النشرة التوجيهية لمادة الرياضيات

المصادر التعليمية المعتمدة للمدارس الخاصة

برنامج ثنائي اللغة للصفوف (١-١٢)
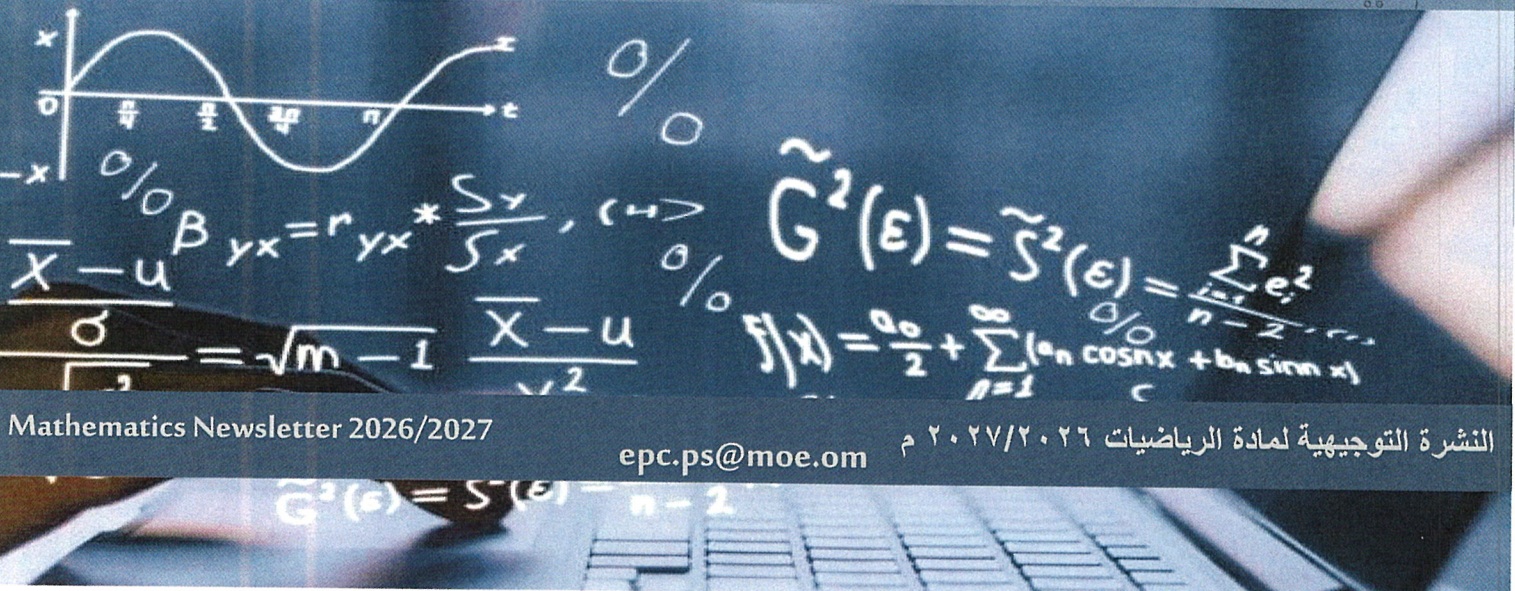
Mathematics Newsletter

Approved Educational Resources for Private Schools

Bilingual Program Grades (1-12)

2026/2027

Mathematics Newsletter 2026/2027

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النشرة التوجيهية لمادة الرياضيات ٢٠٢٦/٢٠٢٧ م

الفصل الأول: الموجهات العامة

Section (1): General Guidelines

الموجهات العامة

على جميع المدارس الخاصة المطبقة للبرنامج ثنائي اللغة **الالتزام بجميع التعليمات الواردة في الجدول أدناه:**

إتاحة جميع المصادر التعليمية لكل من الطلبة والمعلمين	▪ اختيار أحد المصادر التعليمية الأساسية المعتمدة في هذه النشرة التوجيهية.
	▪ توفير جميع المكونات الأساسية للمصادر التعليمية المختارة، بالنسبة لكل طالب ولكل معلم، والموضحة في الفصول القادمة من هذه النشرة التوجيهية.
	▪ توفير نسخ كافية من الكتب وغيرها من المصادر التعليمية، لطلابها ومعلميها قبل وقت كاف من بداية العام الدراسي.
	▪ توفير نسخ أصلية من المصادر التعليمية الأساسية التي تم اختيارها للتطبيق، ومراعاة حقوق الطبع والملكية الفكرية في جميع استخدامات المصادر المعتمدة في هذه النشرة.
	▪ ضرورة توفير دليل المعلم الالكتروني للمعلم، في السلاسل المعتمدة التي بها دليل معلم إلكتروني.
	ملاحظة مهمة:
	توجد مكونات إضافية غير إلزامية لبعض السلاسل المعتمدة في هذه النشرة، مثل كتب المراجعة، ومصادر داعمة للتقويم المستمر و للتقويم الختامي، كتب بناء المهارات لدى الطلاب، وكتب التحدي للطلبة المتميزين، ووسائل تعليمية رقمية وغيرها من المصادر الإثرائية للمنهج الدراسي، وللمدرسة الاطلاع عليها من خلال مواقع دور النشر، ولها الحرية في توفيرها للمعلمين ولأولياء الأمور وللطلبة، بشرط أن يتم الالتزام بالمعايير المعتمدة لاختيار المصادر الإثرائية، والتي تستخدم بغرض دعم تطبيق المنهج بشكل أفضل.
المنهج	▪ المرحلة (١-٨): تلتزم المدرسة بتحقيق الأهداف الواردة في السلاسل التعليمية المعتمدة، وذلك خلال الفصلين الدراسيين الأول والثاني في كل صف دراسي، بناءً على الوحدات المحددة في بند "توزيع المحتوى على الفصلين الدراسيين". الرجاء مراجعة الفصلين الثاني والثالث من هذه النشرة التوجيهية.
	▪ المرحلة (٩-١٢): تحقيق المخرجات التعليمية للفصلين الدراسيين الأول والثاني للصفوف ٩-١٢ الواردة في هذه الوثيقة.
	ملاحظة مهمة:
	▪ عند تنفيذ الدروس المتعلقة بالنقود في الصفوف (١-٦) بضرورة استبدال العملة الأجنبية بالعملة العمانية (**باستخدام نماذج ورقية مغلفة حراريا للفئات النقدية العمانية المختلفة**).

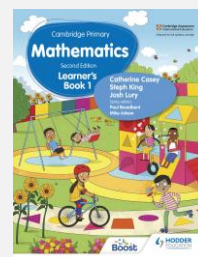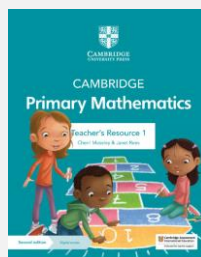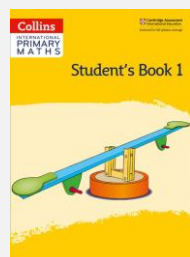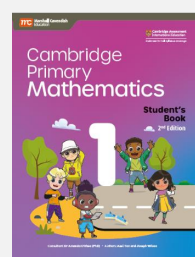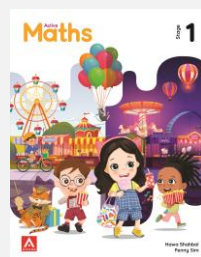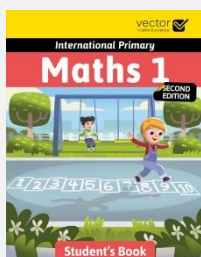|	
الوسائل التعليمية	- مرحلة (١–٦): الالتزام بتوفير الوسائل التعليمية المذكورة في دليل المعلم للسلسلة الأساسية التي قامت المدرسة باختّيارها . - مرحلة (٧–١٠): الالتزام بتوفير الوسائل التعليمية المذكورة في الفصلين الثالث والرابع من هذه النشرة التوجيهية. - تلتزم المدرسة بتسهيل عملية نسخ أوراق العمل من قبل المعلمين، وذلك بتوفير المدرسة للأوراق وآلات التصوير وأجهزة الحاسب الآلي وأجهزة العرض وغيرها من المستلزمات، إذ أن السلاسل التعليمية المعتمدة تتطلب ذلك لتنفيذها بالصورة المطلوبة .
التدريب	تدريب المعلمين والذي يتعلق باستخدام الكتب الدراسية والمصادر التعليمية المعتمدة، يجب أن يكون ضمن خطط المدارس الخاصة للإنماء المهني، والمدارس هي الجهات المعنية بالتنسيق حول توفير البرامج التدريبية لمعلميها حسب الحاجة .

General Guidelines

All schools implementing the Bilingual Program **must follow all the instructions below:**

Series and books Selection and Provision	▪ Selecting and using essential resources from the approved titles in this newsletter. ▪ Providing all the essential components of resources for students and teachers. ▪ Ordering enough of the materials for teachers and students before the beginning of the academic year. Schools are responsible for any late delivery of their orders. ▪ Providing original copies of the selected resources and taking into consideration copy rights and intellectual properties while using any approved resource in any aspect. ▪ Provide the teacher with (electronic / online) teachers guide Wherever mentioned in the newsletter. **<u>Important Note:</u>** For some approved titles, there are additional materials available, such as revision guides, continuous assessment resources, skills builder booklets, challenging booklets, digital resources and more. It is recommended that all schools visit the publishing houses' websites to provide extra resources for their students, teachers, and parents (taking to account the criteria which is approved from (MOE) to select supplementary materials.
Outcomes	• Grades (1-8): To implement the outcomes mentioned in the selected approved resources, and to distribute the content for two semesters according to the section "Content Distribution", in Chapters 2 and 3 in this newsletter. • Grades (9-12): To implement the outcomes mentioned in the section "Learning Outcomes Distribution" in this newsletter. **<u>Important Note:</u>** • When teaching the concept of currency and money, in grades (1-6) teachers should replace the foreign currency with Omani currency
Teaching Aids	• Grades (1-6): To provide and implement the teaching aids and the ancillary materials which are prescribed within the chosen approved resources. • Grades (7-10): To provide and implement the teaching aids which are specified in the "Teaching Aids" section at Chapters 3 and 4 within this newsletter. • All grades: To provide paper, photocopiers, laptops, projectors, and other consumable materials that v required in using the approved resources.
Training	Teacher training related to the use of the approved course-books or learning resources should be part school's commitment to the professional development of their teachers and should be made available teachers by the schools as required.

الفصل الثاني: الصفوف الدراسية (١–٦)

Grades (1-6) Section (2):

فهرس		
Title	**Page**	**الموضوع**
List of Approved Series and their Compulsory Components– Grades (1- 6)	7	قائمة السلاسل التعليمية الأساسية المعتمدة ومكوناتها الإلزامية – الصفوف (١–٦)
ISBNs of the Approved Series Components– Grades (1- 6)	8	أرقام الـ ISBNs لمكونات السلاسل التعليمية الأساسية المعتمدة – الصفوف (١–٦)
Content Distribution– Grades (1- 6)	15	توزيع المحتوى– الصفوف (١–٦)

قائمة السلاسل التعليمية الأساسية المعتمدة لمادة الرياضيات ومكوناتها الالزامية – الصفوف (١-٦)

List of Approved Series and their Compulsory Components – Grades (1- 6)

	Name of series	Edition	Publisher	Components	Comments
1	International Primary Math's	Second edition	Vector	Student's Book	
				Workbook	
				Teacher's Book	
2	Nelson Math's	Third Edition	Oxford	Pupil Book	
				Workbook	
				Teacher	
3	Active Math's	First Edition	Alston Education	Textbook	**Teacher Guide is available as digital resource**
				Workbook	
				Teacher's Guide	
4	Cambridge Primary MATHS	Second Edition	Marshall Cavendish Education	Pupil's Book	
				Activity Book	
				Teacher's Guide	
5	Collins International Primary Math's	Second Edition	Collins	Student's Book	
				Workbook	
				Teacher's Guide	
6	Cambridge Primary Mathematics	Second Edition	Cambridge University Press	Learner's Book	
				Teacher's Resource with digital access	
				Games Book	
7	Hodder Cambridge Primary Mathematics	Second edition	Hodder Education	Learner's Book	
				Workbook	
				Teacher's Pack	

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أرقام الـ(ISBNs)لمكونات السلاسل التعليمية الأساسية المعتمدة لمادة الرياضيات – الصفوف (١–٦)

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ISBNs of the Approved Series Components - Grades (1- 6)
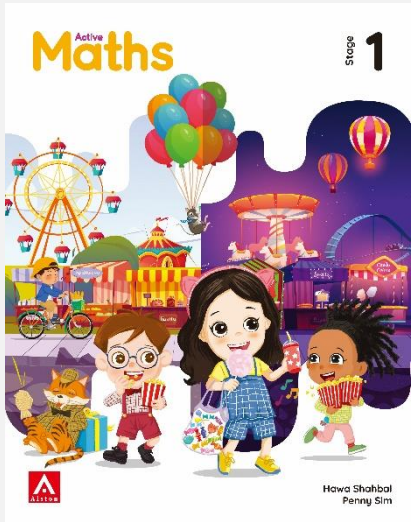
1- International Primary Math's (Second Edition) – Vector:			
Grade	**Components**	**ISBN**	**Book Cover**
1	Student's Book 1	9786185663643	
	Workbook 1	9786185663650	
	Teacher's Book 1	9786185663476	
2	Student's Book 2	9786185663667	
	Workbook 2	9786185663674	
	Teacher's Book 2	9786185663483	
3	Student's Book 3	9786185663681	
	Workbook 3	9786185663698	
	Teacher's Book 3	9786185663490	
4	Student's Book 4	9786185663704	
	Workbook 4	9786185663711	
	Teacher's Book 4	9786185663728	
5	Student's Book 5	9786185663735	
	Workbook 5	9786185663742	
	Teacher's Book 5	9786185663759	
6	Student's Book 6	9786185663766	
	Workbook 6	9786185663773	
	Teacher's Book 6	9786185663780	
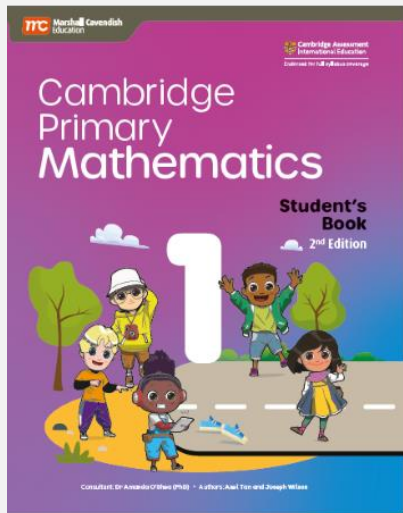
2- Nelson Maths (Third Edition) - Oxford University press:			
Grade	Components	ISBN	Book Cover
1	Pupil Book 1	9781382009980	
	Workbook 1	9781382010245	
	Teacher's Book 1	9781382010108	
2	Pupil Book 2	978132010009	
	Workbook 2	9781382010269	
	Teacher's Book 2	9781382010122	
3	Pupil Book 3	9781382010023	
	Workbook 3	9781382010283	
	Teacher's Book 3	9781382010146	
4	Pupil Book 4	9781382010047	
	Workbook 4	9781382010306	
	Teacher's Book 4	9781382010160	
5	Pupil Book 5	9781382010061	
	Workbook 5	9781382010320	
	Teacher's Book 5	9781382010184	
6	Pupil Book 6	9781382010085	
	Workbook 6	9781382010344	
	Teacher's Book 6	9781382010207	
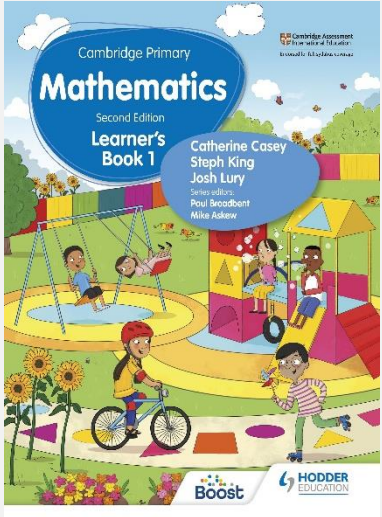
3- Active Maths (First Edition) - Alston Education:			
Grade	**Components**	**ISBN**	**Book Cover**
1	Textbook	9789813180727	
	Workbook	9789813180789	
	Teacher's Guide	9789813180840	
2	Textbook	9789813180734	
	Workbook	9789813180796	
	Teacher's Guide	9789813180857	
3	Textbook	9789813180741	
	Workbook	9789813180802	
	Teacher's Guide	9789813180864	
4	Textbook	9789813180758	
	Workbook	9789813180819	
	Teacher's Guide	9789813180871	
5	Textbook	9789813180765	
	Workbook	9789813180826	
	Teacher's Guide	9789813180888	
6	Textbook	9789813180772	
	Workbook	9789813180833	
	Teacher's Guide	9789813180970	

