Year 2 Addition and Subtraction

Prior Knowledge (from Y1)
Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs
Represent and use number bonds and related subtraction facts within 20
Add and subtract one-digit and two-digit numbers to 20, including 0
Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ? - 9

| addition and subtraction		Working Towards	Within	Expected	Above
+ −	Solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures				
	Solve problems with addition and subtraction applying increasing knowledge of mental and written methods				
	Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: -a two-digit number and 1s -a two-digit number and 10s -2 two-digit numbers -adding 3 one-digit numbers				
	Show that addition of 2 numbers can be done in any order (commutative) and subtraction of one number from another cannot				
	Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems				

Highlights: _____

_____

Glossary

vocabulary	word class	definition
addition +	noun	the process of calculating the total of two or more numbers or amounts
add +	verb	put together (two or more numbers or amounts) to calculate their total value
subtraction -	noun	the process of taking a matrix, vector, or other quantity away from another under specific rules to obtain the difference
subtract -	verb	take away (a number or amount) from another to calculate the difference
equal (to) =	adjective	being the same in quantity, size, degree, or value
commutative	*adjective*	*involving the condition that a group of quantities connected by operators gives the same result whatever the order of the quantities involved, e.g. a × b = b × a*
inverse	*noun*	*a reciprocal quantity, mathematical expression, geometric figure, etc. which is the result of inversion*
calculation	*noun*	*a mathematical determination of the amount or number of something*

add
altogether   sum
and   plus
total

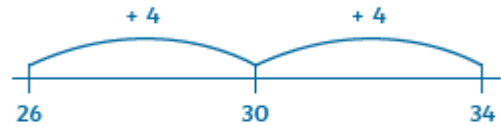minus
take away   subtract
difference   less

equals
makes

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
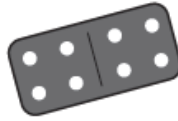
Empty Number Lines

Use for adding a 2 digit number with single digit number.

$26 + 8 = ?$

+ 4 · + 4

26 · 30 · 34

$26 + 8 = 34$

Use for adding a 2 digit number with a multiple of 10.

$42 + 30 = ?$
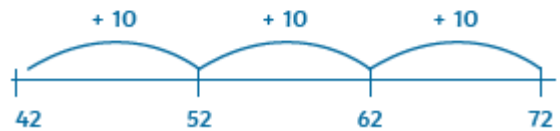
+ 10 · + 10 · + 10

42 · 52 · 62 · 72

$42 + 30 = 72$

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Addition and Subtraction Bonds to 20

20 / 15 · 5

$15 + 5 = 20$
$20 - 5 = 15$
$20 - 15 = 5$

12 / 7 · 5

$7 + 5 = 12$
$12 - 5 = 7$
$12 - 7 = 5$

$4 + 3 = 7$

-7

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
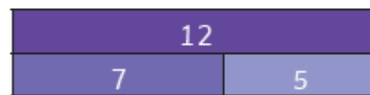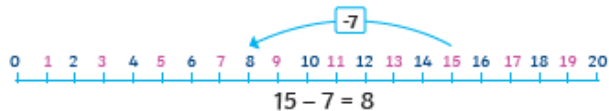
$15 - 7 = 8$

Methods

Add 2-digit and 1-digit

+1 +1 +1 +1 +1 +1
27 28 29 30 31 32 33

$27 + 6 = 33$

+1 +1 +1 +3
27 28 29 30 31 32 33

Tens	Ones
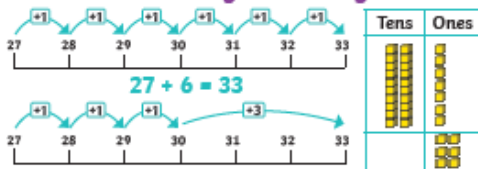
Subtract 1-digit from 2-digit

-1 -1 -1 -1 -1 -1
27 28 29 30 31 32 33

$33 - 6 = 27$

-1 -1 -1 -3
27 28 29 30 31 32 33

Tens	Ones

Add 2-digit numbers

$34 + 28 = 62$

3 tens and 4 ones

add

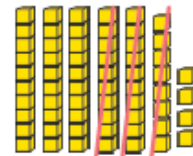2 tens and 8 ones

equals

5 tens and 12 ones

becomes

6 tens and 2 ones

Subtract 2-digit numbers

$62 - 28 = 34$

6 tens and 2 ones becomes

5 tens and 12 ones subtract

2 tens and 8 ones equals

3 tens and 4 ones

Addition and Subtraction Bonds to 100

$2 + 8 = 10$
so $20 + 80 = 100$

$32 + 68 = 100$
3 tens and 2 ones + 6 tens and 8 ones
= 9 tens and 10 ones = 10 tens = one hundred

Mental Methods

Compare Number Sentences

6 + 4 < 6 + 5

5 + 3 = 6 + 2

Related facts

5 + 4 = 9 so 50 + 40 = 90

Add 3 1-digit numbers

9 + 5 + 3 = 17

More or Less/ Add and Subtract 1s and 10s

Add and subtract 1s

24 + 1 = 25

24 + 2 = 26

24 + 3 = 27

| 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |

37 − 1 = 36

37 − 2 = 35

37 − 3 = 34

| 33 | 34 | 35 | 36 | 37 | 38 |

There are 7 flowers in a vase. One more is added. Now there are 8 flowers.

10 More or Less

| 30 | 40 | 50 | 60 | 70 | 80 |

| 47 | 57 | 67 | 77 | 87 | 97 |

The ones digit stays the same.

10 less	Number	10 more
1	11	21
34	44	54

Take care when crossing hundreds:

| 86 | 96 | 106 | 116 |

Add and Subtract 10s

| 10 | 30 | 50 | 70 | 90 |

| 3 | 33 | 63 | 93 |

Tens	Ones

```
  27
+ 40
----
  67
```

Tens	Ones

```
  72
- 30
----
  42
```

Crossing hundreds:

| 74 | 94 | 114 | 134 |

Future Learning

Year 3
⊙ Add and subtract numbers mentally, including: • a three-digit number and 1s • a three-digit number and 10s • a three-digit number and 100s ⊙ Add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction ⊙ Estimate the answer to a calculation and use inverse operations to check answers ⊙ Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction

Year 6
⊙ Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why