

Maths GCSE - A guide to the next year

The course

- Edexcel exam board
- 3 1 hour 30 minute papers
- Paper 1 - non calculator. Paper 2 and 3 - calculator allowed
- Each paper is 80 marks
- 2 tiers of entry - Higher for grades 9-4 and Foundation for grade 5-1

The Content:

FOUNDATION

Unit	Title
<u>1</u>	a Integers and place value
	b Decimals
	c Indices, powers and roots
	d Factors, multiples and primes
<u>2</u>	a Algebra: the basics
	b Expressions and substitution into formulae
<u>3</u>	a Tables, charts and graphs
	b Pie charts
	c Scatter graphs
<u>4</u>	a Fractions, decimals and percentages
	b Percentages
<u>5</u>	a Equations and inequalities
	b Sequences
<u>6</u>	a Properties of shapes, parallel lines and angle facts
	b Interior and exterior angles of polygons
<u>7</u>	Statistics, sampling and the averages
<u>8</u>	Perimeter, area and volume
<u>9</u>	a Real-life graphs
	b Straight-line graphs
<u>10</u>	Transformations
<u>11</u>	a Ratio
	b Proportion
<u>12</u>	Right-angled triangles: Pythagoras and trigonometry
<u>13</u>	Probability
<u>14</u>	Multiplicative reasoning
<u>15</u>	a Plans and elevations
	b Constructions, loci and bearings
<u>16</u>	a Quadratic equations: expanding and factorising
	b Quadratic equations: graphs
<u>17</u>	Circles, cylinders, cones and spheres
<u>18</u>	a Fractions and reciprocals
	b Indices and standard form
<u>19</u>	a Similarity and congruence in 2D
	b Vectors
<u>20</u>	Rearranging equations, graphs of cubic and reciprocal functions and simultaneous equations

HIGHER

Unit		Title
<u>1</u>	<u>a</u>	Calculations, checking and rounding
	<u>b</u>	Indices, roots, reciprocals and hierarchy of operations
	<u>c</u>	Factors, multiples, primes, standard form and surds
<u>2</u>	<u>a</u>	Algebra: the basics, setting up, rearranging and solving equations
	<u>b</u>	Sequences
<u>3</u>	<u>a</u>	Averages and range
	<u>b</u>	Representing and interpreting data and scatter graphs
<u>4</u>	<u>a</u>	Fractions and percentages
	<u>b</u>	Ratio and proportion
<u>5</u>	<u>a</u>	Polygons, angles and parallel lines
	<u>b</u>	Pythagoras' Theorem and trigonometry
<u>6</u>	<u>a</u>	Graphs: the basics and real-life graphs
	<u>b</u>	Linear graphs and coordinate geometry
	<u>c</u>	Quadratic, cubic and other graphs
<u>7</u>	<u>a</u>	Perimeter, area and circles
	<u>b</u>	3D forms and volume, cylinders, cones and spheres
	<u>c</u>	Accuracy and bounds
<u>8</u>	<u>a</u>	Transformations
	<u>b</u>	Constructions, loci and bearings
<u>9</u>	<u>a</u>	Solving quadratic and simultaneous equations
	<u>b</u>	Inequalities
<u>10</u>		Probability
<u>11</u>		Multiplicative reasoning
<u>12</u>		Similarity and congruence in 2D and 3D
<u>13</u>	<u>a</u>	Graphs of trigonometric functions
	<u>b</u>	Further trigonometry
<u>14</u>	<u>a</u>	Collecting data
	<u>b</u>	Cumulative frequency, box plots and histograms
<u>15</u>		Quadratics, expanding more than two brackets, sketching graphs, graphs of circles, cubes and quadratics
<u>16</u>	<u>a</u>	Circle theorems
	<u>b</u>	Circle geometry
<u>17</u>		Changing the subject of formulae (more complex), algebraic fractions, solving equations arising from algebraic fractions, rationalising surds, proof
<u>18</u>		Vectors and geometric proof
<u>19</u>	<u>a</u>	Reciprocal and exponential graphs; Gradient and area under graphs
	<u>b</u>	Direct and inverse proportion

Revision:

