



# Homework Helper

Understanding how children learn to read, write and calculate at Sacred Heart Academy



... Hope - Joy - Fulfilment

# “Here to help you with your child’s homework”

## Sacred Heart Pupils...

- Feel safe and are happy in school.
- Have high expectations of themselves and aim for high attainment and progress in all subjects, regardless of their starting points.
- Expect the school’s four drivers to underpin their learning experiences (Enterprise, including Financial Education; Creative Arts; Equality; and Communities and Looking After Yourself and Others).

## Rooted in Reality

Our pupils understand the purpose of what they are learning and how it relates to real life or how it will be useful in later life.

## Powered by Imagination

### What if...?

Our pupils expect engaging lessons delivered in a variety of ways and taken from a relevant and exciting curriculum.

Learning will include a hook and an end product and will often be challenge-based.

## Driven by Children

Our pupils will have a thirst for knowledge and understanding and a love of learning. They will be responsible for their learning and actions, demonstrating high, intrinsic levels of respect and courtesy to everyone. They will take pride in their achievements and their school.

We have spent much time researching homework, and know that some children find it invaluable and others less so.

- We ask that children enjoy books every day at home. This could be a shared story at bedtime, listening to your child read or allowing/encouraging your child to lose themselves in a good book, whether it’s a story, poem or non-fiction text.
- We will send ‘Guided Reading’ work home every week. This involves some challenging reading and a task which will range from comprehension to much deeper investigation of the text.
- Knowing number bonds and multiplication tables is essential. We can get on with teaching skills if children have this knowledge. Games, quizzes, cooking...etc. can all help with remembering these skills.
- We set a half-termly challenge which is generally linked to the school project. This allows children to demonstrate and extend learning in a creative way.

We do expect all children to take part and love it when they produce something imaginative that reflects their enjoyment of the subject!

Do help and support your child with their homework and encourage them to plan and manage their time so it’s completed by the expected date. Don’t do it for them!

We’re always here to help with homework or give advice about supporting your child’s learning; just ask!

## Understanding how children learn to read, write and calculate at Sacred Heart.

Welcome to a guide that shows you how children at Sacred Heart progress in reading, writing and mathematics.

### Up-to-date

Teaching methods may have changed since you last attended school. It’s very important that you understand how your child learns in our school and you probably need to ‘re-learn’ some things. This book will give you an overview of what’s involved.

### How to use this guide

You don’t need to read it all at once...just use it when needed. For example:

Your child could be asking you about long division as part of their maths homework, so you could go to the division page in the ‘Learn to Calculate’ section.



Or, you could be interested in your child’s writing progress, so would check the ‘Stages of Writing’ page in the ‘Learn to Write’ section.

Or, you may want to help with reading to your child at home, so go to the ‘Strategies to Help Read a Book’ page in the ‘Learn to Read’ section.

### Got any questions?

If you have any questions concerning how your child learns, please don’t hesitate to get in touch. We will respond to every question, because it shows you want to be involved in your child’s education. So...ask away!

## Learning to Write

## Stages of Writing

Your child went through several necessary stages in the development of oral language: cooing, babbling and playing with sounds. Similarly, written language development follows predictable stages. These are the stages your child will probably go through as he or she becomes a competent writer.

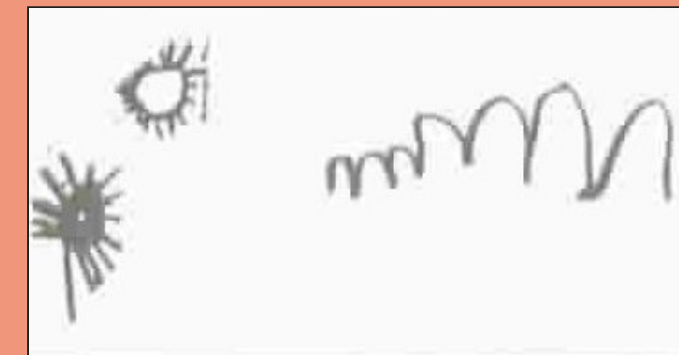
### Level 1: Emerging/Scribble

This is the beginning level at which your child scribbles. You may not be able to tell what the picture is about, but it’s important to praise your child’s beginning drawing.



### Level 2: Pictorial

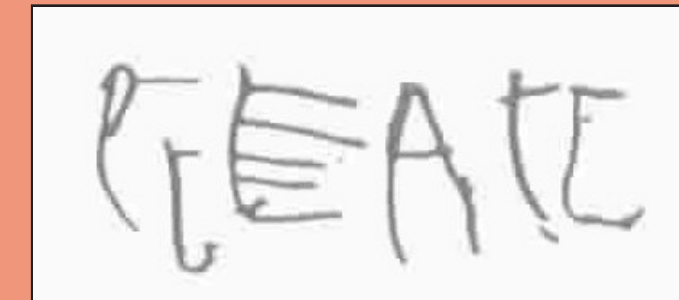
At this level, your child begins to draw a somewhat recognisable picture and may tell you about it. He or she may also imitate writing.



The flower is growing.

### Level 3: Precommunicative

Your child may now be printing his or her own name or an occasional known word and may be writing strings of letter-like forms or a series of random letters. Sometimes he or she may attempt to read the message back, but you probably can’t read it.



There are webs in Spidertown.

### Level 4: Semiphonetic

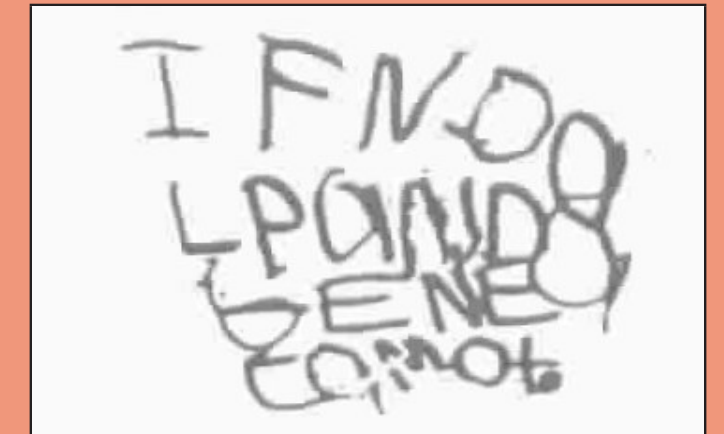
At this level, your child begins to use some letters to match sounds, often using one beginning letter to write a word. He or she usually writes from left to right but may reverse some letters.



