

## Mathematics at Maplewell

At Maplewell Hall School we believe in careful curriculum planning, which dynamically adheres to students' needs, is the basis of solid student progress. We streamline this through three pathways which are outlined below, however this differs from year to year as we mould our curriculum to our specific cohort of students.

In light of the COVID-19 pandemic, we have put the necessary adaptations to the curriculum in place to support the learning of our students. We continue to adapt and update our schemes of work to provide our students with a complete learning experience. We will regularly assess students to identify any gaps in their understanding which may come as a result of school closures and we will plan time into our schemes of work to close these gaps.

Classroom resources will be made available on Google Classroom for students who are learning from home.

All of our qualifications (GCSE, Entry Level Certificate, Functional Skills) will be taught and assessed in line with the AQA examination board.

### Year 7

7A – Initially students will focus on developing skills in number, place value, addition, subtraction, multiplication and division. Also covered in this year are topics such as perimeter, time and measurements. The curriculum is taught with a strong emphasis on reasoning and problem solving to strengthen these skills. Teachers will regularly assess the students' knowledge so they can identify any topic areas that need extra attention following school closures due to COVID-19.

|        |                                     |                                  |            |                                   |                                     |               |
|--------|-------------------------------------|----------------------------------|------------|-----------------------------------|-------------------------------------|---------------|
| Autumn | Number: Place Value                 | Number: Addition and Subtraction |            |                                   | Number: Multiplication and Division |               |
| Spring | Number: Multiplication and Division | Measurement: Money               | Statistics | Measurement: Length and Perimeter | Number: Fractions                   | Consolidation |
| Summer | Number: Fractions                   | Measurement: Time                |            | Geometry: Properties of Shape     | Measurement: Mass and Capacity      |               |
|        |                                     |                                  |            |                                   |                                     | Consolidation |

7B – Students will follow a scheme of work that is heavily focused on developing their skills in number. This will include topics like place value, addition, subtraction, multiplication and division. This curriculum is targeted to improve the students' understanding of numbers and their uses.

Teachers will regularly assess the students’ knowledge so they can identify any topic areas that need extra attention following school closures due to COVID-19.

|               |                                     |                                  |                                   |                               |   |               |
|---------------|-------------------------------------|----------------------------------|-----------------------------------|-------------------------------|---|---------------|
| <b>Autumn</b> | Number: Place Value                 | Number: Addition and Subtraction |                                   | Measurement: Money            | Number: Multiplication and Division         | Consolidation |
| <b>Spring</b> | Number: Multiplication and Division |                                  | Statistics                        | Geometry: Properties of Shape | Number: Fractions                           |               |
| <b>Summer</b> | Measurement: Length and Height      | Geometry: Position and Direction | Consolidation and problem solving | Measurement: Time             | Measurement: Mass, Capacity and Temperature | Consolidation |

7C – Students will follow a scheme of work that is heavily focused on developing their skills in number. This will include topics like place value, addition, subtraction, multiplication and division. This curriculum is targeted to improve the students’ understanding of numbers and their uses. Teachers will regularly assess the students’ knowledge so they can identify any topic areas that need extra attention following school closures due to COVID-19.

|               |                                 |  |  |                                  |                                  |                                 |
|---------------|---------------------------------|--|--|----------------------------------|----------------------------------|---------------------------------|
| <b>Autumn</b> | Number: Place Value (within 10) |  | Number: Addition and Subtraction (within 10) |                                  | Geometry: Shape                  | Number: Place Value (within 20) |
| <b>Spring</b> | Consolidation                   | Number: Addition and Subtraction (within 20) | Number: Place Value (within 50)              |                                  | Measurement: Length and Height   | Measurement: Weight and Volume  |
| <b>Summer</b> | Consolidation                   | Number: Multiplication and Division          | Number: Fractions                            | Geometry: Position and Direction | Number: Place Value (within 100) | Measurement: Money              |

7MAP – Students have strong mathematical skills and therefore follow a curriculum that reflects that and challenges them. Students will be introduced to topics in the algebra branch and well as beginning a more in-depth journey into geometry. Teachers will regularly assess the students’ knowledge so they can identify any topic areas that need extra attention following school closures due to COVID-19. It may be required that some prerequisites to the content covered in this curriculum need to be delivered ahead of the planned content. Topics in the planned pathway may need an extended amount of time to deliver to ensure those prerequisites are taught so that students can access the content on the planned pathway.

