

# Learning Together

## Marlborough Primary School



## A Guide for Parents/Carers

Includes information on home learning, reading, spelling, handwriting and mathematics

# **LEARNING AT HOME: A Guide for Parents/Carers**

## **The School aims to provide home learning/Homework activities that:**

- Match the age and ability of the children
- Reinforce and extend learning that has taken place in school
- Encourage self-motivation, self-reliance and responsibility
- Develop organisational skills and independence
- Stimulate enjoyment and fosters an interest in learning
- Strengthen the links between home and school
- Provide opportunities for research from sources of information that may not be accessible in the classroom
- Establish good routines in readiness for transfer to the next class or school

**This guide has been compiled to help parents and carers to understand how they can help their children gain the maximum benefit from home learning tasks and avoid the anxieties and conflicts that can arise. We hope that you find it useful.**



## **Establishing Routines**

**We ask parents/carers to support us in seeing that home learning tasks are completed conscientiously.** Children need support to establish their own routines. Some may prefer working in a room on their own, but many children need their parents or carers company and encouragement to give them confidence.

**Parents can help their children by** taking an interest and discussing the home learning , providing praise and encouragement, checking presentation, handwriting and spelling, helping to find relevant resources, taking part in activities and games when necessary and ensuring that the work represents your child's own efforts.



## **What should I do if.....?**

- **My child does not understand the home learning task**  
We will make every effort to explain the tasks to the children and supply worksheets when appropriate. If your child still doesn't understand and you are unable to help them, please leave the activity and write a short note of explanation.
- **The home learning task is too easy or too difficult**  
Although we aim to match your child's home learning to their level we also realise that it can be difficult to ensure the level of challenge is always suitable. If there are any problems, it is important to let the teacher know.
- **My child cannot complete the task within the allotted time**  
If your child is concentrating but struggling to finish the home learning on time please try to encourage them to stop working and reassure them that their teacher will still be pleased with their efforts. Please try to find time to write a short note of explanation.
- **My child is too busy to complete the home learning task**  
If other important commitments mean that there is not enough time to complete the home learning, please write a short note of explanation and try to put some time aside on another day.
- **My child is reluctant to complete the home learning task**  
If your child does not want to do the task please try to encourage them by offering help and support the schools' policy by explaining the benefits of home learning. If they are still reluctant please don't pressurise them but try to make an appointment with the class teacher so we can work together to resolve the situation.



## The Home Learning/Homework Timetable

**The Home learning timetable shows the usual arrangements for each year group.** The tasks and activities centre on the core skills within the literacy and mathematics strategies and has a common focus of reading, spelling and number facts for all classes.

Children in Reception and Year 1 will be encouraged to read at home each day and to find some time to talk about their learning at school and be prepared share their news of any significant events between home and school. In addition to this Year 2 children will be encouraged to learn high frequency words during the spring and summer terms.

### Junior Timetable

Year	Recommended time to be spent on homework tasks each week	Monday	Tuesday	Wednesday	Thursday	Friday
3	15mins					<b>Mathematics &amp; Literacy/Topic</b> (For following Friday)
4	30mins					<b>Mathematics &amp; Literacy/Topic</b> (For following Friday)
5	45mins					<b>Mathematics &amp; Literacy/Topic</b> (For following Friday)
6	60mins					<b>Mathematics &amp; Literacy/Topic</b> (For following Friday)

**Please note that:**

- We encourage all children to read at home each day
- Some year groups may replace timetabled home learning with a set project for a period of time and will advise parents/carers accordingly



## **Literacy: Helping your child with handwriting**

Pupils learn cursive handwriting script from reception onwards. We know that when children develop a neat joined script using the correct pencil grip it helps them to remember spelling patterns and to write without putting stress on their fingers and arms. In the early years children are encouraged to develop their skills by using thick pencils or chalk and practising writing patterns using their fingers in the air and in sand. Please encourage your child to use joined handwriting, examples of lower case letters are given below. Please note that all letters begin with an upstroke.

## **Spelling: Helping your child at home.**

Our approach to spelling follows a programme which builds pupils' spelling vocabulary by introducing patterns or rules and continually practising those already introduced. Each half term parents will be sent home a booklet containing spelling words that will be focused on during the half term and topic words that will support your child's learning in class. Children are not expected to learn every single word (although they can choose to if they wish) but to set their own targets of learning an amount of words. Within school children will receive direct teaching of the spelling words and regular opportunities of assessment on these spellings, therefore weekly spelling tests will no longer happen.

