



BISAK المدرسة البريطانية العالمية بالخبر
British International School Al Khobar

BISAK PREPARATORY SCHOOL

- Lower and Upper Preparatory School -
Maths Information Morning

1st October 2018



The aims of the presentation are to:

- Make you aware of our expectations.
- Share some of the calculation methods and resources that we use.
- Suggest ways in which you can support your child at home.



NATIONAL CURRICULUM

Aims

The national curriculum for Maths aims to ensure that all pupils:

- 1. *become fluent*** in the fundamentals of Maths, understand, recall and apply knowledge rapidly and accurately.
- 2. *reason*** mathematically by following a line of enquiry, and using mathematical language.
- 3. *can solve problems*** by applying their Maths to a variety of routine and non-routine problems with increasing sophistication.



EXPECTATIONS

- The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace.
- However, decisions about when to progress should always be based on the securing of pupils' understanding and their readiness to progress to the next stage.
- Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content.
- Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.



MATHS STRANDS

1. Number, place value and rounding, approximation and estimation
2. Addition and Subtraction
3. Multiplication and Division
4. Fractions, Decimals, Percentages Ratio and Proportion
5. Algebra (Only Year 6)
6. Statistics
7. Measurement
8. Geometry: properties of shapes, position, direction and motion

OBJECTIVES

Year 3	Year 4	Year 5	Year 6
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number recognise the place value of each digit in a three-digit number (hundreds, tens, ones) compare and order numbers up to 1000 identify, represent and estimate numbers using different representations read and write numbers up to 1000 in numerals and in words solve number problems and practical problems involving these ideas. 	<p>Pupils should be taught to</p> <ul style="list-style-type: none"> count in multiples of 6, 7, 9, 25 and 1000 find 1000 more or less than a given number count backwards through zero to include negative numbers recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) order and compare numbers beyond 1000 identify, represent and estimate numbers using different representations round any number to the nearest 10, 100 or 1000 solve number and practical problems that involve all of the above and with increasingly large positive numbers read Roman numerals to 100 (I to C) and know that, over time, the numeral system changed to include the concept of zero and place value. 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 solve number problems and practical problems that involve all of the above read Roman numerals to 1000 (M) and recognise years written in Roman numerals. 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> read, write, order and compare numbers up to 10 000 000 and determine the value of each digit round any whole number to a required degree of accuracy use negative numbers in context, and calculate intervals across zero Solve number and practical problems that involve all of the above.



ACTIVE LEARN

- Active Learn is one of many tools that we use at BISAK.
- The White Rose scheme of work and nrich(website) are used to further strengthen the lessons.
- Children will all have received their username, password and school code.
- Activities and homework sheets are allocated by teachers.
- Any issues with Active Learn should be reported to the classteacher who will then communicate the issue to the Head of Mathematics.



WHAT IS MASTERY AND FLUENCY?

MASTERY

Maths mastery is an approach to Maths education which is based on mastery learning in which most students are expected to achieve a high level of competence before progressing.

FLUENCY

Fluency gives pupils the ability to delve deeper into Maths; to develop number sense and choose the most appropriate method for the task at hand; to be able to apply a skill to multiple contexts.

MASTERY

Teacher notes Sound: **turn off** Reset

abacus Mastery Checkpoint

Have you mastered place value?



a) Fill the box with the digits 0 to 9 to make a true inequality statement:
 $\square\square\square\square\square > \square\square\square\square\square$

b) Write three different numbers where the digit 5 is worth 5000. Then write them in order from smallest to largest.

c) Write < or > between each pair of numbers.
 23 400 24 300 39 989 40 100 90 000 89 990

 **Champions' Challenge**

- Write a pair of numbers with a difference of **sixty thousand, four hundred and two**.
- Write a number in the box to make this statement true:
 $37\,643 < 38\,429 - \square$



FLUENCY

National Curriculum Statement	All students		
	Fluency	Reasoning	Problem Solving
Count forwards or backwards in steps of powers of 10 for any given number up to 1000000.	<ul style="list-style-type: none"> Finish the sequence: 1000, 2000, 3000,____, 350, 340,____,____, 11800, 11900,_, _____ Fill in the missing numbers: Spot the error: 289636, 299636, 300636, 301636, 302636 	<ul style="list-style-type: none"> Can you spot the mistake? 18700, 18800, 18900, 19100 Correct the mistake and explain your working. True or False? When I count in 10's I will say the number 12300. What are the next three number sentences in the sequence? 345000-1000= 344000 344000-1000=343000 343000-1000=342000 Could you use the same numbers to write different number sentences? 	<ul style="list-style-type: none"> Temperature falls by about 1°C for every 100 metres height gain. Abigail is standing on top of a mountain at 900 metres above sea level. The temperature is –3°C. Abigail walks down the mountain to sea level. What should she expect the temperature to be? Can you count back in 30's to find the trail through the grid?