4- Cambridge Primary Mathematics (Second Edition) - Marshall Cavendish Education:			
Grade	**Components**	**ISBN**	**Book Cover**
1	Student's Book	9789814971096	
	Activity Book	9789814971157	
	Teacher's Guide	9789814971218	
2	Student's Book	9789814971102	
	Activity Book	9789814971164	
	Teacher's Guide	9789814971225	
3	Student's Book	9789814971119	
	Activity Book	9789814971171	
	Teacher's Guide	9789814971232	
4	Student's Book	9789814971126	
	Activity Book	9789814971188	
	Teacher's Guide	9789814971249	
5	Student's Book	9789814971133	
	Activity Book	9789814971195	
	Teacher's Guide	9789814971256	
6	Student's Book	9789814971140	
	Activity Book	9789814971201	
	Teacher's Guide	9789814971263	
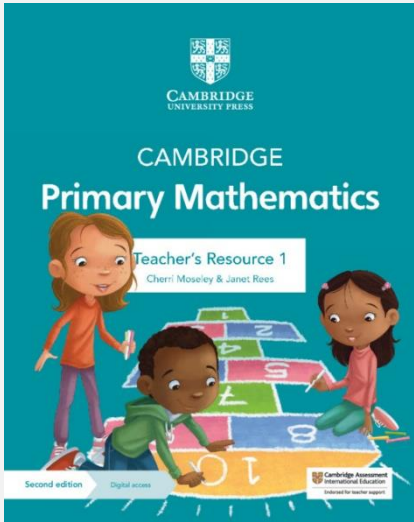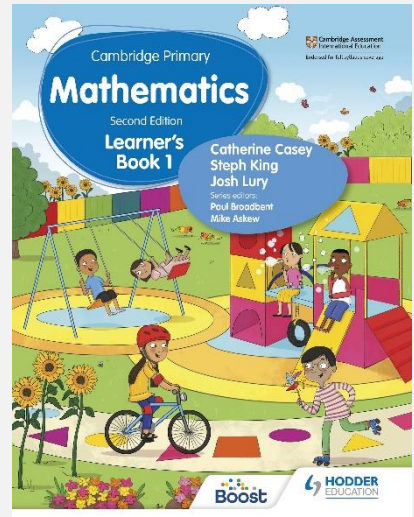
5- International Primary Maths (Second Edition) - Collins:			
Grade	**Components**	**ISBN**	**Book Cover**
1	Student Book 1	9780008340896	
	Workbook 1	9780008369453	
	Teacher's Guide 1	9780008369514	
2	Student Book 2	9780008369408	
	Workbook 2	9780008369460	
	Teacher's Guide 2	9780008369521	
3	Student Book 3	9780008369415	
	Workbook 3	9780008369477	
	Teacher's Guide 3	9780008369538	
4	Student Book 4	9780008369422	
	Workbook 4	9780008369484	
	Teacher's Guide 4	9780008369545	
5	Student Book 5	9780008369439	
	Workbook 5	9780008369491	
	Teacher's Guide 5	9780008369552	
6	Student Book 6	9780008369446	
	Workbook 6	9780008369507	
	Teacher's Guide 6	9780008369569	

6- Cambridge Primary Mathematics (Second Edition) - Cambridge University Press:			
Grade	Components	ISBN	Book Cover
1	Learner's Book1	9781108746410	
	Teacher's Resource1	9781108771498	
	Work Book1	9781108746434	
2	Learner's Book2	9781108746441	
	Teacher's Resource2	9781108783873	
	Work Book2	9781108746465	
3	Learner's Book3	9781108746489	
	Teacher's Resource3	9781108783934	
	Work Book3	9781108746496	
4	Learner's Book4	9781108745291	
	Teacher's Resource4	9781108770675	
	Work Book4	9781108760027	
5	Learner's Book5	9781108760034	
	Teacher's Resource5	9781108771207	
	Work Book5	9781108746311	
6	Learner's Book6	9781108746328	
	Teacher's Resource6	9781108771368	
	Work Book6	9781108746335	

7- Cambridge Primary Mathematics (Second Edition) – Hodder Education:			
Grade	**Components**	**ISBN**	**Book Cover**
1	Learner's Book1	9781398300903	
	Workbook1	9781398301153	
	Teacher's Guide1	9781398300781	
2	Learner's Book2	9781398300941	
	Workbook2	9781398301177	
	Teacher's Guide2	9781398300798	
3	Learner's Book3	9781398300989	
	Workbook3	9781398301184	
	Teacher's Guide3	9781398300804	
4	Learner's Book4	9781398301023	
	Workbook4	9781398301207	
	Teacher's Guide4	9781398300811	
5	Learner's Book5	9781398301061	
	Workbook5	9781398301221	
	Teacher's Guide5	9781398300828	
6	Learner's Book6	9781398301108	
	Workbook6	9781398301245	
	Teacher's Guide6	9781398300835	

توزيع المحتوى على الفصلين الدراسيين – الصفوف (١–٦)

Content Distribution – Grades (1- 6)

Grade	Semester 1	Semester 2
One	Unit 1 1.1 Find the Position 1.2 Directions 1.3 Describe the position 1.4 Numbers 1 to 10 1.5 Count to ten 1.6 Meet zero 1.7 Order numbers up to 10 1.8 Difference	Unit 6 6.1 Numbers to 100 6.2 More and less by ten 6.3 Count in ones and tens 6.4 Count in twos 6.5 Estimate with 10 6.6 Measure length 6.7 Measure weight 6.8 Measure capacity 6.9 Measure temperature
	Unit 2 2.1 Lines 2.2 Name the 2D shapes 2.3 More 2D shapes 2.4 Symmetrical or not 2.5 Even or odd 2.6 Let's put them together! 2.7 Now let's take away!	Unit 7 7.1 Meet the number line 7.2 Walk on to add 7.3 Equal pairs 7.4 Walk back to subtract 7.5 Number line and difference 7.6 Tell the time 7.7 Times in a day 7.8 Second, minute and hour
	Unit 3 3.1 Number pairs for 10 3.2 Number pairs for 1 to 9 3.3 Play with number pairs 3.4 From short to tall and thin to wide 3.5 From light to heavy 3.6 From empty to full 3.7 Name the 3D shapes 3.8 More 3D shapes	Unit 8 8.1 Tens and ones around us 8.2 Additions to 100 8.3 Find the missing number 8.4 More coins 8.5 Same total of money 8.6 Combinations
	Unit 4 4.1 Numbers to 20 4.2 Teen numbers 4.3 Doubles 4.4 Near doubles 4.5 Order numbers up to 20 4.6 Sorting 4.7 Meet the Venn diagram 4.8 Meet the Carroll diagram 4.9 More Carroll diagrams	Unit 9 9.1 List and tables 9.2 Meet the pictogram 9.3 Meet the block graph 9.4 Halves 9.5 Sharing between 2 9.6 Half of a number
	Unit 5 5.1 Original numbers 5.2 More ordinal numbers 5.3 My week! 5.4 The months 5.5 Make ten to add 5.6 Let's check! 5.7 Coins	

1- International Primary Maths (Second Edition) – Vector:

Grade	Semester 1	Semester 2
1- International Primary Maths (Second Edition) – Vector:		
Two	Unit 1 1.1 Numbers to 100 1.2 Ordinal numbers 1.3 Count in ones and tens 1.4 Move on 100 squares 1.5 Count in twos and fives 1.6 Count in groups of 2, 5, or 10 1.7 2D shapes 1.8 Regular and irregular 2D shapes 1.9 3D shapes	Unit 6 6.1 Arrays and multiplication 6.2 Multiplication by 2 and doubles 6.3 Multiplication by 5 and 10 6.4 Sort numbers 6.5 Make groups to divide 6.6 Division with remainders 6.7 Seconds, minutes, hours and more 6.8 Read and show the time 6.9 Calendar
	Unit 2 2.1 Number lines 2.2 Round to the nearest ten 2.3 Measure length 2.4 Measure weight 2.5 Measure capacity 2.6 Number pairs for 10 and 100 2.7 Number pairs for 20 2.8 Number pairs for teen numbers 2.9 Eyes on patterns	Unit 7 7.1 Add more two-digit numbers 7.2 Doubles and halves 7.3 Add odd and even numbers 7.4 Find the total of coins 7.5 Find the total of notes 7.6 Find the change 7.7 Find the missing number 7.8 Compare 7.9 Addition and subtraction problems
	Unit 3 3.1 Draw and guess the 2D shape 3.2 Symmetry in pictures and patterns 3.3 Addition with number pairs 3.4 Easy ways to add and subtract 3.5 Check your answer 3.6 Equal or not 3.7 Value of money 3.8 Days and months 3.9 Meet the arrays	Unit 8 8.1 Count in threes 8.2 Count in fours 8.3 Number sentences and arrays 8.4 Multiplication and division problems 8.5 Divide and share 8.6 Let's compare lengths! 8.7 Let's compare weights! 8.8 Let's compare capacities! 8.9 Let's look at more problems!
	Unit 4 4.1 Let's estimate 4.2 Tens, ones and their digits 4.3 Compare and put numbers in order 4.4 Add or subtract tens 4.5 Lists and tally charts 4.6 Block graphs 4.7 Pictograms 4.8 Find the patterns 4.9 Let's spin the spinner!	Unit 9 9.1 Play with 2D shapes 9.2 Symmetrical pictures 9.3 Halves 9.4 Quarters 9.5 Half of a number 9.6 Quarter of a number 9.7 It's time to turn 9.8 Tell me where to go
	Unit 5 5.1 Add two-digit numbers 5.2 Add or subtract near tens 5.3 Subtraction and difference 5.4 Rulers up! 5.5 Scales up! 5.6 Vessels up! 5.7 Venn diagrams 5.8 Carroll diagrams 5.9 The circle	

1- International Primary Maths (Second Edition) – Vector:		
Grade	**Semester 1**	**Semester 2**
Three	Unit 1 1.1 Numbers to 1000 1.2 1, 10, 100 more or less 1.3 Add or subtract multiples of 10 or 100 1.4 Number line marked in tens 1.5 Number line marked in hundreds 1.6 Some new 2D shapes 1.7 Symmetry	Unit 6 6.1 Doubles and halves 6.2 Multiplication and division by 4 6.3 Multiplication and division by 6 6.4 Multiplication and division by 8 6.5 Multiplication and division by 9 6.6 Multiplication and division with or without remainders 6.7 Carroll diagrams 6.8 Venn diagrams 6.9 Timetables
	Unit 2 2.1 Puzzles 2.2 Equivalent or not 2.3 Fact families for 100 and 1000 2.4 Money totals 2.5 Units of lengths 2.6 Units of mass 2.7 Units of capacity and volume 2.8 Unit of temperature 2.9 Some new 3D shapes 2.10 Make 3D shapes from nets	Unit 7 7.1 Fractions and shapes 7.2 Equivalent fractions 7.3 Mixed numbers 7.4 Put fractions and mixed numbers in order 7.5 Find the half 7.6 Fractions and division 7.7 Add and subtract fractions with the same denominator 7.8 Find and draw right angles 7.9 Compare angles 7.10 Find the chance!
	Unit 3 3.1 Doubling and halving 3.2 Multiplication and division 3.3 Multiplication and division by 2 and 3 3.4 Multiplication and division by 5 and 10 3.5 Patterns and sorting with multiples 3.6 Seconds, minutes, hours and days 3.7 Tell the time 3.8 Time intervals 3.9 Compass points	Unit 8 8.1 Round and order 8.2 Two-digit number with a total of 100 8.3 Add or subtract two two-digit numbers 8.4 More addition and subtraction 8.5 More time and puzzles 8.6 Length problems 8.7 Mass problems 8.8 Capacity and volume problems
	Unit 4 4.1 Compare numbers 4.2 Three-digit numbers in order 4.3 Round to the nearest ten or hundred 4.4 Estimate range 4.5 Multiply a two-digit number by 10 4.6 Estimate and measure length 4.7 Estimate and measure mass 4.8 Estimate and measure capacity and volume	Unit 9 9.1 More doubles and halves 9.2 Multiply teen numbers 9.3 Divide two-digit numbers 9.4 Division problems 9.5 Money problems 9.6 Grids 9.7 More grids 9.8 Symmetry on a grid 9.9 Meet the perimeter and area 9.10 Let's draw on a grid!

