Lisnagry N.S.

Maths Booklet for Parents.

Tips on how to help your child at home with Maths.
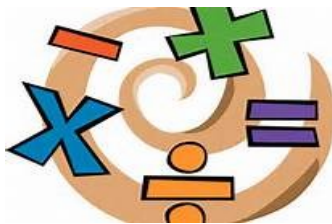
Whether we use Mathematics at an advanced level as an accountant or to work out budgets for looking after a home and family, we use Mathematics in many areas of our lives. Being able to work out how many, how often or how heavy things are is important in different situations. Whether we can afford to buy something, whether it will fit the space or whether the quantity in the pack will be enough for our needs are all important too.

Many people have a mental 'block' about Maths or feel they are not clever enough to be good at more than the basics and many parents feel they are not good enough at Maths to be able to help their children become confident with it. Other parents feel that the Maths their children are doing is different from when they were at school and they do not know the vocabulary or how to explain certain activities without confusion.

These guidelines will help you find out as much as you can about what and how your child is learning.   .

Introduction

At Lisnagry N.S., children receive a daily maths lesson. As a basis for planning, the staff use The Primary School Maths Curriculum which outlines what is expected for children from Junior Infants to 6th Class.

The purpose of this booklet is to outline the topics that are taught in each class and to explain the various calculation methods along with the maths language used at each class level

Our maths curriculum is based on a spiral approach to teaching and learning meaning that topics are revisited from year to year and previous knowledge is extended and built upon.

Also included in this booklet are a range of ideas and suggestions for activities that you can use with your child at home.

The Primary School Curriculum

There are 5 strands in the Primary School Maths Curriculum;

- Number—Counting, Addition, Subtraction, Multiplication, Division, Place Value, Fractions etc.

- Algebra— Number Patterns.

- Measures—Length, Weight, Capacity, Time, Money.

- Shape and Space—2D and 3D shapes, Angles.

- Data—Understanding, interpreting and making charts and graphs.

The Importance of Counting

A lot of time is now spent on oral maths and counting skills in school every day. Children practice counting forwards and backwards to advance their number knowledge and help with addition and subtraction. Here's some ideas and you probably have more of your own you could try out!

Counting ideas/games to do at home

Practice chanting the number names. Encourage your child to join in with you. When they are confident, try starting from different numbers e.g. 4,5,6 and larger numbers for older children. Also try counting backwards. This is suitable for all age groups. Getting children comfortable with forward and backward number sequence is so important.

Give your child the opportunity to count objects (coins, pasta, shapes , buttons etc..) Encourage them to move each object as they count them.

Play games that involve counting e.g. snakes and ladders, dice games.
Coin in a box: Parents drop coins into a box one at a time. Child closes their eyes and then guesses how many coins are in the box. Check your answer by counting together.

Junior Infants

Here are some of the topics covered in Junior Infants:

• **Match** objects that go together.

• **Sort** groups of objects.

• **Say the numbers 1 to 10** forwards and backwards.

• **Recognise** the written numbers 1 - 5.

• **Write** the numbers 1—5.

• **Make and count a group of objects** up to 5.

• **Add two groups** of objects to a total of 5.

• **Count how many are left** in a group when some are taken away,

• **Recognise and make simple patterns** using shapes and beads etc, for

   example ● ■ ● ■ ● ■

• **Sort and name shapes** such as square, circle, triangle, rectangle

• **Compare objects** using words such as heavy and light, longest and shortest, full and empty.

• **Talk about time** using words such as before and after, early and late and night and day.

• **Recognise and use coins** up to 5cent. Recognise which coin is which and start to understand the value of coins, for example, that you can swap five 1 cent coins for one 5 cent coin.

Activities that can be done at home:

- **Match and sort objects:** Sort toys into groups by colour, by shape. Ask your child: *How would you sort them?*

- **Recognise the numbers 1-5.** Pick a number for the day and look out for it when you go out.

