



- 1) a) 3602
 b) 3383
 c) 25 305
 d) 26 130
 e) 54 154

2) a) *High Fliers and Fantastic French*

b) *Sea Beast and The Conjurers (10 464). Number One and Fantastic French (1838). Look for children who explain their reasoning about number selection, e.g. taking the largest and smallest numbers to find the greatest difference and the two closest numbers for the smallest difference, rather than trying every combination of numbers to find the correct answer.*

1) a)

	3	1	¹ 5	6	1
-		1	6	3	5
	3	0	9	3	4

Rana has done 5 - 1 rather than doing 1 - 5 and exchanging.

The correct answer is 30 926.

b)

	8	4	2	8	4
-	5	2	6	5	3
	3	2	6	3	1

Rana has not recorded the exchange of taking 1 thousand from 4 thousands to create 10 hundreds, which would leave 3 thousands.

The correct answer is 31 631.

2) *Never. In a pair of consecutive numbers, one number will be odd and the other even.*

odd - even = odd

even - odd = odd





1)

	7	2	0	6	4
-	2	9	5	4	3
	4	2	5	2	1

	9	2	3	0	8
-	2	4	1	7	8
	6	8	1	3	0

2) *One example combination of possible answers:*

$A = 65\ 123$	$A = 56\ 032$	$A = 87\ 325$
$B = 77\ 468$	$B = 68\ 377$	$B = 74\ 980$
$C = 23\ 147$	$C = 14\ 056$	$C = 20\ 659$








Addition and Subtraction: Subtracting Numbers with up to Six Digits

<p>Aim: Add and subtract whole numbers with more than 4 digits, including using formal written methods.</p> <p>To subtract numbers with up to six digits.</p>	<p>Success Criteria: I can subtract whole numbers with more than 4 digits. I can make more than one exchange where necessary. I can use a formal written method.</p>	<p>Resources: Lesson Pack Cubes Place value counters Base ten blocks Hundred squares</p>
	<p>Key/New Words: Subtract, take, difference, how many less, take away, minus, remove, fewer, decrease, exchange.</p>	<p>Preparation: Flying Points Question Sheet – one per child Differentiated Flying Points Activity Sheet – one per pair Diving into Mastery Activity Sheets – as required Question, Set, Match! Cards – one card per child</p>

Prior Learning: It will be helpful if children have a secure understanding of place value. Children may have previously subtracted four-digit numbers with multiple exchanges.

Learning Sequence

	<p>Remember It: Children choose a section then complete the calculations shown on the Lesson Presentation, subtracting four-digit numbers with multiple exchanges.</p>	
	<p>Question, Set, Match! Using the Question, Set, Match Cards, give each child a card. There will be a mixture of question cards and answer cards. Ask children to find the corresponding question or answer.</p>	
	<p>Column Subtraction: Use the slides on the Lesson Presentation to model using column subtraction to solve subtraction calculations involving five and six digits. Children compare the calculation process with a visual model, using place value counters to show the exchanging process.</p>	
	<p>Finding the Difference: Model how questions about 'finding the difference' can be solved using column subtraction. Children discuss with a partner how to calculate the answer to a 'finding the difference' problem using column subtraction.</p>	
	<p>Flying Points: Using the differentiated Flying Points Activity Sheet, children complete the Flying Points Question Sheet by using column subtraction to find the difference between two values. As an extension, ask children to calculate the largest difference and the smallest difference between two teams.</p>	
	<p>Working in pairs, children answer questions by subtracting whole numbers with three or four digits. Children may use interlocking cubes, base ten blocks or hundred squares to aid understanding if required.</p>	
	<p>Working in pairs or individually, children answer questions by subtracting whole numbers with four or five digits.</p>	
	<p>Working individually, children answer questions by subtracting whole numbers with five, six and seven digits.</p>	

	<p>Diving into Mastery: Schools using a mastery approach may prefer to use the following as an alternative activity. These sheets might not necessarily be used in a linear way. Some children might begin at the 'Deeper' section and in fact, others may 'dive straight in' to the 'Deepest' section if they have already mastered the skill and are applying this to show their depth of understanding.</p> <p> Children complete subtraction calculations and then find the greatest and smallest difference in a set of data.</p> <p> Children identify mistakes in column subtraction calculations. They then investigate whether a statement is always, sometimes or never true.</p> <p> Children solve missing-digit subtraction calculations and then carry out an investigation involving subtraction.</p>	
	<p>Be the Teacher: Invite one or more children to be the teacher. What questions would they ask the class to find out how they got on with their activity?</p>	

