The 'Alternative Pathway' in Maths (2018-19)

At James Calvert Spence College, we strongly believe that all students should leave school with the ability to use mathematics in everyday life and in whichever career path they choose to pursue. We aim to provide a personal, challenging and engaging mathematical education, using the curriculum to develop confidence, communication and problem solving skills.

As a result, we understand that some students find mathematics more challenging than others. We want to ensure that we make their experience of maths challenging, accessible and achievable. From September 2018, we launched an 'alternative pathway curriculum' for selected students in Years 7, 8, 9 & 10. This will involve students completing a range of nationally recognised qualifications in maths, in the hope that they will leave school be able to demonstrate their mathematical skill to employers.

We will offer students the opportunity to complete the following qualifications:

- AQA Entry Level Certificate in mathematics
- Edexcel Level 1 in Number and Measure
- Edexcel Level 2 in Number and Measure
- Edexcel Level 2 in Algebra [to be launched 2019-20]

AQA Entry Level Certificate 5930

The Entry Level Certificate will be taught to students following an alternative pathway in Year 7 and Year 8 during 2018-19. Entry Level Certificates (ELCs) are nationally recognised qualifications that gives students the opportunity to achieve a certificated award.

This qualification is linear. Linear means that students submit all components that form the assessment at the end of the course. Students should submit for assessment and moderation evidence from eight components as follows:

- Component 1: Properties of number
- Component 2: The four operations
- Component 3: Ratio
- Component 4: Money
- Component 5: The calendar and time
- Component 6: Measures
- Component 7: Geometry
- Component 8: Statistics

Assessments

Each complete portfolio should contain eight components of work made up of between four and eight external assignments. Any remaining components should be made up of internally set classwork. All components are internally assessed (teacher marked) and then moderated by AQA. Each component is marked out of 30, giving a total mark out of 240 for the whole portfolio.

AQA Entry Level Certificate Overview

Term	Learning Outcome	Additional Learning Outcome (prior knowledge)	Component
Autumn 1	3.1 Read and write numbers up to 1000, 3.2 Order and compare numbers up to 1000		
	3.3 Recognise place value in 3-digit numbers, 3.6 Find 10 or 100 more or less than a given number	2.3 Count from 0 in steps of 2, 3 and 5	**1. Properties of number**
	3.4 Round numbers less than 1000 to the nearest 10, 3.5 Round numbers to the less than 1000 to the nearest 100		**1. Properties of number**
	3.7 Recognise and use multiples of 2, 3, 4, 5, 8, 10, 50, 100	2.5 Understand and identify odd and even numbers	**1. Properties of number**
	REVISION AND TEST		
	3.1 Add and subtract using 3-digit numbers, 3.7 Recall and use multiplication facts for the 3, 4 and 8 multiplication tables	2.5 Recall and use multiplication facts for the 2, 5 and 10 multiplication tables	**2. The four operations**
	3.2 Multiply a 2-digit whole number by a single digit whole number, 3.3 Divide a 2-digit whole number by a single digit whole number		**2. The four operations**
	3.4 Use and interpret +, -, ×, ÷ and = in real-life situations to solve problems,		**2. The four operations**
	HOLIDAY		
Autumn 2	3.5 Use inverse operations to find missing answers, 3.6 Estimate the answer to a calculation		**2. The four operations**
	REVISION AND TEST		
	3.5 Understand and use the 12-hour and 24-hour clock systems and convert from one system to the other, 3.6 Convert between hours, minutes and seconds, 3.4 Tell and write the time from an analogue clock, including using Roman numerals from I to XII	1.3 Order familiar events, 2.2 Know that 1 week = 7 days; 1 day = 24 hours; 1 hour = 60 minutes; 1 minute = 60 seconds	**5. The calendar and time**
	3.2 Know that there are 365 days in a year, 366 days in a leap year, 12 months in a year and 52 full weeks in a year, 3.3 Use a calendar and write the date correctly (day/month/year)	1.1 Know the days of the week and their order, 2.1 Know the seasons and months and their order	**5. The calendar and time**
	3.7 Add up to three lengths of time given in minutes and hours, 3.1 Solve problems involving time	2.5 Find the difference between two times given in hours, half hours and quarter hours	**5. The calendar and time**
	REVISION AND TEST		
	Make a calendar for 2019, Christmas activities		**CATCH UP / Activities**
	HOLIDAY		
Spring 1	3.1 Identify or show unit fractions up to one tenth of a quantity up to 100, 3.2 Work out unit fractions to one tenth of a number up to 100, 3.7 Work out amounts 5, 8, or 10 times the size of a given amount	2.4 Work out amounts 2, 3 or 4 times the size of a given amount	**3. Ratio**
	3.3 Identify or show any number of thirds, quarters, fifths or tenths of a quantity, 3.4 Work out any number of thirds, quarters, fifths or tenths of an amount		**3. Ratio**
	3.5 Recognise and identify equivalent fractions, 3.6 Add and subtract with the same denominator within one whole	2.3 Count in fractions of one half or one third or one quarter	**3. Ratio**
	REVISION AND TEST		
	3.1 Appreciate the purchasing power of amounts of money (notes), 3.2 Exchange notes for an equivalent value in coins	2.2 Convert from pence to pounds and vice versa	**4. Money**