I have a goldfish called Arielle.

### Level 5: Phonetic

Now your child writes most words using beginning and ending consonant sounds and spells some frequently used words correctly. He or she may begin to add vowel sounds, but they are often not the correct ones. At this level, your child may begin to leave spaces between words. It’s getting easier to read your child’s writing.

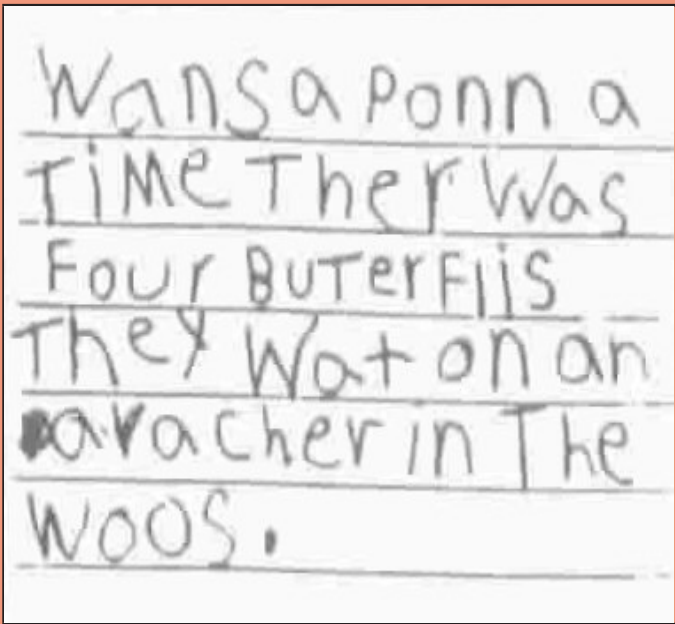


I found a lamp and a genie came out.



Level 6: Transitional

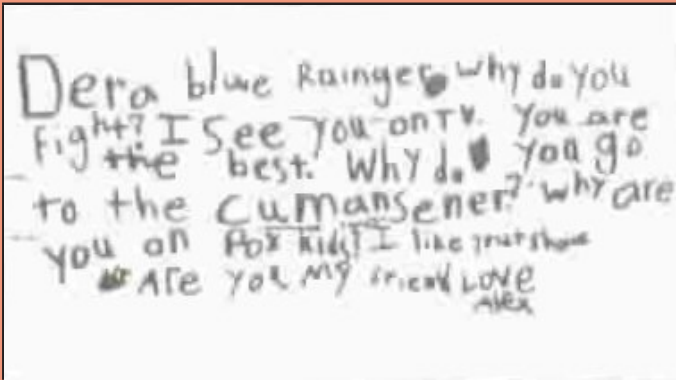
At this level your child is writing words the way they sound, representing most syllables in words. He or she may sometimes be adding an extra silent ‘e’ at the end of a word or doubling letters when they’re not needed while trying visually to remember how spelling works. Now your child usually leaves spaces between words and is spelling many words correctly as he or she writes more than one sentence.



Once upon a time, there was (were) four butterflies. They went on an adventure in the woods.

Level 7: Conventional

At this level, your child spells most words correctly, although he or she may use phonics-based spelling for adventurous vocabulary. Remember, we can only expect children to correctly spell words they have already learned! Now your child is usually using capital and lowercase letters and full stops and question marks correctly.

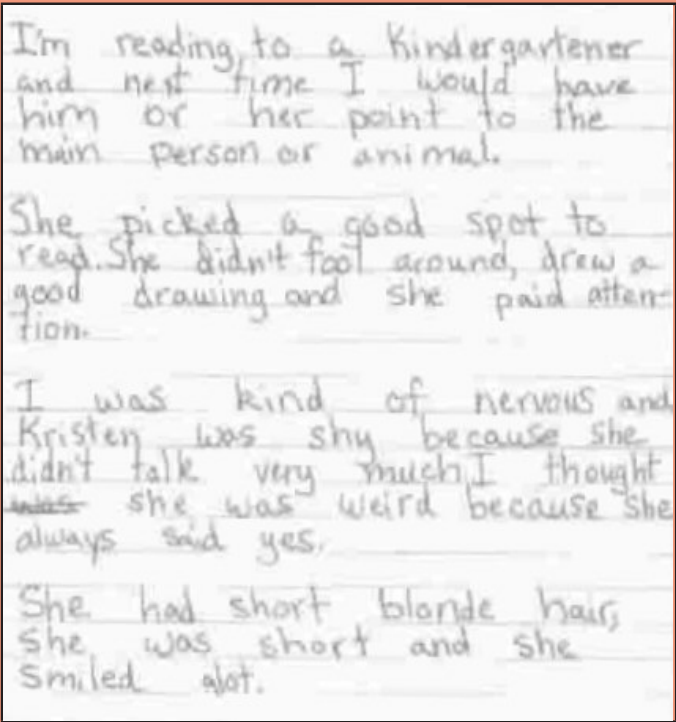


Dear Blue Ranger. Why do you fight? I see you on TV. You are the best. Why do you go to the command centre? Why are you on Fox Kids? I like your show. Are you my friend? Love, Alex



Level 8: Traditional

Advanced writers use a rich, varied body of written vocabulary. They may still use phonics-based spelling for adventurous vocabulary, but have mastered the spelling of commonly used words. At this level, your child uses inverted commas, commas and apostrophes correctly and organises writing into appropriate paragraphs.



Our goal is for each child to enjoy writing and to begin little by little to understand how to become a better writer. Remember, your child learned to speak gradually, and you celebrated each attempt. Together, let’s celebrate your child’s attempts and gradual growth as a beginning writer! If you have any questions about how you might help at home, ask the class teacher.

Ideas for encouraging mark making, writing and for developing phonic skills.