<p>ExploreIt</p> <p>RecordIt: Host your own 'Flugtag!' After making their own flying machines using classroom resources, children fly their contraption and record the time. Whose was in the air the longest? Whose was in the air the shortest? What was the difference?</p> <p>LearnIt: Children will find this visually exciting subtraction a useful tool for improving their knowledge of addition and subtraction.</p> <p>PlayIt: Practise subtraction skills with this fun</p>	
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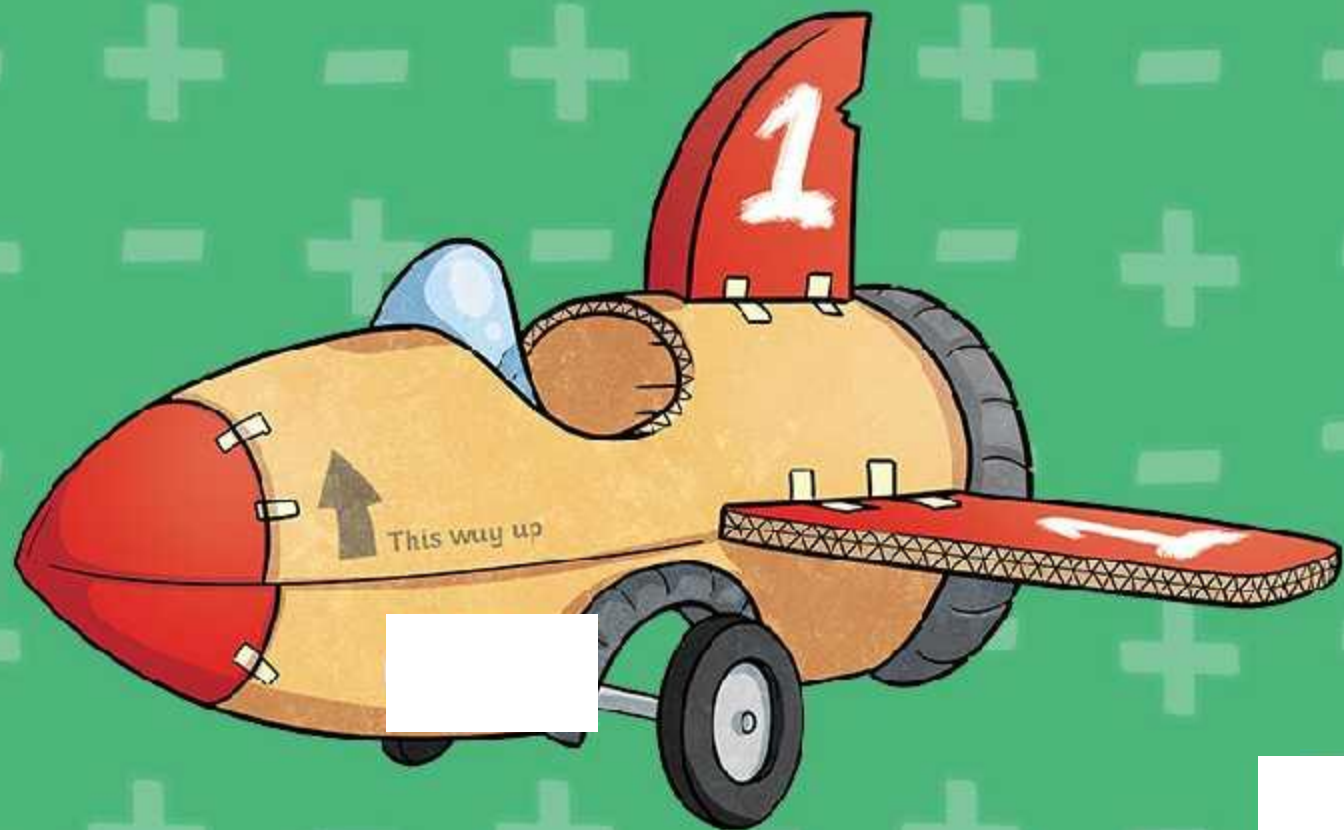


Maths

Addition and Subtraction

Maths | Addition and Subtraction | Add and Subtract Numbers |
Lesson 6 of 7: Subtracting Numbers with up to Six Digits

Subtracting Numbers with up to Six Digits



Aim

- To subtract numbers with up to six digits.

