**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** |
| 1Sep 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 RGSP3: Residential P4:National EventP5: RGS ProductionP6: **Formal Presentation**P7: International ExperienceP8: Community ExperienceP9: Fund Raising P10: Sustainability of RGS | * Link negative numbers to real life situations such as temperature
 | Year 7 GIS MappingYear 8 – UCL PhD on Fuel Cells | N1N2N4N5N6N13N14N15 | 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 RGSP3: Residential P4:National EventP5: RGS ProductionP6: **Formal Presentation**P7: International ExperienceP8: Community ExperienceP9: 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
 | S1S2S3 | 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 RGSP3: Residential P4:National EventP5: RGS ProductionP6: **Formal Presentation**P7: International ExperienceP8: Community ExperienceP9: Fund Raising P10: Sustainability of RGS | * Look at formulas for working rates for taxi hire/labourer
 | A1A2A3A4N3 | Simplifying and Substitution topic test |  |
| 2Oct 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 RGSP3: Residential P4:National EventP5: RGS ProductionP6: **Formal Presentation**P7: International ExperienceP8: Community ExperienceP9: Fund Raising P10: Sustainability of RGS | * Get students to accurately measure the size of the classroom
 | G5G6G7G10G11G12G13G14 | 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 RGSP3: Residential P4:National EventP5: RGS ProductionP6: **Formal Presentation**P7: International ExperienceP8: Community ExperienceP9: Fund Raising P10: Sustainability of RGS | * [Grains of rice](https://www.youtube.com/watch?v=t3d0Y-JpRRg)
 | N3N6N7N8N16 | Integers, Powers & Roots |  |
| 6. Area & Perimeter | Solve area and perimeter problems for a variety of shapes | 2 weeks | P1: After School Activity P2: Represent RGSP3: Residential P4:National EventP5: RGS ProductionP6: **Formal Presentation**P7: International ExperienceP8: Community ExperienceP9: Fund Raising P10: Sustainability of RGS | * Tiling bathrooms
* Find area and perimeter of rooms
 | G1G2A2 | Area & Perimeter topic test |  |
| 3JanFeb | 7/8 | 7. Forming and Solving Equations | Be able to form and solving equations | 2 weeks | P1: After School Activity P2: Represent RGSP3: Residential P4:National EventP5: RGS ProductionP6: **Formal Presentation**P7: International ExperienceP8: Community ExperienceP9: Fund Raising P10: Sustainability of RGS | * Form equations from real world situations – taxi prices, cooking times etc.
 | Year 7 Water Pollution enquiryYear 8Museum/zoo | A5A6A7A10 | Forming & Solving equations topic test |  |  |  |
| Core Skills | To improve on core maths skills |  | P1: After School Activity P2: Represent RGSP3: Residential P4:National EventP5: RGS ProductionP6: **Formal Presentation**P7: International ExperienceP8: Community ExperienceP9: 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 RGSP3: Residential P4:National EventP5: RGS ProductionP6: **Formal Presentation**P7: International ExperienceP8: Community ExperienceP9: Fund Raising P10: Sustainability of RGS | * Look at interest and loans
* Look at sales
* Compare real life deals
 | N4N9N10N11R8 | Fractions, percentages & decimals topic test |  |
| 9. Transformations | Be able to draw and describe transformations | 2 weeks | P1: After School Activity P2: Represent RGSP3: Residential P4:National EventP5: RGS ProductionP6: **Formal Presentation**P7: International ExperienceP8: Community ExperienceP9: Fund Raising P10: Sustainability of RGS | * Coding – directions (vectors)
* Scale drawings, - enlargements
 | G5G8G9 | Transformations topic test |  |
| 4FebApril | 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 RGSP3: Residential P4:National EventP5: RGS ProductionP6: **Formal Presentation**P7: International ExperienceP8: Community ExperienceP9: Fund Raising P10: Sustainability of RGS | * Look at real world graphs
* Fibonacci in the real world - nature
 | A8A9A10A11A12A13A14A15A16 | 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 RGSP3: Residential P4:National EventP5: RGS ProductionP6: **Formal Presentation**P7: International ExperienceP8: Community ExperienceP9: Fund Raising P10: Sustainability of RGS | * Scaling recipes
* Concentrations with ratio
 | R1R2R3R4R5R6R7R8 | Ratio & proportion topic test |  |
| 5AprilMay |
| 7/8 | 12. Pythagoras & Trig | To be able to apply Pythagoras & Trigonometry to problems | 1 week | P1: After School Activity P2: Represent RGSP3: Residential P4:National EventP5: RGS ProductionP6: **Formal Presentation**P7: International ExperienceP8: Community ExperienceP9: Fund Raising P10: Sustainability of RGS | * Finding heights of items
* Use a clinometer
 | Year 7Fobney IslandYear 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 RGSP3: Residential P4:National EventP5: RGS ProductionP6: **Formal Presentation**P7: International ExperienceP8: Community ExperienceP9: Fund Raising P10: Sustainability of RGS | * Look at fair and unfair games
* Relative frequency in conjunction with real world data
 | P1P2P3P4 | Probability topic test |  |
| 6MayJuly | 14. Volume & Surface Area | To calculate the volume and surface area of 3D shapes | I week | P1: After School Activity P2: Represent RGSP3: Residential P4:National EventP5: RGS ProductionP6: **Formal Presentation**P7: International ExperienceP8: Community ExperienceP9: Fund Raising P10: Sustainability of RGS | * Painting 3D shapes – amount of paint needed
* Find capacity of items
 | G1G16N8G17A2 | 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 RGSP3: Residential P4:National EventP5: RGS ProductionP6: **Formal Presentation**P7: International ExperienceP8: Community ExperienceP9: Fund Raising P10: Sustainability of RGS | * Measure items in the classroom and outside and convert units
 | N12R1R9G6 | 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 RGSP3: Residential P4:National EventP5: RGS ProductionP6: **Formal Presentation**P7: International ExperienceP8: Community ExperienceP9: 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
 | G3G4G9G15 | 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 RGSP3: Residential P4:National EventP5: RGS ProductionP6: **Formal Presentation**P7: International ExperienceP8: Community ExperienceP9: Fund Raising P10: Sustainability of RGS | * Look at real world inequalities – minimum pass mark, maximum age, minimum height
 | N1A3A22 | Inequalities topic test  |  |
| Closing Gaps | To address any gaps in knowledge |  |  |  |  | N/A |  |