What you need to know before the end of Year 6 (Maths)

**1. Read numbers in the millions and know the value of each digit**. E.g. 2,543,128 **2. Order numbers from smallest to largest (1-10,000,000)** **3. Round numbers to the nearest 10, 100, 1000, 10,000, 100,000 and 1 million. Round numbers to the nearest whole number, 1 decimal place and 2 decimal places.**

**4. Find the difference between a negative and a positive number.**

**5. Know the adding and subtracting column methods. 6. Know the long multiplication method. 7. Know the short/long division method. 8. Understand how to work out the operations for 3 or 4 step word problems.**

**9. Know how to multiply and divide by 10, 100 and 1000. 10. Know how to add and take away decimal numbers. 11. Know how to multiply a decimal (when it is not by 10, 100 or 1000).**

**12. Know how to find: a multiple of a number, a factor of a number and a prime number.**

**13. Know what square and cube numbers are.**

**14. Find fractions of amounts. 15. Find percentages of amounts.**

**16. Know how to divide, add, subtract and multiply fractions. Know how to add and subtract fractions using a common multiple. 17. Convert mixed numbers to improper fractions and improper fractions to mixed numbers. 18. Find equivalent fractions. 19. Know how to convert percentages, decimals and fractions between each other.**

**20. Understand ratio**

E.g. For every 2 ice creams there are 3 flakes is 2:3. This means for every 4 ice creams there are 6 flakes.

**21. Use basic formulae. E.g. Cost of crisps = 2p + 3 p is 5 22. Solve equations. E.g. 2t -5 = 1t + 5 23. Understand sequences. 24. Know BIDMAS.**

**25. Know and be able to convert**: 1km=1000m 1kg=1000g 1 litre=1000 millilitres

1m=100cm 1cm=10mm quarter of an hour =15mins half an hour =30mins 60mins =1 hour

1 minute = 60 seconds one day = 24 hours 7 days = a week

**26. Know that you never compare numbers in different units you convert them and then compare.**

**27. Work out the cost of food/items in different weights and amounts.**

**28. Know all analogue, digital and 24 hour times. Work out the different lengths of time using a timeline. Able to read train and bus timetables.**

**29*. Know that perimeter is the length* of all the sides added together (sometimes you just count the squares). 30. *Know that area is the space inside a shape* (sometimes you just count the squares and other times you multiply the length by the width of rectangles, squares and parallelograms). 31. Know volume can be base x length x height or counting all the cubes in the picture.**

**32. Know that a right angle is 90 degrees (a quarter of a turn). Know an acute angle is less than 90 degrees (1-89 degrees). Know there are 180 degrees in a straight line (half a turn). Know there are 360 degrees in a complete turn (circle). Know that all the angles in a triangle add up to 180 degrees. Know that all angles in a 4 sided shape add up to 360 degrees. Know that opposite angles are the same. Be able to use a protractor to draw angles and measure angles.**

**33. Recognise 2D shapes and know what parallel, perpendicular, irregular and polygon mean. 34. Recognise 3D shapes and know what faces, edges and vertices mean.**

**35. Read and plot coordinates. 36. Understand translations. 37. Understand reflections and lines of symmetry**

**38. Read tables, pictograms, bar charts, line graphs and pie charts correctly. 39. Know what mode, median, mean (average) and range are.**

**40. Read Roman numbers.**

**41. Know that halfway between two numbers is add the two numbers together and divide by two.**

**42. Know how to work out the area of a triangle and trapezium.**

**43. Know corresponding, alternative angles are the same and allied angles add up to 180 degrees.**

**44. Scale factor enlarging means multiply and scale factor reducing meaning divide.**

**45. Know the parts of a circle: circumference = outside edge of a circle, diameter = across the circle and radius = half the diameter.**

**Circumference of a circle is 3.14 (pronounced as pie) x diameter. Area of a circle is 3.14(pie) x (radius) squared.**