1)

	Rounded to the nearest 1000	Rounded to the nearest 10 000	Rounded to the nearest 100 000	Rounded to the nearest 1 000 000
275 691	**276 000**	**280 000**	**300 000**	**0**
1 565 724	**1 566 000**	**1 570 000**	**1 600 000**	**2 000 000**
3 813 089	**3 813 000**	**3 810 000**	**3 800 000**	**4 000 000**

2)

Number	Rounded to the nearest 1000	Rounded to the nearest 10 000	Rounded to the nearest 100 000	Rounded to the nearest 1 000 000
Answers range from 50 000 to 50 499.	50 000		100 000	
Answers range from 3 409 500 to 3 414 999.		3 410 000		3 000 000
Answers range from 8 109 500 to 8 110 499.	8 110 000		8 100 000	

3)

M	HTh	TTh	Th	H	T	O
	●●●●		○○○○	○○○○○○ ○○○	○○○	○○○

4)

M	HTh	TTh	Th	H	T	O
●●	○○○○○○	●●●●●● ●●●	●●●●●● ●●●	○○○○○○ ○○○	○○○○○○ ○○	○○○○○○

1) Poppy has used the hundreds digit to round to the nearest 10 000. As there is a 5 in the thousands place, this number would round to 1 550 000.

Curtis has correctly identified that 4 215 041 rounded to the nearest 100 and 1000 is 4 215 000. However, when rounded to the nearest 10 000 it is 4 220 000.

2) a) This statement is incorrect. 1 249 901 will round down to 1 200 000.

b) This statement is incorrect. Both 1 256 957 and 1 259 527 round to 1 260 000.

c) This statement is correct. 1 249 901 rounded to the nearest 1000 is 1 250 000. 1 259 527 rounded to the nearest 1000 is 1 260 000. Both are multiples of 10 000.

1) a)

	Day 1	Day 2	Day 3	Day 4	Day 5
Factory A	9654 **10 000**	12 486 **12 000**	17 501 **18 000**	19 521 **20 000**	23 809 **24 000**
Factory B	119 692 **120 000**		179 501 **180 000**		
Factory C	640 499 **640 000**				

640 000 - 384 000 = approximately 256 000 more parts a week

b) It only changes the estimate for the first factory. This changes the total from 84 000 to 80 000 estimated parts a week. This means the overall estimate changes from 256 000 more parts to 260 000 more parts.

2) 20 × 40 = approximately 800 words on each page

800 × 500 = approximately 400 000 words in a book

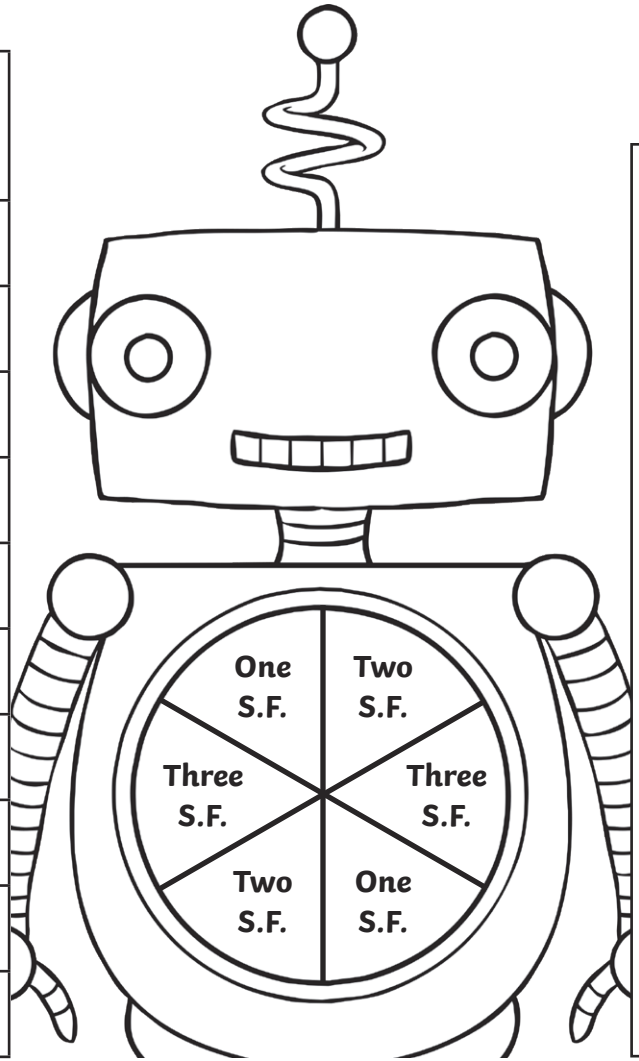
Blank Number Lines

To round numbers to a required degree of accuracy.