Success Criteria

- I can subtract whole numbers with more than 4 digits.
- I can make more than one exchange where necessary
- I can use a formal written method.

Remember It



Choose a section and answer the subtraction questions. Remember to exchange where necessary.

	★	★★	★★★
1)	$3163 - 1751$	$8081 - 1771$	$8001 - 1771$
2)	$4212 - 1632$	$7080 - 4771$	$7030 - 4771$
3)	$6311 - 1410$	$9073 - 6654$	$9003 - 6654$
4)		$7097 - 2788$	$7007 - 2788$
5)		$6072 - 1563$	$6002 - 1563$

Remember It



Choose a section and answer the subtraction questions. Remember to exchange where necessary.

	★	★★	★★★
1)	1412	6310	6230
2)	2580	2309	2259
3)	4901	2419	2349
4)		4309	4219
5)		4509	4439

Question, Set, Match!



You will be given a card.

If you have a question card, you need to find the person who has the answer.

If you have an answer card, you need to find the person who has a suitable question.

Are you ready?



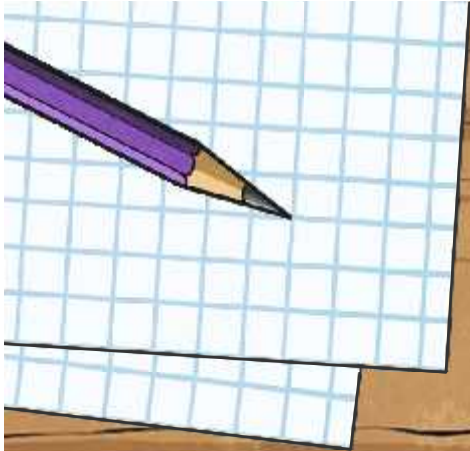
Column Subtraction




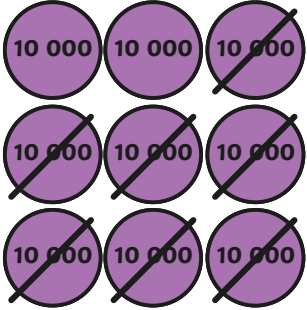
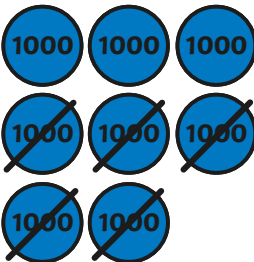



We can easily use the column method of subtraction to take away large numbers. The model and calculation show the process of subtracting larger numbers where no exchanges are required.

	HTh	TTh	Th	H	T	O
	3	9	8	7	2	5
-	1	7	5	3	1	3

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones



	HTh	TTh	Th	H	T	O
	3	9	8	7	2	5
-	1	7	5	3	1	3
	2	2	3	4	1	2

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
					

Column Subtraction



The model and calculation show the process of subtracting larger numbers where one exchange is required.

	HTh	TTh	Th	H	T	O
	8	3	9	7	4	2
-		2	8	4	9	1

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones

	HTh	TTh	Th	H	T	O
	8	3	9	6 7	14	2
-		2	8	4	9	1
	8	1	1	2	5	1

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones

Column Subtraction



The model and calculation show the process of subtracting larger numbers where more exchanges are required.


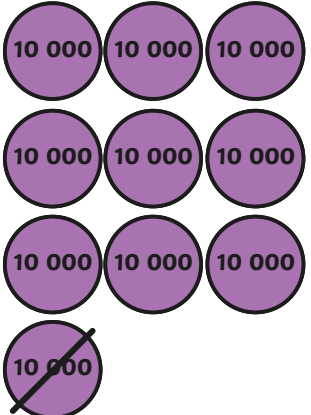
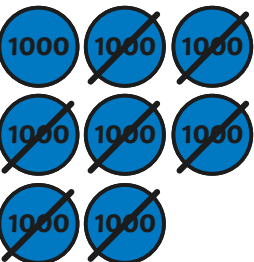

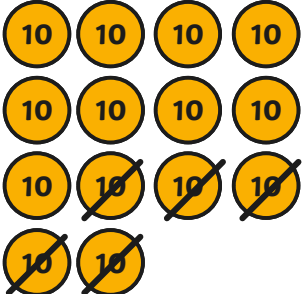



	HTh	TTh	Th	H	T	O
	3	0	8	9	4	2
-		1	7	8	5	1



Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
● ● ●		● ● ● ● ● ● ● ●	● ● ● ● ● ● ● ● ● ● ● ● ●	● ● ● ●	● ●