|               |                     |  |                                   |                               |   |               |                                  |
|---------------|---------------------|--|-----------------------------------|-------------------------------|---|---------------|----------------------------------|
| <b>Autumn</b> | Number: Place Value | Number: Addition, Subtraction, Multiplication and Division |                                   |                               | Number: Fractions                       |               | Geometry: Position and Direction |
| <b>Spring</b> | Number: Decimals    | Number: Percentages  | Number: Algebra                   | Measurement: Converting Units | Measurement: Perimeter, Area and Volume | Number: Ratio | Consolidation                    |
| <b>Summer</b> | Statistics          | Geometry: Properties of Shape                              | Consolidation and themed projects |                               |   |               |                                  |

## Year 8

8A – In their second year at Maplewell Hall School, students delve deeper into the topics covered in year 7 to broaden their understanding and application of the skills they’ve learned. This cyclic approach allows for our philosophy of mastery teaching to be effectively delivered. The curriculum will be delivered with additional time dedicated to each topic for teachers to regularly assess the students’ knowledge and plan to deliver prerequisite content for the planned curriculum to ensure students have the necessary skills to access it following school closures due to COVID-19.

|               |                                     |                                  |                                   |                                     |                               |                                  |               |
|---------------|-------------------------------------|----------------------------------|-----------------------------------|-------------------------------------|-------------------------------|----------------------------------|---------------|
| <b>Autumn</b> | Number: Place Value                 | Number: Addition and Subtraction | Measurement: Length and Perimeter | Number: Multiplication and Division |                               |                                  |               |
| <b>Spring</b> | Number: Multiplication and Division | Measurement: Area                | Number: Fractions                 |                                     | Number: Decimals              | Consolidation                    |               |
| <b>Summer</b> | Number: Decimals                    | Measurement: Money               | Measurement: Time                 | Statistics                          | Geometry: Properties of Shape | Geometry: Position and Direction | Consolidation |

8B – Students skills in number topics will continue to be refined and their understanding of how number is used will be strengthened. Students will revisit topics covered in year 7 at a deeper level to ensure they are progressing in these topics. The curriculum will be delivered with additional time dedicated to each topic for teachers to regularly assess the students’ knowledge and plan to deliver prerequisite content for the planned curriculum to ensure students have the necessary skills to access it following school closures due to COVID-19.

|               |                                     |                                  |                                   |                               |   |               |
|---------------|-------------------------------------|----------------------------------|-----------------------------------|-------------------------------|---|---------------|
| <b>Autumn</b> | Number: Place Value                 | Number: Addition and Subtraction |                                   | Measurement: Money            | Number: Multiplication and Division         | Consolidation |
| <b>Spring</b> | Number: Multiplication and Division |                                  | Statistics                        | Geometry: Properties of Shape | Number: Fractions                           |               |
| <b>Summer</b> | Measurement: Length and Height      | Geometry: Position and Direction | Consolidation and problem solving | Measurement: Time             | Measurement: Mass, Capacity and Temperature | Consolidation |

8MAP – Students will begin to study topics which will underpin their journey towards GCSE mathematics. They will be learning skills that will be progressively built upon throughout their time at Maplewell Hall School and will give them the tools to begin GCSE level content in year 9.

|               |  |   |                                    |  |  |
|---------------|--|---|------------------------------------|--|--|
|               | Algebraic Thinking                                   |   |                                    | Place Value and Proportion                     |  |
| <b>Autumn</b> | Sequences  | Understand and use algebraic notation             | Equality and equivalence           | Place value and ordering integers and decimals | Fraction, decimal and percentage equivalence |
|               | Applications of Number                               |   |                                    | Directed Number                                | Fractional Thinking                          |
| <b>Spring</b> | Solving problems with addition & subtraction         | Solving problems with multiplication and division | Fractions & percentages of amounts | Operations and equations with directed number  | Addition and subtraction of fractions        |
|               | Lines and Angles                                     |   |                                    | Reasoning with Number                          |  |
| <b>Summer</b> | Constructing, measuring and using geometric notation | Developing geometric reasoning                    | Developing number sense            | Sets and probability                           | Prime numbers and proof                      |