Below is a list of ideas for promoting and practising both letter formation and phonics at home:

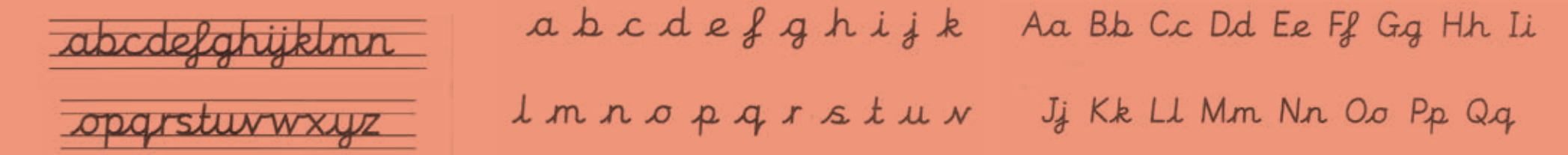
- Bending and forming playdough into letter shapes.
- Baking cookies in different letter shapes.
- Painting on an outside wall using water and a brush.
- Large chalks on a chalk board or the ground outdoors.
- Mark making with charcoal from the tip of a burnt stick.
- Writing letters with your fingers in shaving foam, flour, sugar or sand.
- Using foam letters or magnetic letters in the bath/on the fridge.
- Finger painting to practise letter formation
- Using our arms and hands to write huge letters in the air.
- Making letters or cards to post to family members and friends.

- Using a computer to practise phonics skills/ find capital letters.
- Creating letters with our bodies on the floor and taking photographs.
- Using everyday objects such as cutlery, shells or pebbles to make letters.
- Practise letters learnt so far using taught songs and actions.
- Play word recognition snap by writing words on cards and turning them over to match up and read them.
- Playing simple games such as eye spy or ask children if they can see something beginning with a particular letter sound.
- Use magnetic letters or flash cards to build and sound out words.
- Put items in a box, ask your child to pick one out and tell you what sound it begins with.
- Think up different words that rhyme or words that begin with the same letter and make silly sentences together.

Once your child is writing confidently, the following ideas may prove helpful:

- Check that sentences always have full stops and capital letters and question marks where appropriate.
- Encourage children to experiment with new words, even if they haven’t learnt to spell them yet. You can use a thesaurus to help with this.
- If your child has “word pests” when it comes to persistent offenders in spelling, keep these written on a card so they can have a quick check whenever they’re writing.
- Get them to read their writing out loud to check it makes sense.
- Encourage joined up writing as this is a good habit to form. Whilst it’s slow at first, the more it’s practised, the easier it becomes.
- If you are practising spellings, “Look, Cover, Write Check” works really well. This can also be done on a computer to ‘rehearse’ the pattern.
- Quality content is more important than grammar and spelling. Having something interesting to say and enjoying putting it onto paper is really important!

Handwriting Policy



Jargon Buster

To help with homework tasks.

- NOUN** – The name of something
- ADJECTIVE** – Describes a noun, e.g. colour, shape, texture, behaviour, etc
- ADVERB OR ADVERBIAL PHRASE** – Describes a verb, e.g. how, when, or where you do or be something
- CLAUSE** – A short phrase or collection of words which can form a simple sentence
- SUBORDINATE CLAUSE** – An extra clause which is added to a sentence to give more information
- CONJUNCTION** – A word or phrase which joins clauses together in a sentence
- CONNECTIVE** – A word or phrase which links sentences and/or paragraphs
- COMPLEX SENTENCE** – Has more than one clause
- SUFFIX** – Added to the end of the word
- PREFIX** – Added to the beginning of a word
- SIMILE** – Comparing a subject to something else
- METAPHOR** – Where the writer writes about something as if it were really something else.



Reading is a vital skill that we must teach children from a young age. At Sacred Heart we promote reading for enjoyment, so when you hear your child read at home, it must be a pleasurable experience rather than a chore!

At school, we hear every child read at least once a week. They are taught the skills of reading by the class teacher during a ‘guided reading’ session.

While your child is learning to read, we ask that they are heard by an adult at home at least 5 times a week, daily if possible. This need only be for 5-10 minutes, but it really does make a difference!

In school, we promote the enjoyment of reading by having a regular story session, where the class will listen to a story they enjoy and everyone will take part in a wide range of reading activities.

Listening to stories is an important part of childhood. A bedtime story is always a great way to spend time with your child, build an enjoyment of books and, most beneficial, it gets them off to sleep quicker!

**Choosing a Book**

Every child will be sent home with a reading book that is colour banded according to their level.

They will also have the opportunity to bring home a book they have chosen from the classroom or the library. These two books are for you to share with your child, reading to or with them, not for them to read to you. You could encourage your child to recognise the high frequency words they have been learning at school and at home, or blend simple 3 and 4 letter words together.

The children may also have books at home they might want to read with you. This is fine, as long as they are exposed to a range of books and are enjoying their reading experiences. It is through the choosing of books that children develop their own preferences.

Reading the same book time and time again is a good thing. We want the children to really know stories well. This helps them build language and storytelling skills. When a child knows what a book ‘says’ they then have the confidence to read it without fear of getting it wrong.

Libraries are fantastic places to view a range of books. The internet is a good way of finding out what new books have been released.

**What Else Can Your Child Read?**

|                        |            |                  |                |
|------------------------|------------|------------------|----------------|
| Comics                 | Magazines  | Travel brochures | Recipes        |
| Instructions for games | Newspapers | Sports reports   | Shopping Lists |



**Creating the Perfect Reading Environment**

Here is a list of things you can do to create the perfect reading environment for you and your child:

- Choose somewhere calm and quiet
- Sound excited and enthusiastic when talking about reading
- Have somewhere comfortable to sit next to each other. You will need to see what they are reading and they need to see what you are reading. This could be on their bed, on the sofa etc...make sure the TV is OFF!!
- Talk about the book before, during and after reading it. (There will be suggested questions later in the booklet.)

**Be a Good Role Model for Reading**

To be a good role model you must:

- Handle books or kindles with care.
- Let your child see you reading for pleasure.
- Always stay positive and encouraging, even if you are frustrated with your child. Instead, praise them, then help them.
- Continually use positive praise – “well done, that was brilliant sounding out...”
- Always value time for reading.

**Strategies to Help Read a Book**

There are many ways we can help read a book These are the six main stages we use in school. We may not use all of them every time; it all depends on the text and the need of the child.