START							
394,432	394,492	394,585	394,705	394,505	394,805	394,905	
394,118	394,402	394,372	394,625	394,957	394,891	394,635	
394,292	394,312	394,342	394,302	394,645	394,665	394,232	
394,888	394,282	394,485	394,499	394,680	394,685	394,605	
394,578	394,252	394,222	394,192	394,102	394,072	394,042	
393,565	393,798	393,411	393,162	393,132	393,082	394,012	
393,565	393,166	393,374	393,641	393,445	393,052	393,022	FINISH



CALCULATION METHODS

ADDITION AND SUBTRACTION

789 + 642 becomes

$$\begin{array}{r} 789 \\ + 642 \\ \hline 1431 \\ \hline 11 \end{array}$$

Answer: 1431

874 - 523 becomes

$$\begin{array}{r} 874 \\ - 523 \\ \hline 351 \end{array}$$

Answer: 351

932 - 457 becomes

$$\begin{array}{r} 8 \quad 12 \quad 1 \\ \cancel{9} \quad \cancel{3} \quad 2 \\ - 4 \quad 5 \quad 7 \\ \hline 4 \quad 7 \quad 5 \end{array}$$

Answer: 475

932 - 457 becomes

$$\begin{array}{r} 1 \quad 1 \\ 9 \quad 3 \quad 2 \\ - \cancel{4} \quad \cancel{5} \quad 7 \\ \hline 5 \quad 6 \\ \hline 4 \quad 7 \quad 5 \end{array}$$

Answer: 475

CALCULATION METHODS

MULTIPLICATION

Short Method

24 × 6 becomes

$$\begin{array}{r} 24 \\ \times 6 \\ \hline 144 \\ \hline 2 \end{array}$$

Answer: 144

342 × 7 becomes

$$\begin{array}{r} 342 \\ \times 7 \\ \hline 2394 \\ \hline 21 \end{array}$$

Answer: 2394

2741 × 6 becomes

$$\begin{array}{r} 2741 \\ \times 6 \\ \hline 16446 \\ \hline 42 \end{array}$$

Answer: 16 446

Long Method

24 × 16 becomes

$$\begin{array}{r} 24 \\ \times 16 \\ \hline 240 \\ 144 \\ \hline 384 \end{array}$$

Answer: 384

124 × 26 becomes

$$\begin{array}{r} 124 \\ \times 26 \\ \hline 2480 \\ 744 \\ \hline 3224 \\ \hline 11 \end{array}$$

Answer: 3224

124 × 26 becomes

$$\begin{array}{r} 124 \\ \times 26 \\ \hline 744 \\ 2480 \\ \hline 3224 \\ \hline 11 \end{array}$$

Answer: 3224

CALCULATION METHODS

DIVISION

Short Method

98 ÷ 7 becomes

$$\begin{array}{r} 14 \\ 7 \overline{) 98} \end{array}$$

Answer: 14

432 ÷ 5 becomes

$$\begin{array}{r} 86 \text{ r } 2 \\ 5 \overline{) 432} \end{array}$$

Answer: 86 remainder 2

496 ÷ 11 becomes

$$\begin{array}{r} 45 \text{ r } 1 \\ 11 \overline{) 496} \end{array}$$

Answer: $45 \frac{1}{11}$

Long Method

432 ÷ 15 becomes

$$\begin{array}{r} 28 \text{ r } 12 \\ 15 \overline{) 432} \\ \underline{30} \\ 13 \\ \underline{15} \\ 12 \\ \underline{15} \\ 12 \end{array}$$

Answer: 28 remainder 12

432 ÷ 15 becomes

$$\begin{array}{r} 28 \\ 15 \overline{) 432} \\ \underline{30} \\ 13 \\ \underline{15} \\ 12 \\ \underline{15} \\ 12 \end{array} \begin{array}{l} \\ \\ 15 \times 20 \\ \\ 15 \times 8 \end{array}$$

$$\frac{\cancel{12}}{\cancel{15}} = \frac{4}{5}$$

Answer: $28 \frac{4}{5}$

432 ÷ 15 becomes

$$\begin{array}{r} 28.8 \\ 15 \overline{) 432.0} \\ \underline{30} \\ 13 \\ \underline{15} \\ 12 \\ \underline{15} \\ 12 \\ \underline{15} \\ 0 \end{array}$$

Answer: 28.8



HOW TO SUPPORT YOUR CHILD AT HOME

1. Support your children with their Maths homework. Don't give your child the answer but allow them to explain and investigate.
2. Show a positive attitude towards the subject.
3. Don't enforce continuous Maths work at home.
4. Make Maths practical when at home or out and about.
5. Play Maths games with your children.
6. Create a good routine of completing Maths homework and Active Learn activities.



Maths: Helpful websites to understand the curriculum and expectations

1. <https://www.gov.uk/government/publications/national-curriculum-in-england-mathematics-programmes-of-study>
2. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/335158/PRIMARY_national_curriculum_-_Mathematics_220714.pdf
3. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/238967/Mathematics_Appendix_1.pdf
4. <https://www.tes.com/resources/search/?q=white%20rose>



Maths: Helpful websites to support your child at home

1. <http://www.primaryresources.co.uk/maths/maths.htm>
2. <http://www.coxhoe.durham.sch.uk/curriculum-links/numeracy>
3. <http://www.primaryhomeworkhelp.co.uk/maths/>
4. <https://www.mathsisfun.com/>
5. <https://nrich.maths.org/>
6. https://uk.ixl.com/promo?partner=google&campaign=1175&adGroup=maths+sites&gclid=EAJaIQobChMI5-zyJjj3QIVxZTVCh1ySQwOEAAYASAAEgINifD_BwE
7. <https://www.parents.com/kids/education/math-and-science/10-playful-math-activities/>
8. <http://www.bracklapprimary.co.uk/maths-activities-to-support-your-child-at-home-1/>



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QUESTIONS FROM PARENTS



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**THANK YOU FOR COMING TO THE
MATHS INFORMATION MEETING**