Here are some ideas of how you can support your child at home to learn their spellings:

- Ask your child to explain the meaning of the word. If they are unsure help them to find the definition (dictionary, internet).
- Practise the spelling by 'Look, Cover, Write, and Check' method.
- Explore other words with the same pattern (the list of spellings we send home are not exhaustive).
- Get your child to write them into a sentence or a 'spelling story'.
- Challenge your child to practise a set amount of words and then test them.
- Play games, for example, 'Hangman'; 'Eye Spy' (looking for an object that is in the spelling list – child spells it when they find it) and 'Anagrams' (i.e. spelling word jumbled up).
- Give part of the word with some letters missing, child fills in the rest.

Spelling activities are not expected to take a long time, 5- 10 minutes a few times a week will help your child to learn their spellings.

# Reading Together : A Guide For Parents/Carers

## The School aims to:

- Provide pupils with a stimulating reading environment through which they can develop as enthusiastic, independent and reflective readers
- Introduce children to a wide range of literature and encourage them to read for meaning, pleasure and interest
- Develop pupils' reading ability in terms of fluency, accuracy, understanding and phonological awareness
- Encourage children to respond to ideas, vocabulary, organisation of language, plots, and characters encountered during reading experiences
- Help pupils to offer personal views and opinions about what they have read

**This guide is designed to help you to understand some of the strategies used by teachers so we can enable parents, children and teachers to work together more effectively.**

## Background

- **We place great importance on the teaching of reading** and value any opportunities for sharing books with children.
- **We know that children make the most progress when they have regular opportunities to read** with adults both at home and at school. This is equally true for inexperienced as well as more fluent readers.

***Any Contributions parents are able to make towards the reading partnership are very much appreciated by all the teaching staff***



## Establishing Routines

- **Try to have regular reading sessions with your child.** Make it part of the family routine and ensure that it is a relaxed time, where outside distractions are kept to a minimum.
- **Little and often is the key.** Ten to fifteen minutes is enough particularly for early readers, however longer (up to 25 minutes) may be needed for more fluent readers.
- **Make reading an enjoyable experience.** Sit with your child. Try not to pressurise if he or she is reluctant. If your child loses interest then do something else and try again later.
- **If you can't manage to find the time regularly** perhaps a friend, a relative or an older child may be able to help.

## Reading Together

- **When your child brings home a different book** examine the cover, spine and title pages. Try to use the correct terms e.g. author, publisher, chapter, contents etc.
- **Please let the child hold the book and turn the pages** so they can get the right angle to help them focus on the print.
- **Try to praise your child for all their efforts.** Use sentences that start 'I like the way you did ...,' and try to avoid being too critical.
- **If your child becomes stuck on a word** be patient, allow them time to try and work it out or make a 'good guess.' Help them to look for clues in the pictures, by reading on to the end of the sentence and/or by sounding out initial letters or recognising any letter blends within the word. **Remember that it is important to keep the story going**, so if an attempt on an unknown word is not forthcoming then tell the child the word and carry on.
- **If your child misses out words or adds extra ones**, encourage them to slow down, but it is the 'making sense' that should guide your response. If the words missed or added do not change the meaning then try to avoid interrupting the flow of the story. However, if the meaning is altered or the story becomes nonsensical, **wait to see if the reader goes back to try to make sense of what they have read.** If not, stop them by asking questions such as, 'are you sure that was right?' or 'please try that section again' Make sure the understanding has been established before continuing.
- **There is more to being a good reader than just being able to read the words accurately.** Just as important is being able to understand what has been read. Always talk to your child about the book. Ask questions about what has happened and what might happen next, the characters and how they behave and the parts of the book that arouse interest or puzzle and may need more explanation.



## What should I do if.....?

- **My child doesn't like the book**

If you feel your children has made a reasonable attempt at a book but is clearly not enjoying it then please don't continue. Try to find an alternative at home or wait until they get a chance to change the book at school.

- **The book is too easy or too difficult**

We will aim to match your child's reading books to their level however it is important to remember that just because a child can read a book fluently it does not mean that it is of no value or cannot be enjoyed. Similarly, a child may be attracted to a book beyond their current reading ability. In these cases it may be helpful to share the reading or even read the book to your child, as struggling with a book with many unknown words can easily cause frustration and even put children off reading altogether.

