

Subtraction Early Years Foundation Stage

Prior Learning

- Say some number names in sequence
- Uses words like 'more' and 'less'
- Knows that a group of things changes when an object is added or taken away.
- Sing songs using numbers

Models & Images

There are 7 biscuits, I eat two. How many are left?

Count the 7 biscuits, take 2 away. Say together 7 take away 2 is 5.

Record  is 5

Progressing to representing real objects with shapes using 1 to 1 correspondence.



$$7 - 2 = 5$$

Signs & Symbols

Children should be learning to write numbers accurately with correct orientation and formation.

$$10 - 5 = \square$$

$$\triangle = 10 - 5$$

Key Language

subtract, take away, less, minus, count back, backwards, jump (on number line) smaller, subtraction

Skills for next steps (Y1 Skills)

- Count to & across 100, forwards & backwards from any number.
- Read & write numbers to 20 in digits & words.
- Read & write numbers to 100 in digits.
- Say 1 more/1 less to 100
- Add & subtract:
- 1 digit & 2 digit numbers to 20, including zero.
- Add any three 1-digit numbers with a total up to 20.

Mental Methods

Introduce concept of numbers – recognising number object correspondence.



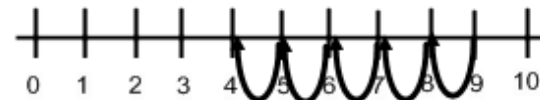
Count back when taking objects away from a group.

Written Methods

Number Tracks: $10 - 5 = 5$



Prepared Number Line: $9 - 5 = 4$



Resources

Practical objects
Numicon
Number Lines
Hundred Squares
Dienes Blocks
Cuisenaire rods

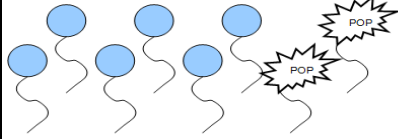
Subtraction Key Stage 1 (Yr 1/2)

Prior Learning (EYFS Skills)

- Count reliably to 20.
- Order numbers 1 – 20.
- Say 1 more/1 less to 20.
- Add & subtract two single digit numbers.

Models & Images

- If I had 8 balloons and 2 popped, how many do I have left?

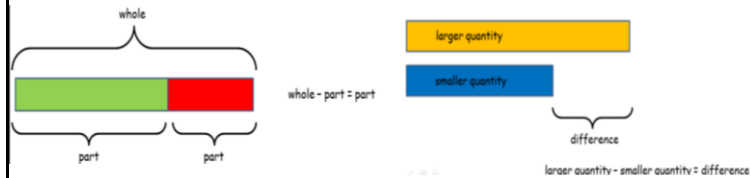


There were 17 jam tarts on the plate. Louise ate 5. How many jam tarts were left?

Counters to represent jam tarts



'There are 12 jam tarts left.'



Signs & Symbols

$$12 - 3 = \square$$

$$\square = 12 - 3$$

$$12 - \square = 3$$

$$3 = 12 - \square$$

$$\triangle - 3 = 9$$

$$9 = 12 - \triangle$$

$$\square - \triangle = 3$$

$$3 = \square - \triangle$$

Extend to

$$14 + 5 = 20 - \square$$

Key Language

subtract, subtraction
less, fewer, take away, leave, minus, count back, backwards, jump (on number line)
smaller, difference, difference between,
How many more...?
Place value to 100

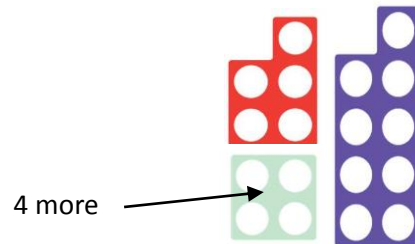
Skills for next steps (Y3 Skills)

- Compare & order numbers up to 100.
- Read & write all numbers to 100 in digits & words.
- Say 10 more/less than any number to 100.
- Count in multiples of 2, 3 & 5 & 10 from any number up to 100.
- Recall & use +/- facts to 20.
- Derive & use related facts to 100.
- Recognise PV of any 2-digit number.
- Recognise & use inverse (+/-).