1- International Primary Maths (Second Edition) – Vector:		
Grade	**Semester 1**	**Semester 2**
	Unit 5 5.1 Known methods to add 5.2 Known methods to subtract 5.3 Add and subtract with three-digit numbers 5.4 Add three-digit and two-digit numbers 5.5 Find the total cost 5.6 Find the change 5.7 Tally charts and frequency tables 5.8 Pictograms 5.9 Bar charts	
Four	UNIT 1 1.1 Numbers to 10,000 1.2 1, 10, 100, 1,000 more or less 1.3 Number lines 1.4 Addition with small numbers 1.5 Add or subtract multiples of 10, 100, 1,000 1.6 Venn diagrams 1.7 Carroll diagrams 1.8 Dot diagrams 1.9 Tell the time 1.10 Time intervals and timelines	UNIT 6 6.1 Multiplication and checking 6.2 More doubles and halves 6.3 Square numbers 6.4 Divide two-digit numbers 6.5 Subtract to divide 6.6 Division and multiplication problems 6.7 Area and perimeter 6.8 3D shapes 6.9 Nets of 3D shapes
	UNIT 2 2.1 Add two-digit numbers 2.2 Subtract two-digit numbers 2.3 Add three-digit numbers 2.4 Subtract three-digit numbers 2.5 Count to find area and perimeter 2.6 Length 2.7 Mass 2.8 Capacity and volume 2.9 Pictograms 2.10 Bar charts	UNIT 7 7.1 Equivalent fractions 7.2 Compare and order fractions 7.3 Sums and difference of fractions with the same denominator 7.4 Mixed numbers 7.5 Fractions as decimal numbers 7.6 Fractions, decimals and mixed numbers 7.7 More Venn diagrams 7.8 More Carroll diagrams 7.9 More area and perimeter
	UNIT 3 3.1 Multiply and divide by 10 and 100 3.2 Multiplication and division 3.3 Multiplication and division by 7 3.4 Factors 3.5 Multiples and patterns 3.6 Divisibility rules 3.7 Doubles and halves 3.8 Multiply two-digit numbers 3.9 Multiplication with grids 3.10 Compare angles	UNIT 8 8.1 Fractions and division 8.2 Fractions, shapes and numbers 8.3 Percentages 8.4 Compare the size 8.5 Compare amounts 8.6 More length 8.7 More mass 8.8 More capacity and volume 8.9 Measurement problems
	UNIT 4 4.1 Numbers to 100,000	UNIT 9 9.1 Number sequences

1- International Primary Maths (Second Edition) – Vector:		
Grade	**Semester 1**	**Semester 2**
	4.2 Mental addition 4.3 Mental subtraction 4.4 Add pairs of three-digit numbers 4.5 Subtract pairs of three-digit numbers 4.6 Even and odd numbers 4.7 Negative numbers 4.8 Position and direction on grids	9.2 Negative numbers and sequences 9.3 More Pictograms 9.4 More bar charts 9.5 Measure and calculate time 9.6 Time problems 9.7 More measurement problems 9.8 Chance and probability
	UNIT 5 5.1 Tenths 5.2 Hundredths 5.3 Money in decimals 5.4 Time on 12-hour and 24-hour clocks 5.5 Timetables 5.6 Calendars 5.7 Polygons 5.8 Quadrilaterals 5.9 Name and estimate angles 5.10 Symmetry	
Five	UNIT 1 1.1 Numbers to one million 1.2 Count on and back in multiples of 10, 100 or 1,000 1.3 Round and order 1.4 Multiple and divide by 10 or 100 1.5 Sequences and patterns of multiples 1.6 Time on 12-hour, and 24-hour clocks 1.7 Time intervals 1.8 Parallel and perpendicular lines 1.9 Position with coordinates	UNIT 6 6.1 Positive and negative numbers on the number line 6.2 more sequences 6.3 Make general statements 6.4 Measure and calculate perimeter 6.5 Measure and calculate area 6.6 Calendars 6.7 Time puzzles 6.8 Find the mode and the median 6.9 Chance and probability
	UNIT 2 2.1 Add mentally 2.2 Subtract mentally 2.3 Written methods to add 2.4 Written methods to subtract 2.5 Types of triangles 2.6 Symmetry in Shapes 2.7 Reflection 2.8 Translation 2.9 3D shapes and nets	UNIT 7 7.1 More decimals 7.2 Equivalent fractions, decimals and percentages 7.3 Improper fractions 7.4 Divide to find fractions 7.5 Find percentages 7.6 Sums and differences of fractions 7.7 Unit fractions and whole numbers 7.8 Sort, estimate, and measure angles 7.9 Angles that add up to 180º 7.10 More triangles

	1- International Primary Maths (Second Edition) – Vector:	
Grade	**Semester 1**	**Semester 2**
	UNIT 3 3.1 Multiplication facts, square and triangular numbers 3.2 Prime and composite numbers 3.3 Multiply mentally 3.4 Written methods multiple 3.5 Division of three-digit numbers 3.6 Divisibility rules 3.7 Calculate perimeter 3.8 Calculate area	UNIT 8 8.1 Addition and subtraction 8.2 Add more than two three-digit numbers 8.3 Double and halve decimals 8.4 Multiply decimals 8.5 Number puzzles 8.6 The BODMAS rule and the laws of arithmetic 8.7 Nets of pyramids and prisms 8.8 Time
	UNIT 4 4.1 Decimals 4.2 Round and order decimals 4.3 Calculations with decimals 4.4 Add decimals 4.5 Subtract decimals 4.6 Collect data for a survey 4.7 Bar line chart 4.8 Line graphs and intermediate points 4.9 Waffle diagrams and dot diagrams 4.10 Bar charts and frequency diagrams	UNIT 9 9.1 Ratio and proportion 9.2 Problems with ratio and proportion 9.3 Meet the calculator 9.4 Problems and puzzles with area and perimeter 9.5 Measurement problems 9.6 Rational and reflective symmetry 9.7 Reflection and coordinates 9.8 Translation and coordinates
	UNIT 5 5.1 Double and halve 5.2 Multiplication methods 5.3 More multiplication methods 5.4 Multiply pairs of two-digit numbers 5.5 Division with grouping 5.6 Length measurements 5.7 Mass measurements 5.8 Capacity measurements	
Six	Unit 1 1.1 Whole numbers up to one million 1.2 Round and estimate whole numbers 1.3 Sums of whole numbers 1.4 Differences between whole numbers 1.5 Letters and numbers 1.6 From polygons to quadrilaterals 1.7 Plot coordinates in all four quadrants 1.8 Reflect 2D shapes 1.9 Translate 2D shapes	UNIT 6 6.1 More about decimals 6.2 Multiplication and division by 10,100 And 1000 6.3 More calculations with decimals 6.4 Multiply and divide by a two-digit number 6.5 Multiplication and division 6.6 length measurements and problems 6.7 Mass measurement defined problems 6.8 Capacity measurement and problems 6.9 Perimeter of composite and rectilinear shapes. 6.10 Area of composite and rectilinear shapes
	Unit 2 2.1 Multiples 2.2 Common factors, highest Common	UNIT 7 7.1 Whole numbers and decimals 7.2 Additional and subtraction

Grade	Semester 1	Semester 2
	factor and fractions 2.3 Square and cube numbers 2.4 Choose multiplication strategy 2.5 Divide two and three-digit numbers quickly 2.6 Even and odd numbers 2.7 Describe polyhedral 2.8 Explore Nets 2.9 Units of time 2.10 Time intervals	7.3 Multiplication with decimals 7.4 Division with decimals 7.5 The order of operations yes 7.6 More negative numbers 7.7 Explore 2D shapes 7.8 Explore 3D shapes 7.9 Compound 3D shapes 7.10 Make a calendar of the future
	UNIT 3 3.1 Place value and factors for decimals 3.2 Sums of decimals 3.3 Difference between decimals 3.4 Sequences and cube numbers 3.5 Estimate and measure angles 3.6 Some of angles and a triangle 3.7 Rotate 2D shapes 3.8 length measurement 3.9 Perimeter and area	UNIT 8 8.1 Fractions 8.2 Compare and order fractions and mixed numbers 8.3 From fractions to decimals 8.4 Division and fractions 8.5 Sums and differences of fractions 8.6 Proper fractions and whole numbers 8.7 Find fractions of a quantity 8.8 Draw angles and triangles 8.9 Explore angles 8.10 Imperial units of measurements
	UNIT 4 4.1 Our number system 4.2 More addition 4.3 More subtraction 4.4 Practice with positive and negative numbers 4.5 Differences between positive and negative numbers 4.6 Time measurements 4.7 Time around the world 4.8 Bar charts and pie charts 4.9 Line graphs and conversation tables 4.10 Scatter graphs 4.11 Waffle diagrams and frequency diagrams	UNIT 9 9.1 Percentages and fractions 9.2 Find the percentages 9.3 Ratio and proportion problems 9.4 Describing and predicting likelihood 9.5 Perimeters and areas of more shapes 9.6 Formulas for area and perimeter 9.7 Circles 9.8 Drawing a circle 9.9 Make travel plans 9.10 Mathematics in the past
	UNIT 5 5.1 Common multiplies and factors 5.2 Tests of divisibility 5.3 More test Of divisibility 5.4 Multiply and divide mentally 5.5 Written methods for multiplication 5.6 Written methods for division 5.7 Find the probability of an event 5.8 Find mode median and range 5.9 Types of average 5.10 Use statistics	

Grade	Semester 1	Semester 2
2. Nelson Math's - Oxford University press (First Edition)		
One	Unit 2: Measure and compare.	Unit 11: Capacity and temperature
	Unit 3: Count to 10 and beyond	Unit 12: 3D shapes
	Unit 4: 2D shapes	Unit 13: Multiply
	Unit 5: Order and position	Unit 14: Zero to 100
	Unit 6: Count to 20	Unit 15: Position and direction
	Unit 7: Measure mass	Unit 16: Money
	Unit 8: Add and take away	Unit 17: Sort 2D and 3D shapes
	Unit 9: Time	Unit 18: Share
		Unit 19: More about time
		Unit 20: data
Two	Unit 2: Working with numbers	Unit 11: Multiply
	Unit 3: Place value	Unit 12: Divide
	Unit 4: 2D and 3D shapes	Unit 13: Fractions
	Unit 5: Patterns and Sequence	Unit 14: Time
	Unit 6: Add and subtract	Unit 15: Possible outcomes
	Unit 7: Length	Unit 16: Symmetry
	Unit 8: Mass	Unit 17: Capacity and temperature
	Unit 9: Lists and tables	Unit 18: More about time
	Unit 10: Show data	Unit 19: Position and movement
		Unit 20: Money
Three	Unit 2: Number and place value	Unit 11: Perimeter and area
	Unit 3: Length	Unit 12: Data
	Unit 4: Patterns and Sequences	Unit 13: 3D shapes
	Unit 5: Lines and angles	Unit 14: position, direction and movement
	Unit 6: Polygons	Unit 15: Fractions
	Unit 7: Addition and subtraction	Unit 16: Capacity and temperature
	Unit 8: Money	Unit 17: Probability
	Unit 9: Mass	Unit 18: Time
	Unit 10: Multiplication and division	

2. Nelson Math's - Oxford University press (First Edition)		
Grade	**Semester 1**	**Semester 2**
Four	Unit 2: Number and place value Unit 3: 2D shapes Unit 4: Time Unit 5: Decimals Unit 6: measures and money Unit 7: Count and calculate Unit 8: Symmetry Unit 9: Data and charts Unit 10: Addition and subtraction	Unit 11: Angles and triangles Unit 12: Multiplication and division facts Unit 13: Negative numbers Unit 14: Perimeter and area Unit 15: Fractions Unit 16: Position and movement Unit 17: Multiplication Unit 18: Work with a line graph Unit 19: Patterns Unit 20: Division
Five	Unit 2: Number and place value Unit 3: properties of shapes Unit 4: Addition and subtraction Unit 5: Decimals and percentages Unit 6: Time Unit 7: Multiplication and division 1 Unit 8: Measures and money Unit 9: perimeter and area Unit 10: Statistics	Unit 11: fractions Unit 12: position, direction, and movement Unit 13: Multiplication and division 2 Unit 14: Work with negative numbers Unit 15: Calculate with decimals Unit 16: Volume and capacity Unit 17: Ratio and proportion Unit 18: Probability
Six	Unit 2: Numbers and Place Value Unit 3:Multiples, factors, and special numbers. Unit 4:Shapes,lines and angles Unit 5: The four operations. Unit 6:Fractions Unit 7:Position,direction and movement Unit 8: Decimals	Unit 9: Percentages Unit 10: Measures and money Unit 11: Data Unit 12: Ratio and proportion Unit 13: perimeter, area, and volume Unit 14: Algebra Unit 15: Probability

3. Active Math's Alston Education (First Edition)		
Grade	Semester 1	Semester 2
One	Chapter1: Number to 20 Chapter2: More about numbers to 20 Chapter3: Time Chapter4: Shapes and Solids Chapter5: Addition	Chapter6: Double and halves Chapter7: Subtraction Chapter8: Position and Movement Chapter9: Measured Chapter10: Money Chapter11: Handling Data
Two	Chapter1: Numbers to 100 Chapter2: More about Numbers to 100 Chapter3: Time Chapter4: Shapes and Solids Chapter5: Addition and Subtraction Chapter6: Measurement Chapter7: Position and Movement	Chapter8: Multiplication Chapter9: Money Chapter10: Division Chapter11: Fractions Chapter12: Handling Data Chapter13: Chance
Three	Chapter1: Numbers to 1000 Chapter2: Time Chapter3: Addition and Subtraction Chapter4: Shapes and Solids Chapter5: Multiplication and Division Chapter6: Position and Movement	Chapter7: Perimeter and Area Chapter8: Mass and Capacity Chapter9: Money Chapter10: Fractions Chapter11: Handling Data Chapter12: Chance
Four	Chapter1: Number to 100 000 Chapter2: Time Chapter3: Addition and Subtraction Chapter4: Angles, Shapes and Solids Chapter5: Multiplication and Division	Chapter6: Position and Movement Chapter7: Perimeter and Area Chapter8: Fractions Chapter9: Percentage Chapter10: Handling Data Chapter11: Chance
Five	Chapter1: Number to 1000 000 Chapter2: Number Operations Chapter3: Angles, Shapes and Solids Chapter4: Perimeter and Area Chapter5: Fractions Chapter6: Decimals	Chapter7: Time Chapter8: Position and Movement Chapter9: Percentage Chapter10: Ratio and Proportion Chapter11: Handling Data Chapter12: Probability

3. Active Math's Alston Education (First Edition)		
Grade	Semester 1	Semester 2
Six	Chapter1: Number to 10 000 000	Chapter6: Position and Movement
	Chapter2: Number Operations	Chapter7: Percentage
	Chapter3: Angles, Shapes and Solids	Chapter8: Ratio and Proportion
	Chapter4: Fractions	Chapter9: Handling Data
	Chapter5: Decimals	Chapter10: Probability

Grade	4. Cambridge Primary Math's Second Edition - Marshall Cavendish:	
	Semester 1	**Semester 2**
One	Chapter1: Numbers 0 to 20 Chapter 2: Ordinal Numbers Chapter 3: Numbers Patterns Chapter 4: More about Numbers to 20 Chapter 5: 2D and 3D Shapes Chapter 6: Place, Direction and Movement Chapter 7: Making 10 and Doubles	Chapter 8: Addition within 20 Chapter 9: Subtraction within 20 Chapter 10: Money Chapter 11: Length, Mass, Capacity and Temperature Chapter 12: Handling Information Chapter 13: Fractions: Making Halves Chapter 14: Time
Two	Chapter 1: Numbers to 100 Chapter 2: Place Value Chapter 3: Money Chapter 4: Ordinal Numbers Chapter 5: Addition and Subtraction within 100 Chapter 6: Patterns and Chance Chapter 7: 2D and 3D Shapes Chapter 8: Number Patterns	Chapter 9: Multiplication Chapter 10: Division Chapter 11: Data Representation Chapter 12: Investigation Chapter 13: Finding Halves and Quarters Chapter 14: Combining Fraction Chapter 15: Time Chapter 16: Turns, Movements and Reflections Chapter 17: Length, Mass and Capacity
Three	Chapter 1: Number to 100 Chapter 2: Place Value and Rounding Chapter 3: Addition and Subtraction Chapter 4: Time Chapter 5: 2D and 3D Shapes Chapter 6: Angles, Direction and Position Chapter 7: Patterns with Numbers and Shapes Chapter 8: Length, Mass, and Capacity	Chapter 9: Perimeter and Area Chapter10: Chance Chapter11: Multiplication Properties and Facts Chapter12: Multiplication and Division Chapter13: Fractions Chapter 14: Comparing Fractions Chapter15: Calculating with Fractions Chapter16: Data Handling
Four	Chapter1: Place Value and Rounding Larger Chapter2: Introducing Negative Numbers Chapter3: Factor and Multiples Chapter4: Time Chapter5: 2d Shapes Chapter6: 3d Shapes Chapter7: Area and Perimeter Chapter8: Addition and Subtraction	Chapter9: Multiplication and Division Chapter10: Patterns and Sequence with Numbers and Objects Chapter11: Data Representation Chapter12: Statistical Cycle Chapter13: Fractions Chapter14: Calculating with Fractions Chapter15: Angles, Position and Direction Chapter16: Probability