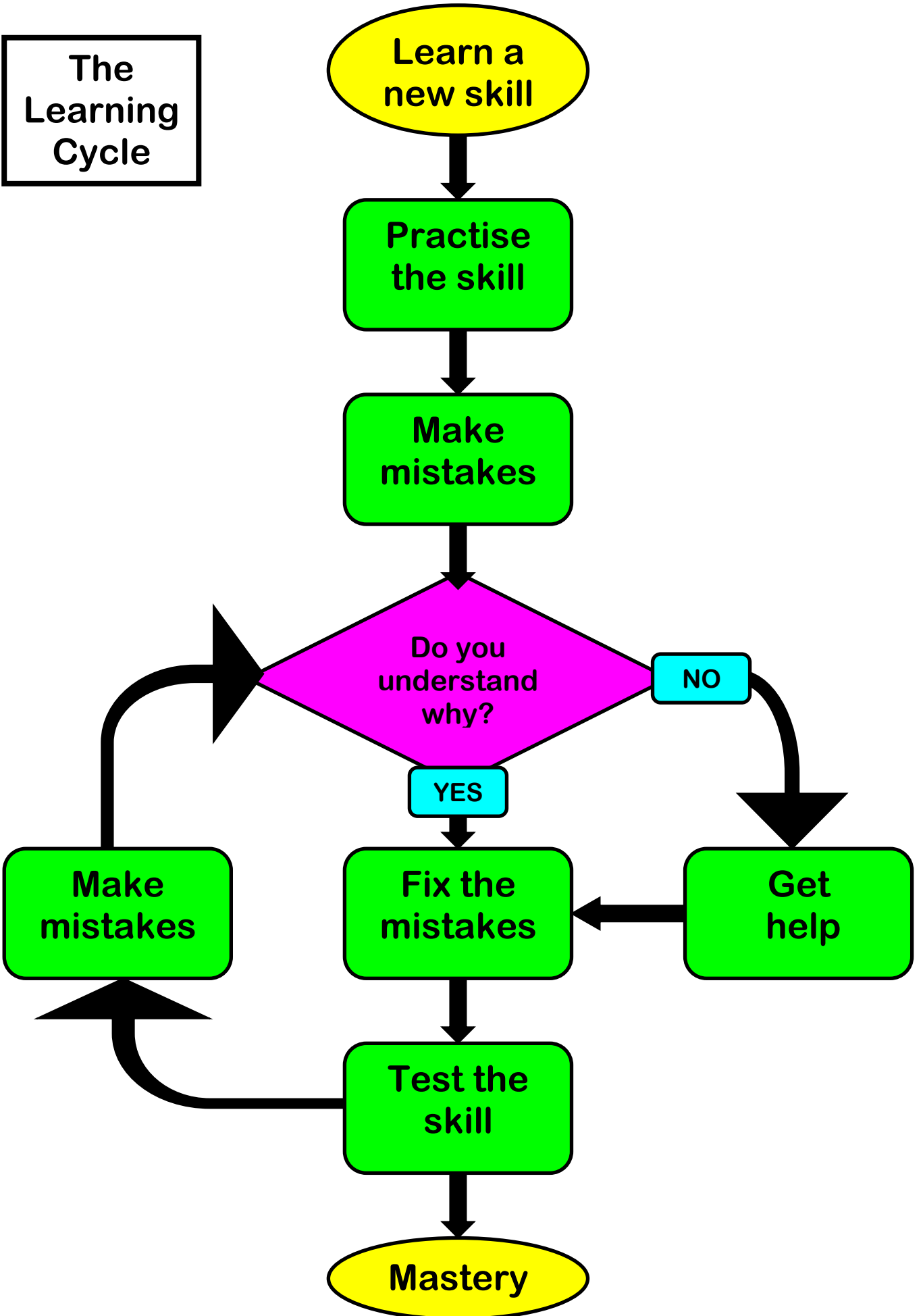
Past Papers available:

1. Practice Set 1 : Paper 1
2. Practice Set 1 : Paper 2
3. Practice Set 1 : Paper 3
4. Practice Set 2 : Paper 1
5. Practice Set 2 : Paper 2
6. Practice Set 2 : Paper 3
7. Practice Set 3 : Paper 1
8. Practice Set 3 : Paper 2
9. Practice Set 3 : Paper 3
10. Practice Set 4 : Paper 1
11. Practice Set 4 : Paper 2
12. Practice Set 4 : Paper 3
13. Practice Set 5 : Paper 1
14. Practice Set 5 : Paper 2
15. Practice Set 5 : Paper 3
16. Practice Set 6 : Paper 1
17. Practice Set 6 : Paper 2
18. Practice Set 6 : Paper 3
19. June 2017: Paper 1
20. June 2017: Paper 2
21. June 2017: Paper 3
22. November 2017: Paper 1
23. November 2017: Paper 2
24. November 2017: Paper 3
25. June 2018: Paper 1
26. June 2018: Paper 2
27. June 2018: Paper 3
28. November 2018: Paper 1
29. November 2018: Paper 2
30. November 2018: Paper 3

Other resources:

1. mymaths
2. mathswatch
3. exercise book
4. youtube
5. revision guide
6. bbc bitesize

The Learning Cycle



Learn a new skill

- pay attention in class
- ensure your exercise book is neat
- bring all equipment every lesson
- complete all class and homework

Practise the skill

- class work
- homework
- mymaths
- if you need more practise, ask your teacher for more questions

Do you understand why?

- listen in class
- ask questions and be involved in the lesson
- read what the teachers write in their books

Get help

- ask your teacher
- ask a friend/family
- mymaths
- mathswatch
- youtube
- look at your exercise books
- period 6 lessons

Test the skill

- class work and homework
- extra questions (see practise the skill)
- regular tests
- past papers

Mastery

- Continue the learning cycle and review/revise regularly to ensure retention

What you as parents can do to help:

- Remind them how important each day of school is
- Encourage them to attend all extra sessions we will be offering
- Help them create a calm and quiet area where they can complete work at home
- Help them organise their time (Homework should be completed as soon as it is set to allow time to get help and so it isn't rushed)
- Regularly ask them questions like;
 - How did your Maths homework/test go?
 - Do you know what you found difficult?
 - Do you know how to improve?
- Look through their exercise book when asking the questions above
- Reassure them when times are tough
- Communicate with us at school so that we can do our jobs better

Example Grade Boundaries:

Below are the grade boundaries for the summer 2018 exams to serve as a guide. The grade boundaries change every year so these will not be the exact boundaries this year.

Higher Total marks available= 240

Grade	9	8	7	6	5	4
Mark	202	170	139	109	79	50

Foundation Total marks available= 240

Grade	5	4	3	2	1
Mark	169	136	101	66	31

