KS3 Ratio, Proportion and Rates of Change Progression Grid

By the end of KS3, pupils will be able to:

- Convert metric units.
- Recognise and understand multiplicative relationships in a range of contexts.
- Draw and interpret scale diagrams.
- Interpret maps.
- Simplify and share into ratios.
- Compare ratios and solve problems involving ratios.
- Solve problems with direct proportion.
- Interpret and use direct proportion and conversion graphs.
- Solve problems with inverse proportion.
- Solve unit pricing problems.
- Solve speed, distance and time problems.
- Solve mass, density and volume problems.
- Use distance, time graphs.

	Ratio, Proportion and Rates of Change - Multiplicative Relationships: Acquire and Apply	**Ratio, Proportion and Rates of Change - Ratio and Rates: Acquire and Apply**
Year 9 Greater Depth	Can explore and understand graphs with inverse relationships.	Can solve problems with ratio and algebra. Can convert compound units.
Year 9 Expected Year 8 Greater Depth	Can explore and understand direct proportion graphs. Can convert metric units of area and volume. Can construct and interpret scale drawings. Can solve direct proportion problems. Can interpret and use direct proportion and conversion graphs. Can solve problems with inverse proportion.	Can express ratios in the form 1:n Can link gradient and ratio. Can solve unit pricing problems (best buys). Can solve problems given the whole or a part. Can solve speed, distance and time problems without a calculator. Can solve speed, distance and time problems with a calculator. Can use distance, time graphs. Can solve problems with density, mass and volume. Can calculate rates of change and their units.
Year 8 Expected Year 7 Greater Depth	Can understand and use scale factors. Can draw and interpret scale diagrams. Can interpret maps using scale factors and ratios. Can convert between currencies. Can explore and understand conversion graphs. Can explore and understand similar shapes. Can convert metric units in problem solving contexts.	Can understand and use ratio notation. Can solve problems involving ratios of the form 1:n (or n:1). Can solve proportional problems involving the ratio m:n. Can divide into a ratio. Can express ratios in their simplest integer form. Can compare ratios and related fractions. Can understand π as the ratio between diameter and circumference.
Year 7 Expected	Can convert metric units. Can use multiplicative relationships between known facts.	