4. Cambridge Primary Math's Second Edition - Marshall Cavendish:	
Five	Chapter1: Special Numbers — Chapter10: Multiplication and Division
	Chapter2: Number Sequences — Chapter11: Calculation Rules
	Chapter3: Decimals — Chapter12: Fraction, Decimals and Percentages
	Chapter4: Time — Chapter13: Operation on Fractions and Decimals
	Chapter5: Angles and Triangles — Chapter14: Proportion and Ratio
	Chapter6: Perimeter and Area — Chapter15: Data Handling and Representation
	Chapter7: 3d Shapes — Chapter16: Statistical Enquiry
	Chapter8: Probability and Chance — Chapter17: Coordinate Geometry
	Chapter9: Addition and Subtraction — Chapter18: Symmetry, Reflection and Translation
Six	Chapter 1: Place Value — Chapter 11: Ratio and Proportion
	Chapter 2: The Number System — Chapter 3: 2d Shapes and Angles
	Chapter 5: Addition and Subtraction — Chapter 4: 3d Shapes, Volume and Capacity
	Chapter 6: Multiplication and Division — Chapter 12: Data Handling and Statistical Inquiry
	Chapter 7: Number Patterns — Chapter 13: The Coordinate Grid
	Chapter 9: Fractions, Percentages and Decimals — Chapter 14: Reflection and Rotation
	Chapter10: Calculations with Fractions — Chapter 8: Probability

Grade	Semester 1	Semester 2
One	Unit 1:Whole numbers	Unit 7: Subtraction as take away.
	Unit 2: Addition as combining two sets.	Unit 8: Subtraction as counting back.
	Unit 3: Addition as counting on	Unit 9: Subtraction as difference
	Unit 4: Addition and Subtraction to 10A and B	Unit 12-13: Addition and Subtraction A and B
	Unit 5: 2D Shapes	Unit 14: Doubling
	Unit 6: 3D Shapes	Unit 15: Money
	Unit 7: Position and Movement	Unit 18-19: Half A and B
	Unit 8: Length and Mass	Unit 20: Time
	Unit 9: Place Value and Ordering to 10	Unit 24: Capacity and Temperature
	Unit 10: Place Value and Ordering to 20	Unit 26-27: Statistics and Probability
Two	Unit 1-3: Whole Numbers 1	Unit 12-13: Times Table A and B
	Unit 4-6: Addition and subtraction	Unit 9-11: Multiplication and Division2
	Unit 20: 2D shapes, Symmetry and Angles	Unit 23: Mass
	Unit 21: 3D shape	Unit 24: Capacity and Temperature
	Unit 22: Length	Unit 17-18: Fraction A and B
	Unit 14: Money	Unit 19: Time
	Unit 15-16: Place, Value, Ordering and Rounding	Unit 25: Position and Movement
	Unit 7: Multiplication as repeated	Unit 26: Statistics
	Addition	Unit 27: Statistics and Chance
	Unit 8: Multiplication as an Array	
Three	Unit 1-3: Whole Numbers 1	Unit 6 -7: Addition and subtraction
	Unit 4-5: Addition and subtraction 1	Unit 9-10: Time tables (A-B)
	Unit 20: 2D shape, symmetry and angels	Unit 11: Multiplication
	Unit 21: 3D Shape	Unit 12: Division
	Unit 23: Mass	Unit 16 -17-18: Fractions
	Unit 8: Multiplication and division1	Unit 19: Time
	Unit 22: Length , perimeter, and area	Unit 24: Capacity and temperature
	Unit 13: Money	Unit 25: Position, movement, and reflection
	Unit 14: Place value and ordering	Unit 26-27: Handling data

	5. Collins International Primary Math's Second Edition – Collins:	
Grade	**Semester 1**	**Semester 2**
Four	Unit 1-2: Counting Sequences A and B Unit 4-6: Addition and subtraction 1 Unit 3: Reading and writing whole numbers Unit 4-5: Addition and Subtraction Unit 6: Subtraction Unit 7: Times Tables Unit 8: Multiples, Factors and Divisibility Unit 9: Multiplication (A) Unit 22: Measuring Instruments Unit 13-14: Place Value, Ordering and Rounding Unit 26: Statistics	Unit 10: Multiplication (B) Unit 11-12: Division A and B Unit 15-16: Fractions A and B Unit 17: Percentages Unit 18: Time Unit 19: 2D shape and Symmetry Unit 20:3D Shapes Unit 21: Angles Unit 23: Area and perimeter Unit 24-25: Position, Direction, Movement and Reflection Unit 27: Statistics
Five	Unit 1: Counting and sequences Unit 2: Addition of whole numbers Unit 3: Subtraction of whole numbers Unit 4: Multiples, factors, divisibility, primes, squares Unit 5: Whole number calculations Unit 6: Multiplication of whole numbers (A) Unit 7: Multiplication of whole numbers (B) Unit 8: Division of whole numbers (A) Unit 9: Division of whole numbers (B) Unit 10: Place value and ordering decimals Unit 11: Place value, ordering and rounding decimals Unit 20: 2D shapes and symmetry Unit 21: 3D shapes Unit 19: Time	Unit 12: Fractions (A) Unit 13: Fractions (B) Unit 15: Addition and Subtraction of decimals Unit 16: Multiplication of Decimals Unit 14: Percentages Unit 17: Fractions, Decimals and Percentages Unit 18: Proportion and Ratio Unit 22: Angles Unit 23: Area and perimeter Unit 24: Coordinates Unit 25: Translation and Reflection Unit 26: Statistics Unit 27: Statistics and Probability

5. Collins International Primary Math's Second Edition – Collins:		
Grade	**Semester 1**	**Semester 2**
Six	Unit 1: Counting and sequences	Unit 11: Fractions (A)
	Unit 2: Addition and Subtraction of whole numbers (A)	Unit 12: Fractions (B)
	Unit 3: Addition and Subtraction of whole numbers (B)	Unit 13: Percentages
		Unit 14: Addition and Subtraction of decimals
	Unit 4: Multiples, factors, divisibility, squares and cubes	Unit 15: Multiplication of Decimals
	Unit 5: Whole number calculations	Unit 16: Division of Decimals
	Unit 6: Multiplication of whole numbers	Unit 17: Proportion and Ratio
	Unit 7: Division of whole numbers (A)	Unit 22: Areas and surface area
	Unit 8: Division of whole numbers (B)	Unit 23: Coordinates
	Unit 9: Place value and ordering decimals	Unit 24: Translation, reflection and rotation
	Unit 10: Place value, ordering and rounding decimals	Unit 25: Statistics (A)
		Unit 26: Statistics (B)
	Unit 18: Place value, ordering and rounding decimals	Unit 27: Probability
	Unit 19: 3D shapes	
	Unit 20: Angles	
	Unit 21: Measurements, including time	

6. Cambridge Primary Mathematics Second Edition - Cambridge University Press:		
Grade	**Semester 1**	**Semester 2**
One	Unit 1: Numbers to 10 1.1 Counting and Comparing numbers 1.2 Read and write numbers and spelling to 10. 1.3 Comparing numbers 1.4 Numbers words 1.5 Odd and even Unit 2: Geometry 1 2.1 2D and 3D Shapes Unit 3: Fraction 1 3.1 Making half of shapes. Unit 4: Measures 1 4.1 Length Unit 5: working with Numbers to 10 1.1 Addition and subtraction Unit 6: Position 6.1 Ordinal numbers Unit 7: Statistics 1 7.1 Sets and Venn diagram Unit 8: Time 1	Unit 9: Numbers to 20 9.1 Counting to 20 9.2 Comparing and ordering numbers and numbers of patterns. Unit 10: Geometry 2 10.1 2D and 3D shapes Unit 11: Fractions 2 11.1 making half of numbers. Unit 12: Measures 2 12.1 Mass and Capacity Unit 13: Working with numbers to 20. 13.1 Addition and Subtraction using number line. Unit 14: Statistics 2 14.1 Carroll diagram, pictograms, and block graph Unit 15: Time 2 15.1 Days of the week and months of the year Unit 16: Position, direction, and patterns
Two	Unit1: Numbers to 100 1.1 Read and write up to 100, 1.2 Counting and Comparing numbers Unit2: Geometry 1 2.1 2D and 3D Shapes 2.2 Fractions of shapes Unit 3: Measures 1 3.1 Length 3.2 Drawing and measuring lines	Unit 8: Numbers to 100 8.1 Numbers in words 8.2 Fractions of numbers Unit 9: Statistics 2 9.1 Venn diagram, pictograms 9.2 Block graphs Unit 10: Calculating 10.1 Addition and Subtraction (2-digit) 10.2 Multiplication and division

6. Cambridge Primary Mathematics Second Edition - Cambridge University Press:		
Grade	**Semester 1**	**Semester 2**

	Unit 4: Statistics 1
	
	4.1 Carroll diagram and tally chart
	
	Unit 5: Working with numbers to 100.
	
	   5.1 Addition and subtraction
	   5.2 Multiplication and division
	Unit 6: Money
	
	Unit 7: Time
	
	7.1 Units of time and the calendar
		Unit 11: Geometry 2
		
		   11.1 Angles and turns.
		
		   11.2 Circles
		Unit 12: Telling the time.
		Unit 13: Measures 2
		
		   13.1 Mass
		
		   13.2 Capacity
		Unit 14: Pattern and Probability
		Unit 15: Symmetry, Position and Movement

Three	Unit 1: Numbers to 1000
	
	   1.1 Hundreds, tens and ones
	
	   1.2 Comparing and Ordering
	
	   1.3 Estimation
	
	Unit 2: Addition, subtraction and money
	
	Unit 3: Multiplication and division
	
	Unit 4: 3D Shapes
	
	Unit 5: Measurement, area and perimeter
	
	Unit 6: Fractions of Shapes
	
	Unit 7: Statistics: Tally charts and frequency tables
	
	Unit 8: Time
	
	Unit 9: More addition and Subtraction
	
	   9.1 Addition and subtraction with regrouping tens
	
	   9.2 Complements
		Unit 10: More multiplication and division
		Unit 11: More fractions
		Unit 12: Measure
		
		   12.1 Mass
		
		   12.2 Capacity
		
		   12.3 Temperature
		Unit 13: Time
		
		   13.1 Time and timetables
		Unit 14: Angles and Movement
		
		   14.1 Angles, direction, position, and movement
		Unit 15: Graphs
		
		   15.1 Pictograms and bar charts
		
		   15.2 Venn and Carroll diagram
		Unit 16: Chance
		Unit 17: Pattern and Symmetry

6. Cambridge Primary Mathematics Second Edition - Cambridge University Press:		
Grade	**Semester 1**	**Semester 2**
Four	Unit1: Numbers and the number system	Unit 10: Collecting and Recording Data
	Unit2: Time and Timetables	Unit 11: Fractions and Percentages
	Unit 3: Addition, Subtraction of whole numbers	11.1 Equivalence, Ordering and comparing fractions.
	Unit 4: Probability	11.2 Percentage
	Unit 5: Multiplication, multiples, and factors	Unit 12: Investigating 3D Shapes and nets.
	Unit 6: 2D Shapes	Unit 13: Addition and Subtraction
	Unit 7: Fractions	13.1 Adding and subtracting efficiently.
	7.1 Understanding Fractions	13.2 Adding and subtracting fractions with same denominator.
	7.2 Fractions as Operators	Unit 14: Area and Perimeter
	Unit 8: Angles	14.1 Estimating and measuring area and perimeter.
	8.1 Comparing angles.	Unit 15: Special Numbers
	8.2 Acute and Obtuse	15.1 Ordering and comparing Numbers.
	8.3 Estimating angles.	15.2 Test of divisibility
	Unit 9: Comparing, rounding, and dividing.	Unit 16: Data display and interpretation
	9.1 Rounding, ordering, and comparing whole numbers.	Unit 17: Multiplication and Division
	9.2 Division of 2-digit numbers	17.1 Using an efficient column method for multiplication.
		Unit 18: Position, direction, and movement
Five	Unit1: The Number system	Unit 10: Angles
	1.1 Understanding Place Value 1.2 Rounding Decimals Numbers	Unit 11: Multiplication and Division
	Unit2: 2D Shapes and Patterns (Triangles and symmetry)	Unit 12: Data
	Unit 3: Number and Sequences	12.1 Representing and interpreting data.
	3.1 Square and triangular numbers	12.2 Frequency diagram and line graphs
	3.2 Prime and composite numbers	Unit 13: Ratio and Proportion
	Unit 4: Averages	Unit 14: Area and Perimeter
	4.1 Mode and Median	Unit 15: Multiplying and dividing fractions and decimals.
	Unit 5: Addition and Subtraction	15.1 Multiplying and dividing fractions.
	5.1 Addition and Subtraction including decimals and negative numbers.	15.2 Multiplying a decimal and a whole number.
	Unit 6: 3D Shapes	Unit 16: Time

6. Cambridge Primary Mathematics Second Edition - Cambridge University Press:		
Grade	**Semester 1**	**Semester 2**
	6.1 Net of cubes and drawing 3D Shapes	16.1 Time Intervals and time zones
	Unit 7: Fractions, decimals, and percentages	Unit 17: Number and the laws of arithmetic
	7.1 Understanding Fractions	Unit 18: Position and direction
	7.2 Percentages, decimals, and fractions	
	Unit 8: Probability	
	8.1 Experiments and simulation	
	Unit 9: Addition and Subtraction of Fractions	
Six	Unit1: The Number system	Unit 10: Multiplication and Division 1
	1.1 Understanding Place Value	Unit 11: 3D Shapes
	1.2 Rounding Decimals Numbers	11.1 Shapes and Nets
	Unit2: Numbers and Sequences	1.2 Capacity and volume
	2.1 Special numbers	Unit 12: Ratio and Proportion
	2.2 Common multiples and factors	Unit 13: Angles
	Unit 3: Averages	13.1 Measuring and drawing angles.
	3.1 Mode, median, mean and range.	13.2 Angles in a triangle
	Unit 4: Addition and Subtraction 1	Unit 14: Multiplication and Division 2
	4.1 Positive and negative numbers	14.1 Multiplying and dividing fractions.
	4.2 Using letters to represent numbers.	14.2 Multiplying and dividing decimals.
	Unit 5: 2D Shapes	Unit 15: Data
	5.1 Quadrilaterals and circles	15.1 Bar charts, dot plots, waffle diagram and pie charts
	5.2 Rotational Symmetry	15.2 Frequency diagrams, line graphs and scatter graphs
	Unit 6: Fractions and percentages	Unit 16: The laws of arithmetic
	6.1 Understanding Fractions	Unit 17: Transformations
	6.2 Percentages	17.1 Coordinates and transformations
	6.3 Equivalence and comparison	17.2 Reflections and Rotations
	Unit 7: Exploring Measures	
	7.1 Rectangles and triangles	
	7.2 Time	
	Unit 8: Addition and Subtraction 2	
	8.1 Adding and subtracting decimals numbers and fractions.	
	Unit 9: Probability	

