

Addition and Subtraction Unit 2

Problem solving and reasoning: Questions

Year 2

Fact families. Write four number sentences that link each 'trio' of numbers:

3, 8, 5

27, 2, 25

Fill in the missing numbers:

$$62 + \underline{\quad} = 69$$

$$48 = 43 + \underline{\quad}$$

$$37 + \underline{\quad} = 41$$

$$\underline{\quad} - 5 = 74$$

Write the missing number in each diagram:

?	
45	3

37	
?	2

These questions should be provided for children to do once the unit has been completed. They assess the children's mastery of the skills and concepts in this unit.

Year 3

Write $8 + 4 = 12$ in the middle of a space and circle it. Draw 8 spider legs out from it. Write 8 sentences, each with a 2-digit number, based on this central fact, e.g. $18 + 4 = 22$, $52 - 8 = 44$.

Always true, sometimes true or never true:

- Adding 7 to a number ending in 4 gives an answer ending in 1.
 - Subtracting 6 from a number gives an answer ending in 2.
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You have the number cards 12, 5, 8 and 7.

Decide on an efficient order and strategies to add them.

Why did you choose this order/ strategy?

These questions should be provided for children to do once the unit has been completed. They assess the children's mastery of the skills and concepts in this unit.

Addition and Subtraction Unit 2

Problem solving and reasoning: **Answers**

Year 2

Fact families. Write four number sentences that link each 'trio' of numbers:

3, 8, 5 $3 + 5 = 8$, $5 + 3 = 8$, $8 - 5 = 3$, $8 - 3 = 5$.

27, 2, 25 $25 + 2 = 27$, $2 + 25 = 27$, $27 - 2 = 25$, $27 - 5 = 2$.

Fill in the missing numbers:

$62 + 7 = 69$

$48 = 43 + 5$

$37 + 4 = 41$

$79 - 5 = 74$

Where children's answers in these and the questions below are 1 more or 1 less than the actual answer, this is most likely due to counting on in 1s rather than using number facts.

Write the missing number in each diagram:

48	
45	3

37	
35	2

These questions should be provided for children to do once the unit has been completed. They assess the children's mastery of the skills and concepts in this unit.

Year 3

Write $8 + 4 = 12$ in the middle of a space and circle it. Draw 8 spider legs out from it. Write 8 sentences, each with a 2-digit number, based on this central fact, e.g. $18 + 4 = 22$, $52 - 8 = 44$.

Some examples:

$4 + 8 = 12$, $12 - 4 = 8$, $12 - 8 = 4$, $80 + 40 = 120$, $40 + 80 = 120$, $120 - 40 = 80$, $120 - 80 = 40$, $800 + 400 = 1200$ etc. Can children explain how their new facts relate to the original one?

Always true, sometimes true or never true:

- Adding 7 to a number ending in 4 gives an answer ending in 1.

True, for example $14 + 7 = 21$, $24 + 7 = 31$.

- Subtracting 6 from a number gives an answer ending in 2.

Sometimes – only if the first number ends in 8, e.g. $18 - 6 = 12$, $28 - 6 = 22$.

How well do children use examples to justify their answers?

You have the number cards 12, 5, 8 and 7.

Decide on an efficient order and strategies to add them.

Why did you choose this order/ strategy?

Various possibilities:

$8 + 7$ as a 'near double' and then pair 15 with 5, finally $20 + 7$ is a simple 'place value addition'.

12 and 8 are complements of 20.

$5 + 7 = 12$, then double 12....

Recognising and using some of these facts is nearly always more efficient than adding the numbers in the order presented.

These questions should be provided for children to do once the unit has been completed. They assess the children's mastery of the skills and concepts in this unit.