Name:		
Advanced Proportional Part-Whole		Date achieved
I am learning to …		I can …
Knowledge		
• Count	Forwards and backwards in 0.001s, 0.01s, 0.1s, ones, tens, etc.	
• Say	The number 0.001, 0.01, 0.1, 1, 10 before/after decimal numbers	
• Order	Fractions, decimals, and percentages, e.g., 40%, $\frac{3}{5}$, 0.5	
• Know	Number of tenths, hundredths, and thousandths that are in numbers up to three decimal places, e.g., tenths in 45.6.	
• Know	What happens when a whole number or decimal is $\times$ or $\div$ by a power of 10, e.g., 4.5×100; $67.3 \div 10$	
• Round	Decimals to the nearest 100, 10, 1, $\frac{1}{10}$, $\frac{1}{100}$	
• Recall	Fractional, decimal, and percentage conversions for commonly used fractions, e.g., $\frac{1}{8} = 0.125 = 12.5\%$	
• Know	Simple powers of numbers to 10, e.g., $2^3 = 8$	
• Use	Divisibility rules for 2, 3, 4, 5, 6, 8, 9, 10, e.g., 276 is divisible by 3 because $2 + 7 + 6 = 15$	
• Identify	Common factors of pairs of numbers to 100, including the highest common factor	
• Identify	Least common multiples of pairs of numbers to 10, e.g., the LCM of 6 and 8 is 24	
Strategy		
• Solve +, −, $\times$, and $\div$ problems with fractions and decimals by	Conversion between fractions and decimals, e.g., 0.75×2.4 as $\frac{3}{4} \times 2.4$ Place value, e.g., 0.15×3.6, as $(0.1 \times 3.6) + (0.05 \times 3.6)$ Doubling and halving, etc., e.g., $7.2 \div 0.4$ as $(7.2 \div 0.8) \times 2$ Commutativity, e.g., 8×0.125 as $0.125 \times 8 = \frac{1}{8}$ of $8 = 1$ Multiplying numerators and denominators, e.g., $\frac{3}{4} \times \frac{2}{5}$ as $\frac{3 \times 2}{4 \times 5}$ Converting to Common Denominators, e.g., $\frac{3}{5} + \frac{2}{7} = \frac{21}{35} + \frac{10}{35} = \frac{31}{35}$	
• Find	Fractions, decimals, and percentages of given amounts, e.g., 65% of 24 as 50% of 24 is 12, 10% of 24 is 2.4, and 5% is 1.2 so $12 + 2.4 + 1.2 = 15.6$	
• Solve problems with ratios, rates and proportions by	Finding equivalent ratios with a common factor, e.g., 21:28 as □:8 as 21:28 is 3:4 so 6:8 e.g., $\frac{18}{27} = \frac{2}{3}$ so $\frac{2}{3} = \frac{10}{15}$ Finding a multiplier between the units, e.g., 18 out of 27 as 10 out of 15 by multiplying 15 by $\frac{2}{3}$ Converting between measurement units, e.g., \$13 400 per tonne (t) = \$13.40 per kilogram (kg)	