	HTh	TTh	Th	H	T	O
	2	10	8	8	14	2
-		1	7	8	5	1
	2	9	1	0	9	1

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
					

Finding the Difference



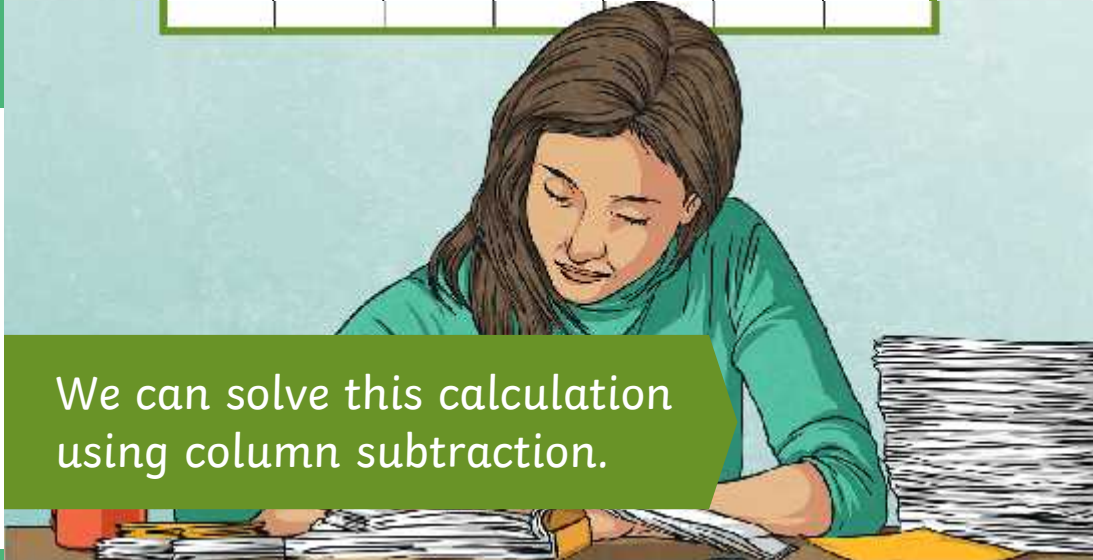
What is the difference between 987 528 and 538 153?

How much more is 987 528 than 538 153?

What is 538 153 less than 987 528?

These questions all involve finding the difference between two numbers. You can do this by subtracting the smaller number from the larger number.

	HTh	TTh	Th	H	T	O
	9	7	17	4	12	8
-	5	3	8	1	5	3
	4	4	9	3	7	5



We can solve this calculation using column subtraction.

Flying Points



Building a flying machine at the 2012 Selsey Flugtag cost RedBird £425,593 and MagicAir £149,004.

How much more did RedBird spend?

Which method would you use?

How would you lay out your calculation?

Can you work out the answer?



Flying Points



Flying Points Question Sheet

Write your answers in the boxes provided. Use numbers with up to six digits.

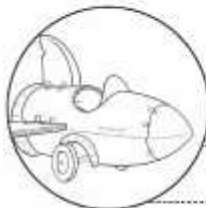
1) What was the difference in the points scored by 'One Plane to Rule Them All' and 'The Conjurers'?

2) What was the difference in points scored by 'Sea Beast' and 'The Conjurers'?

3) What was the points difference between the scores of 'Fantastic French' and 'Away with the Wind'?

4) What was the difference in points between 'Bruno Inu' and 'Bertie's Team'?

5) How many more points were scored by 'High Fliers' than 'Sea Beast'?



6) What was the difference in scores between 'High Fliers' and 'Number One'?