- **Add two groups of objects** to make a total of 5. Ask your child to get you 2 apples, then 3 more. *How many altogether? How many ways could I share 4 cakes between you and your brother? How could I share them fairly between you both?*

- **Recognise and make simple patterns.** Draw attention to patterns on clothes such as stripes or spots. Look for patterns around you such as on tiles or on curtains.

- **Talk about time.** Ask questions such as: *what do you do before bed? What do you think will happen next in the story? What day is it today?*

- **Compare objects by weight.** Ask you child to help you sort the shopping. *Can you find the heaviest item etc.*

- **Recognise and use coins up to 5 cents.** Play shop. *Which coin is worth the most, the least etc?*

Senior Infants

Here are some of the topics covered in senior infants:

- **Recognise and say** the numbers 0-10.

- **Write** the numbers 0 –10.

- **Count** the number of objects in a group and count how many are left when some objects are taken away.

- **Add two groups** of objects to make a total of 10.

- Start to use the **symbols + and** = to add groups of objects.

- **Estimate (guess)** the number of objects in a group.

- Recognise simple **number patterns** for example 3,4,_, 6.

- **Sort and describe and name 3-D shapes,** including cube, sphere, cylinder and cuboid.

- **Compare objects** using words such as heavy or light, heaviest or lightest.

- **Recognise familiar times** and read the clock in hours eg. 2 o'clock. Put daily or weekly events in order.

- **Recognise coins** up to 20 cents and use coins up to 10 cents

Activities that can be done at home:

- Encourage **careful counting**, particularly up to 20. Try counting in twos up to 20 eg. 2,4.6,8

- **Estimate** the number of objects in a set or group up to 5.

- **Count how many are left** when some objects are taken away. *I have 8 grapes but how many will I have if I eat 2 of them?*

- **Talk about times and the clock**. Put times up on the fridge door or notice board eg. Football 3pm Tuesday, Training 9am Saturday. Talk about things we do in the Summer, in Winter, during the day, at night.

- **Find numbers.** Look at the microwave, the telephone and the TV remote control. Look for numbers outside as you go for a walk.

- **Recognise coins** up to 20cents and use coins up to 10 cents. Let your child handle money and work out change. Talk about the value of coins when you are out shopping. *Which coin do you need to pay for the sweet? Can you swap me some coins for this 20 cent coin? Order coins from smallest value to largest value.*

- **Play board games** with dice to encourage your child to count, add on and recognise numbers.

- Add two groups of objects to make a total of 10. When playing with toys make groups of objects and then ask your child to put them together. Encourage your child to "**count on**" which means "continue counting". *I have 6 cars and I get 4 more—6…. 7,8, 9,10.*
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- **Compare objects by length.** Ask your child to help you sort the washing: *Find the long trousers? Can you find some that are short-er?* Build a tower using blocks. *Can you make a taller/shorter tow-er?*

First Class

Here are some of the topics covered in 1st Class:

- **Begin to understand addition tables up to 20** eg. 2+1=3, 2+2=4.

- **Read and write the numbers 1 –100** and put them in order.

- **Understand the value of numbers** eg, the 4 in 54 means 4 units and the 3 in 30 means 3 tens.

- **Add and subtract** numbers with a **total less than 100** eg. 16+5, 70+10, 18-5.etc

- **Count forwards and backwards** in twos, fives and tens.

- **Recognise patterns** in numbers including odd and even numbers.

- **Sort and name shapes** such as square, rectangle etc. (2D shapes) cubes, cuboid (3D shapes)

- **Measure objects in metres** and **talk** about lengths that are more than a metre, less than a metre etc. Your child will also be **taking about** and **weighing** **objects in kilograms** and **measuring liquids in litres.**

- **Read time in hours and half hours** eg. 3 o'clock, half past 4.

- **Recognise, exchange and use money** up to at least **50 cents**. Children should also be able to swap coins for those of equal value, for example 20 cents for two 10 cents.

Activities that can be done at home:

- **Learn addition and subtraction tables**

- **Add and subtract.** Help your child to see how adding and subtracting are linked. Use small numbers at first.

