Summer Learning Journey for Maths
Year 8F Unit 7 Decimals and Ratio

How does this unit link to prior learning?

- **Order negative numbers**
  Link to lesson 1 on ordering decimal numbers
- **Rounding to whole to the nearest 10, 100 and whole number**
  Link to lesson 2 on rounding to decimal places
- **Multiply using the column method**
  Link to lesson 4 on place value calculations and lesson 7 on multiplying decimals
- **Adding and subtracting integers**
  Link to lesson 5 on adding and subtracting decimals
- **Dividing integers using the bus stop method**
  Link to lesson 8 on dividing decimals
- **Finding highest common factors**
  Link to lesson 9 on simplifying ratio with decimals

Prior Knowledge Check

1) Put these numbers in order from smallest to biggest: 3 -7 -2 4 -1 0

2) Round the following numbers:
   a) 34 (nearest 10) b) 256 (nearest 100) c) 7.754 (nearest whole number)

3) Work out using the column method: 435 x 6

4) Work out using the column method:
   a) 457 + 763 b) 654 – 297

5) Work out using the bus stop method: 272 ÷ 4

6) Find the highest common factor of 40 and 28

What will you be learning about?

Order and round positive and negative decimals.
Perform the 4 operations with 3 digit decimals.
Multiply and divide by 0.1 and 0.01.
Solve ratio problems involving decimals.

We will develop our learning each week by focusing on:

	RAG		RAG
1. Ordering decimals • Ordering positive and negative decimals. • Using the symbols > and < between two negative decimals.		**2. Rounding decimals to decimal places** • Rounding decimals to decimal places.	
3. Rounding decimals to significant figures • Rounding whole numbers and decimals to significant figures.		**4. Place-value calculations** • Multiplying larger numbers. • Multiplying any number by 0.1 and 0.01. • Dividing by 0.1 and 0.01.	
5. Adding and Subtracting Decimals • Adding and subtracting decimals of any size.		**6. Consolidation lesson** • Consolidation on all work covered so far on the topic. • Long periods of deliberate practice. • Should contain exam questions	
7. Multiplying Decimals • Multiplying by decimals.		**8. Dividing Decimals** • Dividing by decimals.	
9. Ratio with decimals • Simplify ratios • Simplify ratios in the form 1:n		**10. Sharing into a ratio with decimals** • Share into a ratio • Ratio problems involving decimals	
11. Direct proportion with decimals • Use direct proportion • Solve proportion problems involving decimals		**12. Revision Lesson** • Select topics you feel the class need to revise. • Classroom based or Mathswatch.	
13. Assessment Lesson (non-calculator) • Do 10-minute top up and go through answers together, students self-assess. • Open book assessment done in silence.		**14. Feedback Lesson** • Student to highlight their traffic light sheet. • Teacher to go through test and students to self-assess in green. • Students to complete the NOW section of the WOW-HOW-NOW sheet.	

Key Vocabulary

Ratio	Proportion	Decimal	Place Value	Inequality	Rounding	Decimal place
Unit	Calculate	Power	Tonne			

How will this help you in the future?	
KS4	**Beyond LHS**
• Ordering values on number lines • Using inequalities in exam questions • Rounding answers to a given degree of accuracy • Upper and lower bounds (rounding & error intervals) • Interpreting negative values in graphs (coordinates, temperature, profit/loss) • Multi-step problem solving • Financial maths (Foundation focus) • Calculations in statistics (mean, totals) • Accuracy in exam questions across many topics • Place value and scaling • Standard form • Unit conversions • Ratio and proportion calculations • Understanding how numbers change under scaling • Ratio and proportion exam questions • Unitary method • Direct proportion • Problem solving in real context	• **Finance & banking**: overdrafts, profit and loss, balances • **Science**: temperatures, measurements below zero • **Engineering**: tolerances above and below a target value • **Geography & environmental science**: altitude, depth, climate data • **Accounting & business**: invoices, budgets, profit • **Healthcare**: medication doses and measurements • **Retail & hospitality**: pricing, stock control • **Trades**: material costs and measurements • **Science**: converting units (g to kg, m to cm) • **Engineering**: scale drawings and models • **IT**: data sizes (MB to GB) • **Finance**: VAT, discounts, interest • **Catering & food industry**: recipes and ingredients • **Construction**: mixing materials • **Science & engineering**: combining substances • **Business**: splitting costs and profits fairly