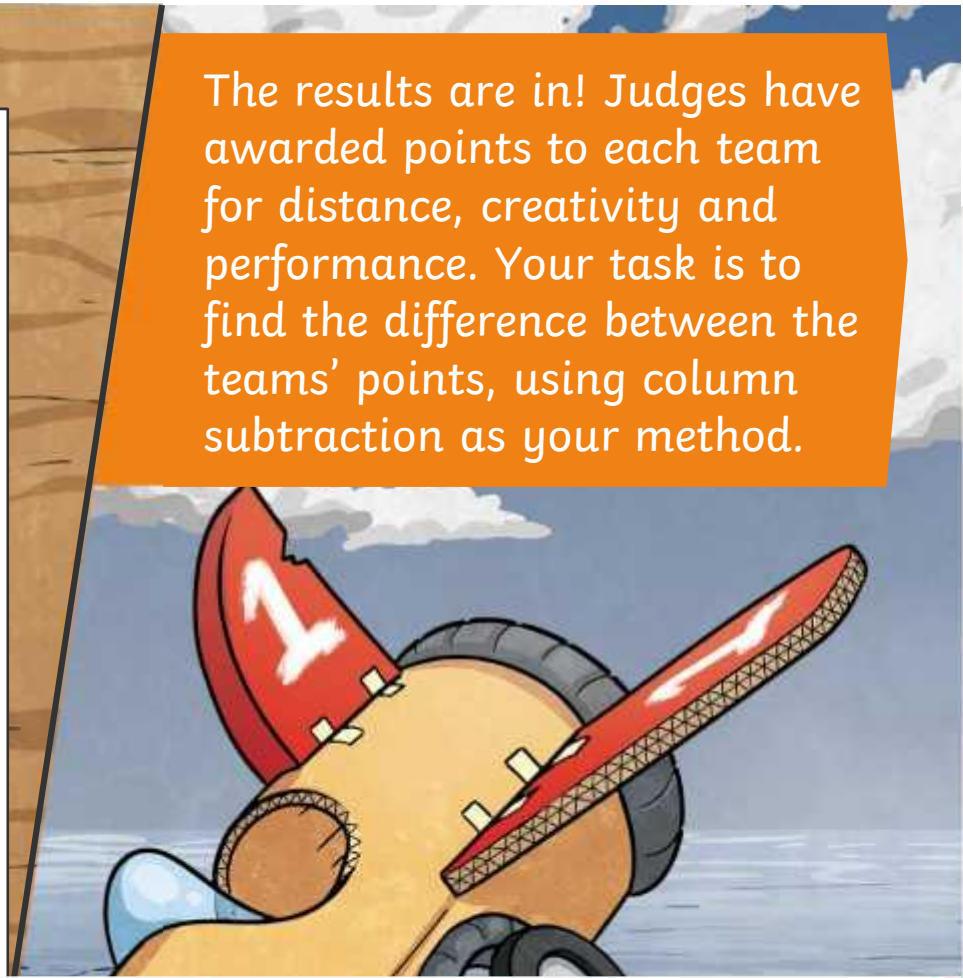
7) What was the difference between the most and least points scored?

8) What was the difference in the points scored by 'One Plane to Rule Them all' and 'Flying High'?

9) How many more points were scored by 'Bruno Inu' than 'Number One'?

10) Do any teams have a point difference of less than 1000?

The results are in! Judges have awarded points to each team for distance, creativity and performance. Your task is to find the difference between the teams' points, using column subtraction as your method.



