



BRITISH VIETNAMESE INTERNATIONAL SCHOOL  
HO CHI MINH CITY  
A NORD ANGLIA EDUCATION SCHOOL

# SUPPORT YOUR CHILD WITH KS4 MATHEMATICS

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# HOW TO SUPPORT YOUR CHILD WITH KEY STAGE 4 MATHEMATICS

Firstly, we would like to thank you for your interest in supporting your child through their education; parental engagement is a fundamental element in ensuring success for our students.

This booklet is aimed at the parents of our Key Stage 4 students to help them better understand Mathematics education at BVIS. If you have any further questions, please do not hesitate to contact your child's Mathematics teacher.

## WHAT YOU CAN EXPECT TO FIND IN THIS BOOKLET

1. iGCSE course information and Schemes of learning
2. Mathematical language and notation recognised internationally
3. Homework information
4. Assessments
5. Enrichment opportunities offered at BVIS
6. Helpful websites

## 1. SCHEMES OF LEARNING

At BVIS, we take the mastery approach to educating your child in Mathematics. This means that as each unit is studied, time is given to provide your child with a deeper understanding of the content. We teach our students to understand 'why?' rather than just 'how?'. For example, we would teach our students why the area of a circle is equal to  $\pi r^2$ , rather than simply learning and applying the formula.

Our Scheme of Learning (SOL) outlines the units your child will study at each stage of the iGCSE course.

Students in KS4 will study the Pearson Edexcel iGCSE (4MA1) course. Our SOL builds on the foundations which students have learned at KS3.

## Year 9 Term 3 - Start IGCSE Course

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Term 3	Developing Geometry		Reasoning with Data			Proportional Reasoning		Algebraic Techniques				
	Angles		Statistical graphs		Averages		Ratio and currency conversion		Equations and inequalities		Enrichment tasks	

## Year 10

	Overview of topics						
Term 1	1. Area and perimeter of 2D shapes		2. Set notation	3. Factorising and expanding brackets	4. Bearings	5. Surds	6. Solving quadratics
	7. Pythagoras		8. Trigonometry	9. Percentages	10. Simultaneous equations	11. Sequences	12. Revision
Term 2	13. Area and circumference of a circle		14. Straight line graphs	15. Graphing inequalities	16. Probability	17. Fractions and decimals	18. Transformations
Term 3	19. Indices		20. Proportion		21. Volume and surface area		22. Standard form
	23. Similar shapes		24. Bounds		25. Algebraic fractions		26. Revision

## Year 11

	Overview of topics					
Term 1	1. Circle Theorems		2. Function notation	3. Cumulative frequency and box plots	4. Histograms	5. Trigonometry
	6. Differentiation		7. Quadratic, cubic and reciprocal graphs	8. Graph transformations	9. Probability	10. Revision
Term 2	Vectors		Speed/distance/time		Revision	
Term 3	Revision for IGCSE examination					

## Exam Board Change

From 2023, KS4 students will study Pearson Edexcel iGCSE.

The rationale behind this change is to facilitate a smooth transition from KS4 to KS5 where students will study Pearson Edexcel International A-Level Mathematics.

Some of the additional topics which are studied are:

- Surds,
- Sum of an arithmetic sequence,
- Transformations of Graphs of Functions.

By studying Edexcel iGCSE Mathematics, students will be graded differently to some other subjects.

Edexcel iGCSE use the Numerical Grading System used when grading the British GCSE examinations.

All students will begin the course with the intention of completing the Higher course. Over time, it may be necessary for students to move to the Foundation course. If this is the case, parents will be informed of this change at the earliest convenience.

For students who sit the Foundation examinations, the maximum grade that can be achieved is a Grade 5. For those who sit the Higher examinations, students can achieve up to a Grade 9.

How the numerical grades compare to the traditional letter grades is outlined in the image below.

New grading		Current grading
9	=	A*
8		A
7		
6	=	B
5		C
4		
3	=	D
2		E
1		F
		G
U	=	U

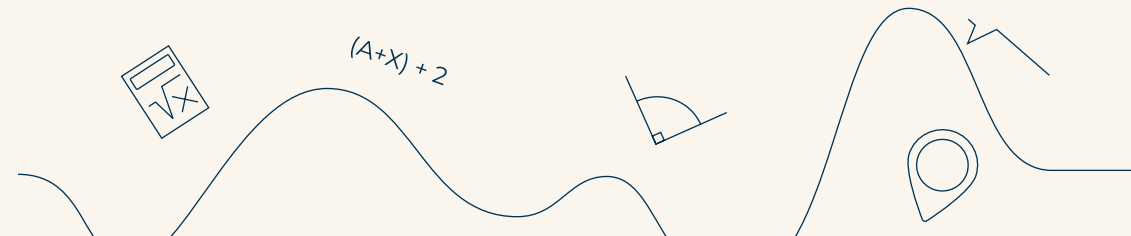
9	High A* grade
8	Lower A* or high A
7	Lower A grade
6	High B grade
5	Lower B or high C
4	Lower C grade
3	D or high E
2	Lower E or high F
1	Lower F or G
U	U remains the same

Essentially the introduction of the Grade 9 is the biggest change. This grade is used to distinguish between the highest achieving students. Around 5% of students will be awarded this grade

## 2. MATHEMATICAL LANGUAGE AND NOTATION RECOGNISED INTERNATIONALLY

A strong understanding of the language and notation we use in Mathematics will enable students to develop their fluency within the subject and lessen the likelihood of misconceptions. Some examples of this can be see below.