- **I don't enjoy reading or read confidently myself**

It is still useful to let your child share their reading books with you. Even if you cannot correct them you can still show an interest and give them encouragement.

## Communicating with School

**Try to communicate regularly with the class teacher** via the reading diary. Try to use positive comments and raise any queries you may have about how your child reads to you. It would be most useful to the staff if your comments were linked to aspects of your child's reading such as:

- **Fluency** – Are they able to read the text smoothly and confidently without needing to pause or hesitate too often?
- **Enjoyment** – Are they keen to read and discuss the book?
- **Expression** – Do they attempt to keep the listener interested by using expression in their voice? Do they take notice of the punctuation?
- **Prediction** – Can they make informed guesses about what might happen next in the book?
- **Clues** – Are they able to use picture clues, the sounds of initial letters or letter blends or other words within the sentence to help them decode unknown or unfamiliar words?
- **Summary** – Can they provide a brief account of what they have read?

Clearly it would not be necessary or practical to comment on all these things each time you share a book with your child, therefore we recommend that you focus your attention on just one or two areas.

**Thank you for your support**

# **Suggested Reading Lists**

The following lists represent examples of suitable books for early, confident and finally independent readers.



## **Early Readers**

<b>Author</b>	<b>Title</b>
Janet and Allan Ahlberg	Each, Peach, Pear Plum
Janet and Allan Ahlberg	Funnybones
Janet and Allan Ahlberg	The Jolly Postman
Louis Baum	Are We Neally There?
Jan Brett	The Mitten
Raymond Briggs	The Snowman
Raymond Briggs	Father Christmas
Anthony Browne	Bear Hunt
Anthony Browne	Willy The Wimp
Margaret Wise Brown	Goodnight Moon
John Burningham	Mr Gumpy's Outing
John Burningham	Mr Gumpy's Motor Car
Eric Carle	The Very Hungry Caterpillar
Babette Cole	The Trouble With Mum
Eric Hill	Where's Spot
Shirley Hughes	Alfie Gets In First
Shirley Hughes	Dogger
Pat Hutchins	Rosie's Walk
Pat Hutchins	Titch
Rachel Isadora	My Ballet Class
The Blue Balloon	Mick Inkpen
Judith Kerr	The Tiger Who Came To Tea
Arnold Lobel	Frog and Toad Book
Margaret Mahy	The Boy Who Was Followed Home
David Mckee	Not Now Bernard
Jill Murphy	Peace At Last
Jill Murphy	The Last Noo Noo
David McPhail	The Bear's Toothache
David McPhail	Where Can An Elephant Hide
Jan Pienkowski	Meg And Mog
Jan Osmerod	Be Brave, Billy
HA and Margaret Ray	Curious George
Tony Ross	Goldilocks And The Three Bears
Maurice Sendak	Where The Wild Things Are
Jane Yolen	Owl Moon



## Confident Readers

Author	Title
Joan Aiken	The Last Slice of Rainbow & Other Stories
Roy Apps	Time Spinner
Nina Bawden	The Peppermint Pig
Michael Bond	The 'Paddington' books
Lucy M. Boston	The Children of Green Knowe
Tony Bradman	The Dilly books
Betsy Byars	Computer Nut
Humphrey Carpenter	Mr Majeika
Helen Cresswell	A Gift From Winklesea
Gillian Cross	The Roman Bean Feast
Roald Dahl	Matilda, The Twits & George's Marvellous Medicine
Anne Fine	Bill's New Frock
Leon Garfield	Mr Corbett's Ghost
Cynthia Harnett	The Wool Pack
Shirley Hughes	It's Too Frightening For Me!
Ted Hughes	The Iron Woman
Pat Hutchins	The Mona Lisa Mystery
Tove Jansson	The Moomintroll books
Clive King	Stig Of The Dump
Gene Kemp	The Turbulent Term of Tyke Tyler
Dick King-Smith	The Sheep Pig, Billy the Bird & Hodgeheg
Robert Leeson	Karlo's Tale
C. S. Lewis	The Narnia books
Penelope Lively	A Stitch In Time
Margaret Mahy	Bubble Trouble
Jan Mark	The Dead Letter Box
Bel Mooney	The 'Kitty' stories
Michael Morpurgo	The Butterfly Lion
Jill Murphy	The Worst Witch
Philippa Pearce	The Children Of The House
Jill Paton Walsh	Fireweed
Alf Proysen	The Mrs Pepperpot stories
J. K. Rowling	The Harry Potter books
Dr. Seuss	Cat In The Hat & Green Eggs and Ham
James Simon	Dear Greenpeace
Jeremy Strong	The Hundred-Mile-An-Hour Dog
Rosemary Sutcliffe	Song For A Dark Queen
Jill Tomlinson'	The Owl Who Was Afraid Of The Dark
Geoffrey Trease	Henry, King To Be
Martin Waddell	Grandma's Bill and the Napper books
Jacqueline Wilson	Glubbslyme
E. B. White	Charlottes Web
Marcia Williams	Greek Myths for Young Children