7. Hodder Cambridge Primary Mathematics Second Edition - Hodder Education:		
Grade	**Semester 1**	**Semester 2**
One	Unit 1: Numbers to 20 Unit 2: Addition and Subtraction Unit 3: Shapes, Direction and Movement Unit 4: Statistical methods Unit 5: Numbers to 20 Unit 6: Time and Measurement Unit 7: Statistical methods Unit 8: Shapes, Direction and Movement Unit 9: Numbers to 20	Unit 10: Time and Measurement Unit11: Addition and Subtraction Unit 12: Fraction Unit 13: Numbers to 20 Unit 14: Addition and Subtraction Unit 15: Shapes, Direction and Movement Unit 16: Statistical methods Unit 17: Fraction Unit 18: Time and Measurement
Two	Unit 1: Number to 100 Unit 2: Addition and Subtraction1 Unit 3: Shapes, Direction and Movement 1 Unit 4: Statistical Methods and Chance 1 Unit 5: Multiplication and Division 1 Unit 6: Time and Measurement 1 Unit 7: Addition and Subtraction2 Unit 8: Money Unit 9: Number patterns and place Value 1	Unit 10: Time and Measurement 2 Unit 11: Shapes, Direction and Movement 2 Unit 12: Fractions 1 Unit 13: Statistical Methods and Chance 2 Unit 14: Number patterns and place Value 2 Unit 15: Addition and Subtraction 2 Unit 16: Multiplication and Division 2 Unit 17: Fractions 2 Unit 18: Time and Measurement 3
Three	Unit 1: Numbers to 1000 Unit 2: Addition and Subtraction1 Unit 3: Shapes and Angles 1 Unit 4: Statistical Methods and Chance1 Unit 5: Multiplication and Division 1 Unit 6: Time and Measurement 1 Unit 7: Addition and Subtraction 2 Unit 8: Patterns, Place Value and Division	Unit 9: Multiplication and Division 2 Unit 10: Time and Measurement 2 Unit 11: Shapes and Angles 2 Unit 12: Fractions 1 Unit 13: Patterns, Place Value and Rounding Unit 14: Addition and Subtraction 2 Unit 15: Time and Measurement 2 Unit 16: Multiplication and Division 2 Unit 17: Fractions 2 Unit 18: Statistical Methods and Chance2

Grade	Semester 1	Semester 2
7. Hodder Cambridge Primary Mathematics Second Edition - Hodder Education:		
Four	Unit 1: Number Unit 2: 2D Shapes Unit 3: Calculation 1 Unit 4: Time 1 Unit 5: Statistical Methods Unit 6: Fractions 1 Unit 7: Calculation 2 Unit 8: Probability Unit 9: Number 2	Unit 10: 2D and 3D shapes Unit 11: Fractions 2 Unit 12: Angles, Position and Direction 1 Unit 13: Number 3 Unit 14: Statistical Methods 2 Unit 15: Calculation 3 Unit 16: Time 2 Unit 17: Fractions and Percentages Unit 18: Angles, Position and Direction2
Five	Unit 1: Number Unit 2: Angles and Shapes Unit 3: Calculation 1 Unit 4: Time 1 Unit 5: Statistical Methods 1 Unit 6: Fraction, Decimals, Percentages and Proportion Unit 7: Number 2 Unit 8: Probability Unit 9: Calculation Unit 10: Location and Movement	Unit 11: Fraction, Decimals, Percentages and Proportion Unit 12: Angles and Shapes Unit 13: Number 2 Unit 14: Location and Movement Unit 15: Calculation Unit 16: Statistical Methods 2 Unit 17: Fraction, Decimals, Percentages and Proportion Unit 18: Time 2
Six	Unit 1: Number 1 Unit 2: 2D and 3D Shapes 1 Unit 3: Calculation 1 Unit 4: Statistical Methods 1 Unit 5: Fraction, Decimals, Ratio Percentages and Proportion Unit 6: Probability Unit 7: Number 2 Unit 8: The coordinate gird 1 Unit 9: Calculation 2	Unit 10: Probability Unit 11: Fraction, Decimals, Ratio Percentages and Proportion Unit 12: 2D and 3D Shapes 2 Unit 13: Number 3 Unit 14: The coordinate gird 2 Unit 15: Calculation 3 Unit 16: 2D and 3D Shapes 3 Unit 17: Fraction, Decimals, Ratio Percentages and Proportion Unit 18: Statistical Methods 2

الفصل الثالث: الصفوف الدراسية (٧–٨)

Section (3): Grades (7-8)
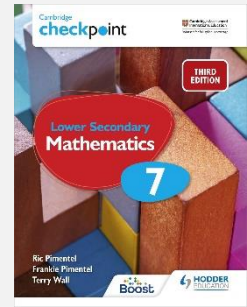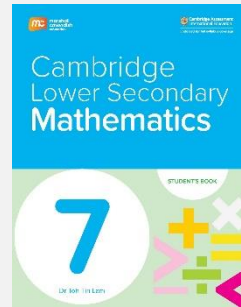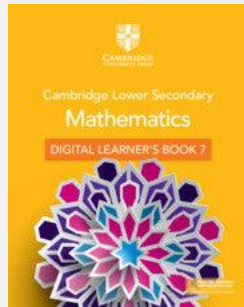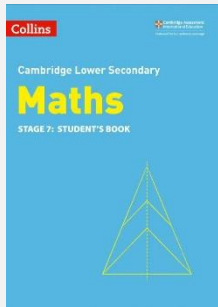
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List of Approved Series and their Compulsory Components	39	قائمة السلاسل التعليمية الأساسية المعتمدة ومكوناتها الإلزامية
ISBNs of the Approved Series Components	40	أرقام الـ ISBNs لمكونات السلاسل التعليمية الأساسية المعتمدة
Teaching Aids	42	الوسائل التعليمية
Content Distribution	43	توزيع المحتوى على الفصلين الدراسيين
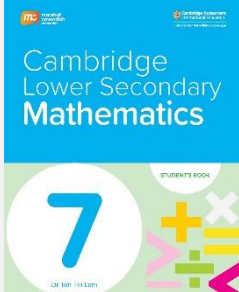
قائمة السلاسل التعليمية الأساسية المعتمدة ومكوناتها الإلزامية لمادة الرياضيات – الصفوف (٧-٨)
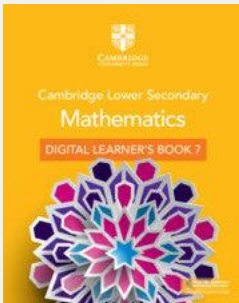
List of Approved Series and their Compulsory Components –Grades (7-8)

	Titles	Publisher	Components	Grade	Comments
1	Cambridge Lower Secondary Mathematics 1st Edition	Marshall Cavendish Education	Student's Book 7	7	
			Workbook 7		
			Teacher's Guide 7		
			Student's Book 8	7&8	
			Workbook 8		
			Teacher's Guide 8		
			Student's Book 9	8	
			Workbook 9		
			Teacher's Guide9		
2	Cambridge Lower Secondary Mathematics 2nd Edition	Cambridge University Press	Learner's Book7	7	
			Workbook 7		
			Teacher's Resource 7		
			Learner's Book 8	7 & 8	
			Workbook 8		
			Teacher's Resource 8		
			Learner's Book 9	8	
			Workbook 9		
			Teacher's Resource 9		
3	Cambridge Checkpoint Lower Secondary Math's 3rd Edition	Hodder Education	Student's Book 7	7	
			Workbook 7		
			Teacher's Guide 7		
			Student's Book8	7 & 8	
			Workbook 8		
			Teacher's Guide 8		
			Student's Book 9	8	
			Workbook 9		
			Teacher's Guide 9		
4	Cambridge Lower Secondary Math's 2nd Edition	Collins	Student Book 7	7	
			Workbook 7		
			Teacher's Guide 7		
			Student Book 8	7 & 8	
			Workbook 8		
			Teacher's Guide 8		
			Student Book 9	8	
			Workbook 9		
			Teacher's Guide 9		

أرقام الـ ISBNs لمكونات السلاسل التعليمية الأساسية المعتمدة لمادة الرياضيات – الصفوف (٧–٨)

ISBNs of the Approved Series Components - Grades (7- 8)
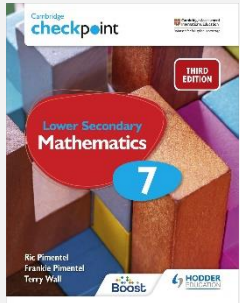
1. Cambridge Lower Secondary Mathematics (1st edition) - Marshall Cavendish Education:

Component	Grade	ISBN	Book Cover
Student's Book 7	7	9789815090390	
Workbook 7		9789815090420	
Teacher's Guide 7		9789815090451	
Student's Book 8	7 – 8	9789815090406	
Workbook 8		9789815090437	
Teacher's Guide 8		9789815090468	
Student's Book 9	8	9789815090413	
Workbook 9		9789815090444	
Teacher's Guide 9		9789815090475	

2. Cambridge Lower Secondary Mathematics (2nd edition) - Cambridge University Press:

Component	Grade	ISBN	Book Cover
Learner's Book7	7	9781108771436	
Workbook 7		9781108746366	
Teacher's Resource 7		9781108771405	
Learner's Book 8	7 & 8	9781108771528	
Workbook 8		9781108746403	
Teacher's Resource 8		9781108771450	
Learner's Book 9	8	9781108783774	
Workbook 9		9781108746502	
Teacher's Resource 9		9781108783897	
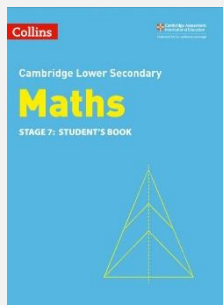
3. Cambridge Checkpoint Mathematics (3rd edition) - Hodder Education:			
Component	Grade	ISBN	Book Cover
Student's Book 7	7	9781398301948	
Workbook 7		9781398301269	
Teacher's Guide 7		9781398300729	
Student's Book8	7 – 8	9781398301993	
Workbook 8		9781398301283	
Teacher's Guide 8		9781398300736	
Student's Book 9	8	9781398302044	
Workbook 9		9781398301306	
Teacher's Guide 9		9781398300743	

4. Cambridge Lower Secondary Mathematics (2nd edition) – Collins:			
Component	Grade	ISBN	Book Cover
Student Book 7	7	9780008340858	
Workbook 7		9780008378561	
Teacher's Guide 7		9780008378592	
Student Book 8	7 – 8	9780008378547	
Workbook 8		9780008378578	
Teacher's Guide 8		9780008378608	
Student Book 9	8	9780008378554	
Workbook 9		9780008378585	
Teacher's Guide 9		9780008378615	

الوسائل التعليمية – الصفوف (٧–٨)

Teaching Aids - Grades (7- 8)

Schools must provide the following teaching aids:

1. Master Mathematical Instruments (for teacher use): Two set squares, an 180 protractor, a ruler, a compass.

2. A range of measurement tools for: Weight, length, distances, and capacity.

3. Grid whiteboard (In addition to the normal whiteboard).

4. Different sets of dices with different number of sides.

5. A laptop for each teacher.

6. Projectors.

7. Internet connection.

على المدارس توفير الوسائل التعليمية الآتية:

١. أدوات هندسية بحجم كبير لاستخدام المعلم على السبورة: المثلث الثلاثيني الستيني والمثلث متساوي الساقين، منقلة، مسطرة، فرجار.

٢. مجموعة أدوات القياس لكل مما يلي: الأوزان، الأطوال، المسافات، السعة.

٣. سبورة الرسم البياني (بالإضافة للسبورة العادية في الفصل).

٤. مجموعة من أحجار النرد متنوعة في عدد الأوجه.

٥. جهاز حاسوب لكل معلم.

٦. أجهزة عرض.

٧. شبكة إنترنت متاحة.

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توزيع المحتوى على الفصلين الدراسيين – الصفوف (٧–٨)

</div>

Content Distribution - Grades (7- 8)

1. Cambridge Lower Secondary Mathematics 1st Edition – Marshall Cavendish Education:		
Grade 7		
Semester	**Chapters**	**Main Resource**
1st Semester	Chapter 1: Numbers Chapter 2: Fractions , Decimals and Percentages . Chapter 3: Ratio and Proportion. Chapter 4:: Algebra Chapter 5: Inequalities, Sequences ,Function and Graphs Chapter 6 : Statistics Chapter 7 : Probabiility Chapter 8 : 2D and 3D Shapes. Chapter 9 :Maps , Scales and Transformation . Chapter 10 : Measurement of 2D and 3D Shapes .	Student Book 7 Work book 7
2nd Semester	Chapter 1: Numbers Chapter 2 : Fractions, Decimals and Percentages . Chapter 3 : Ratio and Proportion . Chapter 4 : Algebraic Manipulation. Chapter 6 : Measurement , Distance and Angles . Chapter 9 :Statistics . Chapter 10 : Probabiility	Work Book 8 [From Page 1 to page 45] [From Page 69 to page 89] [From Page 133 to page 164]

1. Cambridge Lower Secondary Mathematics 1st Edition – Marshall Cavendish Education:		
Grade 8		
1st Semester	Chapter 3 : Ratio and Proportion . Chapter 4: Algebraic Manipulation. Chapter 5 : Inequalities ,Sequences, Function and Graphs. Chapter 7 :3D shapes Chapter 8 : Coordinates and Transformation .	Work Book 8 [From Page 46 to page 68] [From Page 90 to page 132]
	Chapter 1 : Numbers Chapter 2 : Fractions, Decimals and Percentages . Chapter 3 :Ratio and Proportion . Chapter 4 : Algebra .	Work Book 9 [from Page 1 to page 71]
2nd Semester	Chapter 5: Inequalities ,Sequences ,Function and Graphs Chapter 6 2D and 3D Shapes . Chapoter 7 : Angles , Bearings and Scale Drawings. Chapoter 8 : Coordinates and Transformation. Chapter 9 : Statistics . Chapter 10 : Probabiility .	Work Book 9 [from Page 72 to page 184]

2. Cambridge Lower Secondary Mathematics 2nd Edition - Cambridge University Press:		
Grade 7		
Semester	**Chapters**	**Main Resource**
1st Semester	Unit 1: Integers Unit 2: Expressions, formulae, and equations Unit 3: Place value, ordering and rounding. Unit 4: Decimals Unit 5: Angles and constructions Unit 6: Collecting data. Unit 7: Fraction Unit 8: Shapes and symmetry Unit 9: Sequences and Functions Unit 10 : Percentages Unit 11 : Graphs Unit 12 : Ratio and proportion	Workbook 7: From page 7 to page 161
2nd Semester	Unit 13: Probability. Unit 14: Position and transformation. Unit 15: Shapes, Area, and volume. Unit 16: Interpreting and discussing results.	Workbook 7: From page 164 to page 247
	Unit 1: Integers Unit 2: Expressions, formulae, and equations. Unit 3: Place value, ordering and rounding. Unit 4: Decimals Unit 5: Angles and constructions Unit 6: Collecting data. Unit 7: Fraction Unit 8: Shapes and symmetry	Workbook 8: From page 7 to page 105