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	3.3 Use decimal notation for money, 3.4 Interpret a calculator display, 3.6 Add amounts of money and give change		**4. Money**
	HOLIDAY		
Spring 2	3.5 Solve real life problems involving what to buy and how to pay, 3.7 Carry out investigations involving money		**4. Money**
	REVISION AND TEST		
	3.5 Choose an appropriate measuring instrument, 3.6 Read values from an appropriate scale, 3.7 Read and compare temperatures including temperatures with negative values	2.1 Choose appropriate standard units of length, capacity and weight, 2.3 Select a possible length, capacity or weight for a given item, 2.5 Estimate the weight, capacity or weight of given items	**6. Measures**
	3.1 Add lengths, capacities and weights and compare the total to another total or a requirement, 3.4 Measure the perimeter of a simple shape	1.3 Describe capacity in fractions	**6. Measures**
	3.2 Convert standard units of length, capacity and weight, 3.3 Compare and order lengths, capacities and weights in different standard units		**6. Measures**
	REVISION AND TEST		
	HOLIDAY		
Summer 1	3.1 Recognise and name prisms, cylinders and cones, 3.3 Recognise and draw nets of cubes and cuboids	1.1 Recognise and name squares, rectangles, triangles, circles and cubes, 2.1 Recognise and name shapes including pentagons, hexagons and octagons and identify a right-angled triangle from a set of triangles 2.2 Recognise and name cuboids, pyramids and spheres 2.4 Describe the properties of solids	**7. Geometry**
	3.5 Identify horizontal, vertical and parallel lines, 3.2 Draw lines of symmetry on shapes or pictures,	1.2 Compare and order a group of shapes or pictures or similar shapes of different size and recognise congruent shapes, 2.3 Describe the properties of 2D shapes including straight and curved edges	**7. Geometry**
	3.4 Identify whether an angle is less or more than a right angle, 3.7 Use North (N), East (E), South (S), and West (W) to give directions or positions from a map, 3.6 Denote the position of a point by its coordinates or identify a point or item given its coordinates	1.3 Use and understand positional vocabulary	**7. Geometry**
	REVISION AND TEST		
	3.4 Complete a frequency table given the original list of results, 3.5 Complete a tally chart and the resulting frequency table	2.2 Collect information by survey	**8. Statistics**
	HOLIDAY		
Summer 2	3.1 Construct and interpret bar charts with the vertical axis scaled in ones or twos, 3.2 Construct and interpret pictograms where one picture represents more than one item		**8. Statistics**
	3.3 Extract numerical information from lists, tables, diagrams and charts, 3.6 Compare two or more diagrams	1.1 Sort and classify objects using a single criterion, 2.1 Sort and classify objects using more than one criterion	**8. Statistics**
	3.7 Solve one-step and two-step problems based on statistical information		**8. Statistics**
	REVISION AND TEST		
	CATCH UP / Activities		

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Edexcel Award in Number and Measure Level 1 and 2

The Edexcel Award in Number and measure will be taught to students following an alternative pathway in Year 9 (Level 1) and Year 10 (Level 2) for 2018-19.

The Edexcel Level 1 and Level 2 Awards in Number and Measure qualifications enable students to:

- Develop a thorough knowledge and understanding of concepts in number and measure and a sound foundation of mathematical techniques
- Acquire confidence in their mathematical skills to move into further study in the subject or related areas • enjoy using mathematics, and become confident when using mathematics
- Develop a proficiency in number and measures to support progression in their studies, the workplace and training.

