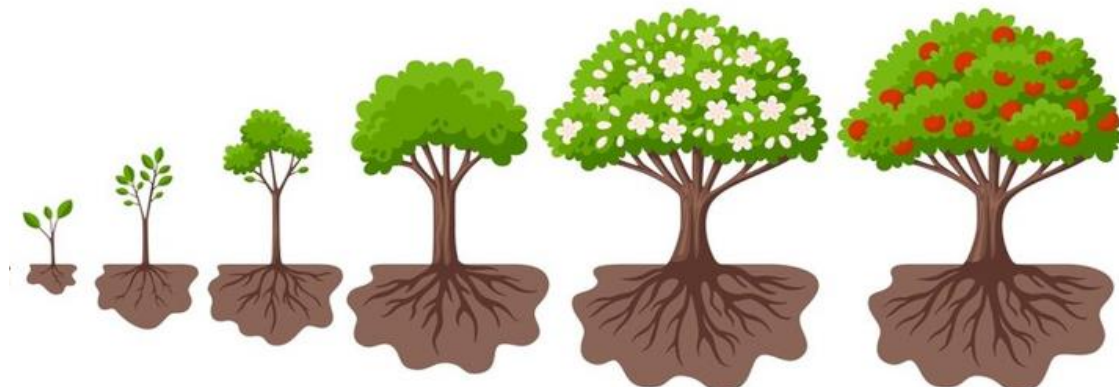





# Maths Roots

## Deepening and Broadening



Once a term, the children are expected to be able to answer their year group questions in 2 minutes. If they get them all correct, they will be expected to answer them in 1.5 minutes, and then 1 minute. The children are expected to improve their mental maths and be able to get the correct answers in a shorter amount of time.

<b><u>End of Reception – Seeds</u></b> You've planted the seed		
Say the numbers 1 to 20 accurately Say 1 more than any number between 0-20 Say one less than any number between 0-20 Know by heart number bonds to 3, 4 and 5		
<b><u>End of Year 1 - Sprouts</u></b> The seed is starting to sprout and produce green shoots		
One more or less than any number between 1-100 Count in twos Count in tens Know by heart number bonds to ten	Count in fives Recall doubles of all numbers to at least ten Know by heart number bonds to twenty	
<b><u>End of Year 2 - Seedling</u></b> The tree is getting taller and developing more leaves		
Know by heart all number bonds to 6, 7, 8 and 9 Order any 2 numbers between 0 and 100 using <> Know by heart doubles of all numbers to twenty Know by heart all multiplication facts for 2 to 2 x 12 Know by heart all multiplication facts for 5 to 5 x 12 Know by heart all multiplication facts for 10 to 10 x 12 Add or subtract any single digit numbers	Know by heart all bonds of multiples of 10 to 100 Know by heart halves of all numbers to twenty Know by heart all division facts for 2 up to 24 Know by heart all division facts for 5 up to 60 Know by heart all division facts for 10 up to 120 Add or subtract any numbers up to 20.	

### End of Year 3 – Saplings

The tree is getting stronger and developing branches

Know by heart all sums and differences of multiples of 10 up to 100  
Know by heart all multiplication facts for 3 to 3 x 12  
Know by heart all division facts for 3 up to 36  
Know by heart all multiplication facts for 4 to 4 x 12  
Know by heart all division facts for 4 up to 48

Know by heart all multiplication facts for 8 to 8 x 12  
Know by heart all division facts for 8 up to 96  
Add or subtract any single unit number to any 3 digit HTU number  
Add or subtract any multiple of 10 to any 3 digit HTU number  
Add or subtract any multiple of 100 to any 3 digit HTU number



### End of Year 4 – Mature

The tree is established with many leaves

Know by heart all multiplication facts for 6 to 6 x 12  
Know by heart all division facts for 6 up to 72  
Know by heart all multiplication facts for 9 to 9 x 12  
Know by heart all division facts for 9 up to 108  
Know by heart all multiplication facts for 7 to 7 x 12  
Know by heart all division facts for 7 up to 84

Know by heart all multiplication facts for 11 to 11 x 12  
Know by heart all division facts for 11 up to 132 Y4  
Know by heart all multiplication facts for 12 to 12 x 12  
Know by heart all division facts for 12 up to 144  
Round a number to the nearest 10, 100, 1000  
Know number bonds to 100



### End of Year 5 – Blossom

The tree is flowering and thriving

Double any 2 digit number  
Halve any 2 digit number  
Know the factors of all times table answers up to 12 x 12  
Multiply or divide a number by 10, 100, 1000 including decimals

Know by heart the squares of numbers between 1 and 12 and squares of multiples of 10.  
Know number bonds to 100 for numbers with one decimal place  
Recall prime numbers up to 30  
Multiply pairs of multiples of 10 and 100 eg. 30 x 70



### End of Year 6 – Flourish

The tree is bearing fruit

Double any number with up to 1 decimal place  
Half any number with up to 1 decimal place  
Find a unit fraction of a number  
Identify equivalence between fractions

Find non-unit fractions of a number  
Find a percentage of a number  
Convert between decimals fractions and percentages  
Convert improper fractions to mixed number