Be the Teacher



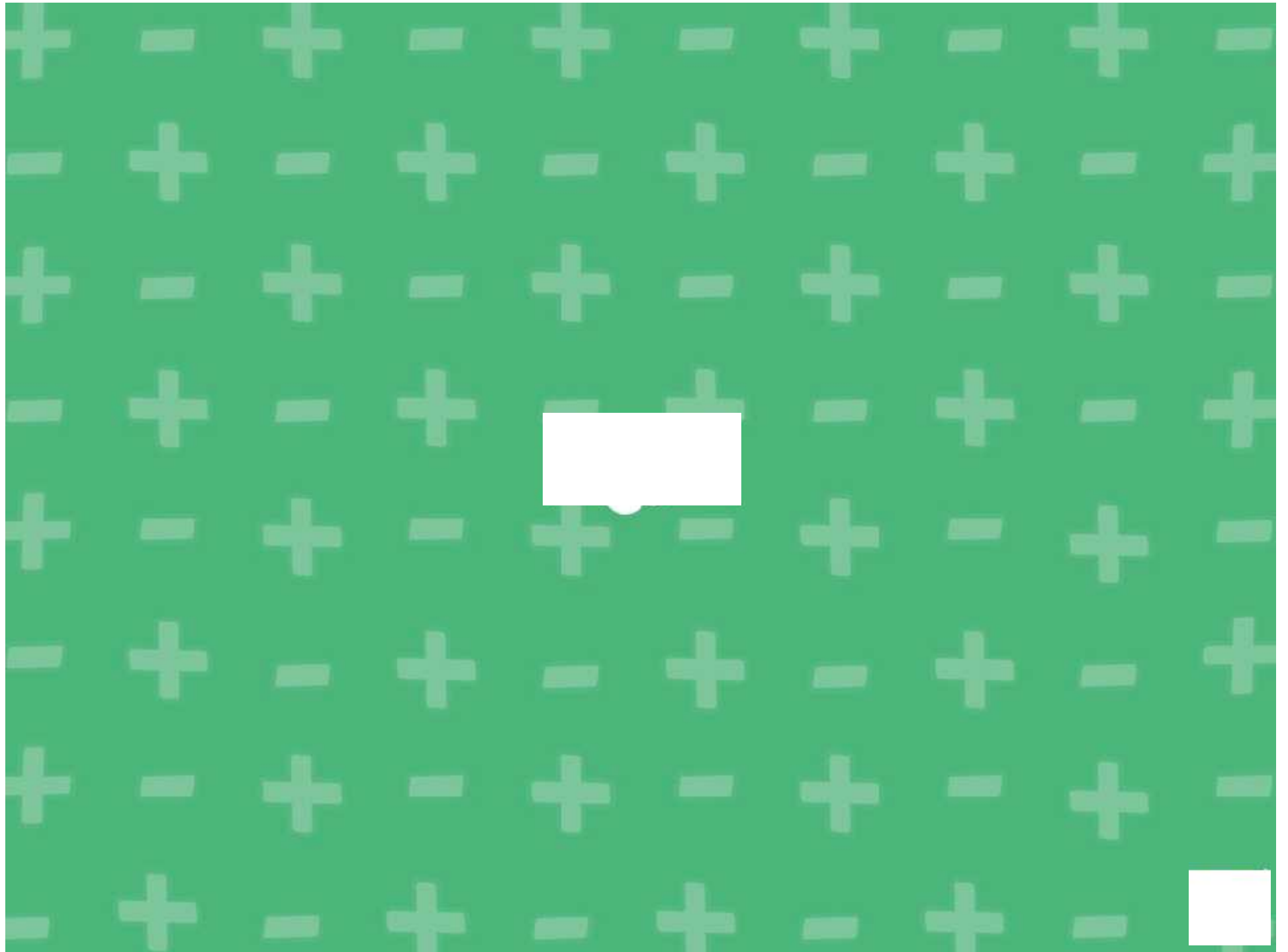
Aim



- To subtract numbers with up to six digits.

Success Criteria

- I can subtract whole numbers with more than 4 digits.
- I can make more than one exchange where necessary
- I can use a formal written method.



Aim: To subtract numbers with up to six digits.				Date:					
				Delivered By:			Support:		
Success Criteria	Me	Friend	Teacher	T	PPA	S	I	AL	GP
I can subtract whole numbers with more than 4 digits.				Notes/Evidence					
I can make more than one exchange where necessary.									
I can use a formal written method.									
Next Steps									
) _____									
) _____									

T	Teacher	I	Independent
PPA	Planning, Preparation and Assessment	AL	Adult Led
S	Supply	GP	Guided Practice

Aim: To subtract numbers with up to six digits.				Date:					
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I can subtract whole numbers with more than 4 digits.				Notes/Evidence					
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Next Steps									
) _____									
) _____									

T	Teacher	I	Independent
PPA	Planning, Preparation and Assessment	AL	Adult Led
S	Supply	GP	Guided Practice



1) Complete these subtraction calculations. You may want to use place value counters to help you.

a)

	5	1	3	4
-	1	5	3	2

b)

	9	0	5	4
-	5	6	7	1

c)

	3	4	0	2	3
-		8	7	1	8

d) 52 064 - 25 934

e) 86 807 - 32 653

2) Here are the scores for each flying team.



Sea Beast	Number One	High Fliers	The Conjurers	Fantastic French
82 507	80 198	75 259	72 043	78 360

a) Which teams have a score difference of 3101?

b) Which two teams have the greatest difference in their scores? How about the smallest difference? Prove it.

- 1) Rana has been practising the column method but she has made some mistakes. Can you identify all the mistakes and explain what she has done wrong?



Complete the calculation yourself to show the correct workings.

a)

	3	1	¹ 5	6	1
-		1	6	3	5
	3	0	9	3	4

b)

	8	4	2	8	4
-	5	2	6	5	3
	3	2	6	3	1

- 2) Is this statement always, sometimes or never true? Explain your thinking.

'If you find the difference between two consecutive numbers, the answer will be an even number.'