Key features and benefits are:

- Two levels of demand which allow students to be assessed appropriately
- Clear progression from Level 1 to Level 2
- Questions designed to be accessible to students of all abilities for that level
- Papers that are balanced for topics and difficulty
- Papers that assess a thorough range of topics within the specification
- Support for other Level 1 and Level 2 qualifications, such as GCSE, Functional Skills or BTEC Provision of mathematical proficiency for other subjects, such as business and science
- Teacher support and assessment guidance available.

Assessments

These Level 1 and Level 2 Awards qualifications consist of a single assessment at each level.

- Students are entered at either Level 1 or Level 2.
- Each assessment consists of two sections.
- Each award is pass or fail.

Level 1	Paper code: ANM10
• Externally assessed • Availability: January and June series • First assessment: June 2012 • Two sections: A and B.	100% of the Award
Overview of content • Number • Measures • Charts and graphs.	
Overview of assessment • The award is assessed through a 1 hour 30 minutes examination set and marked by Edexcel. • The total number of marks for the paper is 80. • The award is pass or fail. • The paper is split into two sections: Section A, which lasts for 1 hour and has 50 marks and Section B, which lasts for 30 minutes and has 30 marks. • Section A and Section B are presented as separate question and answer booklets, and must be taken in the same examination session. • Section A is calculator allowed, and Section B is non-calculator. Calculators are handed in at the end of the first hour of the examination.	

Level 2	Paper code: ANM20
• Externally assessed • Availability: January and June series • First assessment: June 2012 • Two sections: A and B	100% of the Award
Overview of content • Number • Measures • Charts and graphs	
Overview of assessment • The award is assessed through a 1 hour 30 minutes examination set and marked by Edexcel. • The total number of marks for the paper is 80. • The award is pass or fail. • The paper is split into two sections: Section A, which lasts for 1 hour and has 50 marks and Section B, which lasts for 30 minutes and has 30 marks. • Section A and Section B are presented as separate question and answer booklets, and must be taken in the same examination session. • Section A is calculator allowed, and Section B is non-calculator. Calculators are handed in at the end of the first hour of the examination.	

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EDEXCEL Lvl 1 Number and Measure Overview

Week Beginning	Concepts and skills	Component
03/09/2018	Read, write, order and compare positive integers up to 1000, Add and subtract positive integers	Integers
10/09/2018	Multiply and divide positive integers by 10, 100 and 1000, Round positive integers to the nearest 10, 100 and 1000	Integers
17/09/2018	Multiply and divide by positive integers (single digit multiplier and divisor for non-calculator section), Know multiplication and division facts up to 10 × 10	Integers
24/09/2018	Understand and use multiples, factors, common factors and understand prime numbers	Integers
01/10/2018	Understand negative numbers and use a number line to order, add and subtract negative numbers	Integers
08/10/2018	Read, write, order and compare decimals up to two decimal places, and understand place value, Add and subtract decimals up to two decimal places	Decimals
15/10/2018	Multiply decimals with up to two decimal places (single digit whole number multiplier for non-calculator section) Divide decimals with up to two decimal places, using a calculator	Decimals
22/10/2018	Round decimals to one decimal place and the nearest integer, and round money in calculations to the nearest penny	Decimals
29/10/2018	HOLIDAY	
05/11/2018	Check solutions to questions and problems by considering whether the answer is sensible	Approximation
12/11/2018	Read, write, order and compare fractions and mixed numbers, Use equivalent fractions, Write fractions in their simplest form	Fractions
19/11/2018	Convert simple fractions to decimals (up to 2 decimal places) and vice versa and multiples of halves, quarters, fifths and tenths	Fractions
26/11/2018	Add and subtract simple fractions (with the same denominator, excluding mixed fractions), Multiply a fraction by a positive integer, and find a fraction of a whole number quantity (positive integers only)	Fractions
03/12/2018	Read, write, order and compare simple percentages, e.g. 10%, 25%, 20%, 50% and 75%	Percentages
10/12/2018	Use equivalencies between decimals, fractions and percentages	Percentages
17/12/2018	Catch up and activities	
24/12/2018	HOLIDAY	
31/12/2018		
07/01/2019	Work out simple percentages of quantities, including VAT	Percentages
14/01/2019	Read, write, order and compare money, Add, subtract, multiply and divide quantities of money, household finance, utility bills, shopping bills, interest (for 1 year)	Money
21/01/2019	Read, measure and record time using digital and analogue clocks in 12-hour and 24-hour format, Use units of time including seconds, minutes, hours, days, weeks, months and years	Time
28/01/2019	Work out intervals of time and convert between units of time, Read, measure and record events on calendars	Time
04/02/2019	Know and use units of measure for length, weight, angles, capacity, temperature, including metric and imperial units e.g. imperial units include miles, inches, feet, pounds, gallons and pints	Measures
11/02/2019	Add and subtract units of measure, Convert units of measure in the metric system	Measures
18/02/2019	HOLIDAY	

