

Can I add and subtract a multiple of ten?

Teaching guidance

Key vocabulary

count, count (up) to, count on (from, to), count back (from, to), count in tens, add, subtract, take away, multiple of ten, more, less, equals, number sentence

Models and images, resources and equipment

Use practical equipment and contexts to count on and back in multiples of ten

Bead strings

100-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

36...46,
56, 66

6 + 10 = 16 96 - 10 = 86
 16 + 10 = 26 86 - 10 = 76
 26 + 10 = 36 76 - 10 = 66
 36 + 10 = 46 etc.

36 + 20 = 56 76 - 30 = 46

76...66,
56, 46

Teaching tips

- Provide plenty of opportunities for children to count forwards and backwards in tens, initially from zero and then from any number. Help children to associate counting on and back in tens with addition and subtraction by writing the addition and subtraction number sentences associated with their counting or holding up '+10' and '-10' flashcards.

$$6 + 10 = 16$$

$$16 + 10 = 26$$

$$26 + 10 = 36$$

$$6 + 30 = 36$$

- Take time to explore the effect on the tens and units digits when adding and subtracting ten. Provide opportunities for children to investigate a general statement to see whether they agree, for example 'When I subtract ten from a number the units digit always stays the same'.
- When using a 100-square to count forwards and backwards in tens:
 - check that children are not confused if the vocabulary of counting 'forwards' is associated with counting 'down' the square and counting 'backwards' is associated with counting 'up' the 100-square;
 - make sure that children understand that a 100-square is a rearranged number track – otherwise a number that is only one more can appear to be the same distance away as a number that is ten more.

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

Number Grid ITP

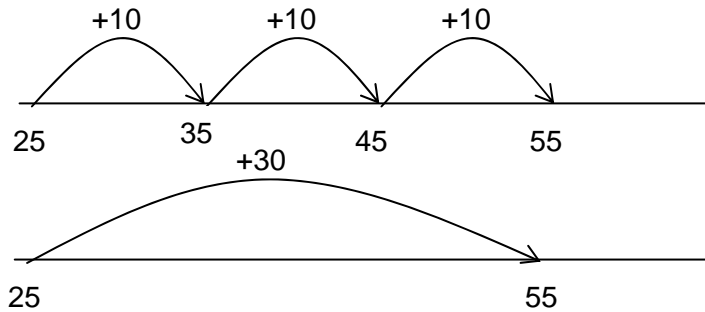
26 and 35 can both appear to be the same distance away from 25

- A purse/money box and 10p coins can be used as one possible context for adding and subtracting multiples of ten. Extend your questioning from counting 10p coins, to adding and subtracting a 10p coin to/from an amount, to adding and subtracting several 10p coins to/from an amount, for example:
 - I'm going to drop 10p coins one at a time into a tin. Put up your hand when I've dropped 70p into the tin.
 - There is 43p in the purse. How much will there be if we add another 10p? If we start with 67p and take out 10p how much will there be?
 - There is 50p in the purse. How many 10p coins should we add to make it 80p?
 - There is 23p in the purse. How many 10p coins would we add to make it 53p? How many would we then take out to make it 33p?
- Use bead strings to visually explore adding and subtracting tens and multiples of ten. Ask questions such as:
 - There are 25 beads at this end of the string. How many will there be if I slide 10 more along to join them? What will they look like? And 10 more? And 10 back again?
 - There are 45 beads at this end of the string. How many will there be if I move 30 along to join them? And then 20 back again?

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Overcoming barriers in mathematics – helping children move from level 1 to level 2

- Show how you could record these calculations as number sentences and on an empty number line, e.g. $25 + 30 = 55$



- When children can confidently add and subtract multiples of ten and partition a two-digit number they can begin to use this to add and subtract other two-digit numbers, e.g. $25 + 32 = 57$