1) Identify the missing digits in these two calculations.

	<input type="text"/>	2	<input type="text"/>	6	4
-	2	<input type="text"/>	5	4	3
	4	2	5	<input type="text"/>	1

	9	<input type="text"/>	<input type="text"/>	0	8
-	2	4	1	<input type="text"/>	<input type="text"/>
	<input type="text"/>	8	1	3	0

2) I have 3 whole numbers: A, B and C.

Each has 5 digits.

The difference between A and B is 12 345 and the difference between B and C is 54 321.

What could my numbers be? Find 3 possibilities and show your workings.

A = _____ B = _____ C = _____	A = _____ B = _____ C = _____	A = _____ B = _____ C = _____
-------------------------------------	-------------------------------------	-------------------------------------

- 1) Complete these subtraction calculations. You may want to use place value counters to help you.



a)

	5	1	3	4
-	1	5	3	2

b)

	9	0	5	4
-	5	6	7	1

c)

	3	4	0	2	3
-		8	7	1	8

- d) $52\,064 - 25\,934$
e) $86\,807 - 32\,653$

- 2) Here are the scores for each flying team.



Sea Beast	Number One	High Fliers	The Conjurers	Fantastic French
82 507	80 198	75 259	72 043	78 360

- a) Which teams have a score difference of 3101?
b) Which two teams have the greatest difference in their scores? How about the smallest difference? Prove it.

- 1) Complete these subtraction calculations. You may want to use place value counters to help you.



a)

	5	1	3	4
-	1	5	3	2

b)

	9	0	5	4
-	5	6	7	1

c)

	3	4	0	2	3
-		8	7	1	8

- d) $52\,064 - 25\,934$
e) $86\,807 - 32\,653$

- 2) Here are the scores for each flying team.



Sea Beast	Number One	High Fliers	The Conjurers	Fantastic French
82 507	80 198	75 259	72 043	78 360

- a) Which teams have a score difference of 3101?
b) Which two teams have the greatest difference in their scores? How about the smallest difference? Prove it.

- 1) Rana has been practising the column method but she has made some mistakes. Can you identify all the mistakes and explain what she has done wrong?



Complete the calculation yourself to show the correct workings.

a)

	3	1	¹ 5	6	1
-		1	6	3	5
	3	0	9	3	4

b)

	8	4	2	8	4
-	5	2	6	5	3
	3	2	6	3	1

- 2) Is this statement always, sometimes or never true? Explain your thinking.

'If you find the difference between two consecutive numbers, the answer will be an even number.'

- 1) Rana has been practising the column method but she has made some mistakes. Can you identify all the mistakes and explain what she has done wrong?



Complete the calculation yourself to show the correct workings.

a)

	3	1	¹ 5	6	1
-		1	6	3	5
	3	0	9	3	4

b)

	8	4	2	8	4
-	5	2	6	5	3
	3	2	6	3	1

- 2) Is this statement always, sometimes or never true? Explain your thinking.

'If you find the difference between two consecutive numbers, the answer will be an even number.'

- 1) Identify the missing digits in these two calculations.



	<input type="text"/>	2	<input type="text"/>	6	4
-	2	<input type="text"/>	5	4	3
	4	2	5	<input type="text"/>	1

	9	<input type="text"/>	<input type="text"/>	0	8
-	2	4	1	<input type="text"/>	<input type="text"/>
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- 2) I have 3 whole numbers: A, B and C.

Each has 5 digits.

The difference between A and B is 12 345 and the difference between B and C is 54 321.

What could my numbers be? Find 3 possibilities and show your workings.

A = _____	A = _____	A = _____
B = _____	B = _____	B = _____
C = _____	C = _____	C = _____

- 1) Identify the missing digits in these two calculations.



	<input type="text"/>	2	<input type="text"/>	6	4
-	2	<input type="text"/>	5	4	3
	4	2	5	<input type="text"/>	1

	9	<input type="text"/>	<input type="text"/>	0	8
-	2	4	1	<input type="text"/>	<input type="text"/>
	<input type="text"/>	8	1	3	0

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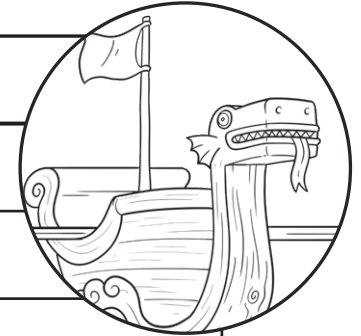
A = _____	A = _____	A = _____
B = _____	B = _____	B = _____
C = _____	C = _____	C = _____

Flying Points Activity Sheet

To subtract numbers with up to six digits.