2. Cambridge Lower Secondary Mathematics 2ⁿᵈ Edition - Cambridge University Press:		
Grade 8		
1ˢᵗ Semester	Unit 9: Sequences and functions Unit 10: Percentages Unit 11: Graphs Unit 12: Ratio and proportion Unit 13: Probability Unit 14 Position and transformation Unit 15: Shapes, area, and volume Unit 16: Interpreting and results	WorkBook8: From page 112 to page 232
	Unit 1: Number and calculation Unit 2: Expressions and formulae Unit 3: Decimals, percentages and rounding. Unit 4: Equations and inequalities	WorkBook9: From page 7 to page63
2ⁿᵈ Semester	Unit 5: Angles Unit 6: Statistical investigations Unit 7: Shapes and measurements Unit 8: Fractions Unit 9: Sequences and functions Unit 10: Graphs Unit 11: Ratio and proportion Unit 12: Probability Unit 13: Position and transformation Unit 14: Volume, surface area and symmetry Unit 15: Interpreting and discussing results	WorkBook 9: From page 66 to page 203

3. Cambridge Checkpoint Math's 3rd Edition - Hodder Education:

Semester	Chapters	Main Resource
1st Semester	Unit 1: Addition, subtraction, Multiplication and Division Unit 2: Properties of two-dimensional shapes Unit 3: Data collection and sampling Unit 4: Area of triangle Unit 5: Order of operations Unit 6: Algebra beginning- using letters for unknown numbers. Unit 7: Organizing and presenting. Unit 8: Properties of three- dimensional shapes Unit 9: Multiples and factors Unit 10: Probability and the likelihood of events Unit 11: Rounding and estimation – calculations with decimals. Unit 12: Mode, mean, median, and range. Unit 13: Transformations of two-dimensional shapes Unit 14: Manipulating algebraic expressions. Unit 15: Fractions, decimals, and percentages Unit 16: Probability and outcomes Unit 17: Angle properties Unit 18: Algebraic expressions and formulae Unit 19: Probability experiments Unit 20: Introduction to equations and inequalities Unit 21: Sequences Unit 22: Percentages of whole numbers Unit 23: Coordinates	Student's Book 7: From page 1 to page 185

3. Cambridge Checkpoint Math's 3rd Edition - Hodder Education:		
	Unit 24: Introduction to functions Unit 25: Coordinates and two – dimensional shapes Unit 26: Squares, square roots, cubes, and cube roots Unit 27: Linear functions Unit 28: Converting units and scale drawings. Unit 29: Ratio Unit 30: Graphs and rates of change	Student's Book 7: From page 192 to page 247
2nd Semester	Unit 1: Multiplication and division Unit 2: Hierarchy of quadrilaterals Unit 3: Data collection and sampling methods Unit 4: Parallelograms, trapezia, and circles Unit 5: Order of operations Unit 6: Expressions, formulae, and equations Unit 7: Recording, organizing, and representing data. Unit 8: Properties of three – dimensional shapes Unit 9 : Factors and multiples Unit 10 : Complementary events Unit 11 : Decimals and place value Unit 12: Comparing and interpreting. Unit 13: Transformation of 2D shapes Unit 14: Fractions and decimals Unit 15: Manipulating algebraic expressions.	Student's Book 8: From page 1 to page 127

Semester	Chapters	Main Resource
3. Cambridge Checkpoint Math's 3rd Edition - Hodder Education:		
Grade 8		
1st Semester	Unit 16: Combined events Unit 17: Constructions, lines, and angles Unit18: Algebraic expressions and formulae Unit 19: Probability experiments Unit 20: Equations and inequalities Unit 21: Describing sequences. Unit 22: Percentage increases and decreases. Unit 23: 2D representations of 2D shapes Unit 24: Functions Unit 25: Geometry and translations Unit 26: Squares, square roots, cubes, and cube roots Unit 27: Graphs and equations of straight lines Unit 28: Distances and bearings Unit 29: Ratio Unit 30: Reading and interpreting graphs	Student's Book8: From page 148 to page 261
	Unit 1: Indices and standard form Unit 2: Pythagoras' theorem Unit 3: Data collection and sampling Unit 4: Area and circumference of a circle Unit 5: Order of operations with algebra Unit 6: Large and small units Unit 7: Record, organize and represent data. Unit 8: Surface area and volume of prisms	Student's Book 9: From page 1 to page 55

	3. Cambridge Checkpoint Math's 3rd Edition - Hodder Education:	
2nd Semester	Unit 9: Rational and irrational number Unit 10: Mutually exclusive events Unit 11: Rounding and estimating numbers. Unit 12: Further data interpretation Unit 13: Further transformations Unit 14: Further fractions and decimals Unit 15: Manipulating algebraic expressions. Unit 16: Combined events Unit 17: Further constructions, polygons, and angles Unit 18: Further algebraic expressions and formulae Unit 19: Probability – expected and relative frequency Unit 20: Further algebraic equations and inequalities Unit 21: Linear and quadratic sequences Unit 22: Compound percentages Unit 23: Scale and area factors of enlargement Unit 24: Function and their representation Unit 25: Coordinates and straight-line segments Unit 26: Estimating surds. Unit 27: Linear functions and solving Simultaneous linear equations. Unit 28: Bearings and scale drawings Unit 29: Direct and inverse proportion Unit 30: Compound measures and graphs	Student's Book 9: From page 61 to page 240

صفحة | ٥٠

النشرة التوجيهية لمادة الرياضيات
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4. Cambridge Lower Secondary Mathematics – Collins:

Grade 7		
Semester	**Chapters**	**Main Resource**
1st Semester	Chapter 1: Factors Chapter 2: 2D and 3D Shapes Chapter 3: Collecting Data Chapter 4: Negative numbers and indices Chapter 5: Expressions Chapter 6: Symmetry Chapter 7: Rounding and Decimals Chapter 8: Presenting and interpreting data 1. Chapter 9: Fractions Chapter 10: Manipulating expressions. Chapter 11: Angles Chapter 12: Measures of average and spread. Chapter 13: Calculations Chapter 14: Functions and formulae Chapter 15: Area and volume Chapter 16: Fractions, decimals, and percentages Chapter 17: Probability 1 Chapter 18: Transformations Chapter 19: Percentages Chapter 20: Presenting and interpreting data 2	Student's Book 7: From page 2 to page 229

4. Cambridge Lower Secondary Mathematics – Collins:		
	Chapter 21: Equations and inequalities Chapter 22: Ratio and proportion Chapter 23: Probability Chapter 24: Sequences Chapter 25: Accurate drawing Chapter 26: Thinking statistically. Chapter 27: Relationships and graphs	Student's Book 7: From page 223 to page 318
2nd Semester	Chapter 1: Negative numbers, indices, and roots Chapter 2: 2D and 3D Shapes Chapter 3: Collecting Data Chapter 4: Factors and rational numbers Chapter 5: Expressions Chapter 6: Angles Chapter 7: Place value, rounding and decimals. Chapter 8: Presenting and interpreting data 1. Chapter 9: Functions and formulae Chapter 10: Fractions Chapter 11: Length, area, and volume Chapter 12: Probability 1 Chapter 13: Calculations	Student's Book 8: From page 2 to page 165

	4. Cambridge Lower Secondary Mathematics – Collins:	
	Grade 8	
Semester	**Chapters**	**Main Resource**
1st Semester	Chapter 14: Equations and inequalities Chapter 15: Midpoints Chapter 16: Fractions, decimals, and percentages Chapter 17: Presenting and interpreting data 2 Chapter 18: Transformations Chapter 19: Percentages Chapter 20: Sequences Chapter 21: Probability 2 Chapter 22: Ratio and proportion Chapter 23: Relationships and graphs Chapter 24: Thinking statistically. Chapter 25: Accurate drawing	Student's Book 8: From page 164 to page 331
	Chapter 1: Indices, roots, and rational numbers Chapter 2: Angles Chapter 3: Collecting and organizing Data. Chapter 4: Standard form Chapter 5: Expressions Chapter 6: Transformations Chapter 7: Presenting and interpreting data 1	Student's Book 9: From page 2 to page 85

4. Cambridge Lower Secondary Mathematics – Collins:		
2ⁿᵈ Semester	Chapter 8: Rounding and decimals. Chapter 9: Functions and formulae Chapter 10: Accurate drawing Chapter 11: Fractions Chapter 12: Probability 1 Chapter 13: Equations and inequalities Chapter 14: Calculations Chapter 15: Pythagoras's theorem Chapter 16: Measures of averages and spread. Chapter 17: Percentages Chapter 18: Sequences Chapter 19: Aera and measures Chapter 20: Presenting and interpreting data2. Chapter 21: Ratio and proportion Chapter 22: Relationships and graphs Chapter 23: Probability 2 Chapter 24: 3D Shapes Chapter 25: Simultaneous equations Chapter 26: Thinking statistically	Student's Book 9: From page 101 to page 333

الفصل الرابع: المرحلة الدراسية (٩-١٠)

Section (4): Grades (9-10)

قائمة المصادر التعليمية الأساسية المعتمدة لمادة الرياضيات – الصفوف (٩–١٠)
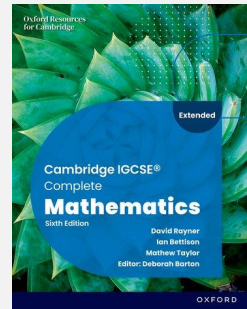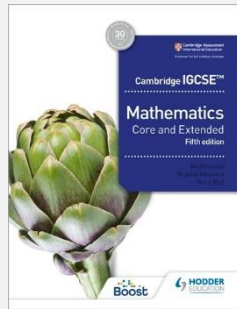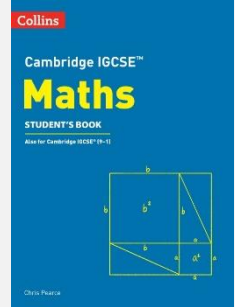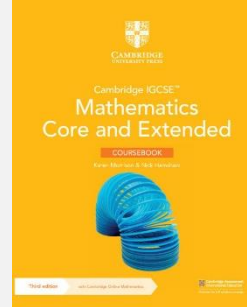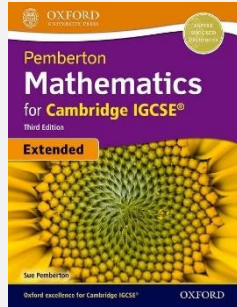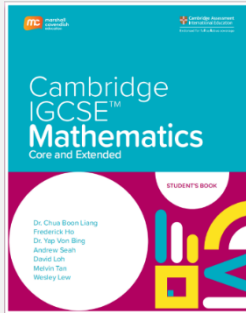
List of Approved Essential Resources – Math –Grades (9-10)

No	Titles	Publisher	Components	Comments
1	Cambridge IGCSE Mathematics Core and Extended (First Edition)	Marshall Cavendish Education	Student's Book / Workbook / Teacher's Guide	
2	Cambridge IGCSE Mathematics Core and Extended (Third Edition)	Cambridge University Press	Coursebook / Practice Book / Digital Teacher's Resource	
3	Pemberton Mathematics for Cambridge IGCSE – Extended (Third Edition)	Oxford University Press	Coursebook / Teacher Resource Pack	
4	Cambridge IGCSE Complete Mathematics Extended (sixth edition)	Oxford University Press	Coursebook / Teacher Handbook	New approval
5	Cambridge IGCSE Maths (fourth Edition)	Collins	Student Book / Student Workbook / Teacher's Guide	
6	Cambridge IGCSE Mathematics Core and Extended (fifth edition)	Hodder Education	Course Book / Workbook / Teacher's Guide	New approval

مكونات السلاسل التعليمية الأساسية المعتمدة مع أرقام (ISBNs) لمادة الرياضيات – الصفوف (٩-١٠)

Components of Math Resources with their ISBNs- Grades (9- 10)

	Components	Publisher	ISBN	Book Cover
1	Cambridge IGCSE Mathematics Core and Extended Student's Book (First Edition)	Marshall Cavendish Education	9789814913065	
	Cambridge IGCSE Mathematics Core and Extended Workbook (First Edition)		9789814913072	
	Cambridge IGCSE Mathematics Core and Extended Teacher's Book (First Edition)		9789814913089	
2	Cambridge IGCSE Mathematics Core and Extended Coursebook (Third Edition)	Cambridge University Press	9781009343671	
	Cambridge IGCSE Mathematics Core and Extended Practice Book		9781009297974	
	Cambridge IGCSE Mathematics Core and Extended Digital Teacher's Resource		9781009298209	
3	Pemberton Mathematics for Cambridge IGCSE - Extended (Third Edition)	Oxford University Press	9780198428402	
	Pemberton Mathematics for Cambridge IGCSE Teacher Resource Pack – Extended (Third Edition)		9780198428473	

	Components	Publisher	ISBN	Book Cover
4	Cambridge IGCSE Complete Mathematics Extended: Student Book (Sixth Edition)	Oxford University Press	9781382042529	
	Cambridge IGCSE Complete Mathematics Extended: Teacher Handbook (Sixth Edition)		9781382042543	
5	Cambridge IGCSE math's - Student book (Fourth Edition)	Collins	9780008546052	
	Cambridge IGCSE math's - Teacher Guide (Fourth Edition)		9780008546069	
	Cambridge IGCSE math's - Workbook (Fourth Edition)		9780008670849	
6	Cambridge IGCSE Core and Extended Mathematics Corse Book (Fifth edition)		9781398373914	
	Cambridge IGCSE Core and Extended Mathematics Corse Book (Fifth edition)		9781398373921	
	Cambridge IGCSE Core and Extended Mathematics Teacher's Guide with Boost Subscription		9781398373624	

الوسائل التعليمية لمادة الرياضيات – الصفوف (٩-١٠)

Teaching Aids - Math – Grades (9-10)

على المدارس توفير الوسائل التعليمية الآتية:

Schools must provide the following teaching aids:

١. أدوات هندسية بحجم كبير لاستخدام المعلم على السبورة: المثلث

1. Master Mathematical Instruments (for teachers use): Two set squares, a 180° protractor, a ruler, a compass.

الثلاثيني الستيني والمثلث متساوي الساقين، منقلة، مسطرة،

فرجار.

٢. سبورة الرسم البياني (بالإضافة للسبورة العادية في الفصل).

2. Grid whiteboard (In addition to the normal whiteboard).

٣. جهاز حاسوب لكل معلم.

3. A laptop for each teacher.

٤. جهاز عرض.

4. Projectors.

٥. شبكة إنترنت متاحة.

5. Internet connection.

توزيع المخرجات التعليمية على الفصلين الدراسيين لمادة الرياضيات – الصفوف (٩-١٠)

Learning Outcomes Distribution - Math – Grades (9-10)

Grade (9)
First Semester

1) Number

Indices
- Understand the meaning and rules of indices.
- Use the standard form $A \times 10^n$ where n is a positive or negative integer, and $1 \leq A < 10$

Real Numbers
- Identify and use real numbers (Which includes rational & irrational numbers)
- Convert recurring decimals to fractions (And opposite)

Proportion
- Increase and decrease a quantity by a given ratio.
- Use common measures of rate.
- Calculate average speed.

