2-Step Addition and Subtraction Problem Solving

Aim: To solve 2-step addition and subtraction problems in context, solve missing number problems, use number facts and place value and decide which operations and methods to use and why.

Target Number

Write a two digit number over 50. Find as many ways as possible to add two numbers together to total your target number. Record them in the table.

Here is an example: 59 is the target number.

59 = 50 + 9   45 + 14 = **59**   32 + 27 = **59**

What's the Number?

Find the missing numbers in these addition and subtraction squares.

+	5		13	42	
6	11		19		57
	13		21	50	59
9		16		51	
	20	22		57	

-	4		19	27	
43	39	30		16	
47	43		28		9
	55	46		32	
64		51	45	37	

Reverse the Digits

Choose a number less than 100. Reverse the digits, then subtract the smaller number from the larger one to find the difference. Here is an example:

72 is 27.   72 – 27 = 45.

Choose eleven more numbers to complete the table.

72 - 27 = 45			

That's Odd!

Colour all of the odd numbers to reveal a hidden word. Start on the top row and go down.

23	4	11	93	65	13	87	50	92	53	2	96	3	77	81
3	66	27	77	64	32	63	4	34	79	74	8	47	10	51
7	31	83	35	47	12	13	22	72	51	82	64	83	64	37
19	28	73	15	82	10	49	84	58	73	6	40	27	26	5
39	16	91	27	33	55	33	59	91	51	99	1	3	9	63

Use squared paper to make up an odd and even number pattern to spell your name.

What's the Problem?

For each of the word problems, tick the box to show whether you need to add and add, add and subtract, subtract and add or subtract and subtract. Write the number problem out as a sum then solve it. Write your own problems when you have finished.

Problem	+ +	+ -	- +	- -	Sum	Solve
There are 32 children in the lunch queue. Another 12 join the queue, then another 7.	✓				**32 + 12 + 7**	**51**
I have £2.00 in my purse. I spend 45p on a book then 25p on a pencil.						
There are 32 children on the school bus. 6 get off and another 13 get on.						
I add 36 to 45 then subtract 41.						

Problem	+ +	+ -	- +	- -	Sum	Solve
I sew 12 buttons on my cardigan. 7 fall off and I sew another 4 on.						
I eat twelve sweets before lunch and 16 sweets after lunch and give 5 to Bob.						
My crayon is 13cm long then I sharpen 4cm off. Next I add a 6cm rubber to the end.						
I stack 17 maths books in a pile and add another 11 books. Then 14 pupils take their books.						
I have £4.50 in my money box. I add this week's pocket money of £1.50, then spend £1.15 on a comic.						

2-Step Addition and Subtraction Problem Solving

> Aim: To solve 2-step addition and subtraction problems in context, solve missing number problems, use number facts and place value and decide which operations and methods to use and why.

Target Number

Write a 3-digit number over 100. Find as many ways as possible to add two numbers together or subtract two numbers to give your target number. Record them in the table.

Here is an example: **159** is the target number

159 = 150 + 9   145 + 14 = **159**   32 + 127 = **159**   175 – 16 = **159**   265 – 106 = **159**

What's the Number?

Find the missing numbers in these addition and subtraction squares.

+	32		42	89	
8	40		50		101
	37		47	94	98
7		74		96	
	41	76		98	

-	15		41	56	
	57		31	16	
64	49		23		3
	69	51		28	
96		63	55	40	

Reverse the Digits

Choose a 3-digit number. Reverse the digits, then subtract the smaller number from the larger one to find the difference. Here is an example:

472 is 274.   472 – 274 = 198.

Choose eleven more numbers to complete the table.

472 – 274 = 198			

It's a Matter of Deduction

Solve the number problems to find the missing numbers.

I am _____	I am _____	I am _____
Add 48 to me to make 72.	Double me to make 94.	Subtract 51 from me to make 24.

I am _____	I am _____	I am _____
Add 5 to me, then double it to make 32.	Halve me to make 18.	Subtract 9 from me to make 61.

Higher or Lower

You will need dice for this activity.

Throw a dice six times. Record a digit in each place value box to make the sum as low as possible.

☐ ☐ ☐ **+** ☐ ☐ ☐ **=** ☐

Change the order of the digits to make the sum as high as possible.

☐ ☐ ☐ **+** ☐ ☐ ☐ **=** ☐

What's the Problem?

1. Alex usually walks to and from school every day. It is 1.5km from his home to school. One day of the week he walked from his friend Bill's house which was 2.3km from school and then back to Bill's house in the afternoon. Another day of the week he walked from his Gran's house which was 1.75km from school and then back to his Gran's house in the afternoon. One day of the week he walked from home. One day his dad gave him a lift to school in the morning. One day he stayed at home with a cold. How far did Alex walk during the week?

2. Danni went to town on Saturday to spend her pocket money. She took £7.95 with her. She stopped for a coffee which cost £3.75. Then she bought a book for £2.55. How much did she come home with?
   If the bus fare home would cost her £1.80, could she afford to catch the bus?

