**KS3 Overview - Maths**

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| **Timeline** | | **Intent:**  ***What are you trying to achieve through your curriculum?*** | | | | **Implementation:**  **Deeper Applied Learning**  ***How are you delivering your curriculum?*** | | | **Impact:**  ***What difference is your curriculum making?*** | | **CPD Requirements** | |
| **Term** | **Year** | **Topic & SOW Ref:** | **Topic Objective** | **Weeks** | **RGS Pledge Opportunity**  **(Highlight as appropriate in red)** | **Relevant**  **Engaging**  **Active**  **Learning** | **Coherent Industry Experience & Lead Teacher**  **Careers Insight** | **Sequencing (KS4) link**  **(Spec Ref)**  **End Points**  **National Curriculum References** | **Marking Task**  **Outcomes** | **Independent Learning Project (Lifelong) & Lead Teacher**  **Skill & Knowledge Beyond Exams** | **Pedagogy** | **Subject Knowledge** |
| 1  Sep Oct | 7/8 | 1. Calculations & Accuracy | To be able to use the four operations with decimals and negative numbers | 2 weeks | P1: After School Activity  P2: Represent RGS  P3: Residential  P4:National Event  P5: RGS Production  P6: **Formal Presentation**  P7: International Experience  P8: Community Experience  P9: Fund Raising  P10: Sustainability of RGS | * Link negative numbers to real life situations such as temperature | Year 7  GIS Mapping  Year 8 – UCL PhD on Fuel Cells | N1  N2  N4  N5  N6  N13  N14  N15 | Calculations & Accuracy topic test |  |  |  |
| 2. Data and Interpreting Results | To be able to gather, display and interpret data | 2 weeks | P1: After School Activity  P2: Represent RGS  P3: Residential  P4:National Event  P5: RGS Production  P6: **Formal Presentation**  P7: International Experience  P8: Community Experience  P9: Fund Raising  P10: Sustainability of RGS | * Look at real world data and analyse it. * Look at misleading graphs in the media * Get students to gather their own data and display it * Case study – reducing traffic accidents * [If the world were 100 people](https://www.youtube.com/watch?v=A3nllBT9ACg) * Try capture recapture with ping pong balls | S1  S2  S3 | Data and Interpreting Results |  |
| Core Skills | To improve on maths core skills |  |  |  | Develop fluency, reason mathematically | Core Skills Test |  |
| 3. Simplifying and substitution | To be able to simplify expressions and substitute values into expressions | 2 weeks | P1: After School Activity  P2: Represent RGS  P3: Residential  P4:National Event  P5: RGS Production  P6: **Formal Presentation**  P7: International Experience  P8: Community Experience  P9: Fund Raising  P10: Sustainability of RGS | * Look at formulas for working rates for taxi hire/labourer | A1  A2  A3  A4  N3 | Simplifying and Substitution topic test |  |
| 2  Oct Dec | 7/8 |
| 4. Lines, Shapes & Angles | To be able to use angle rules to solve problems | 2 weeks | P1: After School Activity  P2: Represent RGS  P3: Residential  P4:National Event  P5: RGS Production  P6: **Formal Presentation**  P7: International Experience  P8: Community Experience  P9: Fund Raising  P10: Sustainability of RGS | * Get students to accurately measure the size of the classroom | G5  G6  G7  G10  G11  G12  G13  G14 | Lines, shapes & Angels topic test |  |
| Problem Solving | To improve problem solving skills |  |  |  | Solve problems | Problem Solving Topic Test |  |
| 5. Integers, powers & Roots | To be able to apply rules for integers, powers & roots | 2 weeks | P1: After School Activity  P2: Represent RGS  P3: Residential  P4:National Event  P5: RGS Production  P6: **Formal Presentation**  P7: International Experience  P8: Community Experience  P9: Fund Raising  P10: Sustainability of RGS | * [Grains of rice](https://www.youtube.com/watch?v=t3d0Y-JpRRg) | N3  N6  N7  N8  N16 | Integers, Powers & Roots |  |
| 6. Area & Perimeter | Solve area and perimeter problems for a variety of shapes | 2 weeks | P1: After School Activity  P2: Represent RGS  P3: Residential  P4:National Event  P5: RGS Production  P6: **Formal Presentation**  P7: International Experience  P8: Community Experience  P9: Fund Raising  P10: Sustainability of RGS | * Tiling bathrooms * Find area and perimeter of rooms | G1  G2  A2 | Area & Perimeter topic test |  |
| 3  Jan  Feb | 7/8 | 7. Forming and Solving Equations | Be able to form and solving equations | 2 weeks | P1: After School Activity  P2: Represent RGS  P3: Residential  P4:National Event  P5: RGS Production  P6: **Formal Presentation**  P7: International Experience  P8: Community Experience  P9: Fund Raising  P10: Sustainability of RGS | * Form equations from real world situations – taxi prices, cooking times etc. | Year 7  Water Pollution enquiry  Year 8  Museum/zoo | A5  A6  A7  A10 | Forming & Solving equations topic test |  |  |  |
| Core Skills | To improve on core maths skills |  | P1: After School Activity  P2: Represent RGS  P3: Residential  P4:National Event  P5: RGS Production  P6: **Formal Presentation**  P7: International Experience  P8: Community Experience  P9: Fund Raising  P10: Sustainability of RGS |  | Develop fluency, reason mathematically | Core Skills Test |  |