Percentages
- Calculate a given percentage of a quantity.
- Express one quantity as a percentage of another
- Calculate percentage increase or decrease.
- Carry out calculations involving reverse percentages
-

2) Algebra

Algebraic Manipulation
- Construct and transform complicated formulae and equations.
- Manipulate directed numbers.
- Use brackets and extract common factors.
- Expand products of algebraic expressions
- Factorize where possible expressions of the form:

$$ax + bx + kay + kby$$
$$a^2x^2 - b^2y^2$$
$$a^2 + 2ab + b^2$$
$$ax^2 + bx + c$$

- Manipulate algebraic fractions.
- Factorize and simplify rational expressions
-

3) Co-ordinate Geometry

Straight Line Graphs
- Find the gradient of a straight line.
- Calculate the gradient of a straight line from the co-ordinates of two points on it.
- Calculate the length and the co-ordinates of the midpoint of a straight line from the co-ordinates of its end points.
- Interpret and obtain the equation of a straight-line graph in the form $y = mx + c$
- Determine the equation of a straight line parallel to a given line.
- Find the gradient of parallel and perpendicular lines
-

4) Mensuration

Arc Length and Sector Area of the Circle
- Solve problems involving the arc length and sector area as fractions of the circumference and area of a circle.

Surface Area and Volume of 3D Shapes
- Carry out calculations involving the volume of a cuboid, prism and cylinder and the surface area of a cuboid and a cylinder.
- Carry out calculations involving the surface area and volume of a sphere, pyramid, and cone.

Areas and Volumes of Compound Shapes
- Carry out calculations involving the areas and volumes of compound shapes
-

1) Number

Sets

- Use language, notation and Vann diagrams to describe sets and represent relationships between sets.
  Note: Including shaded parts
- Define sets in different ways

2) Algebra

Linear Equations and Inequalities

- Solve simple linear equations in one unknown.
- Solve simple linear inequalities.

Variation

- Express direct and inverse variation in algebraic terms and use this form of expression to find unknown quantities

3) Geometry

scale drawings

- Read and make scale drawings.

Symmetry

- Recognize rotational and line symmetry (including order of rotational symmetry) in two dimensions.
- Recognize symmetry properties of the prism (including cylinder) and the pyramid (including cone)
- Use the following symmetry properties of circles:
  - equal chords are equidistant from the center
  - the perpendicular bisector of a chord passes through the center
  - tangents from an external point are equal in length

Angle Properties

- Calculate unknown angles using the following geometrical properties:
  - angles at a point
  - angles at a point on a straight line and intersecting straight lines
  - angles formed within parallel lines
  - angle properties of triangles and quadrilaterals
  - angle properties of regular polygons
  - angle in a semi-circle
  - angle between tangent and radius of a circle.
  - angle properties of irregular polygons
  - angle at the center of a circle is twice the angle at the circumference
  - angles in the same segment are equal
  - angles in opposite segments are supplementary; cyclic quadrilaterals

4) Trigonometry

Bearings

- Interpret and use three-figure bearings.

Trigonometry

- Apply Pythagoras' theorem and the sine, cosine, and tangent ratios for acute angles to the calculation of a side or of an angle of a right-angled triangle.
- Solve trigonometrical problems in two dimensions involving angles of elevation and depression.
- Extend sine and cosine values to angles between $90°$ and $180°$

5) Statistics

Reading and Displaying Data

- Construct and read histograms with equal and unequal intervals and scatter diagrams.
- Understand what is meant by positive, negative and zero correlation with reference to a scatter diagram.
- Draw a straight line of best fit by eye.

Mean, Median, Mode and Range

- Calculate the mean, median, mode and range for individual and discrete data and distinguish between the purposes for which they are used.
- Calculate an estimate of the mean for grouped and continuous data.
- Identify the modal class from a grouped frequency distribution

Grade (10)
First Semester

1) Algebra

Algebraic indices
- Use and interpret positive, negative and zero indices.
- Use and interpret fractional indices.
- Use the rules of indices.

Solving Equations
- Solve simultaneous linear equations in two unknowns.
- Solve quadratic equations by factorization, completing the square or by use of the formula.

Linear Programming
- Represent inequalities graphically and use this representation in the solution of simple linear programming problems.

Sequences
- Continue a given number sequence.
- Recognize patterns in sequences and relationships between different sequences.
- Find the nth term of sequences

2) Number

Accuracy
- Give appropriate upper and lower bounds for data given to a specified accuracy.
- Obtain appropriate upper and lower bounds to solutions of simple problems given data to a specified accuracy.

Money and Finance
- Use given data to solve problems on personal and small business finance involving earnings, simple interest and compound interest, discount, profit, and loss.
- Extract data from tables and charts

Exponential Growth and Decay
- Use exponential growth and decay in relation to population and finance

3) Geometry

Similarity
- Calculate lengths of similar figures
- Use the relationships between areas of similar triangles, with corresponding results for similar figures and extension to volumes and surface areas of similar solids.

4) Vectors

Vectors
- Describe a translation by using a vector represented by e.g. $\begin{pmatrix} x \\ y \end{pmatrix}$, $\overrightarrow{AB}$ or **a**.
- Add and subtract vectors.
- Multiply a vector by a scalar.
- Calculate the magnitude of a vector $\begin{pmatrix} x \\ y \end{pmatrix}$ as $\sqrt{x^2 + y^2}$
- Represent vectors by directed line segments.
- Use the sum and difference of two vectors to express given vectors in terms of two coplanar vectors.
- Use position vectors

5) Statistics

Cumulative Frequency
- Construct and use cumulative frequency diagrams.
- Estimate and interpret the median, percentiles, quartiles and inter-quartile range

Grade (10)
Second Semester

1) Algebra

Graphs in Practical Situations
- Interpret and use graphs in practical situations including travel graphs and conversion graphs.
- Draw graphs from given data.
- Apply the idea of rate of change to easy kinematics involving distance-time and speed-time graphs, acceleration, and deceleration.
- Calculate distance travelled as area under a linear speed-time graph.

Graphs of Functions
- Construct tables of values and draw graphs for functions of the form ax^n, where a is a rational constant, and n = –2, –1, 0, 1, 2, 3, and simple sums of not more than three of these and for functions of the form a^x, where a is a positive integer
- Solve associated equations approximately by graphical methods.
- Draw and interpret graphs representing exponential growth and decay problems.
- Estimate gradients of curves by drawing tangents

Functions
- Use function notation, e.g., f(x) = 3x – 5, f: x ® 3x – 5, to describe simple functions
- Find inverse functions $f^{-1}(x)$
- Form composite functions as defined by gf(x) = g(f(x))

2) Trigonometry

Trigonometry
- Solve problems using the sine and cosine rules for any triangle and the formula area of triangle = 1/2 ab sin C
- Solve simple trigonometrical problems in three dimensions including angle between a line and a plane

3) Transformation

Transformations
- Reflect simple plane figures in horizontal or vertical lines.
- Rotate simple plane figures about the origin, vertices or midpoints of edges of the figures, through multiples of 90°
- Construct given translations and enlargements of simple plane figures.
- Recognize and describe reflections, rotations, translations, and enlargements.
- Use the following transformations of the plane: reflection (M), rotation (R), translation (T), enlargement (E)
- Identify and give precise descriptions of transformations connecting given figures.
- Describe transformations using co-ordinates and matrices (singular matrices are excluded)

4) Probability

Probability of Single Events
- Calculate the probability of a single event as either a fraction, decimal, or percentage.
- Understand and use the probability scale from 0 to 1.
- Understand that the probability of an event occurring = 1 – the probability of the event not occurring
- Understand relative frequency as an estimate of probability.

Probability of Combined Events
- Calculate the probability of simple combined events, using possibility diagrams and tree diagrams where appropriate
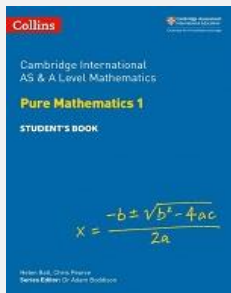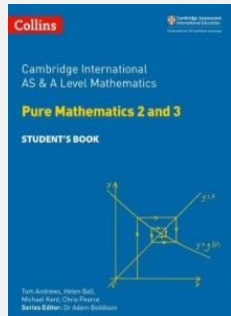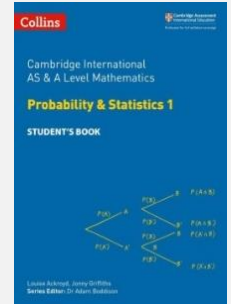
الفصل الخامس: الصف الحادي عشر

Section (5): Grade 11

المصادر التعليمية المعتمدة وأرقام الـ(ISBNs) لمادة الرياضيات المتقدمة – الصف (١١)

The Approved Resources and their ISBNs for Advance Math– Grade (11)

	Title	Publisher	ISBN	Book Cover
1	Cambridge International AS & A Level Mathematics Pure Mathematics 1 Student's Book	Collins	9780008257736	
2	Cambridge International AS & A Level Mathematics Pure Mathematics 2&3 Student's Book	Collins	9780008257743	
3	Cambridge International AS & A Level Mathematics Probability & Statistics 1 Student's Book	Collins	9780008257767	
4	Cambridge International AS & A Level Mathematics Pure Mathematics 1, 2 & 3 Teacher's Guide - eBook	Collins	978-0-00-799018-4	Available online

	Title	Publisher	ISBN	Book Cover
5	Cambridge International AS & A Level Mathematics Probability & Statistics 1 Teacher's Guide - eBook	Collins	978-0-00-799019-1	Available online

المخرجات التعليمية لمادة الرياضيات المتقدمة – الصف (١١)

Learning Outcomes of Advance Math– Grade (11)

Area	Reference Chapter	Advance Math Grade 11 - Semester 1	
		Objectives	No. of weeks
Algebra, Equations and Functions	Quadratics PM1*	- Carry out the process of completing the square for a quadratic polynomial $ax^2 + bx + c$ and use a completed square form. - Find the discriminant of a quadratic polynomial $ax^2 + bx + c$ and use the discriminant. - Solve quadratic equations in one unknown **by using completing square.** - Solve quadratic inequalities in one unknown. - Solve by substitution a pair of simultaneous equations of which one is linear and one is quadratic. - Recognize and solve equations in x that are quadratic in some function of x.	2
	Functions PM1*	- Understand the terms function, domain, range, one-one function, **many-one function**. - Identify the range of a given function in simple cases. - Determine whether a given function is one-one **or many-one in simple cases.** - Illustrate in graphical terms the relation between a one-one function and its inverse - Understand and use transformations of the graph of $y = f(x)$ given by $y = f(x) + a$, $y = f(x+a)$, $y = af(x)$, $y = f(ax)$ and simple combinations of these.	2
	Algebra PM2&3*	- Understand the meaning of $|x|$, sketch the graph of $y = |ax + b|$ and use relations such as: and $|x - a| < b \Leftrightarrow a - b < x < a + b$ in $|a| = |b| \Leftrightarrow a^2 = b^2$ the course of solving equations. - Divide a polynomial by a linear or quadratic polynomial and identify the quotient and remainder. - Use the factor theorem and the remainder theorem. - Recall an appropriate form for expressing rational functions in partial fractions and carry out the decomposition.	3
Calculus	Differentiation PM1*	- Understand the gradient of a curve as the limit of the gradients of a sequence of chords (Note: differentiation by using first principle not included) - Use the notation $\frac{dy}{dx}$ and $f'(x)$ for first derivatives - Use the derivative of x^n together with multiples, sums and differences - Differentiate composite functions, using the chain rule - Locate stationary points and determine their nature - Identify increasing and decreasing functions - Apply differentiation to find gradients, tangents and normal	3

Area	Reference Chapter	Advance Math Grade 11 - Semester 1	No. of weeks
		Objectives	
		- Use the notation $\frac{d^2y}{dx^2}$ and $f''(x)$ for second derivatives - Apply differentiation to rates of change	
Statistics	Representing of data P&S1[*]	- Choose suitable ways of presenting qualitative and quantitative raw data, discussing the advantages and disadvantages of your choice - Use discrete, continuous, grouped, and ungrouped data - Interpret, draw, and use stem-and-leaf diagrams, histograms, box-and-whisker plots (including outliers) and cumulative frequency diagrams - Calculate and use measures of central tendency: mean, median and mode - Calculate and use measure of variation: range, interquartile range and standard deviation - Work with grouped and ungrouped data when calculating the mean and standard deviation	2
Revision			1 (Suggested)

* PM1: Pure Mathematics 1
* PM2&3: Pure Mathematics 2&3
* P&S1: Probability & Statistics 1

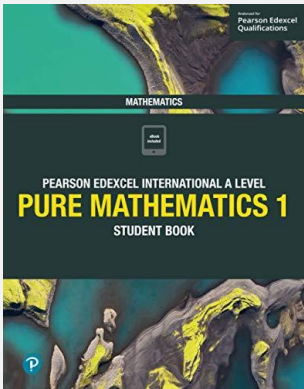| Advance Math Grade 11 - Semester 2			
Area	**Reference Chapter**	**Objectives**	**No. of weeks**
Geometry	Coordinate Geometry PM1*	- Find the equation of a straight line, given sufficient information. - Interpret and use any of the forms $y = mx + c$, $y - y_1 = m(x - x)$, $ax + by + c = 0$ in solving problems. - Use algebraic methods to solve problems involving lines. - Understand the relationship between a graph and its associated algebraic equation and use the relationship between points of intersection of graphs and solutions of equations.	1.5
Trigonometry	Circular Measure and Trigonometry PM1*	- Understand the definition of a radian and use the relationship between radians and degrees. - Use formulae for the arc length and sector area of a circle - Define the sine, cosine and tangent for any angle. - Sketch and use graphs of the sine, cosine and tangent functions for angles of any size. - Use the exact values of the sine, cosine and tangent of 30˚, 45˚, 60˚ and related angles. - Use two important identities connecting sin x ,cos x and tan x. - Define the principal values of inverse trigonometric relations. - Find the solutions of simple trigonometric equations.	2.5
Algebra	Series PM1*	- Expand expressions of the form $(a + b)^n$, where n is a positive integer. - Recognize arithmetic progressions and geometric progressions. - Use formulae for the nth term of an arithmetic progression or a geometric progression. - Use formulae for the sum of the first n terms of an arithmetic progression or a geometric progression. - Interpret and find the sum to infinity of a convergent geometric progression.	2
Calculus	Integration PM1*	- Understand integration as the reverse process of differentiation. - Integrate $(ax + b)^n$ for rational values of n (except -1), together with constant multiples, sums and differences. - Solve problems involving the evaluation of a constant of integration. - Evaluate definite integrals. - Find areas bounded by curves and the coordinate axes or between a curve and a line or between two curves. - Use definite integration to find a volume of revolution.	3
Probability	Probability, permutations and combinations P&S1*	- Solve problems involving permutations and combinations of a set of objects. - Model situations involving probability and explain any assumptions made. - Evaluate probabilities in simple cases. - Use sample spaces in simple cases. - Add and multiply probabilities in appropriate cases - Use both Vann diagrams and tree diagrams to calculate probabilities.	3