Mental Methods

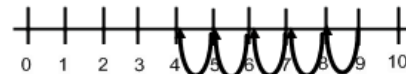
Children must be taught to recognise subtraction both as 'take away' and 'difference'.

What is the difference between 5 and 9?
(Count on from 5 up to 9) = 4



Written Methods

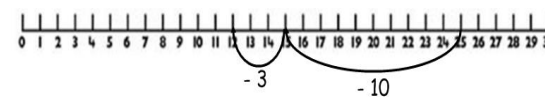
Prepared Line to take away: $9 - 5 = 4$



On a hundred square:

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

Prepared Number Line to subtract: $25 - 13 = 12$



Prepared number line to find the difference (counting on):
 $25 - 13 = 12$



Subtraction Lower Key Stage 2 (Yr 3/4)

Prior Learning (Y2 Skills)

- Compare & order numbers up to 100.
- Read & write all numbers to 100 in digits & words.
- Say 10 more/less than any number to 100.
- Recall & use +/- facts to 20.
- Derive & use related facts to 100.
- Recognise PV of any 2-digit number.
- Recognise & use inverse (+/-).

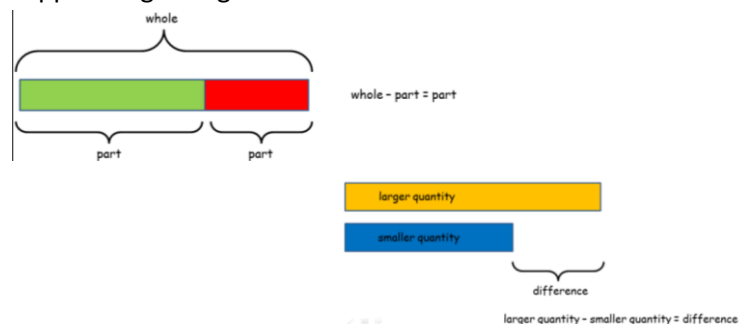
Skills for next steps (Y5 Skills)

- Count forwards & backward with positive & negative numbers through zero.
- Count forwards/backwards in steps of powers of 10 for any given number up to 1000000.
- Compare & order numbers with 3 decimal places.
- Recognise PV of any number up to 1000000.

Models & Images

Models and images should be used to support children in visualising calculations and to secure understanding.

When solving problems in different contexts, children should be encouraged to represent the problem visually for support. E.g. using the bar method.



Signs & Symbols

$$161 - 25 = \square$$

$$\square = 161 - 25$$

$$\triangle - 25 = 136$$

$$136 = \triangle - 25$$

$$161 - \square = 136$$

$$136 = 161 - \square$$

$$\triangle - \square = 136$$

$$136 = \triangle - \square$$

Extend to

$$141 + 73 = 250 - \square$$

Whole number calculations with up to four digits.

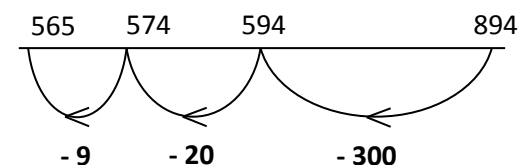
Key Language

Consolidate previous vocabulary
expanded method / column method
Exchange
Place value to 1000, tenths, hundredths

Mental Methods

Begin the use of jottings and open number lines for numbers with up to four digits (partitioning):

$$894 - 329 = 565$$



$$7854 - 6937 =$$

$$\begin{aligned} 7854 - 6000 - 900 - 30 - 7 \\ = 1854 - 900 - 30 - 7 \\ = 954 - 30 - 7 \\ = 924 - 7 \\ = 917 \end{aligned}$$

Written Methods

Expanded column method, starting with least significant digits (in preparation for formal method), paying attention to place value of each digit.

By the end of Year 3, pupils should move onto the formal method with three digits and by the end of Year 4, the formal method with four digits.

$$567 - 276:$$

	H	T	U	
	400	160		
-	500	60	7	
-	200	70	6	
=	200	90	1	= 291

	Th	H	T	U
	4	13	6	10
-	4	5	5	3
=	0	8	1	7

For column methods of subtraction, the subtraction sign will be positioned on the left.