3. As Zac walked along the street, he noticed that the houses on the left-hand side of the street had odd numbers and the numbers on the right-hand side of the street had even numbers. There were 30 houses on the street. Did the house numbers on the odd side of the street add up to more than the house numbers on the even side? What were the totals?

2-Step Addition and Subtraction Problem Solving

Aim: To solve 2-step addition and subtraction problems in context, solve missing number problems, use number facts and place value and decide which operations and methods to use and why.

Target Number

Write a four-digit number over 1000. Find as many ways as possible to add two numbers together or subtract two numbers to total your target number. Record them in the table.

Here is an example: **1,159** is the target number

1,159 = 1,150 + 9   145 + 1,014 = **1,159**   1,287 - 128 = **1,159**   1,265 - 106 = **1,159**

What's the Number?

Find the missing numbers in these addition and subtraction squares.

+	18		56	75	
17	35		73		116
	57		95	114	138
51		75		126	
	130	136		187	

-	13		22	34	
	46		37	25	
78	65		56		22
	93	90		72	
168		152	146	134	

Reverse the Digits

Choose a 4-digit number. Reverse the digits, then subtract the smaller number from the larger one to find the difference. Here is an example:

4273 is 3274.   4723 – 3274 = 1449.

Choose eleven more numbers to complete the table.

4723 – 3274 = 1449			

That's Odd!

Colour all of the odd numbers to reveal a hidden word. Start on the top row and go down.

Use squared paper to make up an odd and even number pattern to spell your name.

Fix It

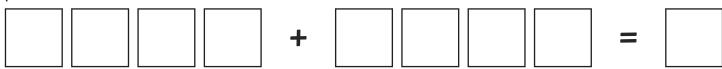Your teacher needs some help marking the maths books. Check and correct these subtraction sums to help.

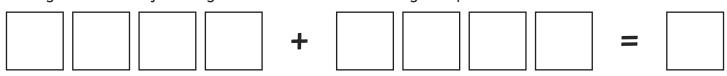| Subtraction sum	✓or X	Correction
126 – 85 = 49	X	**126 – 85 = 41**
532 – 162 = 379		
832 – 645 = 187		
322 – 173 = 156		
269 – 232 = 28		
495 – 375 = 130		
653 – 475 = 178		
174 – 69 = 115		

Higher or Lower

You will need dice for this activity.

Throw a dice six times. Record a digit in each place value box to make the sum as low as possible.

☐ ☐ ☐ ☐ **+** ☐ ☐ ☐ ☐ **=** ☐

Change the order of the digits to make the sum as high as possible.

☐ ☐ ☐ ☐ **+** ☐ ☐ ☐ ☐ **=** ☐

What's the Problem?

1. The Head Teacher wanted to know the total number of pupils in the school on Monday afternoon. Class 1 had 23, Class 2 had 29, Class 3 had 27 and Class 4 had 30. How many pupils were at school?

    If Class 2 went out to the park for the last hour of the afternoon, how many pupils were at school then?

2. Oscar was collecting football stickers. The full set was 375 stickers. He had 255 already stuck in and another 38 ready to stick in. How many more did he have to collect?

3. I have counted the coloured pencils from three classes. There are 450, 356 and 220. How can I add these totals together? Show me as many strategies as you can. Which do you prefer?

2-Step Addition and Subtraction Problem Solving Answers

Target Number
A range of answers recorded in table.

What's the Number?

+	5	7	13	42	51
6	11	13	19	48	57
8	13	15	21	50	59
9	14	16	22	51	60
15	20	22	28	57	66

-	4	13	19	27	38
43	39	30	24	16	5
47	43	34	28	20	9
59	55	46	40	32	21
64	60	51	45	37	26

Reverse the Digits
A range of answers recorded in the table.

That's Odd!

23	4	11	93	65	13	87	50	92	53	2	96	3	77	81
3	66	27	77	64	32	63	4	34	79	74	8	47	10	51
7	31	83	35	47	12	13	22	72	51	82	64	83	64	37
19	28	73	15	82	10	49	84	58	73	6	40	27	26	5
39	16	91	27	33	55	33	59	91	51	99	1	3	9	63

The odd numbers spell out "hello".

What's the Problem?