## Year 9

9A – Students will be starting a new 3-year GCSE scheme of work which they will continue throughout their time in KS3 and KS4. The topics taught will be directly linked to topics covered in the GCSE and will begin a foundation that can be built upon and developed over the coming years. Where required, more time will be dedicated to each topic for teachers to assess students regularly in order to support them following the school closure in the summer term. Contingency time has been planned into this scheme of work so more time can be spent on topics and the prerequisites as needed.

|          |                                  |                       |                |
|----------|----------------------------------|-----------------------|----------------|
| Autumn 1 | Basic Number                     | Factors and Multiples | Basic Decimals |
| Autumn 2 | Basic Fractions                  | Rounding              | Angles         |
| Spring 1 | Percentages                      | Perimeter and area    |                |
| Spring 2 | Basic algebra                    | Ratio and proportion  |                |
| Summer 1 | Collecting and Representing Data | Sequences             |                |
| Summer 2 | Equations                        | CONTINGEN<br>CY       |                |

9B – Students will continue on their spiral curriculum by revisiting topics from years 7 and 8 but continuing to deepen their understanding and develop their skills. Topics ‘Time,’ ‘Properties of shapes,’ and ‘Mass and capacity’ have been identified as topics that will need to be covered in more detail as these were topics that were not delivered at the end of Year 8 due to school closures. Additional time will be dedicated to these topic areas so prerequisites to the learning can also be delivered by teachers.

|        |                                     |                                  |                               |                                     |                   |               |
|--------|-------------------------------------|----------------------------------|-------------------------------|-------------------------------------|-------------------|---------------|
| Autumn | Number: Place Value                 | Number: Addition and Subtraction |                               | Number: Multiplication and Division |                   |               |
| Spring | Number: Multiplication and Division | Measurement: Money               | Statistics                    | Measurement: Length and Perimeter   | Number: Fractions | Consolidation |
| Summer | Number: Fractions                   | Measurement: Time                | Geometry: Properties of Shape | Measurement: Mass and Capacity      |                   | Consolidation |

9MAP - Students will be starting a new 3-year GCSE scheme of work which they will continue throughout their time in KS3 and KS4. The topics taught will be directly linked to topics covered in the GCSE and will begin a foundation that can be built upon and developed over the coming years. Where required, more time will be dedicated to each topic for teachers to assess students regularly in order to support them following the school closure in the summer term. Contingency time has been planned into this scheme of work so more time can be spent on topics and the prerequisites as needed.

|          |                                  |                       |                |
|----------|----------------------------------|-----------------------|----------------|
| Autumn 1 | Basic Number                     | Factors and Multiples | Basic Decimals |
| Autumn 2 | Basic Fractions                  | Rounding              | Angles         |
| Spring 1 | Percentages                      | Perimeter and area    |                |
| Spring 2 | Basic algebra                    | Ratio and proportion  |                |
| Summer 1 | Collecting and Representing Data | Sequences             |                |
| Summer 2 | Equations                        | CONTINGENCY           |                |

## Year 10

10A – Students will be continuing with the 3-year GCSE pathway that they started in year 9, making this their second year working at GCSE level. They will continue to learn content from the Number, Algebra and Geometry strands and will also branch into topics within Ratio and Proportion, Statistics and Probability. Extra time will be taken to regularly assess students and rectify any gaps in their understanding which may have been caused by school closures due to COVID-19.

|          |                        |                            |                               |                                  |
|----------|------------------------|----------------------------|-------------------------------|----------------------------------|
| Autumn 1 | Basic Number Recap     | Finish basic algebra       | Ratio and Proportion          | Collecting and Representing Data |
| Autumn 2 | Sequences              | Equations                  | Coordinates and Linear Graphs |                                  |
| Spring 1 | Properties of Polygons | Circumference and Area     |                               |                                  |
| Spring 2 | Scatter graphs         | Indices                    | Standard Form                 |                                  |
| Summer 1 | Transformations        | 3D shapes                  |                               |                                  |
| Summer 2 | Probability            | REVISION/MOCKS/CONTINGENCY |                               |                                  |

10B - Students will be entered onto the AQA Entry Level Certificate qualification course. This course is largely based on the use of mathematical skills in real-life situations. Students on this course will be developing basic mathematical skills that will be useful to them during and beyond their time in school.