**Making sense of a sentence**

If a child can’t read a word, it sometimes helps to leave the word and carry on reading to the end of the sentence. You can then go back and read it again. Often the child will then be able to guess what the word is, especially if they look at the initial sound of the word. They could also look at the pictures to help, e.g. if the word they could not read was sandwich in the sentence ‘the boy ate a ham sandwich’. If you read the sentence without the word sandwich, it is quite easy to make a sensible guess.

**Use of Phonics**

Use the pure sounds the children are taught at school and blend together the letters/sounds they can see. Don’t forget, it’s not always one sound for every one letter. Sometimes two or more letters make one sound, e.g. ‘ea’ makes the long ‘e’ sound. If you are unsure of this, ask the teacher for guidance.





Rehearsed Reading

Rehearsing a page can help build a child’s confidence in reading. In a more challenging book, try reading a page to them first, stressing any difficult words. When modelling the reading, use expression and different voices for different characters. Then give them a few minutes to read it to themselves, and then they can read the page to you. The more you do this, the more words they will be able to recognise.

Questions to Ask Before Reading

- What do you think this book is about?
- What does the picture on the front page tell you?
- Where is the title? What does it say?
- Discuss the author and talk about other books they have read written by the same author.

Questions to Ask During Reading?

- What is happening in the picture?
- Why did the character behave that way?
- Have you ever...?
- Why did...?
- Where did...?
- Who did...?

Questions for Non-fiction Books

- What fact(s) did you enjoy learning about the most?
- Of the information you learned, which would you like to share with someone else?
- Would you like to read more books about this topic? Why?
- What else would you like to learn about this topic?
- What pictures or illustrations did you find interesting? Why?
- Is this book like any other book that you have read? If so, how are they alike? How are they different?
- Which did you like better? Why?
- What kind of research do you think the author had to do to write this book?
- What questions would you ask the author if you ever had the opportunity to meet him/her?
- How can you learn more about this topic?
- Would the book be different if it had been written 10 years ago?
- Did you discover anything that might help you outside of school?

Questions to Ask After Reading

- Who was your favourite character? Why?
- Did you like the book? Why?
- What was the most exciting part of the book?
- Would you choose that book again?
- Recall main events in the story.



Reading Records

What to write in my child’s reading record:

- It is important that reading records are completed at home as it gives the teacher an idea of how often your child reads and how well they are doing at that time.
- The suggestions below will give you a few ideas of what to write – try to keep your comments positive and factual. You are not expected to comment on each of the areas each time.
- How enthusiastic the child was about the choice of book.
- How well the child was able to retell the story, showing their understanding.
- What strategies they used to read unfamiliar words.
- Did they answer questions well?
- Was there a common mistake the teacher may need to pick up on in class?
- Did the child recognise when he/she had made a mistake? Did they correct themselves?
- How fluently they read.
- How well they used expression.





Useful Reading Websites and Books

- [www.oxfordowl.co.uk](http://www.oxfordowl.co.uk) – free online Oxford Reading Tree resources
- [www.bugclub.co.uk](http://www.bugclub.co.uk) – whole school online reading facility
- [www.jollylearning.co.uk](http://www.jollylearning.co.uk) – Jolly Phonics
- [www.parentlink.co.uk](http://www.parentlink.co.uk) – contains ideas to help at home
- [www.bbc.co.uk](http://www.bbc.co.uk) – school section, words and pictures, phonic activities
- [www.phonicsplay.co.uk](http://www.phonicsplay.co.uk)
- [www.literacytrust.org.uk](http://www.literacytrust.org.uk)
- [www.crickwed.co.uk/assests/resources/flash.php?&file=ww](http://www.crickwed.co.uk/assests/resources/flash.php?&file=ww)
- [www.woodlands-junior.kent.sch.uk/interactive/onlinestory.htm](http://www.woodlands-junior.kent.sch.uk/interactive/onlinestory.htm)
- [www.bbc.co.uk/cbeebies/stories](http://www.bbc.co.uk/cbeebies/stories)
- [www.snaithprimary.eril.net/rindex.htm](http://www.snaithprimary.eril.net/rindex.htm) – nursery rhymes
- [www.familylearning.org.uk](http://www.familylearning.org.uk)
- [www.topmarks.co.uk/Search.aspx?subject=31](http://www.topmarks.co.uk/Search.aspx?subject=31)
- [www.readingforlife.org.uk](http://www.readingforlife.org.uk)
- [www.bookstart.org.uk](http://www.bookstart.org.uk)
- Read Me Stories – Children’s Books – Free
- Sentence Reading Magic – Free
- Abc Pocket Phonics Lite – Free
- Abc Pocket Phonics – Pay fee
- Word Magic – Pay fee
- The Story Mouse Talking Books – Free
- ABC Animals – Pay Free
- Reading for Kids – I like reading – Free
- Word Domino – Free
- Read with Biff, Chip and Kipper – Free



In a Nutshell

- Reading is one of the most important skills a child needs to learn. To help them at home:
- Try to read as often as possible with your child.
- Create the right environment for reading.
- Model a positive attitude and enthusiasm for reading.
- Let your child choose a book they enjoy – they don’t always have to read it to you!
- Don’t forget, memorising a book isn’t cheating, it builds confidence, helps them know the structure of a story and makes reading fun!
- Let the child hold the book.
- Talk about the book as you read.
- Support them in reading new words, don’t jump in too quickly and don’t get cross when they can’t do it.
- If your child is too tired to read to you – it’s ok to read to them.
- A bedtime story is the best way to get your child ready for sleep.
- Most importantly – ENJOY TIME READING TOGETHER!
- “A child who reads well is more likely to be successful in later life.”
- Don’t be in a rush to move them to the next level. Allow time to develop confidence. It’s not a race!





# Mathematics

At Sacred Heart, we recognise the importance of the home-school partnership in supporting children’s learning. Part of this is to ensure that parents have an understanding of the methods of calculation being taught in mathematics at our school. Many of these are different from when we went to school!