We write	We say
0.3	nought <b>point</b> three zero <b>point</b> three
3.45	three <b>point</b> four five (NOT three point forty - five)
98.4	ninety - eight <b>point</b> four
\$1.55	one dollar, fifty - five cents one dollar, fifty - five
1,000	one thousand
4,500	four thousand, five hundred
96,000	ninety - six thousand
450,000	four hundred and fifty thousand
\$6,300,000	six million, three hundred thousand dollar
We write	We say
1/2	a half OR one half
1/4	a quarter or one quarter
3/4	three quarters
1/3	a third OR one third
2/3	two thirds
1/5	a fifth OR one fifth
3/5	three fifths
1/8	an eighth OR one eighth
5/8	five eighths
1½	one and a half
5¾	five and three quarters



## Notation:

	We use	We do not use*	Why we do this
<b>Decimals</b>	4.5	4,5	Commas are used to separate between thousands
<b>Multiplication</b>	$3 \times 2 = 6$	$3 . 2 = 6$	3.2 could be confused with the number 3.2 (three point 2)
<b>Division</b>	$12 \div 6 = 2$ or $12/6 = 2$ or $\frac{12}{6} = 2$	$12 : 6 = 2$	The : is used to represent ratios. For example, Yuki and Ngan share \$20 in the ratio of 7:3.

\*We understand that this notation is not incorrect and would be perfectly viable in many Vietnamese settings. However, as our students study an international curriculum and are examined against international Mathematical practices, it is important that students learn the necessary notation.

Your child will also be provided with key vocabulary from their class teacher.

Please encourage your child to practice this language and notation at home to support the work that we do in school.

## 3. HOMEWORK INFORMATION

Homework will be set on the same day every week. New homework will not be set over the holidays, but it is expected that any outstanding homework is completed. Homework will be set on Sparx Maths - a link for this can be found at the end of this booklet.

The homework set on Sparx Maths will be relevant to what they are learning in school and will be personalised to your child to ensure they can access the work, whilst also being stretched and challenged.

Students are only expected to complete the Compulsory section of the homework. However, if they complete the XP Boost and Target sections, they will be awarded a Housepoint for their efforts. Each question has a help video which will support your child if they are struggling. If they are still unable to answer a question, please encourage them to seek further guidance from their Maths teacher.

We ask for your support in encouraging your child to meet their homework deadlines. If they fail to do so your child's Maths teacher will contact you to inform you of this.

Each topic on Sparx Maths has an Independent Learning Code associated with it. Your child may want to choose some topics for further practice at home.

## 4. ASSESSMENTS

### Summative Assessment

Students will be summatively assessed at three points during the year: October/ November, February and May. Exact dates will be communicated to students by their teachers in advance. Resources to support your child with their revision will also be shared before each Assessment Point.

### Formative Assessment

We will assess the students at regular intervals to check their understanding and provide them with a personalised question level analysis (QLA) sheet, which will highlight the topics they will need to revisit. At KS4, these formative assessments are made up of previous iGCSE questions. They contain a mixture of recent and prior learning to ensure that students are continuously reviewing what they have studied.

### Example of a KS4 formative assessment:

**Answer ALL TWENTY ONE questions.**

**Write your answers in the spaces provided.**

**You must write down all the stages in your working.**

1 (a) Factorise fully  $4p + 6pq$

(2)

(b) Expand and simplify  $(e + 3)(e - 5)$

(2)

(c) Solve  $y = \frac{2y + 1}{5}$

Show clear algebraic working.

Example of Question Level Analysis (QLA) sheet :

Name:	0			
	Topic	Max	Actual	%
Q1	Factorise Expressions (X504)	2	1	50%
Q2	Expand 2 brackets (X170)	2	2	100%
Q3	Solving Equations with Fractions (X253)	3	3	100%
Q4	Forming and Solving Equations using Geometry (X857)	5	4	80%
Q5	Area and Perimeter of a triangle - including Pythagoras (X158, X849)	4	4	100%
Q6	Drawing Venn Diagrams (X276)	4	1	25%

To review this content, students can use the Independent Learning Codes for each topic (e.g. X504) to complete the relevant Independent Learning lesson on Sparx Maths.

You can support your child by encouraging them to be proactive in reviewing assessment content.

If your child is finding Mathematics challenging, in class support is provided by the class teacher. If this continues in Year 11, the Faculty will look to provide additional support outside of lesson time.

## 5. ENRICHMENT OPPORTUNITIES OFFERED AT BVIS

Most students will sit the UKMT Maths challenge in every year at BVIS. This tests students' problem-solving and analytical skills against other students across the world and certificates are awarded for the highest-placed finishers.

The very best students in each year group will compete in Maths competitions across the city against other schools. This will take place two or three times each year and these students will be selected based on their in-school performance.

## 6. HELPFUL WEBSITES

- Edexcel iGCSE (scheme of learning): **Edexcel International GCSE Mathematics A (2016) | Pearson qualifications**
- Sparx Maths (used for homework and independent learning tasks). Homework is set every week: <https://sparx.co.uk/>
- Corbett Maths (all IGCSE content, but a useful resources for extensions): <https://corbettmaths.com/>
- DrFrost Maths (used for class tasks and assessment review) [www.drfrst.co.uk](http://www.drfrst.co.uk)
- Myimaths (online lessons): <https://www.myimaths.com>
- Please note: Online Textbooks are provided for KS4 students but are generally NOT used in lessons.