## Independent Readers

Author	Title
Joan Aiken	The Wolves of Willoughby Chase
David Almond	Skellig
Nina Bawden	Carrie's War
Lucy M. Boston	The Children of Green Knowe
Betsy Byars	The Eighteenth Emergency
Frances Hodgson Burnett	Secret Garden
William Corlett	The Magician's House Quartet
Helen Cresswell	Moondial
Gillian Cross	The Demon Headmaster
Roald Dahl	Danny The Champion of The World
Charles Dickens	Oliver Twist, A Christmas Carol
J. M. Falkner	Moonfleet
Anne Fine	Flour Babies
Michael Foreman	War Boy
Alan Garner	The Weirdstone of Brisingamen
Leon Garfield	The God Beneath The Sea
Leon Garfield (Abridged by)	Shakespeare, The Animated Tales
Leon Garfield	Shakespeare Stories
Eve Garrett	The Family From One End Street
Kenneth Graham	Wind In The Willows
Cynthia Harnett	The Wool Pack
Ted Hughes	The Iron Man
Norman Hunter	The Incredible Adventures of Professor Branestawm
Eva Ibbotson	The Secret of Platform 13
Brian Jacques	The Redwall books
Robin Jarvis	The Whitby Witches
Norton Juster	The Phantom Tollbooth
Judith Kerr	When Hitler Stole Pink Rabbit
Clive King	Stig Of The Dump
Charles Kingsley	The Water Babies
Rudyard Kipling	Just So Stories
Dick King-Smith	The Queen's Nose
Jack London	Call Of The Wild
Henry W. Longfellow	Hiawatha
C. S. Lewis	The Narnia books
Penelope Lively	A Stitch In Time
Jacqueline Wilson	The Bed and Breakfast Star
Michelle Magorian	Goodnight Mister Tom
Margaret Mahy	The Haunting
Jan Mark	Taking The Cat's Way Home
John Masefield	The Box of Delights
Michael Morpurgo	Arthur Highking of Britain
Michael Morpurgo	War Horse
E. Nesbitt	The Phoenix And The Carpet
E. Nesbitt	The Railway Children
Mary Norton	The Borrowers
Philippa Pearce	Tom's Midnight Garden
Jill Paton Walsh	Fireweed
Philip Pulman	The Firework Maker's Daughter
Lynne Reid Banks	The Indian In The Cupboard
J. K. Rowling	The Harry Potter Books
Louis Sachar	Holes
Ian Serralier	The Silver Sword
Russell Stannard	Black Holes and Uncle Albert
Noel Streatfield	Ballet Shoes
Jeremy Strong	Viking At School
Rosemary Sutcliffe	Song For A Dark Queen
J. R. R. Tolkein	The Hobbit

# LEARNING TOGETHER - KEY MATHEMATICAL TERMS AND CONCEPTS

The following information is designed to help you to become more familiar with some of the mathematical terms and concepts that your children will be experiencing during their time at Marlborough. This section aims to provide some key definitions supported with examples, it is divided into four main mathematical strands of number and the number system, calculations and problem solving, shape, space and measures and data handling.

Clearly not all pupils or year groups will be experiencing all of these mathematical aspects each year and for a more extensive glossary you may wish to consider buying a published mathematical dictionary.

## *Numbers and the number system*

**Integers** – An integer is any whole number, these can be positive or negative therefore 7, 4 & -5 are all examples of integers.

**Place Value** – The value of any digit in a number is determined by its position / place in the number. For example the place value of 2 in 23.45 is "tens", the place value of 3 is "units", the place value of 4 is "tenths" while that of 5 is "hundredths"

**Factors** – A number is a factor of another number if it divides into that number without leaving a remainder. Since 12 is divisible by 1, 2, 3, 4, 6 & 12 these numbers are all factors of 12.

