Year 4 Maths

Number and Place Value

Learning From Home Activity Booklet

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<tr><th>Statutory Requirements</th><th>Activity Sheet</th><th>Page Number</th><th>Notes</th></tr>
<tr><td rowspan="8">Pupils should be taught to:
• to count in multiples of 6, 7, 9, 25 and 1000;
• find 1000 more or less than a given number;
• count backwards through zero to include negative numbers;
• recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones);
• order and compare numbers beyond 1000;
• identify, represent and estimate numbers using different representations;
• round any number to the nearest 10, 100 or 1000;
• solve number and practical problems that involve all of the above and with increasingly large positive numbers.</td><td>Code Crackers</td><td>2</td><td></td></tr>
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Code Crackers

Professor Turing is trying to crack the codes below. However, he needs your help. All the codes are number sequences, but some of the numbers are missing. A number sequence is a list of numbers that are linked by **a rule**. If you calculate the rule, you can then calculate the next numbers in the sequence.

For example: **2** **4** **6** **8** **10** ...

The sequence above is going up in **twos**, so the rule is **+ 2**. The next 2 numbers in the sequence would be 12 and 14. Complete the sequences below and write the rule below each sequence.

6	12	18	24						

Rule: ______________________________

0		18	27				63	72		

Rule: ______________________________

	75	100		150	175		

Rule: ______________________________

9000					4000	

Rule: ______________________________

Challenge

2	4	8				128	256

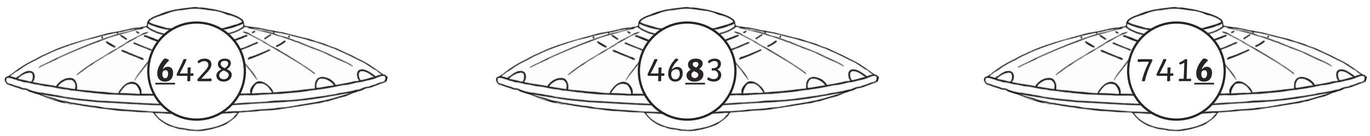
Rule: ______________________________

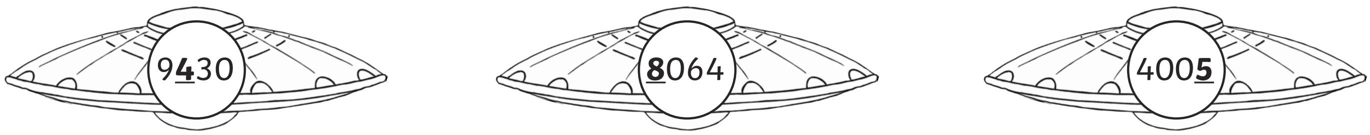
Alien Numbers

The digits 0-9 are used to make numbers. For example, the number 683, is made of the digits 6, 8 and 3. The position of the digits in this number are very important. Each digits **postion** shows its **value**. See the place value chart below.

thousands	hundreds	tens	ones
	6	8	3

The number six hundred and eighty-three is made up of **six hundreds**, **eight tens** and **three ones**. Use the place value chart to write the value of the underlined digit below each of the alien ships.





Well done! Now use your knowledge of place value to order the alien spaceships from smallest to biggest. Write the numbers on the number lines below.

smallest largest

smallest largest

Add and Subtract 1000

5620	6620	7620

Look at the number **6620** above. To increase this number by **a thousand**, simply add **one thousand** to the thousands column. To decrease this number by **one thousand**, subtract **one thousand** from the thousands column. What do you notice about the digits in the **hundreds, tens and ones column**? They stay the same!

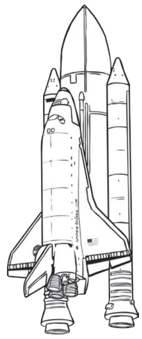
Complete the following calculations below.

325 + 1000 =		5314 - 1000 =	
6423 + 1000 =		9431 - 1000 =	
4682 + 1000 =		6485 - 1000 =	
8641 + 1000 =		9461 - 1000 =	
3495 + 1000 =		7463 - 1000 =	
1458 + 1000 =		1838 - 1000 =	
2548 + 1000 =		2465 - 1000 =	
6693 + 1000 =		5917 - 1000 =	
7146 + 1000 =		4064 - 1000 =	
6318 + 1000 =		9407 - 1000 =	
1547 + 1000 =		3648 - 1000 =	
534 + 1000 =		4367 - 1000 =	

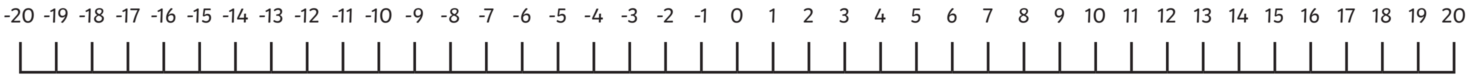
Circle the correct answer:

