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Teaching notes and curriculum mapping

This resource aims to provide year 6 teachers with a photocopiable, independent home learning task for maths for every week of the school year.

The resource is divided into two sections – a teacher's section (including teaching notes, curriculum mapping, detailed answers and a tick list to enable teachers to track which tasks they have set and when) and a pupil's section which contains units for number, ratio and proportion, algebra, measurement, geometry and statistics.

Each unit comprises a set of photocopiable tasks. Each task is mapped to one or more of the requirements of the National Curriculum for maths years 6 and is intended to consolidate the learning that has been done in class.

Tasks are introduced through a comprehensive example and are differentiated. For each tasks, there is a suggestion for those who may find the topic difficult, a suggestion for those who are confident and a challenge for those who are raring to go!

We hope you enjoy using this resource. If you have any questions, please get in touch: email support@teachitprimary.co.uk or call us on 01225 788851. Alternatively, you might like to give some feedback for other Teachit Primary members – you can do this by adding a comment on the *Home learning for year 6 - Maths* page on Teachit Primary (please log in to access this!).

Section 1:

Number

In this task, you will:

- read, write, order and compare numbers up to 10,000,000 and determine the value of each digit
- round any whole number to a required degree of accuracy.

Look at the examples and answer the questions. If you are anxious, try questions 1-12. If you're feeling confident, try questions 1-15. If you're raring to go, try the challenge too!

Example 1

a. Write in words the number 40,078.
b. Write down the new place value of the 7 when this number is multiplied by ten.

Answers

a.

Ten Th.	Th.	Hu.	Tens	Ones
4	0,	0	7	8

(, = thousand)

b. 40,078 → forty thousand and seventy eight.
40,078 × 10 = 400,**780**. The **7** represents **7 hundred**.

Example 2

Round these numbers to the degree of accuracy given in the brackets:
a. 6835 (nearest 1000)
b. 4723 (nearest 100)
c. 14,924 (nearest 10)

Answers

a. 6835 → 7000
b. 4723 → 4700
c. 1 4,924 → 14920

Write in words:

1. 1523 → .....
2. 8071 → .....
3. 17,080 → .....
4. 48,230,050 → .....

Write in figures:

5. Six thousand, seven hundred and two → .....
6. Twelve thousand, five hundred and eighty → .....
7. Half of a million → .....
8. Ten million, fifty thousand and one hundred → .....

Resource 1 – read, write, order and compare numbers up to 10,000,000

For each of the following numbers, write down the place value of 9:

9. 1943 → .....
10. 90,500 → .....
11. 9,154,000 → .....
12. 94 × 100 → .....

Round the following numbers to the degree of accuracy indicated in the brackets:

		Write your answers in the spaces below	
13.	8473	..... (nearest 100)	..... (nearest 1000)
14.	19,637	..... (nearest 1000)	..... (nearest 10)
15.	203,848	..... (nearest 10)	..... (nearest 100)

Challenge

Using the following digit cards write down:

8	3	5	6	9

		Answer
1.	The largest five-digit number.	
2.	A three-digit number which has a tens digit that is double the hundreds digit.	
3.	A 5-digit number that rounds to sixty thousand.	
4.	A 4-digit number that rounds to five thousand.	
5.	A number that rounds to one hundred thousand.	
6.	All the numbers round to ninety.	
7.	The smallest 3-digit number where the hundreds digit is treble the units digit.	

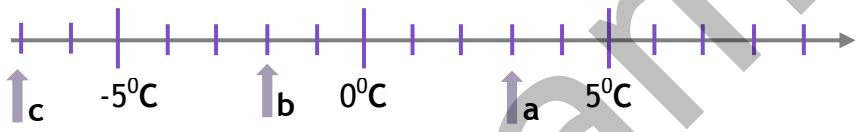
In this task, you will:

- use negative numbers in context, and calculate intervals across 0.

Look at the examples and answer the questions. If you are anxious, try questions 1-6. If you're feeling confident, try questions 1-9. If you're raring to go, try the challenge too!

Examples

a. Write down the temperature indicated by the arrows below.