  3+4=7   4+3=7   7-3=4   7-4=3

- **Read time in hours or half hours.** Draw your child's attention to times. *We have swimming at 5.30. What time will we need to leave the house at? Look at the TV Guide; what time does your favourite programme start?*

- **Measure.** Encourage your child to work out approximately how many kilograms a bag of rice weighs or how many litres in a bottle. Then check by weighing or measuring. Talk about the markings on the weighing scales or the measuring jug.

- **Recognise, swap and use coins.** Ask your child to put items less than 50 cents in order from the cheapest to the dearest. *How many 10 cent coins can I change for my 50 cent coin. How much change will I get if I buy an orange for 45 cents?*

- **Have fun with numbers.** You and your child can have fun with numbers on car registrations plates. When walking through a car park ask your child: *What numbers can you see on the cars' plates? Can you find a plate where two of the numbers add up to 10, 12…. Add all the numbers on the plate. Which of us can get the bigger number?*

- **Play games**. Here's a fun skittles game. Put some small stones or rice in the bottom of plastic bottles to make a set of 5 skittles. Put a number on each eg. 10, 25, 5, 15, 0. Roll a ball and keep score as you knock the skittles down. Ask your child to work out the final score.

2nd Class

Here are some of the topics covered in 2nd Class:

- **Read and write the numbers 0-200.**

- Understand the **value of numbers** eg, the 4 in 5<u>4</u> means 4 units and the 3 in <u>3</u>0 means 3 tens and the 1 in <u>1</u>26 means 1 hundred.

- Know and understand **addition tables up to 20** eg 7+8=15, 9+9=18.

- **Estimate** answers to sums by getting a "rough answer" first, for example 42+29. As 42 is close to 40 and 29 is close to 30, adding 40 and 30 will gave an answer close to the real one.

- **Add and subtract** numbers with a total **less than 100.** your child will also learn to add 10 or a lot of 10s to a number eg 36+10=46, 36+20 (2 tens) =56.

- **Rename numbers.** Your child will use **renaming** when doing subtraction sums like this:

	T	U
	4	1
	5̸	2
−	1	4
	3	8
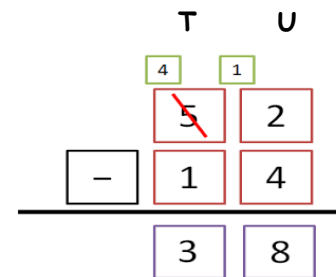
In this case we cannot say 2 take away 4 so we must **rename**. We bring a ten over to the units side (we are then left with 4 tens) and the 2 units becomes 12 units. Then we subtract as normal.

- Identify **halves and quarters** of objects and of groups of things.

- Work out the next number in a **pattern**, for example 3, 5, 7, 9 _, _,*what numbers come next?*

- **Identify shapes**—2D and 3D.

- **Measure lengths** using metres and centimetres; **weigh objects** using kilos, half-kilos and quarter-kilos;

- **Measure liquids** using litres, half-litres and quarter-litres.

- **Read time** in **hours, half-hours and quarter-hours** and use a **calendar** to find important dates.

- **Recognise, exchange and use money** up to €2. Your child should be able to swap coins for other coins of the same value.

Activities that can be done at home

- **Understand addition and subtraction tables to 20.** It is important that children can recall certain facts quickly or know what to do if they are stuck, for example if your child doesn't know 3+6 try asking 6+3.

- **Recognise, swap and use money.** Encourage your child to add up the coins in your purse or to work out what change you will get when buying things: *I have €1.70 in my pocket. What is the least number of coins I could have? We're coming to the toll plaza. The toll is €2.40. Can you get the coins ready for the machine please?*

- **Fractions** Involve your child in cutting an apple into quarters or in dividing the chocolate bar in half.