In all of our classrooms we aim to raise standards in numeracy through putting a greater emphasis on the development of mathematical thinking. In school this means children will learn a range of mental calculation strategies and written methods to give them a greater understanding of the number system and a more flexible approach to solving mathematical problems. These calculations should be done within a variety of real-life contexts to make the maths that children do more meaningful in their everyday lives. Perhaps when cooking, shopping or doing DIY you could ask your children maths questions to encourage them to join in and help where appropriate! This will help develop their mathematical skills and recognise their importance in everyday life.

The aim of this booklet is to summarise and share the agreed methods that we use in our classrooms and therefore outline the recording of mental calculation approaches and the development of written methods appropriate to your children’s attainment and development.

The key issue is to remember that it is very important that children are not taught formal written methods too early, before mental methods are fully understood.

## Number Facts – Rapid Recall

Methods for teaching mathematics emphasise that children should learn number facts by heart and be taught to develop a range of mental strategies for quickly finding from known facts a range of related facts that they cannot recall rapidly.

However, if children do not have rapid recall of certain basic facts then they may well struggle to perform many calculations. Therefore as parents you have an important role in helping your child to learn their times tables and number bonds by heart. While we practise these skills daily at school, the children who are also supported at home tend to be the ones who make the most progress. Therefore, the extra support and input that you can give at home is an invaluable boost to your child’s progress and attainment. There are many online games which support the rapid recall of number facts.

This guide gives examples of methods covered throughout the school, with an emphasis on children being moved on to the next level, but only when they are ready.

Please remember to encourage your child’s mathematical efforts through regular praise and positive comments. Also, making mistakes is to be expected. Encourage and support your child to enjoy mathematics, even if an accurate answer is not always achieved. Their understanding of their approach is often more important than the correct answer.

If you have any queries, please make an appointment with the class teacher or the mathematics co-ordinator at the school.

## Reasons why we need written methods

- Represent work that is being done practically.
- Support mental calculations – often as jottings.
- Communicate ideas and information.
- Work out calculations that are too difficult to do mentally.
- Develop efficiency in calculation.
- Help keep track of longer steps in tasks.

## Progression towards a standard written method

- Establish mental methods based on a good understanding of place value in numbers.
- Make sure children always look out for special cases that can be done entirely mentally. Encourage children always to use mental methods as a final resort.

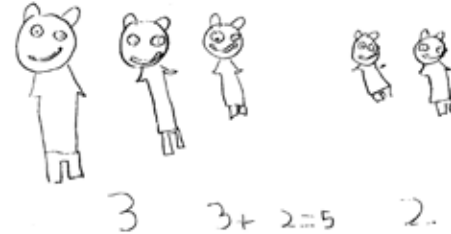
**Note** – If at any stage children make a significant number of errors, they should return to the stage they understood until ready to move on.



# Addition



- Drawing the objects as two sets  
 $3 + 2 = 5$

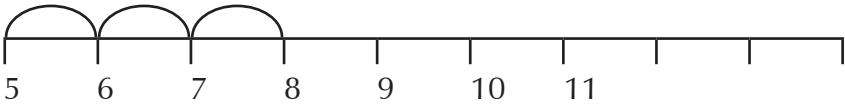


- Using dots to represent the numbers

$$4 + 2 = 6$$

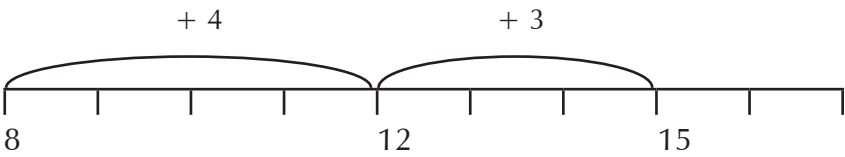


- Recording on a number line  
 $5 + 3 = 8$



using single jumps

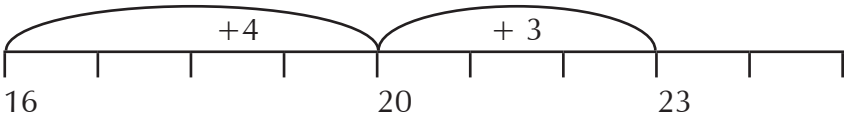
$$8 + 4 + 3 = 15$$



using larger jumps

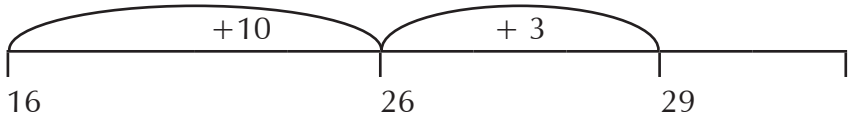
- Bridge through 10 or 20 then adjust

$$16 + 7 = 16 + 4 + 3$$



- **Partitioning**

$$16 + 13 = 16 + 10 + 3 = 29$$



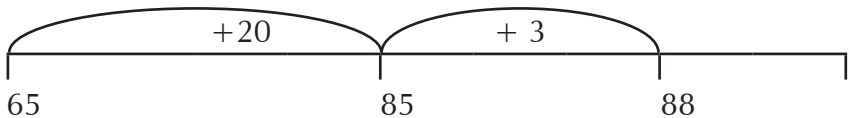
- **Adjusting**

Add or subtract 9 or 11 by adding or subtracting 10, then adjusting  
Begin to add/subtract 19 or 21

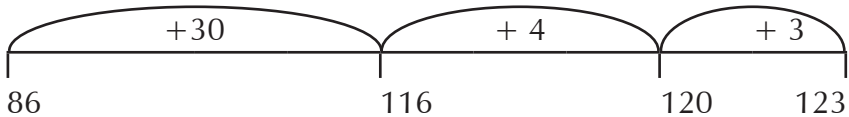
$$23 + 9 = 33 - 1 = 32$$

$$23 - 9 = 13 + 1 = 14$$

$$65 + 23 = 65 + 20 + 3 = 85 + 3 = 88$$

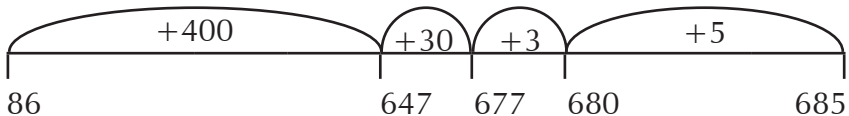


$$86 + 37 = 86 + 30 + 7 = 116 + 7 = 123$$



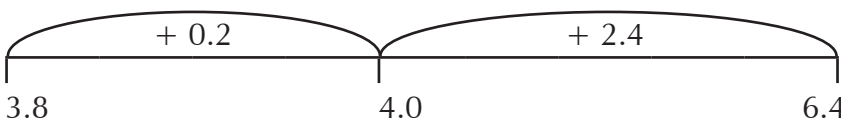
Here, the 7 has been split into a 4 and 3 to make crossing the tens boundary easier.