Where exchanging takes place, this will be recorded above the starting number.

Resources

Practical objects
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Subtraction Upper Key Stage 2 (Yr 5/6)

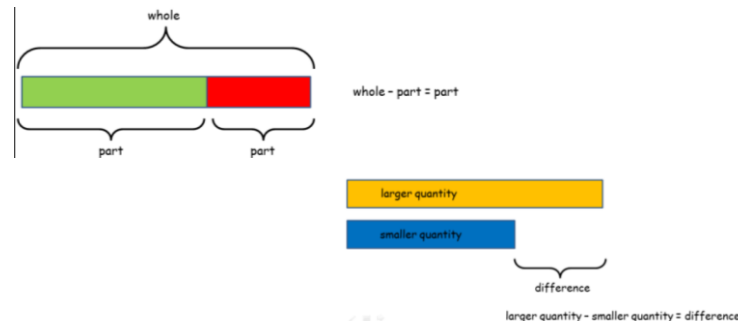
Prior Learning (Y4 Skills)

- Count backwards through zero to include negative numbers.
- Compare and order numbers beyond 1000.
- Compare and order numbers with 2 decimal places.
- Find 1000 more/less than a given number.
- Recognise Place Value of any 4-digit number.

Models & Images

Models and images should be used to support children in visualising calculations and to secure understanding.

When solving problems in different contexts, children should be encouraged to represent the problem visually for support. E.g. using the bar method.



Signs & Symbols

$$7.65 - 6.85 = \square$$

$$\square = 7.65 - 6.85$$

$$\triangle - 6.85 = 0.80$$

$$0.80 = \triangle - 6.85$$

$$7.65 - \square = 0.80$$

$$0.80 = 7.65 - \square$$

$$\triangle - \square = 0.80$$

$$0.80 = \square - \triangle$$

Extend to

$$11.45 - 6.3 = 9.5 - \square$$

Calculations with whole numbers with more than four digits

Key Language

Consolidate all language from previous year groups.

Exchanging, Place Value to 1000000, decimals to thousandths

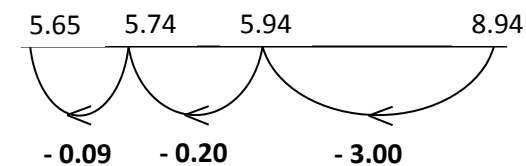
Skills for Next Step

- Understand and use place value for decimals, measures and integers of any size.
- Use the four operations, including formal written methods, applied to integers, decimals, proper and improper fractions and mixed numbers, all both positive and negative.
- Recognise and use relationships between operations including inverse operations.

Mental Methods

Extend use of jottings and open number lines to move onto numbers with more than four digits and decimal numbers (partitioning):

$$8.94 - 3.29 = 5.65$$



$$16312 - 5714 =$$

$$\begin{aligned} 16312 - 5000 - 700 - 10 - 4 \\ = 11312 - 700 - 10 - 4 \\ = 10612 - 10 - 4 \\ = 10602 - 4 \\ = 10598 \end{aligned}$$

Written Methods

Subtracting whole numbers with more than four digits as well as decimal numbers to the thousandths:

$$\begin{array}{r} 5 \ 12 \ 9 \\ 7 \cancel{0} \cancel{0} \cancel{0} 15 \\ - 4 \ 5 \ 5 \ 3 \ 7 \\ \hline 3 \ 0 \ 7 \ 6 \ 8 \end{array}$$

For column methods of subtraction, the subtraction sign will be positioned on the left.

Where exchanging takes place, this will be recorded above the starting number.

$$\begin{array}{r} 7 \ 15 \ 9 \ 9 \ 14 \\ \cancel{0} \ \cancel{0} \ \cancel{0} \ \cancel{0} \ . \ \cancel{0} 14 \ 7 \\ - 2 \ 7 \ 6 \ 2 \ . \ 8 \ 5 \ 3 \\ \hline 5 \ 8 \ 3 \ 7 \ . \ 6 \ 9 \ 4 \end{array}$$

Resources

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Cuisenaire rods