**Multiples** – The multiples of a number are simply numbers from its times-table e.g. 13, 26, 39, 52, 65 & 78 are all multiples of 13.

**Prime Numbers** – A prime number is any number whose only factors are one and itself, therefore 2, 3, 5, 7, 11 are all examples of prime numbers.

**Fractions** – Fractions represent a part of a whole and can be shown in the form of a common or vulgar fraction e.g.  $\frac{1}{2}$ , where the top number is called the **numerator** and the bottom

number the **denominator**. In a **proper fraction** the numerator is less than the denominator and in an **improper fraction** the opposite is true. Improper fractions can also be shown as

**mixed numbers** i.e. the sum of the whole number and a proper fraction e.g.  $\frac{7}{3}$  can also be

shown as  $2\frac{1}{3}$ .

**Fractions can also be shown as decimal or percentage equivalents**  $\frac{1}{10} = 0.1 = 10\%$ .

**Fractions** – Note that the decimal point separates the whole number from the fractional parts and the % symbol represents how much out of 100, where 100 is the whole.

**Ratio and Proportion** - A ratio describes the relationship between two or more quantities. E.g. if there are 10 boys and 20 girls in a class the ratio is one boy to every two girls or 1:2. If two quantities increase and decrease at the same rate they can be said to be in **direct proportion** e.g. the distance we travel in our car compared to the amount of petrol used. If however an increase in one quantity causes a decrease in the other the quantities are in **inverse proportion** e.g. the faster you travel the shorter your journey time.

**Number Sequence** – A set of numbers that are connected by a definite rule e.g. 4, 8, 12, 16, where each number is formed by adding four to the previous term.

**Square Numbers** – To find the square of a number you multiply the number by itself or raise by the power of two e.g.  $1 \times 1$ ,  $2 \times 2$ ,  $3 \times 3$  etc. Therefore 1, 4, 9, 16, 25 & 36 are all examples of square numbers. Note that as  $4 \times 4 = 16$ , sixteen is the square of four and four is the square root of 16.

**Cubic Numbers** – The cube of a number is the number raised to the power of three E.g.  $1 \times 1 \times 1$ ,  $2 \times 2 \times 2$ ,  $3 \times 3 \times 3$  etc. Therefore 1, 8, 27, 64, 125 are also examples of cube numbers. Note that as the  $7 \times 7 \times 7 = 343$ , three hundred and forty three is the cube of seven and seven is the cube root of 343.

**Triangular Numbers** – The triangular number sequence is 1, 3, 6, 10, 15, 21, 28 etc. Note that the second term 3, is found by adding two to the first, the third term, 6 by adding three to the second and the fourth term, 10 by adding four to the third. This is a continuing pattern.

### **Calculations and Problem Solving**

**Operation** – A number operation is the general term used for any of the four rules of addition, subtraction, multiplication and division.

**Inverse Operation** – An inverse operation describes the function that produces the reverse effect of the original operation. Subtraction is the inverse of addition and division is the inverse of multiplication.

E.g.  $3 + 4 = 7$  and  $7 - 4 = 3$

&  $6 \times 7 = 42$  and  $42 \div 7 = 6$ .

**Algorithm** – An algorithm describes a standard procedure of calculation. This could take the form of a step-by-step method using pencil and paper.

**Estimation** – An estimation of the solution to a calculation is generally achieved by rounding or **approximating** the original numbers into more convenient or manageable numbers in order to gain a quick 'rough' answer e.g. To estimate  $234 + 676$  we could use  $200 + 700 = 900$ .

**Sum or Total** – This is the result achieved by adding numbers together.

**Difference** – This is the result of subtracting a smaller number from a larger number.

**Product** – This is the result gained by multiplying numbers together.

**Quotient** – This is the result gained by dividing one number by another.

**Number Bonds** – Number Bonds are created by adding or bonding two or more number together in order to achieve a given total e.g.  $13 + 7$ ,  $8 + 12$  and  $14 + 6$  are examples of number bonds that total 20.

## **Calculations and Problem Solving**

**Algebra** – Algebra is an extension of arithmetic where letters and symbols are used as well as numbers. This enables **general statements** or rules to be expressed e.g. a specific statement such as £6 can be expressed as a general statement of £P where P represents any number we care to substitute

**Substitution** – The process of finding the numerical value for the symbols or letters in an algebraic expression e.g. in the equation  $5 + y = 17$  we can substitute y for the number 12

**Equations** – This is where the two sides of an expression balance and is denoted by the equal sign.  $2 + 3 = 5$  and  $6 + 6 = 4 \times 3$  are examples of equations.