Team	Points Awarded
One Plane to Rule Them All!	3536
High Fliers	7747
Sea Beast	7355
The Conjurers	2435
Flying High	254
Away With the Wind	746
Number One	14 911
Bertie's Team	577 819
Fantastic French	3753
Bruno Inc	125 789

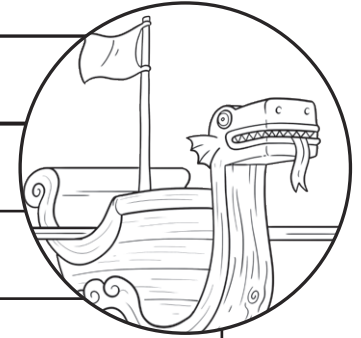


Flying Points Activity Sheet

To subtract numbers with up to six digits.



Team	Points Awarded
One Plane to Rule Them All!	6894
High Fliers	39 851
Sea Beast	4782
The Conjurers	35 842
Flying High	24 574
Away With the Wind	6063
Number One	14 999
Bertie's Team	577 800
Fantastic French	57 472
Bruno Inc	123 789

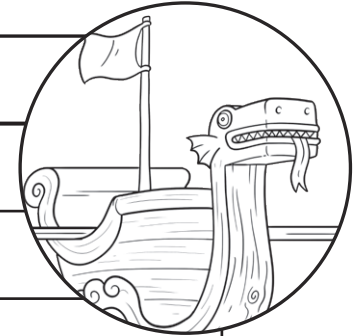


Flying Points Activity Sheet

To subtract numbers with up to six digits.



Team	Points Awarded
One Plane to Rule Them All!	674 678
High Fliers	573 783
Sea Beast	45 783
The Conjurers	693 904
Flying High	589 697
Away With the Wind	574 784
Number One	48 309
Bertie's Team	357 488
Fantastic French	504 578
Bruno Inc	352 784



Flying Points Question Sheet

To subtract numbers with up to six digits.



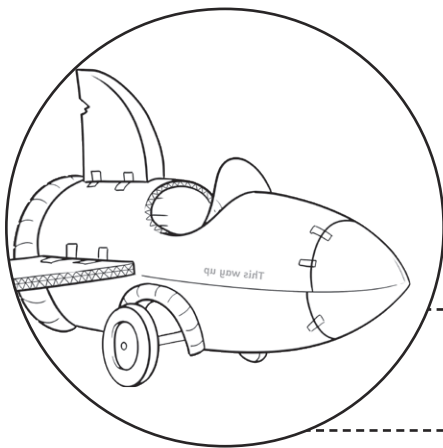
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4) What was the difference in points between 'Bruno Inc' and 'Bertie's Team'?

5) How many more points were scored by 'High Fliers' than 'Sea Beast'?



6) What was the difference in scores between 'High Fliers' and 'Number One'?

7) What was the difference between the most and least points scored?

8) What was the difference in the points scored by 'One Plane to Rule Them all' and 'Flying High'?

9) How many more points were scored by 'Bruno Inc' than 'Number One'?

10) Do any teams have a point difference of less than 1000?

Flying Points Answers

Question	★	★★	★★★
1	1101	28 948	19 226
2	4920	31 060	648 121
3	3007	51 409	70 206
4	452 030	22 420	4704
5	392	35 069	528 000
6	7164	24 852	525 474
7	577 565	573 018	648 121
8	3282	17 680	84 981
9	110 878	110 790	304 475
10	Yes	Yes	No

$$1300 + 700 =$$

2000

$$5300 - 1700 =$$

3600

$$3950 + 1400 =$$

5350

$$2100 - 910 =$$

1190

$$800 - 200 =$$

600

$$250 - 120 =$$

130

$$1290 - 780 =$$

510

$$3290 - 1500 =$$

1790

$$2830 + 1930 =$$

4760

$$4300 - 1330 =$$

2970

$$8490 + 3180 =$$

11 670

$$7470 - 3940 =$$

3530

$$340 + 290 =$$

630

$$750 - 250 =$$

1000

$$1000 - 450 =$$

550

$$1000 - 840 =$$

160

$$1590 - 140 =$$

1450

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To subtract numbers with up to six digits.		
I can subtract whole numbers with more than 4 digits.		
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