$$247 + 438 = 247 + 400 + 30 + 8 = 647 + 30 + 8 = 677 + 8 = 685$$

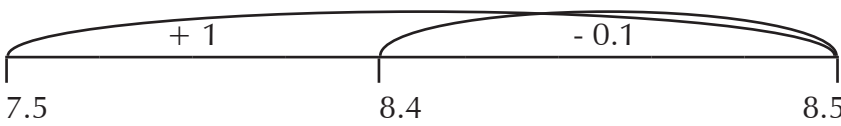


Addition

$3.8 + 2.6 = 3.8 + 0.2$  Bridge through whole number for decimals.  
 $= 4.0 + 2.4$   
 $= 6.4$



$7.5 + 0.9 = 7.5 + 1$   
 $= 8.5 - 0.1$   
 $= 8.4$



Compensation to add/ subtract numbers close to a multiple of 10 and whole numbers when working with decimals.

- **Vertical layouts**
- Adding the least significant digits first, without carrying.

| U+U   | TU + TU   | HTU + TU   |
|---|---|--|
| $\begin{array}{r} 4 \\ + 5 \\ \hline 9 \end{array}$ | $\begin{array}{r} 6\ 5 \\ + 2\ 3 \\ \hline 8\ 8 \end{array}$          | $\begin{array}{r} 1\ 2\ 4 \\ + 5\ 2 \\ \hline 1\ 7\ 6 \end{array}$             |
|   | HTU + HTU   | ThHTU + ThHTU  |
|   | $\begin{array}{r} 4\ 3\ 8 \\ + 3\ 2\ 1 \\ \hline 7\ 5\ 9 \end{array}$ | $\begin{array}{r} 1\ 2\ 3\ 4 \\ + 2\ 3\ 4\ 5 \\ \hline 3\ 5\ 7\ 9 \end{array}$ |

- Vertical Addition with carrying.

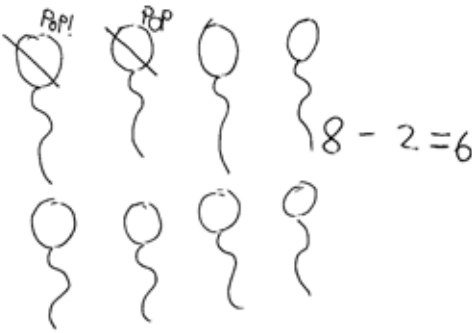
| TU + TU   | HTU + TU   |
|---|--|
| $\begin{array}{r} 6\ 5 \\ + 2\ 6 \\ \hline 9\ 1 \end{array}$          | $\begin{array}{r} 1\ 1\ 7 \\ + 7\ 4 \\ \hline 2\ 9\ 1 \end{array}$             |
| HTU + HTU   | ThHTU + ThHTU  |
| $\begin{array}{r} 4\ 7\ 8 \\ + 3\ 2\ 7 \\ \hline 8\ 0\ 5 \end{array}$ | $\begin{array}{r} 1\ 6\ 4\ 7 \\ + 2\ 7\ 7\ 5 \\ \hline 4\ 4\ 2\ 2 \end{array}$ |



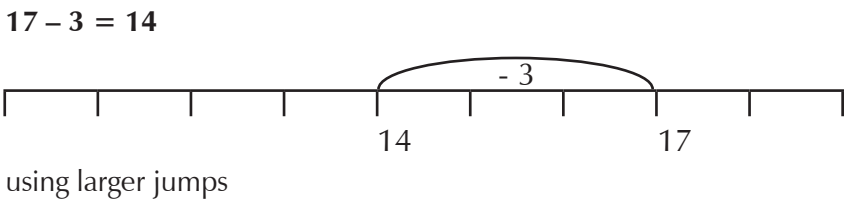
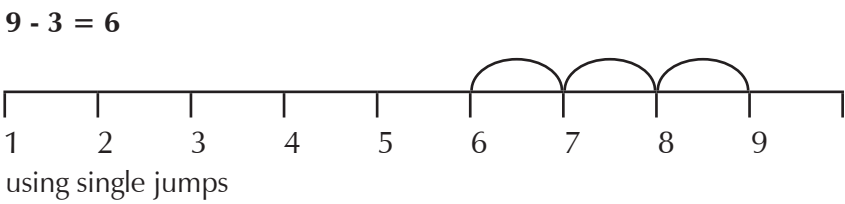
Subtraction



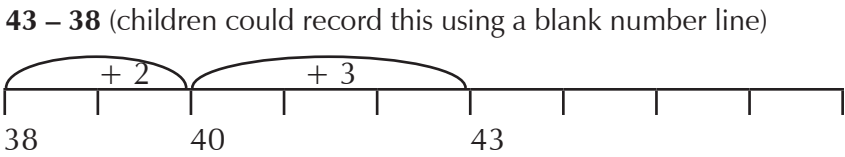
- Drawing objects and crossing them out



- Using a number line. Counting back from the larger number



- Find a small difference by counting up from the smaller to the larger number

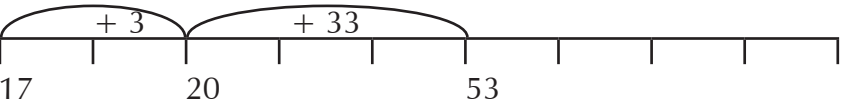


- State the subtraction corresponding to a given addition, and vice versa

$33 + 15 = 48$   
**therefore  $48 - 15 = 33$**

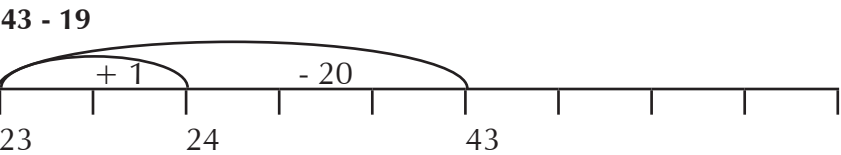
and be able to use this knowledge to ‘count up’ thus turn a ‘subtraction’ into an ‘addition’.

