4	5
	9	1	4	0
	1	1	1	

2. Mixed amount of digits

	TH	H	T	O
	2	4	7	8
+		4	3	6
	2	9	1	4
		1	1	

Cross out 1 after use

Key vocabulary

Add, more, plus, and, make, altogether, total, equal to, equals, the same as, double, most, count on, number line, sum, tens, ones, partition, plus, addition, column, tens boundary, hundreds boundary, increase, vertical, carry, expanded, compact, thousands, hundreds, digits, inverse.



Addition – Stage 5

(Compact Column Addition) -Add whole numbers with more than 4 digits, using the formal written method of columnar addition, including money, measures and decimals with different numbers of decimal places.

1. 5 digits

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

Cross out 1 after use

2. Mixed amount of digits

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

Add place holder

3. Adding decimals

	2	8	·	2	9
	4	3	·	9	1
	7 2 · 2 0				
	1	1		1	

Key vocabulary

Add, more, plus, and, make, altogether, total, equal to, equals, the same as, double, most, count on, number line, sum, tens, ones, partition, plus, addition, column, tens boundary, hundreds boundary, increase, 'carry', expanded, compact, vertical, thousands, hundreds, digits, inverse, decimal places, decimal point, tenths, hundredths, thousandths, integer.



Addition – Stage 6

(Compact Column Addition) - Add several numbers of increasing complexity including whole numbers with more than 4 digits, including the use of formal written method of columnar addition.

1. Increasingly larger numbers

	3	2	6	5	6	8
+		9	4	7	5	8
	4	2	1	3	2	6
		<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>

Cross out 1 after use

2. Adding decimals with mixed amount of digits

	1	7	.	2	8	0
+	3	4	.	9	3	4
	5	2	.	2	1	4
		<i>1</i>	<i>1</i>	<i>1</i>		

Add place holder

Key vocabulary

Add, more, plus, and, make, altogether, total, equal to, equals, the same as, double, most, count on, number line, sum, tens, ones, partition, plus, addition, column, tens boundary, hundreds boundary, increase, 'carry', expanded, compact, vertical, thousands, hundreds, digits, inverse, decimal places, decimal point, tenths, hundredths, thousandths, integer.