Problem	+ +	+ -	- +	- -	Sum	Solve
There are 32 children in the lunch queue. Another 12 join the queue, then another 7.	✓				**32+12+7**	**51 children**
I have £2.00 in my purse. I spend 45p on a book then 25p on a pencil.			✓		**£2.00 - 45p - 25p**	**£1.30**
There are 32 children on the school bus. 6 get off and another 13 get on.			✓		**32-6+13**	**39 children**
I add 36 to 45 then subtract 41.		✓			**36+45-41**	**40**
I sew 12 buttons on my cardigan. 7 fall off and I sew another 4 on.			✓		**12-7+4**	**9 buttons**
I eat twelve sweets before lunch and 16 sweets after lunch and give 5 to Bob.	✓				**12+16+5**	**33 sweets**
My crayon is 13cm long then I sharpen 4cm off. Next I add a 6cm rubber to the end.			✓		**13-4+6**	**15cm**
I stack 17 maths books in a pile and add another 11 books. Then 14 pupils take their books.		✓			**17+11-14**	**14 books**
I have £4.50 in my money box. I add this week's pocket money of £1.50, then spend £1.15 on a comic.		✓			**£4.50 + £1.50 - £1.15**	**£4.85**

2-Step Addition and Subtraction Problem Solving

Target Number
A range of answers recorded in table.

What's the Number?

+	32	**67**	42	89	**93**
8	40	**75**	50	**97**	101
5	37	**72**	47	94	98
7	**39**	74	**49**	96	**100**
9	41	76	**51**	98	**102**

-	15	**33**	41	56	**61**
72	57	**39**	31	16	**11**
64	49	**31**	23	**8**	3
84	69	51	**43**	28	**23**
96	**81**	63	55	40	**35**

Reverse the Digits
A range of answers recorded in the table.

It's a Matter of Deduction
Solve the number problems to find the missing numbers.

I am **24**	I am **47**	I am **75**
I am **11**	I am **36**	I am **70**

Higher or Lower
A range of answers arranged in the text boxes selecting the appropriate place value to show higher or lower values.

What's the Problem?

1. Alex usually walks to and from school every day. It is 1.5km from his home to school. One day of the week he walked from his friend Bill's house which was 2.3km from school and then back to Bill's house in the afternoon. Another day of the week he walked from his Gran's house which was 1.75km from school and then back to his Gran's house in the afternoon. One day of the week he walked from home. One day his dad gave him a lift to school in the morning. One day he stayed at home with a cold. How far did Alex walk during the week?
   2.3km × 2 = 4.6km   1.75km × 2 = 3.5km   1.5km × 2 = 3km   1.5km × 1 = 1.5km
   Total walked = 12.6km

2. Danni went to town on Saturday to spend her pocket money. She took £7.95 with her. She stopped for a coffee which cost £3.75. Then she bought a book for £2.55. How much did she come home with?
   If the bus fare home would cost her £1.80, could she afford to catch the bus?
   £7.95 - £3.75 - £2.55 = £1.65   No

3. As Zac walked along the street, he noticed that the houses on the left-hand side of the street had odd numbers and the numbers on the right-hand side of the street had even numbers. There were 30 houses on the street. Did the house numbers on the odd side of the street add up to more than the house numbers on the even side? What were the totals?
   Odd houses total 225, even houses total 240.

2-Step Addition and Subtraction Problem Solving

Target Number
A range of answers recorder in the table.

What's the Number?
Find the missing numbers in these addition and subtraction squares.

+	18	**24**	56	75	**99**
17	35	**41**	73	**92**	116
39	57	**63**	95	114	138
51	**69**	75	**107**	126	**150**
112	130	136	**168**	187	**211**

-	13	**16**	22	34	**56**
59	46	**43**	37	25	**3**
78	65	**62**	56	**44**	22
106	93	90	**84**	72	**50**
168	**155**	152	146	134	**112**

Reverse the Digits
A range of answers recorded in the table.

Fix It

Subtraction sum	✓ or X	Correction
126 – 85 = 49	X	**126 – 85 = 41**
532 – 162 = 379	X	**532 – 162 = 370**
832 – 645 = 187	✓	
322 – 173 = 156	X	**322 – 173 = 149**

269 – 232 = 28	X	**269 – 232 = 37**
495 – 375 = 130	X	**495 – 375 = 120**
653 – 475 = 178	✓	
174 – 69 = 115	X	**174 – 69 = 105**

Higher or Lower

A range of answers arranged in the text boxes selecting the appropriate place value to show higher or lower values.

What's the Problem?

1. The Head Teacher wanted to know the total number of pupils in the school on Monday afternoon. Class 1 had 23, Class 2 had 29, Class 3 had 27 and Class 4 had 30. How many pupils were at school?
   109 pupils.

   If Class 2 went out to the park for the last hour of the afternoon, how many pupils were at school then?
   80 pupils.

2. Oscar was collecting football stickers. The full set was 375 stickers. He had 255 already stuck in and another 38 ready to stick in. How many more did he have to collect?
   375 – 255 – 38 = 82.

3. I have counted the coloured pencils from three classes. There are 450, 356 and 220. How can I add these totals together? Show me as many strategies as you can. Which do you prefer?
   450 + 220 = 670 + 356 = **1 026**   or   450 + 356 = 806 + 220 = **1 026**
   or column addition;

   ```
      450
      220
    + 356
     1026
   ```

   or partitioning of 100s, 10s and ones and re-combining;

H	400 + 200 + 300 =	900
T	50 + 50 + 20 =	120
Ones		6
Total		**1026**