- **Measure activities.** *About how long is our garden?* Make a paper aeroplane and test it to see how far it flies. Measure the distance in metres and centimetres using a measuring tape. Encourage your child to look at the weights of items in the cupboard. *How many grams in a kilogram (1000)? So 500g is half a kilogram. How many of these packets would add up to a kilogram? If 1 kilogram costs €2, how much would 4 kilograms cost?* Look at containers you have at home. *Which bottles hold litre? A half-litre? A quarter-litre?*

3rd Class

Here are some of the topics covered in 3rd Class:

- **Explore and identify** place value in whole numbers, **0-999**

- **Read, write and order three-digit numbers 0-999**

- **Add and subtract**, without and with renaming, **up to 999**

- Solve **word problems** involving addition and subtraction

- Develop an understanding of **multiplication as repeated addition** and vice versa eg. 2+2+2 =6, 3x2=6.

- Recall **multiplication facts** within **100** *counting in 2, 3, 5 and 10, doubles, trebles.*

- **Multiply** a one-digit or two-digit number by **0-10**

- **Solve and complete** practical tasks and **problems** involving **multiplication and division** of whole numbers eg. *how many days in 9 full weeks? How many cars are needed to take 27 children to a game if only 4 children are allowed in each car?*

- Develop an understanding of **division as sharing** and as **repeated subtraction,** without and with remainders eg. *20 - 4 - 4-- 4 - 4 - 4 = 0 therefore 20÷5=4*

- **Divide** a one-digit or two-digit number **by a one-digit number** without and with remainders eg. 4   20   or 5   37
$$5 \qquad 7 \text{ r2}$$

- **Identify** fractions **in** halves, quarters, eights and tenths.

- **Develop an understanding of the** relationship between fractions and division **eg. 1/4 of 32=8, 32÷4=8**

- **Identify** tenths and express in decimal form **eg. 1/10 = 0.1, 2/10 =0.2 etc.**

- **Identify shapes—2D and 3D.**

- **Lines and angles**

- **Length** including **renaming units of length in m and cm.**
  E.g. 125cm = 1m 25 cm.

- **Area**

- **Weight**

- **Time** including **reading time in 5 minute intervals on analogue and digital clocks(12 hour)** and renaming **minutes as hours and hours and minutes.** Eg.70min = 1hour 10 mins and vice versa 1 1/2 hours = 1 hour 30 mins = 90 mins

- **Money**

- **Data**—bar charts, block graphs and pictograms

- **Chance**—use vocabulary of **uncertainty and chance possible, impossible, might, certain, not sure.**

4th Class

Here are some of the topics covered in 4th Class:

- **Explore and identify** place value in whole numbers, **0-9999**

- Develop an understanding of **multiplication as repeated addition** and vice versa eg. 2+2+2 =6, 3x2=6.

- Recall **multiplication facts** within **100** *counting in 2, 3, 5 and 10, doubles, trebles.*

- **Multiply** a one-digit or two-digit number by **a two digit number (see page 15)**

- **Divide a three-digit number by a one-digit number** without and with remainders eg.

  6 372   6 206
      62   34 r2

- **Identify fractions** and equivalent forms of fractions with denominators **2, 3, 4, 5, 6, 8, 9, 10 and 12**

- **Find the whole number** when given a fraction of it
  eg. 3/10 of a number is 45, find the number.

- Identify place value of whole numbers and decimals
  eg. 3.45 = 3+0.4=0.05

- **Identify shapes** 2D and 3D

- **Lines and angles**

- **Length**

- **Area**—Length x width

- **Money**

- **Weight**

- **Data**

- **Chance**

- Capacity

- **Time** including reading time in **one-minute intervals** on analogue and digital clock (12-hour) and renaming minutes as hours and minutes.

  Addition and subtraction of times

  4 hours 45 minutes
  + 3 hours 25 minutes
  7 hours 70 minutes = 8 hours 10 minutes.

For subtraction you may need to rename first.