**Inequalities** – An inequality is where two sides of an expression do not balance. The following symbols are used

> means the left hand side is greater than the right hand side

< means the left hand side is less than the right hand side

$\geq$  means the left hand side is equal to or greater than the right hand side

$\leq$  means the left hand side is equal to or less than the right hand side

Note that the arrow always points to the smaller quantity i.e.  $5 > 3$ .

## **Shape, Space and Measures**

**Polygons** – A polygon describes any two dimensional shape that is bound together by 3 or more straight lines, hence a triangle, square, pentagon and hexagon are all examples of polygons. Polygons can be regular where all the sides and angles are equal or irregular where the sides and angles are not all equal.

**Dimensions** – Dimensions help us to describe the properties of shapes. A shape with only one dimension will only have length, e.g. a straight line. A shape with two dimensions has both length and width / breadth and a shape with three dimensions has length, width / breadth and height / depth.

**Area** – This is the measurement of the region taken up by a two-dimensional (2D) shape and is usually measured in squared metres or squared centimetres.

**Perimeter** – This is the measurement of the distance around a polygon shape.

**Volume** – This is the measurement of the space taken up by a three-dimensional (3D) shape and is usually measured in cubic metres or cubic centimetres.

**Capacity** – This is the measurement of the amount of fluid a container will hold when it is full. This is usually measured in litres or millilitres.

**Angle** – An angle is a measurement of a turn. An angle is measured from the point that two lines meet. This point is called the **vertex** (plural vertices).

**Radius** – The radius measures the distance of a straight line from the centre of a circle to its edge

**Diameter** – The diameter measures the distance of a straight line from one edge of a circle to another passing through its centre.

**Circumference** – The circumference measures the distance around the edge of any circle.

**Symmetry** – Line Symmetry occurs when a 2D shape can be divided equally by a straight line or axis of symmetry. **Rotational Symmetry** occurs when a shape can be rotated exactly around a central point e.g. square can be rotated four times about its centre and therefore has rotational symmetry of order 4. **Planes of Symmetry** describe where a 3D shape can be separated into equal cross-sections.

## **Shape, Space and Measures**

**Prism** – A prism is a 3D shape that has the same cross-section throughout its length. Cubes, cuboids and cylinders are therefore examples of prisms.

**Tessellation** – A pattern made by repeating polygon shapes that cover a given space without leaving any gaps.

## **Data Handling**

**Statistics** – This is the name given for the process of collecting and analysing information or data.

**Averages** – The Mean Average of a set of numbers or data values is calculated by finding the sum of the values and dividing this by the number of values e.g. the mean of 3, 5, 9 & 13 is calculated by:  $\frac{3+5+9+13}{4} = 7.5$

The **Median** is the value that lies half-way along a set of data values that have been arranged in ascending or descending order e.g. the median of 2, 5, 7, 8, 9 is 7. If there are an even number of values the median is found by calculating the mean of the two middle numbers e.g. the median of 1, 4, 5, 7, 8, 9 is calculated by  $\frac{5+7}{2} = 6$ .

The **Mode** is the value that occurs most often or frequently e.g. the mode of 4, 6, 6, 7, 9 is 6. The mode need not be exclusive, in other words there can be more than one mode e.g. 2, 2, 2, 6, 6, 8, 8, 8 has two modes i.e. 2 and 8.

**Frequency** – The frequency describes the number of times a certain value occurs e.g. in 2, 4, 4, 4, 6, 7, 8, 9, 9. The number four occurs three times and therefore has a frequency of 3.

**Range** – The range is the difference between the largest and smallest data value e.g. the range of the values 4, 5, 6, 9, 17, 20 is calculated by  $20 - 4 = 16$ .

**Probability** – Probability is the mathematical study of the likelihood of events occurring. If an event has the probability value of 0 it is said to be impossible e.g. throwing the total of 13 using two dice, the value of  $\frac{1}{2}$  or 0.5 shows with an equal chance of occurring e.g. throwing a head with one toss of a coin. The value of 1 represents an event that is certain to happen e.g. that Friday will be followed by Saturday. From this we can see that all uncertain events are represented by fractions between 0 and 1.