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25/02/2019	Read integer scales, Draw and measure lines and angles, accurate to the nearest cm and degree	**Measures**
04/03/2019	Work out the perimeter of rectangles and shapes made from rectangles	**Area and perimeter**
11/03/2019	Work out the area of rectangles and shapes made from rectangles	**Area and perimeter**
18/03/2019	Work out the volume of a cuboid	Volume
25/03/2019	Read, construct and use everyday tables and charts, e.g. mileage charts, bar charts, line graphs, currency conversion tables and timetables (bus, train and airlines).	**Tables and Charts**
01/04/2019		**Tables and Charts**
08/04/2019	HOLIDAY	
15/04/2019		
22/04/2019	Revision and Exam 02/05/19	
29/04/2019		

EDEXCEL Lvl 2 Number and Measure Overview

*It is assumed that students will have an understanding of all level 1 number and measure content in addition to the level 2 criteria

Week Beginning	Concepts and skills	Component
03/09/2018	Read, write, order and compare positive and negative integers of any size	**Integers**
10/09/2018	Add, subtract, multiply and divide integers of any size, multiply and divide using negative integers	**Integers**
17/09/2018	Find the Highest Common Factor and Lowest Common Multiple of any two positive integers	**Integers**
24/09/2018	Read, write and use squares, cubes and square roots, Read, write and use index notation for small positive integer powers	**Integers**
01/10/2018	Multiply decimals with up to two decimal places (two digit multiplier and divisor for non calculator section)	**Decimals**
08/10/2018	Round decimals to two decimal places, Add and subtract any decimal	**Decimals**
15/10/2018	Check solutions to questions and problems by using suitable approximations	**Approximation**
22/10/2018	Multiply fractions, including mixed numbers	**Fractions**
29/10/2018	HOLIDAY	
05/11/2018	Divide fractions, including mixed numbers, using a calculator	**Fractions**
12/11/2018	Add and subtract fractions with different denominators and mixed numbers	**Fractions**
19/11/2018	Use fractions to compare quantities, Express one number as a fraction of another	**Fractions**
26/11/2018	Find percentages of quantities of any value	**Percentages**
03/12/2018	Calculate percentage increase and decrease	**Percentages**
10/12/2018	Express one number as a percentage of another	**Percentages**
17/12/2018	Catch up and activities	

24/12/2018	HOLIDAY	
31/12/2018		
07/01/2019	Use direct proportion in simple problems	**Ratio and Proportion**
14/01/2019	Use ratio notation	**Ratio and Proportion**
21/01/2019	Divide a quantity into 2 or 3 parts in a given ratio	**Ratio and Proportion**
28/01/2019	Convert between currencies	**Money**
04/02/2019	Calculate simple interest	**Money**
11/02/2019	Calculate wages and salaries, including national insurance and tax deductions	**Money**
18/02/2019	HOLIDAY	
25/02/2019	Read decimal scales, Convert between metric and imperial units e.g. 5 miles = 8 km, 12 inches= 1 foot = 30 cm, 2.2 pounds = 1 kg, 8 pints = 1 gallon = 4.5 litres	**Measures**
04/03/2019	Work out the area and perimeter of rectangles, triangles, circles and semi-circles	**Area and perimeter**
11/03/2019	Work out areas of composite shapes made from of rectangles, triangles, circles and/or semi-circles	**Area and perimeter**
18/03/2019	Volumes of prisms and cylinders	**Volume**
25/03/2019	Draw and interpret pie charts and frequency tables	**Tables and Charts**
01/04/2019	Revision	
08/04/2019	HOLIDAY	
15/04/2019		
22/04/2019	Revision and Exam 02/05/19	
29/04/2019		