| General Skills |
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**Cognitive skills**
● Non-routine problem solving – expert thinking, metacognition, creativity.
● Systems thinking – decision making and reasoning.
● Critical thinking – definitions of critical thinking are broad and usually involve general cognitive skills such as analysing, synthesising and reasoning skills.
● ICT literacy - access, manage, integrate, evaluate, construct and communicate.

**Interpersonal skills**
● Communication – active listening, oral communication, written communication, assertive communication and non-verbal communication.
● Relationship-building skills – teamwork, trust, intercultural sensitivity, service orientation, self-presentation, social influence, conflict resolution and negotiation.
● Collaborative problem solving – establishing and maintaining shared understanding, taking appropriate action, establishing and maintaining team organisation

**Intrapersonal skills**
● Adaptability – ability and willingness to cope with the uncertain, handling work stress, adapting to different personalities, communication styles and cultures, and physical adaptability to various indoor and outdoor work environments.
● Self-management and self-development – ability to work remotely in virtual teams, work autonomously, be self-motivating and self-monitoring, willing and able to acquire new information and skills related to work.

| Knowledge |
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**Ratio and Scale**
- Understand ratio and its link to multiplication
- Use ratio notation
- Reduce ratios to simplest form
- Solve ratio problems
- Calculate the circumference of a circle

**Multiplicative Change**
- Use scale factors, linking to ratio, to solve simple direct proportion problems
- Convert between currencies, including using graphs
- Draw and interpret scale diagrams and maps

**Multiplying and dividing fractions**
- Multiply and divide a fraction by an integer
- Multiply and divide a fraction by a fraction
- Understand and use the reciprocal

**Working in the Cartesian plane**
- Plot and interpret straight line graphs
- Understand and use the equations of a straight line, including lines parallel to the axes
- Make links between direct proportion and straight lines of the form $y=kx$
- Model situations by translating them into expressions, formulae and graphs

**Representing data**
- Draw and interpret scatter graphs
- Understand correlation
- Draw and use lines of best fit
- Understand grouped and ungrouped discrete and continuous data
- Design and use one and two-way tables

**Probability**
- List outcomes using sample space diagrams for one and two events
- Find probabilities using tables and Venn diagrams

**Brackets, equations and inequalities**
- Expand and factorise into single brackets
- Form and use expressions, formulae and identities
- Form and solve equations and inequalities with and without brackets
- Distinguish between equations, expressions, formulae and identities

**Sequences**
- Generating sequences using more complex rules. Eg. With brackets and squared terms, in both words and algebraically

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**Indices**
- Form expressions using indices
- Understand and use the addition and subtraction rules

**Fractions and percentages**
- Developing understanding of fractions, decimals and percentages
- Evaluate percentage increases and decreases
- Use multipliers to solve percentage problems
- Express one number as a percentage of another

**Standard Index Form**
- Convert between numbers in ordinary and standard form
- Compare numbers given in standard form
- Calculate with numbers given in standard form, with and without a calculator

**Number sense**
- Develop mental strategies
- Convert between metric measures and units
- Estimation, including rounding to a given number of decimal places
- Use the order of operations

**Angles in parallel lines and polygons**
- Review Y7 angle rules
- Understand and use parallel lines and angles
- Revisit geometric notation
- Work out angles in special quadrilaterals
- Find and use the sum of interior and exterior angles of a polygon
- Prove simple geometric facts

**Area of a trapezia and circles**
- Review area of shapes covered in Year 7
- Calculate the area of a trapezium
- Calculate the area of a circle, and the area of parts of a circle
- Use significant figures
- Calculate the area of compound shapes

**Line symmetry and reflection**
- Recognise line symmetry in polygons and other shapes
- Reflect shapes in horizontal, vertical and diagonal lines

**The data handling cycle**
- Understand and use primary and secondary sources of data
- Collect data, including using questionnaires
- Interpret and construct statistical diagrams, including multiple bar charts
- Construct and interpret pie charts
- Compare distributions using charts
- Identify misleading graphs

**Measures of location and dispersion**
- Revisit the median and mean, including finding the total given the mean
- Find the mean of grouped data
- Work out the mode and modal class
- Choose the appropriate average
- Compare distributions using measures