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| **Key Topics and Learning Sequence** | | | | | | |
| **= First Steps** | **= Moving On** | | **= Stretch** | | **= Challenge** | |
| **1. Rational numbers and equivalence**   1. What is a **rational number**- representing fractions with diagrams and on number line 2. **Equivalence**- writing rational numbers in different but equivalent form and ordering and **simplifying** them 3. **Mixed numbers** and **improper** fractions | **2. Arithmetic with fractions**   1. **add/subtract fractions** and how do we know 2. **multiply fraction**s, how we do know, and the importance of the word **OF** 3. **Dividing** fractions - understanding using equivalent fractions and how do we know 4. **Strategies for ordering and comparing decimals** 5. All arithmetic with mixed numbers 6. Solving problems with fractions | **3. Connecting fractions with decimals**   1. Decimals as a way of writing fractions 2. Understanding **place value** - powers of 10. 3. Decimal arithmetic – adding and subtracting 4. Decimal arithmetic- multiplying and dividing 5. Problems with decimals in context- money | | **4. Connecting fractions with percentages**   1. What is a **percentage**? 2. Finding percentages using equivalent fractions 3. **Converting** fractions, decimals and percentages. 4. Using fractions to solving problems with percentages. | | **5. Irrational numbers (extension)**   1. Are all numbers **rational?** 2. The square root of 2 3. A whole universe of **irrational numbers** 4. Approximating irrational numbers. |
| **How does this unit fit into your mathematical learning journey?** | | | **Further Exploration, Enrichment and Cultural Capital** | | | |
| This unit extends work you have already done on whole numbers in the unit **Integers**, to **fractions, decimals and percentages** and helps you understand the connections between these. In **year 8**, we meet more of these ideas and become **fluent in arithmetic** with them. You will use these skills in almost all the maths you do later. | | | **Reading: The Dangerous Ratio (article)** <https://nrich.maths.org/2671>  **Al Uqlidisi and the origin of decimals** <https://mathshistory.st-andrews.ac.uk/Biographies/Al-Uqlidisi/>  **Enrichment:**  Visit the London Eye and see if you can work out what fraction, percentage and decimal one pod represents of the whole wheel. | | | |

**LPS Mathematics: Year 7 Unit 4 – Rational numbers: fractions**

**Enquiry Question:** **What’s between the integers on a number line?**

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**Date: Initial Thoughts:**

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**Date: New Thoughts:**

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**Date: Final Thoughts:**

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