|               |                                    |  |                       |                    |                                    |  |  |  |  |
|---------------|------------------------------------|--|-----------------------|--------------------|------------------------------------|--|--|--|--|
| Autumn Term 1 |                                    |  |                       |                    |                                    |  |  |  |  |
|               | Component 1: Properties of Number  |  |                       |                    | Component 2: The Four Operations   |  |  |  |  |
| Autumn Term 2 |                                    |  |                       |                    |                                    |  |  |  |  |
|               | Component 2: The Four Operations   |  |                       | Component 3: Ratio |                                    |  |  |  |  |
| Spring Term 1 |                                    |  |                       |                    |                                    |  |  |  |  |
|               | Component 4: Money                 |  |                       |                    | Component 5: The Calendar and Time |  |  |  |  |
| Spring Term 2 |                                    |  |                       |                    |                                    |  |  |  |  |
|               | Component 5: The Calendar and Time |  | Component 6: Measures |                    |                                    |  |  |  |  |
| Summer Term 1 |                                    |  |                       |                    |                                    |  |  |  |  |
|               | Component 7: Geometry              |  |                       |                    |                                    |  |  |  |  |
| Summer Term 2 |                                    |  |                       |                    |                                    |  |  |  |  |
|               | Component 8: Statistics            |  |                       |                    |                                    |  |  |  |  |

10MAP - Students will be continuing with the 3-year GCSE pathway that they started in year 9, making this their second year working at GCSE level. They will continue to learn content from the Number, Algebra and Geometry strands and will also branch into topics within Ratio and Proportion, Statistics and Probability. Extra time will be taken to regularly assess students and rectify any gaps in their understanding which may have been caused by school closures due to COVID-19.

|          |                                  |                            |                        |
|----------|----------------------------------|----------------------------|------------------------|
| Autumn 1 | Collecting and Representing Data | Sequences                  | Equations              |
| Autumn 2 | Coordinates and Linear Graphs    | Properties of Polygons     | Circumference and Area |
| Spring 1 | Scatter graphs                   | Indices                    | Standard Form          |
| Spring 2 | Transformations                  | 3D shapes                  | Inequalities           |
| Summer 1 | Probability                      | Pythagoras' Theorem        |                        |
| Summer 2 | Pythagoras' Theorem              | REVISION/MOCKS/CONTINGENCY |                        |

## Year 11

11A – Students will be continuing on the 2-year GCSE Pathway that they started last year. All students will follow the Scheme of Work outlined below, which covers Foundation tier content. Some students will study additional content to prepare them for sitting the Higher tier at GCSE. Students will continue to learn content from the Number, Algebra and Geometry strands and will also branch into topics within Ratio and Proportion, Statistics and Probability. Extra time will be taken to regularly assess students and rectify any gaps in their understanding which may have been caused by school closures due to COVID-19.

|          |                        |                       |                                  |                    |                            |
|----------|------------------------|-----------------------|----------------------------------|--------------------|----------------------------|
| Autumn 1 | Basic Number           | Factors and Multiples | Basic Fractions                  | Perimeter and Area |                            |
| Autumn 2 | Ratio and Proportion   |                       | Collecting and Representing Data | Basic Algebra      | REVISION/MOCKS/CONTINGENCY |
| Spring 1 | Equations              | Sequences             | Circumference and Area           |                    |                            |
| Spring 2 | Properties of Polygons | Pythagoras' Theorem   | Indices                          |                    | REVISION/MOCKS/CONTINGENCY |
| Summer 1 | Standard Form          | Probability           | Transformations                  |                    |                            |
| Summer 2 | Revision/exams         |                       |                                  |                    |                            |

11B – Students will continue to work towards their Entry Level Certificate qualification. This course is largely based on the use of mathematical skills in real-life situations. Students on this course will be developing basic mathematical skills that will be useful to them during and beyond their time in school.