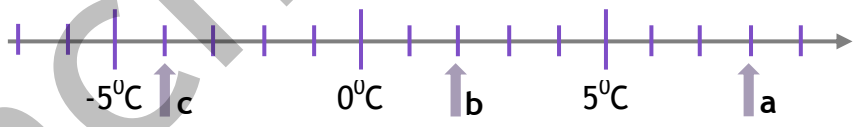


a = 3⁰C **b = -2⁰C** **c = -7⁰C**

b. What is the difference between the temperatures given by **a** and **c** above?

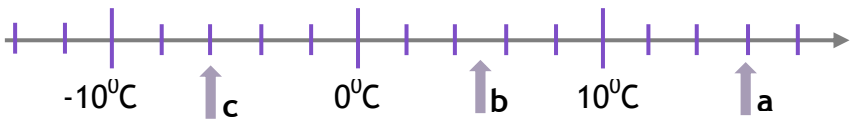
Counting up from -7 to 3 takes 10 steps so the difference is 10⁰C.

1. Write down the temperature indicated by the arrows below.



a =	b =	c =

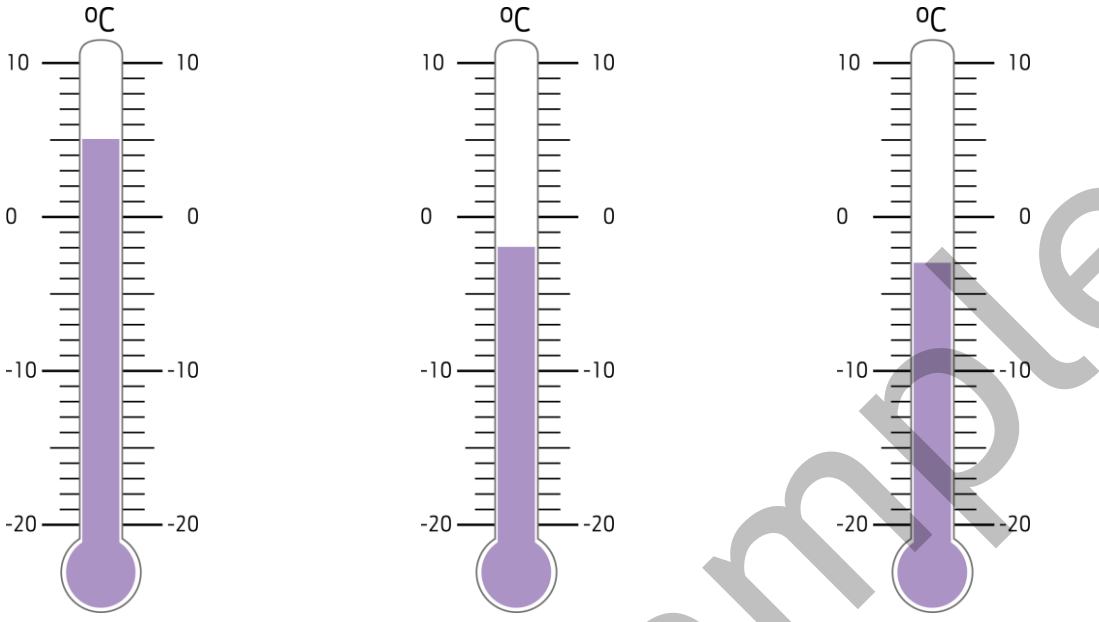
2. Write down the temperature indicated by the arrows below.



a =	b =	c =

3. Write down the temperatures indicated on the thermometers below.

a. ..... b. ..... c. .....



4. The negative number for today is -3 .

a. 4 more → .....

b. 2 less → .....

c. 20 more → .....

d. 20 less → .....

