Expand each of these numbers and shade the corresponding sections of the place-value chart. You will reveal a hidden number.

37005.92, 790 083.19, 251 030.75, 979 209.3, 10 857.57

Use the place value chart below and/or resource 1 to make your own hidden word. Use numbers up to 1 million, with up to two decimal places.

Give your numbers to a partner to expand and shade, to find your hidden word.
2 Mark these numbers as accurately as you can on the number line.

\[
\begin{array}{cccccc}
2458 & 5230 & 9103 & 7312 & 1085 & 9862
\end{array}
\]

**Hint:** Mark ‘landmark’ numbers such as 5000, on the line first.
Round each number to the nearest 1000 or 100 to help position them on the number line.

3 Complete each number sentence with <, > or =.

\[
\begin{array}{ccc}
986 577 & 985 677 & 5 \times 210 \\
9.23 + 8.69 & 27.74 - 9.95 & 8.29 \quad 8.3 \\
8.45 \times 100 & 845 000 \div 100
\end{array}
\]

4 Maria has carefully measured the amount of water she can store in one container.

Approximately how much can she store in 16 containers?
Explain how you worked out your approximation, and why you think it is a good approximation.

**Hint:** Try rounding the number. Try partitioning to multiply.
Multiples, factors and primes

Remember
When a number is a multiple of two different numbers, it is a common multiple of the numbers, for example, 30 is a common multiple of 3 and 5.

A prime number has exactly two factors, itself and 1.
A general statement is a rule that always works.

1. How many common multiples are there of 5 and 7 between 1 and 200?

There are _____ common multiples of 5 and 7 between 1 and 200.
The multiples are:

Hint: Use known facts about recognising multiples of 5.
Which numbers between 1 and 200 have the same property as multiples of 5?

2. Identify the three prime numbers in this grid.

Prime numbers: _____, _____, _____

Which numbers in this grid have the most factors? 

Use this space to investigate.

Which numbers in this grid have an odd number of factors? Why?

Hint: Find pairs of factors systematically, for example, is the number a multiple of 2?
If it is what is 2 multiplied by to make the number? Is the number a multiple of 3?
If it is then what is 3 multiplied by to make the number?
3. Go through the maze to find the correct exit.

DO NOT solve the calculations, but work out whether the solution would be odd or even.

If the solution is even, turn right, if the solution is odd, turn left.

The correct maze exit is: ______________

Explain how you knew whether a solution would be even or odd.

For all of the calculations in the maze, write E next to it if the solution is even, and O if it is odd.

Unit 2A: Number and problem solving

CPM framework 6Nn6, 6Nn7, 6Nn17, 6Nn18, 6Nn19, 6Ps5; Teacher’s Resource 12.1, 12.2, 13.1
4. What numbers between 1 and 40 can be made by adding pairs of consecutive prime numbers? Shade them on the grid.

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What do you notice about the sums of consecutive prime numbers?

Hint: 7 and 11 are consecutive prime numbers. 11 is the next prime number after 7.

Write a general statement to describe the total when two consecutive prime numbers are added.

Hint: 7 and 11 are consecutive prime numbers. 11 is the next prime number after 7.
5 Use the numbers 1 to 9 once in each grid.

Place the numbers so that the totals of each row and each column are all prime numbers.

How many different grids can you complete?

Hint: Use what you know about the sums of odd and even numbers to identify which sets of three numbers might total a prime number.