**53 - 17 =**  
**17 + 36 = 53**



- Subtract 9 or 11 by adding or subtracting 10, then adjusting - Begin to add/subtract 19 or 21

**23 - 9 = 13 + 1**  
**= 14**



**Compact decomposition method.** Continue to develop an efficient standard method.

**(Without carrying)**

$$\begin{array}{r} 59 \\ - 36 \\ \hline 23 \end{array}$$

**(With carrying)**

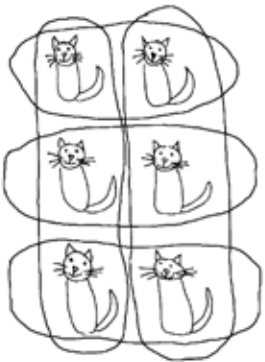
$$\begin{array}{r} 754 \\ - 36 \\ \hline 718 \end{array}$$

Extend subtractions to numbers with more digits and one or two decimal places.

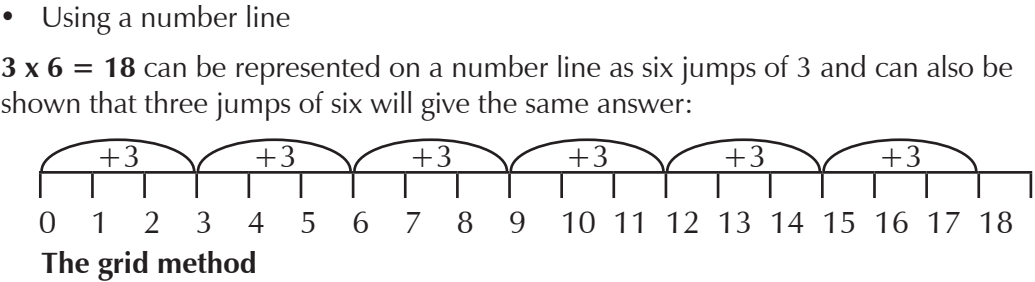
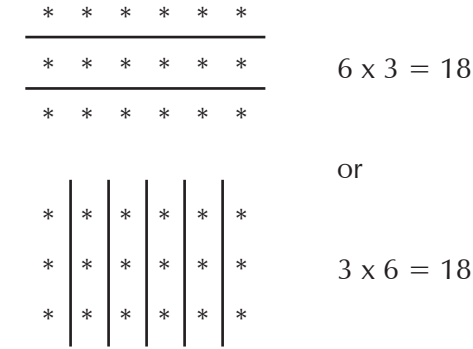


The progression to standard methods should be made using informal written methods that build on mental methods and continue to highlight understanding of the number system and number operations. Readiness for such methods might be judged by reference to the following criteria:

- Rapid recall of multiplication facts
- Understanding of what happens when a number is multiplied by 0 or 1
- Understanding of 0 as a place holder
- Ability to multiply two- and three- digit numbers by 10 and 100
- Understand the inverse relationship to division
- Understanding that multiplication can be done ‘in any order’
- Ability to double and halve two-digit numbers mentally
- Ability to explain mental strategies orally and in writing



- Children can be given pictures of six objects and asked to put rings round to show them as 2 lots of 3 or 3 lots of 2
- **Dot pattern grids** help children understand the relationship between multiplication and division. Seeing numbers set out as rectangular patterns of dots can help children develop an understanding of repeated addition and division as subtraction of groups.



| TU x U |     |    |                  |
|--------|-----|----|------------------|
| x      | 30  | 3  |                  |
| 6      | 180 | 18 | 180<br>18<br>198 |

|   |     |    |                  |
|---|-----|----|------------------|
| x | 20  | 6  |                  |
| 7 | 140 | 42 | 140<br>42<br>182 |



HTU x U

|   |      |    |    |
|---|------|----|----|
| x | 400  | 30 | 7  |
| 6 | 2400 | 18 | 42 |

2400  
180  
42  
2622  
1

\*Pupils who are finding it difficult to recall facts from x6 table can still access this calculation by partitioning the 6 into two easier numbers i.e. 4 and 2, or 5 and 1:

|   |      |     |    |
|---|------|-----|----|
| x | 400  | 30  | 7  |
| 2 | 800  | 60  | 14 |
| 4 | 1600 | 120 | 28 |

874  
1748  
2622  
111

TU x TU

|    |      |     |
|----|------|-----|
| x  | 60   | 8   |
| 30 | 1800 | 240 |
| 7  | 420  | 56  |

2040  
476  
2516  
1



• Short multiplication

| TU x U                                 | HTU x U                                      | ThHTU x U  |
|--|--|--|
| <div>2 6<br/>x 7<br/>1 8 2<br/>4</div> | <div>4 2 7<br/>x 8<br/>3 4 1 6<br/>2 5</div> | <div>3 5 7 8<br/>x 7<br/>2 5 0 4 6<br/>1 1</div> |

• Long multiplication:

| TU x TU  | HTU x TU   |
|--|--|
| <div>6 3<br/>x 4 6<br/>3 7 8<br/>1<br/>2 5 2 0<br/>1<br/>2 8 9 8</div> | <div>4 7 3<br/>x 2 6<br/>2 8 3 8<br/>4 1<br/>9 4 6 0<br/>1<br/>1 2 2 9 8<br/>1</div> |

N.B. The grid method, short and long multiplication methods can all be used with decimal calculations.



Children are introduced to division during the Early Learning Goals of the EYFS Curriculum. They solve problems practically using a variety of different resources.

- **Halving**  
Visual halves
- **Sharing**  
Practical activities
- **Sharing**

12 children get into teams of 4 to play a game.  
How many teams are there?

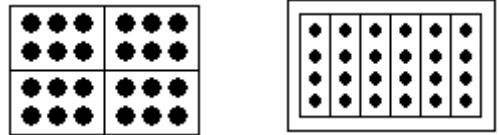


- **Grouping**  
How many 4s in 12?