Advance Math Grade 11 - Semester 2				
Area	**Reference Chapter**	**Objectives**		**No. of weeks**
		- Show that events are independent or mutually exclusive. - Use conditional probability in simple cases. - Use the conditional probability formula $P(A/B) = \frac{P(A \cap B)}{P(B)}$		
Revision				1 (Suggested)
*PM1: Pure Mathematics 1 *P&S1: Probability & Statistics 1				

المصدر التعليمي المعتمد ورقم ال(ISBN) لمادة الرياضيات الأساسية – الصف (١١)

The Approved Resource and its ISBN for Basic Math– Grade (11)

	Title	Publisher	ISBN	Book Cover
1	PEARSON EDEXCEL INTERNATIONAL A LEVEL PURE MATHEMATICS 1 Student Book	Pearson	9781292244792	

المخرجات التعليمية لمادة الرياضيات الأساسية – الصف (١١)

Learning Outcomes of Basic Math– Grade (11)

Basic Math Grade 11 - Semester 1			
Area	Reference Chapter	Objectives	No. of weeks
Algebra	<u>Chapter (1)</u> Algebraic Expressions	After completing this chapter, students should be able to: - Multiply and divide integer powers (pages 2-4) - Expand a single term over brackets and collect like terms (pages 2-4). - Expand the product of two or three expressions (pages 4-6). - Factorise linear, quadratic and simple cubic expressions (pages 6-9). - Know and use the law of indices (pages 9-11). - Simplify and use the rules of surds (pages 12-13). - Rationalise denominators (pages 13-15).	3
	<u>Chapter (2)</u> Quadratics	After completing this chapter, students should be able to: - Solve quadratic equations using factorization, the quadratic formula and completing the square (pages 19-24). - Read and use $f(x)$ notation when working with functions (pages 25-27). - Sketch the graph and find the turning point of a quadratic function (pages 27-30). - Find and interpret the discriminant of a quadratic expression (pages 30-32).	4
	<u>Chapter (3)</u> Equations and Inequalities	After completing this chapter, students should be able to: - Solve linear simultaneous equations using elimination or substitution (pages 37-38). - Solve simultaneous equations: one linear and one quadratic (Pages 39-40). - Solve linear inequalities (pages 44-46). - Solve quadratic inequalities (pages 46-49).	3
	<u>Chapter (5)</u> Straight Line Graphs	After completing this chapter, students should be able to: - Calculate the gradient of a line joining a pair of points(pages86-87). - Understand the link between the equation of a line, and its gradient and intercept (pages 87-89).	2
Revision			1 (Suggested)

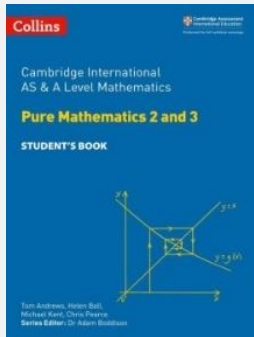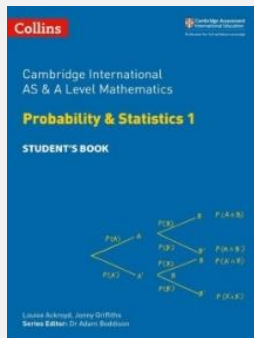| Basic Math Grade 11 - Semester 2			
Area	**Reference Chapter**	**Objectives**	**No. of weeks**
Trigonometry	Chapter (6) Trigonometric Ratios	After completing this chapter students should be able to: - Use the cosine rule to find a missing side or angle (pages 105-110). - Use the sine rule to find a missing side or angle (pages 110-116) - Find the area of a triangle using an appropriate Formula (pages 116-118). - Solve problems involving triangles (pages 118-122).	4
	Chapter (7) Radians	After completing this chapter students should be able to: - Convert between degrees and radians, and know exact values of angles measured in radians (Exercise 7A) All. (Pages 134-135). - Find an arc length using radians (Exercise 7B) Q1only (pages135-139). - Find areas of sectors and segments using radians (Exercise 7C) Q1,2 and 3. (pages139-145).	1.5
Calculus	Chapter (8) Differentiation	After completing this chapter students should be able to: - Find the derivative, $f'(x)$ or $\frac{dy}{dx}$, of a simple function (pages157-163). - Use the derivative to solve problems involving gradients, tangents and normals. (pages 163-165). - Find the second derivative, $f''(x)$ or $\frac{d^2y}{dx^2}$ of a simple Function (pages 165-166).	4
	Chapter (9) Integration	After completing this chapter students should be able to: - Find y given $\frac{dy}{dx}$ for x^n . (pages171-173). - Integrate polynomials (pages 172-175). - Find $f(x)$, given $f''(x)$ and a point on the curve (pages176-178).	2.5
Revision			1 (Suggested)

الفصل السادس: الصف الثاني عشر

Section (6): Grade 12

المصادر التعليمية المعتمدة وأرقام الـ(ISBN) لمادة الرياضيات المتقدمة – الصف (١٢)

The Approved Resources and their ISBN for Advanced Math– Grade (12)

	Title	Publisher	ISBN	Book Cover
1	Cambridge International AS & A Level Mathematics Pure Mathematics 2&3 Student's Book	Collins	978-0-00-825774-3	
2	Cambridge International AS & A Level Mathematics Probability & Statistics 1 Student's Book	Collins	978-0-00-825776-7	
4	Cambridge International AS & A Level Mathematics Pure Mathematics 1, 2 & 3 Teacher's Guide - eBook	Collins	978-0-00-799018-4	Available online
5	Cambridge International AS & A Level Mathematics Probability & Statistics 1 Teacher's Guide - eBook	Collins	978-0-00-799019-1	Available online

Learning Outcomes of Advance Math– Grade (12)

Advance Math Grade 12 - Semester 1				
Area	**Reference Chapter**	**Objectives**	**Pages**	**No. of weeks**
Algebra	Chapter (2) Logarithms and exponential functions (Pure Mathematics 2&3) Pages (36 to 54)	Understand the relationship between logarithms and indices and use the laws of logarithms.	(36 to 43)	3
		Understand the definition and properties of e^x and $\ln x$, including their relationship as inverse functions, and their graphs.	(44 to 51)	
		Use logarithms to solve equations of the form $a^x = b$, and similar inequalities. (Note: Applications of logarithms not included).	(52 to 54)	
Trigonometry	Chapter (3) Trigonometry (Pure Mathematics 2&3) Pages (65 to 80)	Use the expansions of $\sin(A \pm B), \cos(A \pm B)$ and $\tan(A \pm B)$.	(65 to 70)	4
		Use the formulae for $\sin 2A, \cos 2A$ and $\tan 2A$.	(70 to 72)	
		Use the expression of $a \sin \theta + b \cos \theta$ in the forms $R \sin (\theta \pm \alpha)$ and $R \cos (\theta \pm \alpha)$.	(73 to 75)	
		- Understand the relationship of the secant, cosecant and cotangent functions to cosine, sine and tangent. - Use the properties and graphs of all six trigonometric functions for angles of any magnitude.	(76 to 79)	
		Use trigonometric identities for the simplification and exact evaluation of expressions, in particular, $sec^2\theta \equiv 1 + tan^2\theta$ and $cosec^2\theta \equiv 1 + cot^2\theta$.	(79 to 80)	
Calculus	Chapter (4) Differentiation (Pure Mathematics 2&3)	Differentiate $e^x, \ln x, \sin x$ and $\cos x$.	(84 to 94)	3
		Differentiate products and quotients.	(94 to 101)	
		Differentiate of $tan^{-1} x$.	(102 to 104)	

Advance Math Grade 12 - Semester 1				
Area	Reference Chapter	Objectives	Pages	No. of weeks
Probability and Statistics	Pages (84 to 104) and (111 to 115)	Differentiate functions defined **implicitly only.**	(111 to 115)	
	Chapter (3) Discrete random variables (Probability & Statistics 1) Pages (83 to 96)	Construct a probability distribution table for a discrete random variable X.	(83 to 90)	2
		Calculate the expectation, E(X), and variance, Var(X), of a discrete random variable.	(90 to 94)	
			(94 to 96)	
Revision			1 (Suggested)	
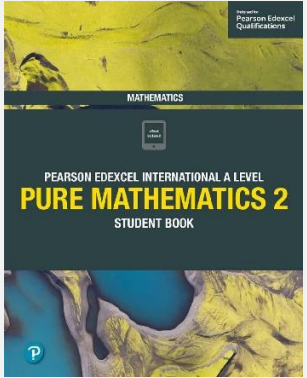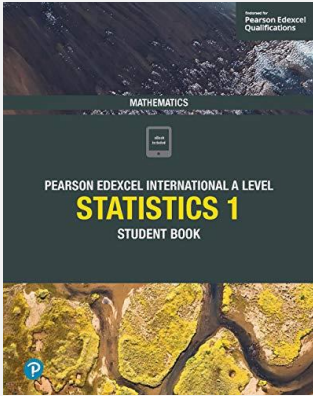
Area	Reference Chapter	Objectives	Pages	No. of weeks
Calculus	Chapter (5) Integration (Pure Mathematics 2&3) Pages (121 to 148)	Use the trapezium rule to estimate a definite integral.	(121 to 127)	4
		-Recognize integrals in particular forms. -Use trigonometrical relationships in carrying out integration.	(127 to 138)	
		Integrate using partial fractions.	(139 to 141)	
		Integrate using a substitution.	(142 to 145)	
		Use integration by parts.	(145 to 148)	
Vectors	Chapter (7) Vectors (Pure Mathematics 2&3) Pages (175 to 197)	-Use standard notation for vectors, i.e. $\begin{pmatrix} x \\ y \end{pmatrix}$, $x\boldsymbol{i} + y\boldsymbol{j}$, $\begin{pmatrix} x \\ y \\ z \end{pmatrix}$, $x\boldsymbol{i} + y\boldsymbol{j} + z\mathbf{k}, \overrightarrow{AB}, \mathbf{a}$ -Carry out addition and subtraction of vectors and multiplication of a vector by a scalar, and interpret these operations in geometrical terms. -Find the mid-point of a line as a vector.	(175 to 188)	2
		Calculate the magnitude of a vector, and use unit vectors, displacement vectors and position vectors.	(189 to 197)	
Algebra	Chapter (9) Complex numbers (Pure Mathematics 2&3) Pages (242 to 264)	-Understand the idea of a complex number, recall the meaning of the terms real part, imaginary part, modulus, argument, conjugate, and use the fact that two complex numbers are equal if and only if both real and imaginary parts are equal. - Represent complex numbers geometrically by means of an Argand diagram.	(242 to 249)	3
		Carry out operations of addition, subtraction, multiplication and division of two complex numbers expressed in Cartesian form $x + iy$.	(250 to 253)	
		Find the two square roots of a complex number.	(254 to 256)	
		Use the result that, for a polynomial equation with real coefficients, any non-real roots occur in conjugate pairs.	(256 to 259)	
		Carry out the operations of multiplication and division of two complex numbers expressed in polar form: $r(\cos\theta + i\sin\theta) \equiv re^{i\theta}$.	(259 to 264)	

Probability and Statistics	Chapter (4) Normal Distribution (Probability & Statistics 1) Pages (117 to 143)	-Understand and use the normal distribution to model continuous random variables. -Analyze the shape and symmetry of the normal distribution.	(117 to 125)	١	3
		Find probabilities using the normal distribution table, given the values of μ and σ.	(126 to 139)		
		Find μ and σ given probabilities.	(139 to 143)		
Revision				1 (Suggested)	

المصدر التعليمي المعتمد ورقم ال(ISBN) لمادة الرياضيات الأساسية – الصف (١٢)

The Approved Resource and its ISBN for Basic Math– Grade (12)

	Title	Publisher	ISBN	Book Cover
1	PEARSON EDEXCEL INTERNATIONAL A LEVEL PURE MATHEMATICS 2 Student Book	Pearson	9781292244853	
2	PEARSON EDEXCEL INTERNATIONAL A LEVEL STATISTICS 1 Student Book	Pearson	9781292245140	

Learning Outcomes of Basic Math– Grade (12)

Basic Math Grade 12 - Semester 1				
Area	Reference Chapter	Objectives Students should be able to:	Pages	No. of weeks
Algebra	Chapter (1) Algebraic methods (PURE MATHEMATICS 2) Pages (2 to 13)	• Cancel factors in algebraic fractions	(2 to 3)	3.5
		• Divide a polynomial by a linear expression	(3 to 6)	
		• Use the factor theorem to factorize a cubic expression	(7 to 11)	
		• Use the remainder theorem to find the remainder when a polynomial f(x) is divided by (ax - b)	(11 to 13)	
	Chapter (3) Exponentials and logarithms (PURE MATHEMATICS 2) Pages (52 to 59) **(Sketching not to be included)**	• Recognize the relationship between exponents and logarithms.	(52 to 54)	3
		• Recall and apply the laws of logarithms.	(54 to 56)	
		• Solve equations of the form $a^x=b$.	(57 to 58)	
		• Change the base of a logarithm.	(58 to 59)	
Calculus	Chapter (7) Differentiation (PURE MATHEMATICS 2) Pages (138 to 143)	• Identify increasing and decreasing functions	(138)	2
		• Find stationary points of functions and determine their nature	(139 to 143)	
Statistics	Chapter (2) Measures of location and spread. (Statistics 1) Pages (6 to 21)	• Recognize different types of data.	(6 to 8)	3.5
		• Calculate measures of central tendency such as the mean, median and mode.	(9 to 12)	
		• Calculate measures of location such as percentiles.	(13 to 15)	
		• Calculate measures of spread such as range, interquartile range and interquartile range.	(16 to 17)	
		• Calculate variance and standard deviation.	(18 to 21)	
Revision			1 (Suggested)	

Basic Math Grade 12 - Semester 2				
Area	**Reference Chapter**	**Objectives** Students should be able to:	**Pages**	**No. of weeks**
Algebra	Chapter (4) The binomial Expansion (PURE MATHEMATICS 2) Pages (63 to 68)	• Use Pascal's triangle to identify binomial coefficients and use them to expand simple binomial expressions.	(63 to 64)	3
		• Use combinations and factorial notation.	(65 to 66)	
		• Use the binomial expansion to expand brackets.	(67 to 68)	
	Chapter (5) Sequences and series (PURE MATHEMATICS 2) Pages (81 to 96)	• Find the nth term of an arithmetic sequence	(81 to 83)	3.5
		• Prove and use the formula for the sum of the first n terms of an arithmetic series.	(84 to 86)	
		• Find the nth term of a geometric sequence.	(87 to 90)	
		• Prove and use the formula for the sum of a finite geometric series.	(91 to 93)	
		• Prove and use the formula for the sum to infinity of a convergent geometric series.	(94 to 96)	
Calculus	Chapter (8) Integration (PURE MATHEMATICS 2) Pages (153 to 159) **(Diagram should be given for any required area)** **(Equation should be given in factorized form)**	• Evaluate a definite integral.	(153 to 154)	2.5
		• Find the area bounded by a curve and the x-axis.	(155 to 159)	
Statistics	Chapter (3) Representations of data (Statistics 1) Pages (35 to 47)	• Identify outliers in data sets.	(35 to 37)	3
		• Draw and interpret box plots.	(38 to 40)	
		• Draw and interpret stem and leaf diagrams.	(40 to 44)	
		• Work out whether or not data is skewed.	(44 to 47)	
Revision				1 (Suggested)

نهاية الوثيقة

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