  3 hours 30 minutes   As we cannot take 40 from 30
  - 1 hour 40 minutes   we rename 3 hours 30 minutes
                          to 2 hours and 90 mins
                          so it becomes
                            2 hours 90 mins
                          - 1 hour 40 mins
                            1 hour 50 mins

How to multiply 2 x 2 digit numbers

$$\begin{array}{r} 4\\ 37 \\ \times\ 46 \\ \hline 2 \\ \hline \end{array}$$

Begin by multiplying the top by the number on the bottom right side. This is how! Multiply 7 and 6. Put down the 2 and carry the 4.

$$\begin{array}{r} 4\\ 37 \\ \times\ 46 \\ \hline 222 \\ \hline \end{array}$$

Multiply 3 and 6. DON'T forget to add the 4 that you carried!

$$\begin{array}{r} 37 \\ \times\ 46 \\ \hline 222 \\ 0 \\ \hline \end{array}$$

You have finished multiplying everything by 6. Before this, we can cross out the number we have carried (the number 4 at the top). We also have to add the magic '0' in the 'units' column of the next row of our answer lines. DO NOT FORGET THIS!

$$\begin{array}{r} 2\\ 37 \\ \times\ 46 \\ \hline 222 \\ 80 \\ \hline \end{array}$$

Next you must multiply the top numbers by the number on the bottom left hand side. This is how! Multiply 7 and 4. Put down the 8 and carry the 2.

$$\begin{array}{r} 2\\ 37 \\ \times\ 46 \\ \hline 222 \\ 1480 \\ \hline \end{array}$$

Multiply 3 and 4. DON'T forget to add the 2 that you carried!

$$\begin{array}{r} 2\\ 37 \\ \times\ 46 \\ \hline 222 \\ +\ 1480 \\ \hline \end{array}$$

Now you need to add the two numbers together. Don't forget to work from right to left and carry when needed!

$$\begin{array}{r} 2\\ 37 \\ \times\ 46 \\ \hline ^1222 \\ 1480 \\ \hline 1702 \\ \hline \end{array}$$

It should look like this!

Here are some of the topics covered in 5th Class:

- **Identify place value** in **whole numbers and decimals** eg. 345.67 = 3 hundreds, 4 tens, 5 units, 6 tenths and 7 hundredths.

- **Multiply a decimal** (up to three places) **by a whole number**, without and with a calculator eg. 8.125 x9.

- **Divide a decimal number by a whole number**, without and with a calculator eg. 75.6 ÷4

- Express **improper fractions** as **mixed numbers** and vice versa eg.
  $$\frac{33}{8} = 4\frac{1}{8} \qquad 5\frac{3}{4} = \frac{23}{4}$$

- **add and subtract** simple **fractions** and simple **mixed numbers** using equivalent fractions to simplify calculations eg.
    1/3 + 1/2
  We cannot add fractions that have a different denominator (bottom number) so we must change both of them to a common denominator.
    Sixths is the lowest number that both halves and thirds will divide into so we change both to sixths.

$\frac{1}{2} = \frac{3}{6}$ (We multiply the bottom by 3 to change to sixths so we have to do the same to the top)

$\frac{1}{3} = \frac{2}{6}$ (We multiply the bottom by 2 to change to sixths so we have to do the same to the top)

Now the sum is $\frac{2}{6} + \frac{3}{6} = \frac{5}{6}$

- Capacity
- Length
- 2D and 3D shapes
- Lines and angles
- Area and perimeter

- Weight
- Money
- Data

- **Divide a 3 digit number by a 2 digit number. (Long division)**

Firstly, you divided 5 by 25 and you get an answer of 0.
Then you divide 52 by 25. In this case we know that 25 will divide into 52 2 times but sometimes you will have to estimate (multiply 25 by a few numbers to see which answer is closest)
You put your 2 into the answer.
You then take away this answer from the 52. (52 –50)
You get an answer of 2.
The 6 from the top is then brought down to join the 2 making it 26.
Now you are dividing 25 into 26.
The answer is 1 which you put at the top.
Then we take away the 25 from the 26 and we are left with 1 which is the remainder so the answer is 21 r1.

$$526 \div 25 = ?$$

$$
\begin{array}{r}
21 \\
25\overline{)526} \\
-50\downarrow \\
\hline
26 \\
-25 \\
\hline
1 \\
\hline
\end{array}
$$