Robot Rounding Extra Challenge

To round numbers to a required degree of accuracy.

Input	Round to significant figures...	Ouput
78 654 932		
9 637 395		
837 848		
72 146 036		
63 810 389		
7 472 547		
589 723		
85 567 312		
1 934 104		
301 395		



Significant Figures

Another way of approximating large numbers is to round them to a certain amount of significant figures (S.F.).

Significant means important, or meaningful.

In the number 345 789, the most significant digit, or figure, is 3, as it tells us there are 3 hundred thousands. The next most significant figure is the 4, and so on.

If there is a zero in the number, such as 1034, the most significant figure is the 1, and the second most significant figure is the zero. It is important because it is a place value holder.

When rounding to a certain amount of significant figures, normal rounding rules apply.

For example, 56 784 rounded to two significant figures is 57 000.

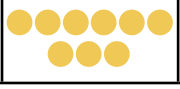
1) Round each of these numbers to the nearest 1000, 10 000, 100 000 and 1 000 000.

	Rounded to the nearest 1000	Rounded to the nearest 10 000	Rounded to the nearest 100 000	Rounded to the nearest 1 000 000
275 691				
1 565 724				
3 813 089				

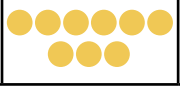
2) This table has been completed with some of the answers when a number was rounded.
Write a number that fits the answers given in each row.

Number	Rounded to the nearest 1000	Rounded to the nearest 10 000	Rounded to the nearest 100 000	Rounded to the nearest 1 000 000
	50 000		100 000	
		3 410 000		3 000 000
	8 110 000		8 100 000	

3) Complete the place value chart so that it rounds to 400 000 when rounded to the nearest 100 000 and 10 000.

M	HTh	TTh	Th	H	T	O
						

4) Complete the place value chart so that it rounds to 2 700 000 when rounded to the nearest 100 000 and 1000.

M	HTh	TTh	Th	H	T	O
						

1) Poppy and Curtis are rounding numbers. Can you explain the mistake that each of them has made?

I am rounding 1 545 599 to the nearest 10 000. Because there is a five in the hundreds place, this number will round to 1 545 000.

When rounding 4 215 041 to the nearest 100, 1000 and 10 000, it always rounds down to the same number.

2) Explain whether you agree with the statements about the numbers on the cards.

1 256 957	1 249 901	1 304 001	1 259 527

a) All four of these numbers will round to 1 300 000 when rounded to the nearest 100 000.

b) Only one of these numbers rounds to 1 260 000 when rounded to the nearest 10 000.

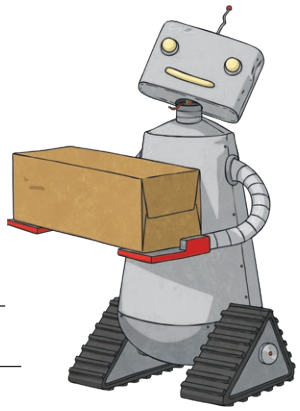
c) When you round two of these numbers to the nearest 1000, you will get a multiple of 10 000 as the answer.

1) **a)** A factory made 9654 parts for robots on day one, 12 486 parts on day two, 17 501 parts on day three, 19 521 parts on day four and 23 809 parts on day five.

Another factory that makes parts for robots managed to make 119 692 parts on Monday and Tuesday and 179 501 parts during the rest of the week.

The last factory made 640 499 parts for robots in a week.

By rounding to the nearest 1000, can you estimate how many more parts for robots the last factory made in a week than the other two factories combined?