9462 + 1000 = 8462 10 462 19 462 1062

Blast Off



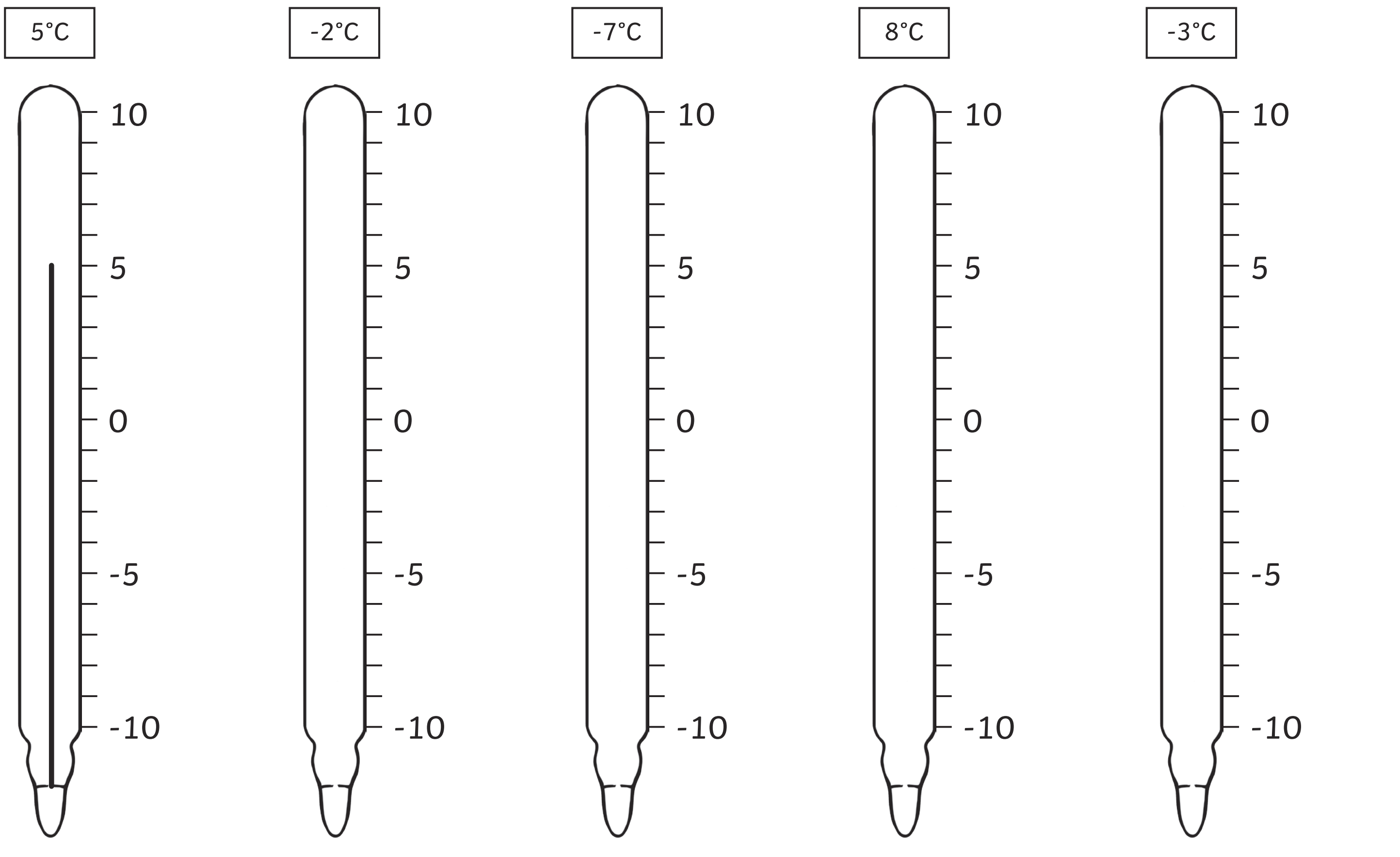
Counting backwards is a really useful skill – especially if you are counting down for a rocket's take off! But what happens if we are counting backwards and we get to '0'? We keep counting backwards into negative numbers. Look at the negative number line below and practise counting backwards from 20.



We can use a negative number line to help complete calculations, for example 5 – 8. 5 is the number you start on, and 8 is the number of jumps you count backwards so 5 – 8 = -3. Use the number line to help you complete the following calculations.

6 - 12 =		5 - 10 =		7 - 15 =	
12 - 20 =		3 - 9 =		1 - 14 =	

The astronauts on the rocket took the temperature around them on a thermometer at different points in their journey. Draw a line on each thermometer below to show where the mercury would be for each temperature. The first thermometer has been done for you.



Rounding Rabbits

In Australia, there is a huge population of rabbits which were first introduced to the country in the 18th century. During a week long project on 'Rabbit Watch' (an Australian TV show), members of the public were asked to count the number of rabbits they saw in their gardens. The results from different cities were added together and placed into the table below.

Round the numbers to the nearest **10**, **100** and **1000**.

City	Number of Rabbits seen	Rounded to the nearest 10	Rounded to the nearest 100	Rounded to the nearest 1000
Sydney	3428			
Canberra	5263			
Melbourne	7835			
Perth	4368			
Brisbane	2942			
Adelaide	5385			
Port Lincoln	6186			
Rockhampton	2543			

Cooper and Ruby are having a discussion about the question below.
Explain who you think is correct and why.