|               |                                    |  |                       |                                    |  |  |  |  |  |  |
|---------------|------------------------------------|--|-----------------------|------------------------------------|--|--|--|--|--|--|
| Autumn Term 1 |                                    |  |                       |                                    |  |  |  |  |  |  |
|               | Component 1: Properties of Number  |  |                       | Component 2: The Four Operations   |  |  |  |  |  |  |
| Autumn Term 2 |                                    |  |                       |                                    |  |  |  |  |  |  |
|               | Component 2: The Four Operations   |  |                       | Component 3: Ratio                 |  |  |  |  |  |  |
| Spring Term 1 |                                    |  |                       |                                    |  |  |  |  |  |  |
|               | Component 4: Money                 |  |                       | Component 5: The Calendar and Time |  |  |  |  |  |  |
| Spring Term 2 |                                    |  |                       |                                    |  |  |  |  |  |  |
|               | Component 5: The Calendar and Time |  | Component 6: Measures |                                    |  |  |  |  |  |  |
| Summer Term 1 |                                    |  |                       |                                    |  |  |  |  |  |  |
|               | Component 7: Geometry              |  |                       |                                    |  |  |  |  |  |  |
| Summer Term 2 |                                    |  |                       |                                    |  |  |  |  |  |  |
|               | Component 8: Statistics            |  |                       |                                    |  |  |  |  |  |  |

11MAP - Students will be continuing on the 2-year GCSE Pathway that they started last year. All students will follow the Scheme of Work outlined below, which covers Foundation tier content. Some students will study additional content to prepare them for sitting the Higher tier at GCSE (secondary row on Scheme of Work). Students will continue to learn content from the Number, Algebra and Geometry strands and will also branch into topics within Ratio and Proportion, Statistics and Probability. Extra time will be taken to regularly assess students and rectify any gaps in their understanding which may have been caused by school closures due to COVID-19.

|          |   |                              |  |                              |                               |                                    |  |
|----------|---|------------------------------|--|------------------------------|-------------------------------|------------------------------------|--|
| Autumn 1 | Collecting and Representing<br>Data MAF | Equations<br>MEG             |  | Sequences<br>MEG             | Circumference and Area        | Properties of Polygons             |  |
|          |   |                              |  |                              | Circle Theorems               |                                    |  |
| Autumn 2 | Indices                                 | Probability                  |  |                              | Statistical Measures          | REVISION<br>/MOCKS/<br>CONTINGENCY |  |
|          | Fractional and Negative                 |                              |  |                              | Cum. Fr, boxplots, histograms |                                    |  |
| Spring 1 | Standard Form                           | Transformations              |  | Congruence and Similarity    |                               | REVISION<br>/MOCKS/<br>CONTINGENCY |  |
|          | Surds                                   | Enlarging with frac / neg SF |  | Vectors                      | Similarity H                  |                                    |  |
| Spring 2 | Inequalities                            | 3D shapes                    |  | Pythagoras' Theorem          |                               | REVISION<br>/MOCKS/<br>CONTINGENCY |  |
|          | Quadratic inequalities and graphs       |                              |  | Pythagoras' Theorem / Trig H |                               |                                    |  |
| Summer 1 | Solving Quadratic Equations             | Quadratic Graphs             |  | Revision / exams             |                               |                                    |  |
|          | Quadratic formula and comp. t. squ.     | Sim. eq incl. quads          |  |                              |                               |                                    |  |
| Summer 2 | Revision/exams                          |                              |  |                              |                               |                                    |  |

## K5

Students will be assigned to the course most suited to their ability. The course will be taught from the beginning, though teachers will regularly assess students' current skills so they can plan to teach any content that may have been missed or need revisiting due to the school closures caused by COVID-19. This will ensure they have the necessary skills to make progress on their course.

K5 – All classes in K5 will be doing one of the following:

- Entry Level Certificate qualification

|                                    |                            |                          |                                  |
|------------------------------------|----------------------------|--------------------------|----------------------------------|
| Autumn 1                           |                            |                          |                                  |
| Component 1: Properties of number  |                            | Preparation for C1 test  | Component 2: The four operations |
| Component 8: Handling Data         |                            |                          |                                  |
| Autumn 2                           |                            |                          |                                  |
| Component 2 contd                  | Preparation for C2 test    | Component 3: Ratio       | Preparation for C3 test          |
| Component 8 continued              |                            |                          | Preparation for C8 test          |
| Spring 1                           |                            |                          |                                  |
| Component 4: Money                 |                            | Preparation for C4 test  | Component 6: Measures            |
| Component 5: The calendar and time |                            |                          |                                  |
| Spring 2                           |                            |                          |                                  |
| Component 6: Measures              |                            | Preparation for C6 test  | Component 7: Geometry            |
| Component 5 continued              |                            |                          | Preparation for C5 test          |
| Summer 1                           |                            |                          |                                  |
| Preparation for C7 test            | Folder completion & resits | FS Level 1 course begins |                                  |
| Preparation for C5 test            |                            |                          |                                  |
| Summer 2                           |                            |                          |                                  |
| FS Level 1                         |                            |                          |                                  |

