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| **Core Knowledge Map** |
| Subject: **Mathematics** | Year: 10 | Term: Autumn 1 |
| What are we learning? |
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| How will I be assessed  |
| Retrieval Tasks, Exit tickets, end of half-term test. |
| Big questions: |
| Can You….?* Write down the value of 25
* Prove that the square root of 45 lies between 6 and 7
* Evaluate (23 × 25) ÷ 24
* Work out the value of n in 40 = 5 × 2n
* Write 365,000,000,000 and 0.0000004653 in standard form.
* Calculate (1.6 x 106) ÷ (6.4 x 10-8) giving your answer in standard form
* Write any number as a unique produce of its prime factors
* Use a Venn diagram to sort information to find HCF and LCM
* Recall prime numbers up to 100
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| How does this build on previous learning? | How will this link to my future learning? |
| * Calculating powers and roots
* Finding factors and prime factors of a number.
* Finding HCF and LCM of a number
* Using basic index rules
* Convert large and small numbers to standard form.
 | * Numbers written in standard form can appear elsewhere in the curriculum.
* Index numbers appear in many topics and in standard formulae.
* Indices are used extensively at A Level
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| Core knowledge: | Key vocabulary: |
| **factor** of a number or algebraic expression divides that number or expression evenly with no remainder. A **multiple** is the product result of one number multiplied by another number.A **prime** number only has two factors, itself and one.**Rules** of indices:* $n^{a}×n^{b}= n^{a+b}$
* $n^{a}÷n^{b}= n^{a-b}$
* $\left(n^{a}\right)^{b}=n^{ab}$

**Know that**, n0 = 1 and $n^{-1}=\frac{1}{n} $for positive integers n as well as, $n^{\frac{1}{2}}=\sqrt{n}$ and $n^{\frac{1}{3}}=\sqrt[3]{n}$ for any positive number. | Index (Indice)FactorMultipleLowest Common Multiple (LCM)Highest Common Factor (HCF)SimplifyStandard FormSquare rootRoot |
| Need more help? Use the Sparx Independent Learning Codes above |