What is 3595 rounded to the nearest 10?

Cooper

I think the answer is 3510. You round up because there is a five in the ones column so the nine in the tens column changes to a ten.

I also think you have have to round up, but I think the answer will be 3600.

Ruby

Problem Solving

Use your knowledge of number and place value to solve the following problems.

1. Letters from the Ancient Greek alphabet can also be used to represent numbers:

α = 1 ι = 10 ρ = 100

What is the value of these Greek numbers?

ρρι ιααα [ ]

ρρρρι ι ι ι ια [ ]

ρρρι ι ι ιααα + ρι ιαααα = [ ]

Write the number 627 using Greek symbols:

[ ]

2. Match the following number with the same value.

5200

520 tens

5200 ones

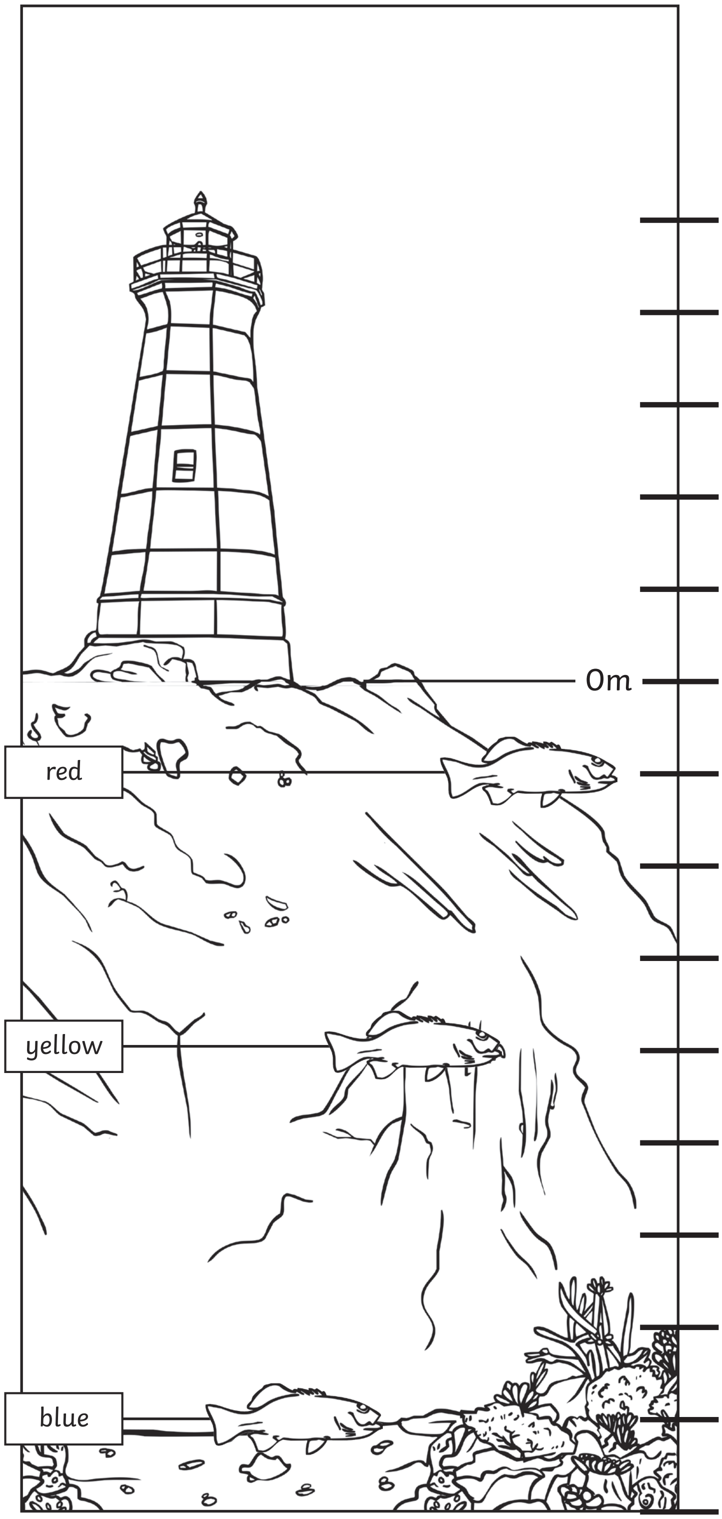
520 hundreds

52 hundreds

52 tens

Lighthouse Problems

Below is a picture of a lighthouse. The sea level is usually taken as zero metres. Use the picture of the lighthouse to answer the following questions.



1. If the red fish is at -2m (2m below sea level):

   a) where is the yellow fish?

   ____

   b) where is the blue fish?

   ____

2. Draw a fish at -12m.

3. Draw a seagull at 8m.

4. How many metres higher is the seagull than the fish you have just drawn?

   ____

5. If each scale on the lighthouse represented 7m, what would be the position of:

   The red fish: ____________________

   The yellow fish: ____________________

   The blue fish: ____________________

   The seagull: ____________________