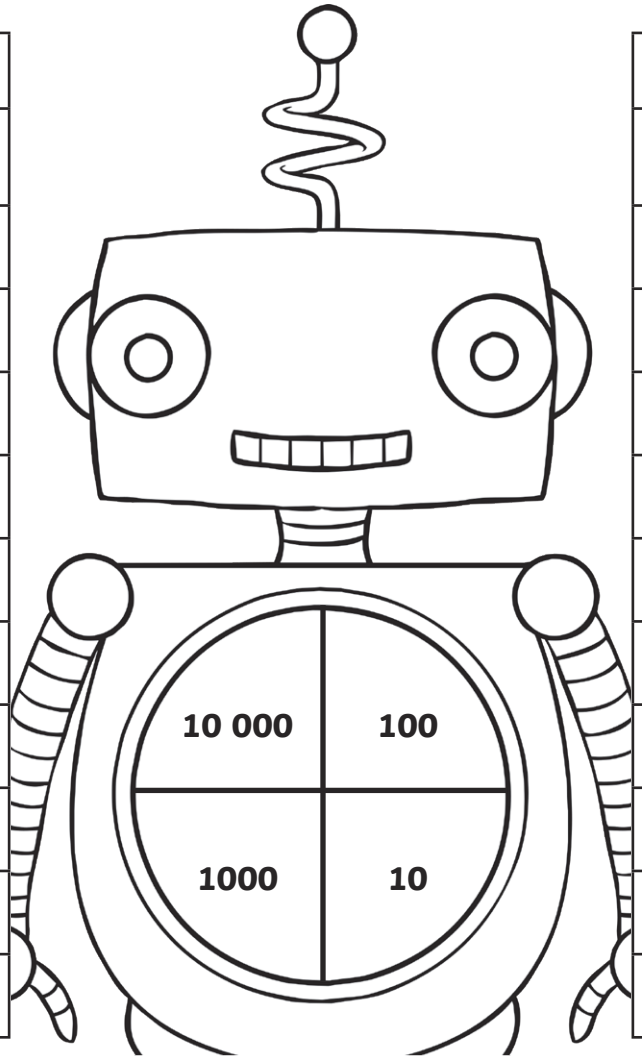
b) If you round the number of robot parts made to the nearest 10 000, how would this change your estimate?

2) A reading book has approximately 22 words on each line. Each page has approximately 38 lines. The book has 479 pages. Using rounding, can you work out approximately how many words are in the reading book?

Robot Rounding

To round numbers to a required degree of accuracy.

Player 1		
Input	**Round to the nearest...**	**Output**
427 813		
64 231		
73 453		
982 165		
534 891		
573 356		
48 274		
52 124		
31 465		
386 231		



Player 2		
Input	**Round to the nearest...**	**Output**
65 284		
838 421		
748 621		
27 458		
384 721		
47 563		
472 274		
54 531		
74 558		
121 745		

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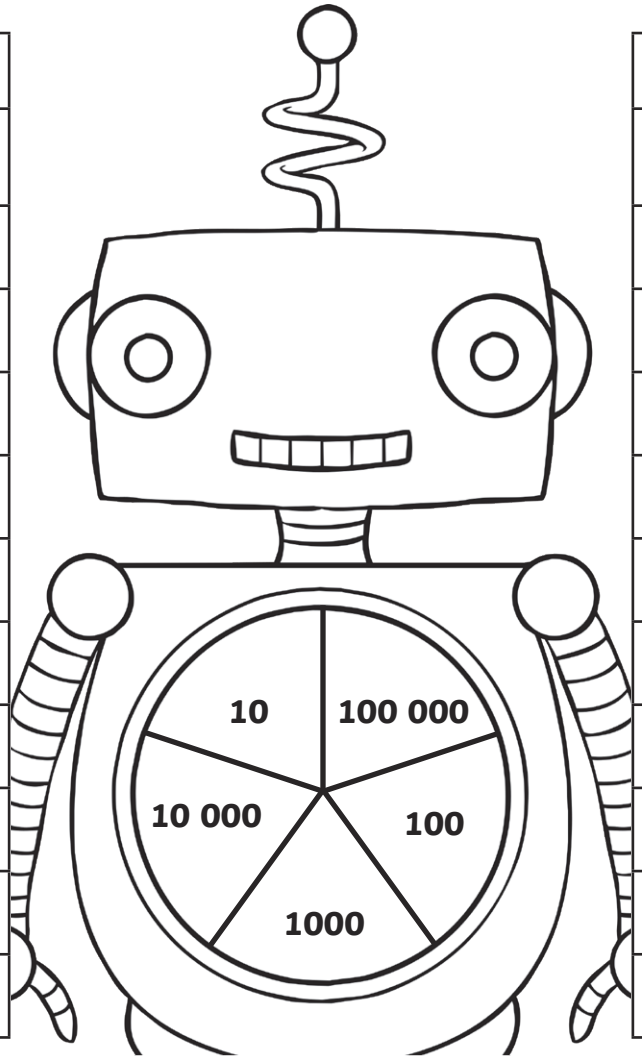