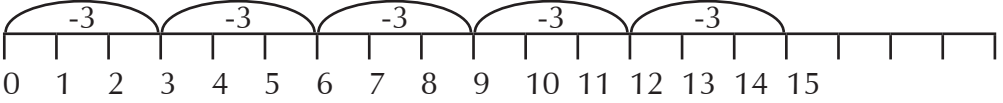
$12 \div 4 = 3$

**Other Jottings**

Sharing  $24 \div 4$       Grouping  $24 \div 4$




- **Using a number line**  
 $15 \div 3$  can be represented as repeated subtraction:  
Alternatively, we can count forwards on the number line in steps:



- **Signs and Symbols**

|               |  |               |
|---------------|--|---------------|
| $30 \div 5 =$ |  | $= 30 \div 5$ |
| $30 \div$     |  | $= 6$         |
| $\div 5 =$    |  | $6 = 30 \div$ |
| $\div$        |  | $6 = \div$    |

- **Halving by partitioning**  
 $26 = 20 + 6$   
 $10 + 3 = 13$
- **Use arrays to develop ideas of remainders**  
 $34 \div 8$



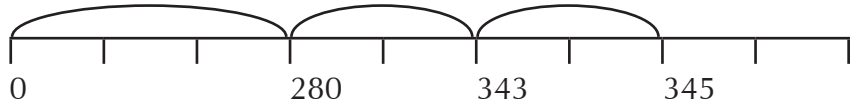
- **Short and Long Division using a number line**

Analysis of children’s test responses in Year 6 has revealed that the subtraction element of division produces the highest degree of error. By recording on an ‘empty’ number line and using a counting-on method for the subtraction, the most common reasons for error are removed:



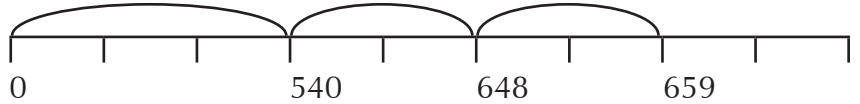
$345 \div 7$

$(7 \times 40) + (7 \times 9) + 2 \longrightarrow 49 \text{ r}2$



$659 \div 18$

$(18 \times 30) + (18 \times 6) + 11 \longrightarrow 36 \text{ r}11$



- **Short division – Compact layout for short division**

1. TU  $\div$  U, no remainder and no carrying

$$\begin{array}{r} 3 \ 1 \\ 3 \overline{) 9 \ 3} \end{array}$$

2. TU  $\div$  U, remainder but no carrying, e.g.  $68 \div 3$

$$\begin{array}{r} 2 \ 2 \ \text{R} \ 2 \\ 3 \overline{) 6 \ 8} \end{array}$$

3. TU  $\div$  U, carrying T to U but no remainder, e.g.  $76 \div 4$ . When dealing with carrying figures, relate to knowledge of place value.

$$\begin{array}{r} 1 \ 8 \\ 4 \overline{) 7^3 \ 6} \end{array}$$

Ten fours make 40, that’s 30 left over out of the 70. 30 added to the 6 units makes 36. There are 9 fours in 36. The answer is 18.

4. TU  $\div$  U with carrying and remainder, e.g.  $96 \div 7$

$$\begin{array}{r} 1 \ 8 \ \text{R} \ 5 \\ 7 \overline{) 9^2 \ 6} \end{array}$$

Ten sevens make 70, that’s 20 left over out of the 90. 20 added to the 6 units makes 26. Three sevens are 21, that’s 5 left out of the 26. The answer is 13 R 5

**Extending the compact layout for short division.**

- Order of difficulty of calculations:
1. No remainder, no carrying eg  $844 \div 4$
  2. Remainder, nocarrying eg  $486 \div 4$
  3. No Remainder, carrying from T to U eg  $860 \div 4$
  4. No Remainder, carrying from H to T eg  $928 \div 4$
  5. No Remainder, carrying from H to T and T to U eg  $984 \div 4$
  6. Remainder and carrying eg  $743 \div 4$
  7. Examples where consideration needs to be given to the placing of the quotient eg  $387 \div 4$
  8. Examples where there are zeros in the quotient eg  $818 \div 4$ ,  $5609 \div 8$

$$\begin{array}{r} 0 \ 9 \ 6 \ \text{R} \ 3 \\ 4 \overline{) 3^3 \ 8^2 \ 7} \end{array}$$
$$\begin{array}{r} 2 \ 0 \ 4 \ \text{R} \ 2 \\ 4 \overline{) 8 \ 1^1 \ 8} \end{array}$$
$$\begin{array}{r} 0 \ 7 \ 0 \ 1 \ \text{R} \ 1 \\ 8 \overline{) 5^5 \ 6 \ 0 \ 9} \end{array}$$

Initially pupils should cross out the hundreds digit and carry it over to the tens as well as placing zero in the quotient.

- Emphasise zero as a place holder.
9. Remainders as a fraction
  10. Decimals





## Some useful websites

There are many free websites with great resources that your child can access through the internet. If you google 'maths games' you will find thousands of sites. It is strongly advisable that children play games that are not too easy, but give them a challenge.

Here are a few sites to get you started:

<http://resources.woodlands-junior.kent.sch.uk/maths/>

[http://www.bbc.co.uk/schools/websites/4\\_11/site/numeracy.shtml](http://www.bbc.co.uk/schools/websites/4_11/site/numeracy.shtml)

<http://www.bbc.co.uk/skillswise>

<http://www.coolmath-games.com/>

<http://www.coreknowledge.org.uk/maths.php>

<http://www.ictgames.com/resources.html>

<http://www.counton.org/games/>

<http://www.topmarks.co.uk/maths-games/>

[www.activelearnprimary.co.uk](http://www.activelearnprimary.co.uk)

There are many more sites that you can find using search engines, including Key Stage 2 SATs maths revision games and tasks!

*Happy calculating!!!*





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# Our Mission Statement

We believe that God's Spirit is at work in everyone in our community.

We will provide an environment of hope, joy and fulfilment in which the skills to fulfil God's desires for us, as unique individuals, are cultivated.

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..... Hope - Joy - Fulfilment