5. The temperature in Madrid overnight is -7°C. During the morning it rose by 15°C. What is the new temperature? °C

6. What temperature is 15 degrees lower than 8°C? °C

7. The temperature rises by 17 degrees from -9°C. What is the new temperature? °C

8. The temperature in New York at 8am is -2°C.

   a. By 2pm the temperature has risen by 14°C. What is the temperature at 2pm? °C

   b. Overnight the temperature drops to -6°C. How many degrees did it fall by? °C

   c. On another occasion, the lowest temperature was -8°C and the highest was 11°C. What is the difference between these temperatures? °C

9. Complete the following sequences:

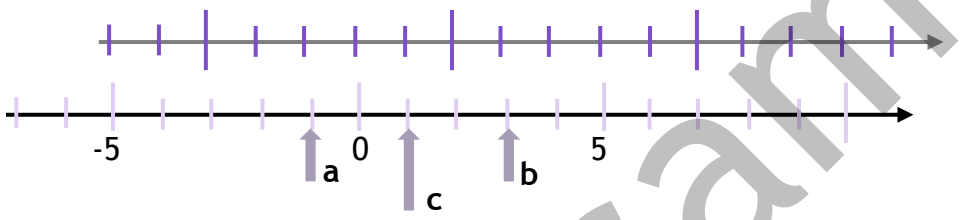
a. ☐ 1 ☐ 7 ☐

b. ☐ ☐ 2 6 10

c. ☐ ☐ 2 8 14

Challenge

On the diagram, we can see that **c** is ***halfway*** between points **a** and **b**. It is worth **1.**



Find the number that is **halfway** between the following pairs of numbers:

a. -2 and 6 → .....

b. -6 and 2 → .....

c. -3 and 9 → .....

d. -10 and -4 → .....

e. Find the number halfway between -24 and 36 and explain how you found it.

In this task, you will:

- solve number and practical problems that involve whole numbers, rounding and negative numbers.

Look at the examples and answer the questions. If you are anxious, try questions 1-6. If you're feeling confident, try questions 1-8. If you're raring to go, try the challenge too!

Example 1	Example 2
In the number 7.539: 1. What does the digit 3 represent? 2. Round this number to: a. the nearest whole number b. 1 decimal place	Circle two numbers which have a difference of 2 -2 -1.5 0 0.5 1 1.5
Answers	**Two possible answers**
1. 3 represents $\frac{3}{100}$ or three hundredths 2. a. 7.539 ≈ **8** b. 7.539 ≈ **7.5**	**-2** and **0** **-1.5** and **0.5**

1. Round the following to the nearest whole number.

   a. 7.632 ≈ .....

   b. 17.3 ≈ .....

   c. 405.99 ≈ .....

2. Using each of the digits 3, 6 and 9 only once in each number:

   a. write down the largest even number and the smallest odd number.

   Largest even number: .....

   Smallest odd number: .....

   b. make a 3-digit number that rounds to one thousand.

   .....

3. Fill in the possible numbers:

Number	47	.....	961	.....	.....
Rounded to the nearest 10	.....	50	.....	90	200

4. Using each of the digits 3, 6 and 9 only once in each number, write:

   a. the smallest odd number that can be made .....

   b. the largest 3-digit that can be made .....

   c. a 3-digit number that rounds to five hundred . .....

   d. the value of the ones digit in the largest 4-digit number that can be made

   .....

   e. the value of the hundreds digit in the answer when the largest 2-digit odd number is multiplied by 10 .....

5. The temperature in Leeds was -5°C at midnight. By midday, the temperature had risen by 12°C.

   a. What was the temperature at midday? .....

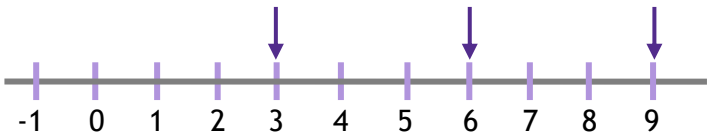
   By 10 o'clock that evening, the temperature had fallen to -10°C.

   b. By how much did the temperature fall? .....

6. What number is five hundred less than one million? .....

7. The diagram below shows that 6 is **halfway** between the numbers three and nine.

   What number is half way between -1 and 5? .....



8. Alice has £732 in her bank account. Jim has -£127 in his bank account.

   a. Round the amount of money in Alice's account to the nearest £100. £

   b. Round the amount of money in Jim's account to the nearest £100. £

   c. How much more money does Alice have than Jim? £

Challenge

1. What number is halfway between:

   a. -4 and 6?

   b. -7 and 5?

2. The number **eight** is halfway between **two** and another. What is the other number?

3. Write down the 4-digit number that obeys the following instructions:

   - It rounds to 3000.
   - The thousands digit is half the units digit.
   - The tens digit is the sum of the thousands and units digits.