| 8. Fractions, Percentages & Decimals | Be able to work with fractions, percentages and decimals | 2 weeks | P1: After School Activity  P2: Represent RGS  P3: Residential  P4:National Event  P5: RGS Production  P6: **Formal Presentation**  P7: International Experience  P8: Community Experience  P9: Fund Raising  P10: Sustainability of RGS | * Look at interest and loans * Look at sales * Compare real life deals | N4  N9  N10  N11  R8 | Fractions, percentages & decimals topic test |  |
| 9. Transformations | Be able to draw and describe transformations | 2 weeks | P1: After School Activity  P2: Represent RGS  P3: Residential  P4:National Event  P5: RGS Production  P6: **Formal Presentation**  P7: International Experience  P8: Community Experience  P9: Fund Raising  P10: Sustainability of RGS | * Coding – directions (vectors) * Scale drawings, - enlargements | G5  G8  G9 | Transformations topic test |  |
| 4  Feb  April | 7/8 | Problem Solving | To improve problem skills |  |  |  | Solve Problems | Problem solving test |  |
| 10. Sequences, Functions & Graphs | To be able to interpret and calculate sequences, functions & graphs | 2 weeks | P1: After School Activity  P2: Represent RGS  P3: Residential  P4:National Event  P5: RGS Production  P6: **Formal Presentation**  P7: International Experience  P8: Community Experience  P9: Fund Raising  P10: Sustainability of RGS | * Look at real world graphs * Fibonacci in the real world - nature | A8  A9  A10  A11  A12  A13  A14  A15  A16 | Sequences, functions & graphs topic test |  |
| 11. Ratio & Proportion | To be able to work with ratio and proportion | 1 week | P1: After School Activity  P2: Represent RGS  P3: Residential  P4:National Event  P5: RGS Production  P6: **Formal Presentation**  P7: International Experience  P8: Community Experience  P9: Fund Raising  P10: Sustainability of RGS | * Scaling recipes * Concentrations with ratio | R1  R2  R3  R4  R5  R6  R7  R8 | Ratio & proportion topic test |  |
| 5  April  May |
| 7/8 | 12. Pythagoras & Trig | To be able to apply Pythagoras & Trigonometry to problems | 1 week | P1: After School Activity  P2: Represent RGS  P3: Residential  P4:National Event  P5: RGS Production  P6: **Formal Presentation**  P7: International Experience  P8: Community Experience  P9: Fund Raising  P10: Sustainability of RGS | * Finding heights of items * Use a clinometer | Year 7  Fobney Island  Year 8  RU Statistics | G13 | Pythagoras and Trigonometry topic test |  |  |  |
| Core Skills | To improve on core maths skills |  |  |  | Develop fluency, reason mathematically | Core skills test |  |
| 13. Probability | To be able to work out the probability of events | 1 week | P1: After School Activity  P2: Represent RGS  P3: Residential  P4:National Event  P5: RGS Production  P6: **Formal Presentation**  P7: International Experience  P8: Community Experience  P9: Fund Raising  P10: Sustainability of RGS | * Look at fair and unfair games * Relative frequency in conjunction with real world data | P1  P2  P3  P4 | Probability topic test |  |
| 6  May  July | 14. Volume & Surface Area | To calculate the volume and surface area of 3D shapes | I week | P1: After School Activity  P2: Represent RGS  P3: Residential  P4:National Event  P5: RGS Production  P6: **Formal Presentation**  P7: International Experience  P8: Community Experience  P9: Fund Raising  P10: Sustainability of RGS | * Painting 3D shapes – amount of paint needed * Find capacity of items | G1  G16  N8  G17  A2 | Volume and surface area topic test |  |
| 15. Measures | To be able to convert and calculate different measures | 1 week | P1: After School Activity  P2: Represent RGS  P3: Residential  P4:National Event  P5: RGS Production  P6: **Formal Presentation**  P7: International Experience  P8: Community Experience  P9: Fund Raising  P10: Sustainability of RGS | * Measure items in the classroom and outside and convert units | N12  R1  R9  G6 | Measures topic test |  |
| 16. Construction & Loci | To be able to geometrically construct based on a set of criteria | 1 week | P1: After School Activity  P2: Represent RGS  P3: Residential  P4:National Event  P5: RGS Production  P6: **Formal Presentation**  P7: International Experience  P8: Community Experience  P9: Fund Raising  P10: Sustainability of RGS | * Name a human loci construction –students standing where loci would be drawn’ * Real life loci examples of multiple restrictions | G3  G4  G9  G15 | Construction & Loci topic test |  |
| Problem Solving | To improve problem solving skills |  |  |  | Solve problems | Problem solving test |  |
| 17. Inequalities | To be able to solve and sketch inequalities | 2 weeks | P1: After School Activity  P2: Represent RGS  P3: Residential  P4:National Event  P5: RGS Production  P6: **Formal Presentation**  P7: International Experience  P8: Community Experience  P9: Fund Raising  P10: Sustainability of RGS | * Look at real world inequalities – minimum pass mark, maximum age, minimum height | N1  A3  A22 | Inequalities topic test |  |
| Closing Gaps | To address any gaps in knowledge |  |  |  |  | N/A |  |