	Equations and Inequalities	Percentages
	1. Solve 1- and 2-step equations 2. Solve more complex equations 3. Solve factional equations 4. Form and solve equations 5. Solve equations with unknowns on both sides 6. Understand and use inequalities 7. Inequalities on a number line 8. Solve inequalities 9. Form and solve inequalities 10. Solve inequalities with unknowns on both sides (E)	1. Percentage of an amount 2. Convert between percentages and decimals 3. Use multipliers to find percentages 4. Convert between decimals and percentages greater than 1 5. Percentage increase using a multiplier 6. Percentage decrease using a multiplier 7. Percentage increase and decrease using a multiplier 8. Express one number as a fraction or a percentage of another (calculator) 9. Express one number as a fraction or a percentage of another (non-calculator) 10. Percentage change 11. Find the original value given a percentage 12. Choose appropriate methods to solve percentage problems
Knowledge & Skills development	**Fluency:** • Solving 1- and 2-step equations quickly and accurately. • Manipulating and solving fractional equations efficiently. • Forming equations from word problems and solving them effectively. • Solving equations with unknowns on both sides fluently. • Understanding and applying inequalities. • Representing inequalities correctly on number lines. • Solving and interpreting inequalities accurately. **Reasoning:** • Explaining the steps involved in solving 1- and 2-step equations quickly and accurately. • Justifying methods for manipulating and solving fractional equations efficiently. • Describing how to form equations from word problems by identifying relationships and variables. • Explaining strategies for solving equations with unknowns on both sides fluently.	**Fluency:** • Converting quickly and accurately between percentages, decimals, and fractions. • Using multipliers confidently to calculate percentage increase, decrease, and change. • Calculating percentages of amounts and finding original values efficiently. • Expressing one quantity as a fraction or percentage of another with and without a calculator. • Selecting and applying the best methods to solve a variety of percentage problems **Reasoning:** • Explaining how to convert between percentages, decimals, and fractions to understand their relationships. • Justifying the use of multipliers to calculate percentage increase and decrease efficiently. • Describing how to express one number as a fraction or percentage of another, both with and without a calculator.

	• Interpreting inequalities and representing them correctly on number lines to solve and analyse problems. **Problem-Solving:** • Breaking down and solving equations step-by-step, including fractional and complex cases. • Translating real-world problems into equations or inequalities and solving them. • Balancing equations and inequalities with unknowns on both sides. • Checking and justifying solutions to ensure they make sense in context.	• Explaining how to find the original value given a percentage and reason through reverse calculations. • Choosing appropriate methods and strategies to solve a variety of percentage problems accurately. **Problem-Solving:** • Interpreting percentage problems and selecting the right method to solve them. • Converting fluently between percentages, decimals, and fractions in different contexts. • Using multipliers to calculate percentage increase, decrease, and original values. • Applying estimation and checking strategies to verify answers make sense. • Expressing one quantity as a fraction or percentage of another with and without a calculator. • Working backwards to find percentage when given the answer.
Assessment / Feedback Opportunities	**Formative Assessment** Assessment for learning is integrated throughout each small step with suggested questions, activities and checks for understanding that are adapted for the setting.	**Summative assessment** Summative assessment includes end of block assessments and mark schemes as well as interleaved end of term assessments and mark schemes.
Key Vocabulary	Equation, inequality, variable, expression, solve, solution, unknown, term, coefficient, constant, balance, inverse operation, linear equation, substitute, simplify, inequality symbol, greater than (>), less than (<), greater than or equal to (≥), less than or equal to (≤)	Percentage, percentage change, increase, decrease, fraction, decimal, equivalent, percentage increase, percentage decrease, whole, part, proportion, ratio, percentage multiplier, reverse percentage, original amount, final amount, simple interest, compound interest, profit, loss, discount, tax
Personal Development (Including British Values, RSE, Citizenship)	Use percentages to examine views on social topics (e.g. PSHE NC H12. the benefits of having a balanced approach to spending time online or PSHE NC H24. to evaluate misconceptions, social norms and cultural values relating to drug, alcohol and tobacco use)	
Career Opportunities	Career opportunities linked to equations and inequalities include economist, engineer, and financial analyst, as these professionals use them to model relationships, solve problems, and make predictions based on constraints. For percentages, careers such as accountant, marketing	

| | specialist, and loan officer rely on calculating interest rates, discounts, and profit margins to inform financial decisions and strategies. Both topics are fundamental for analysing and interpreting quantitative information in various industries. |