This course is largely based on the use of mathematical skills in real-life situations. Students on this course will be developing basic mathematical skills that will be useful to them during and beyond their time in school. Students who have previously sat the Entry Level Certificate in Maths will be aiming to improve their outcome to an Entry Level 3.

- Functional Skills (Level 1 or 2) qualification

### Level 1

|            |             |             |              |             |                                   |                                   |     |              |
|------------|-------------|-------------|--------------|-------------|-----------------------------------|-----------------------------------|-----|--------------|
| Autumn 1   |             |             |              |             |                                   |                                   |     |              |
| NS1<br>NS2 | NS4<br>NS10 | NS3<br>NS11 | NS12         | M3          | M3                                | NS6                               | NS6 | Mini assesst |
| H1         | H1          | H1          | H1           |             | H2                                | H2                                | H2  |              |
| Autumn 2   |             |             |              |             |                                   |                                   |     |              |
| NS6        | NS7         | NS7<br>NS8  | NS8<br>NS9   | NS9<br>NS13 | NS13<br>NS14                      | Autumn term assessment + revision | M1  |              |
| H2         | H3          | H3          | H3           | H3          | H4                                |                                   | H4  |              |
| Spring 1   |             |             |              |             |                                   |                                   |     |              |
| M1         | M2          | NS15        | NS15<br>NS16 | NS16        | M5                                |                                   |     |              |
| H4         | H4          | H5          | H5           | H5          | H5                                |                                   |     |              |
| Spring 2   |             |             |              |             |                                   |                                   |     |              |
| M5         | NS5         | M6          | M6<br>M9     | M9          | Spring term assessment + revision | NS17                              |     |              |
| M4         | M4          | M4          | M4           | M8          |                                   | M8                                |     |              |
| Summer 1   |             |             |              |             |                                   |                                   |     |              |
| NS17<br>M8 | Revision    | Revision    | Revision     | Revision    |                                   |                                   |     |              |
| Summer 2   |             |             |              |             |                                   |                                   |     |              |
| Exams>>>>  |             |             |              |             |                                   |                                   |     |              |

Students on this course will be further developing the mathematical skills that will be useful to them during and beyond their time in school. It is largely based on the use of number skills in real-life situations, in particular personal finance, planning and organising activities and the world of work. It also incorporates work on common measures and handling information and data. A Pass at Level 1 is the equivalent of GCSE grades 1-3.

## Level 2

| Autumn 1     |              |          |          |          |   |   |
|--------------|--------------|----------|----------|----------|---|---|
| NS18<br>NS19 | NS28<br>NS27 | M11      | M11      | NS29     | H10                                     | Mini<br>assessment                      |
| Autumn 2     |              |          |          |          |   |   |
| H9           | NS24<br>NS25 | NS22     | NS23     | NS21     | M13                                     | Autumn term<br>assessment +<br>revision |
| Spring 1     |              |          |          |          |   |   |
| M17, M19     | H6           | H7       | H8       | NS20     | M14                                     |   |
| Spring 2     |              |          |          |          |   |   |
| NS28         | M15<br>M18   | M12      | M10      | M10      | Spring term<br>assessment +<br>revision | H11                                     |
| Summer 1     |              |          |          |          |   |   |
| H11          | Revision     | Revision | Revision | Revision |   |   |
| Summer 2     |              |          |          |          |   |   |
| Exams>>>>    |              |          |          |          |   |   |

Students on this course will be further developing the mathematical skills that will be useful to them during and beyond their time in school. It is largely based on the use of number skills in real-life situations, in particular personal finance, planning and organising activities and the world of work. It also incorporates work on common measures and handling information and data. A Pass at Level 2 is the equivalent of GCSE grade 4 and above.