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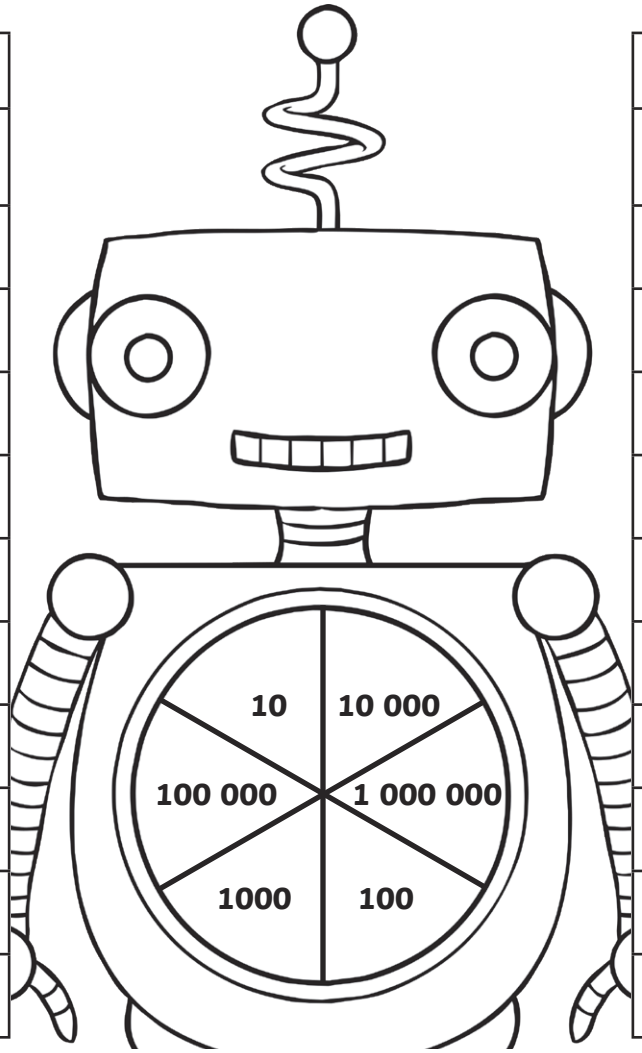

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M	HTh	TTh	Th	H	T	O

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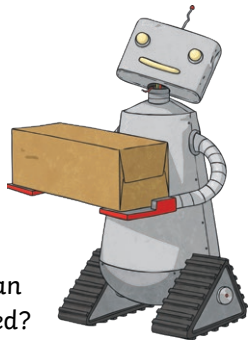

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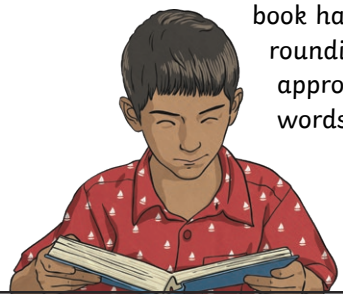

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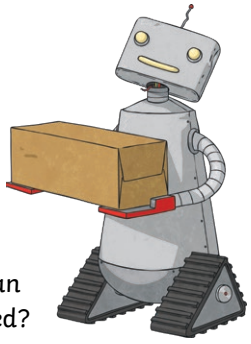

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