

Unit 1: Reasoning with large whole numbers (week 2 of 2)

Parental Guidance

Pupils extend their understanding of the number system and place value to include 5-digit and 6-digit numbers. This week explores rounding and comparing 6-digit numbers along with extending and describing sequences.

Prior learning

See previous week

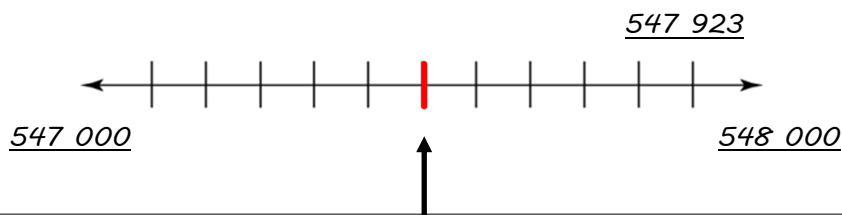
Future learning

See previous week

Worked examples

- For the following number write the two closest multiples of 1000 at each end of the number line and approximate where the number could lie.

547 923



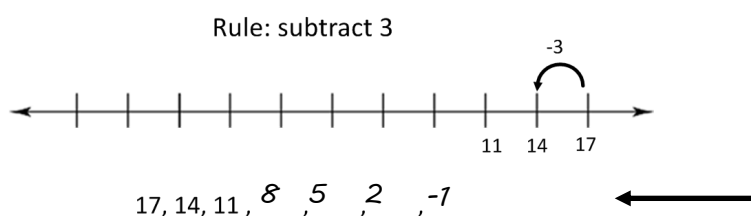
When rounding, positional language such as “round up/down” can be confusing. Instead, say “**round to the nearest multiple of...**”

547 923 lies somewhere between the two multiples of one thousand 547 000 and 548 000. Knowing whether it is closest to 547 000 or 548 000 is determined by how many hundreds there are in the number. In 547 923 there are nine hundreds which means it is closer to the next multiple of 1000, i.e. 548 000. This would have been the case if there were 5, 6, 7 or 8 hundreds as well. If there were 4, 3, 2, 1 or 0 hundreds, then the number would have been rounded to the preceding multiple of 1000. This rule works for all numbers.

Choosing which power of ten to round to depends on how accurate you want to be. For example, you may round to the nearest ten when describing a short journey “it takes about 20 minutes to walk to school” when it may take 18 minutes. Rounding to the nearest 10 000, in contrast, is useful for approximating with larger numbers, for example house prices: “The house cost approximately £250 000”, when the exact price could have been £248 985. You wouldn’t approximate this to the nearest ten (£248 990). Find opportunities to discuss when you would approximate and estimate in every day life.

Rounding to	Look at the
10	Ones
100	Tens
1000	Hundreds
10 000	Thousands
100 000	Ten thousands

- Complete the next four terms of this number sequence:



A number sequence is an ordered set of numbers which follows a rule. Each number in the sequence is called a **term**. The **rule** is a description of what needs to be done to get from one term to the next.

Pupil tasks

1. For the following numbers write the two closest multiples of 10 000 at each end of the number line and approximate where the number could lie.

A) 264 967



B) 856 487



2. Here are four 6-digit numbers:

623 084

326 408

620 843

308 624

- A) Each of the four numbers has the same digits. Explain why the numbers have different values.

- B) Using the numbers above, complete the boxes below. Write a statement comparing each pair of numbers.

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3. Here is part of a number sequence: 23, 17, 11, 5, _____, _____, _____, -19

- A) Fill in the missing terms of this sequence.

What would the 10th term of this sequence be? The 10th term will be _____

Write three statements that describe this sequence.

difference between terms

decreasing

increasing

rule

- B) Circle the sequence(s) that will contain the number 1000. How do you know?

25, 35, 45, 55, 65, ...

100, 200, 300, 400,

850, 825, 800, 775, 750,....

I know because _____

Write the first five terms of an increasing sequence with the rule 'add 0.7'. The first term is 2.1.

Idea for depth



Answer

I'm thinking of a whole number...

It has six digits and it is odd.

It is approximately equal to 358 000 when rounded to the nearest 1000.

What is the greatest number it could be? Smallest? Suggest two numbers it could not be and explain why.