Answer: 526 ÷ 25 = __21 r 1__

Here are some of the topics covered in 6th Class:

- · **Divide a four-digit number by a two-digit number**, without and with a calculator (This is done in exactly the same way as on page 17)

- **Divide a decimal number by a decimal,** without and with a calculator

- *The trick is to convert the number you are dividing by to a whole number first, by shifting the decimal point of both numbers to the right:*

$$6.625 \div 0.53 \rightarrow 662.5 \div 53$$

*Now you are dividing by a whole number, and can continue as normal. It is safe to do this if you remember to shift the decimal point of **both numbers** the same number of places.*

- Multiply a **fraction by a fraction** eg.

$$\underline{3} \quad \times \quad \underline{7} \quad = \quad \underline{21}$$

- **Solve problems** relating to profit and loss, discount, VAT, interest, increases, decreases.

- Capacity
- Length
- 2D and 3D shapes
- Lines and angles
- Area and perimeter
- Weight
- Money
- Data

Some Maths Activities at home

There is a continued emphasis on **linking your child's learning to real-life practical tasks** involving mathematics, for example, while working with measurement your child may work to solve real life problems such as measuring a room and figuring out how much wallpaper would be needed or working out how to adapt a recipe which is provided for four people when cooking for six!

creating opportunities for your child to handle money and work within budgets, for example, you could give your child the reponsibility of planning a shopping trip and staying within a particular budget to buy particular items on your list. He/she could use the internet to check out and compare prices of, for example, CDs or DVDs online

Use a T.V. Guide. Ask your child to work out the length of their favourite programmes. Can they calculate how long they spend watching TV each day/week.

Asking questions that encourage your child to use mental mathematic strategies learned in school, for example on a car journey, you could ask your child *how far will you travel in 3 hours if we travel at a speed of 55 miles an hour* or *if petrol costs €1.52 a litre, how much will it cost to put 30 litres in the tank?*

Giving your child shopping receipts and bills with the totals removed and asking him/her to estimate the total cost by rounding the figures to the nearest Euro.

Buy items with a percentage extra free. As your child to calculate how much of the product is free.

Maths Language used in the School

Outlined below is a common approach to symbols names and numerical operations. The children are made aware of other language used in association with symbols as they progress from class to class.

Junior Infants
Symbols are not introduced until Senior Infants
+ use the word **and**
= use the word **make**
2+3=5   2 and 3 makes 5

Senior Infants
Introduction of Signs + and =
Addition
+ use the word **and** or **plus**
= use the word **make** or **is the same as** or **equals**
2+5= 7   2 and 5 make 7, 2 and 5 is the same as 7, 2 plus 5 equals 7
Subtraction
Solve simple oral and pictorial problems 0-10
7 birds 2 fly away. **Cross out** the 2.

First Class
7 **and** 2
7 **add on** 2
9 is **more than** 2 by _____
What is 2 more than 7?

Addition of tens and units without renaming:

```
  25
+ 13        5 and 3 is 8, 2 and 1 is 3
  38
```

Addition of tens and units with renaming:

$$\begin{array}{r} 2\ 8 \\ +\ 1_1\ 4 \\ \hline 4\ 2 \end{array}$$

8 and 4 is 12, rename the 12 into 1 ten and 2 units. Put down the 2 and bring over (carry) the 1. 2 and 1 is 3 and 1 is 4.

Subtraction

7 **take away** 2 equals 5

7 **minus** 2 equals 5

7 **subtract** 2 equals 5

2 **less than** 7 is 5

Subtraction without renaming:

$$\begin{array}{r} 2\ 9 \\ -\ 1\ 8 \\ \hline 1\ 1 \end{array}$$

9 take away 8 is 1

2 take away 1 is 1

Second Class

Addition as per 1st class. Find **the sum of** 7 and 2 . The **total of** 7 and 2 is 9.

Subtraction with renaming:

$$\begin{array}{r} ^3 4\ ^1 4 \\ -\ 1\ 6 \\ \hline 2\ 8 \end{array}$$

Start at the top

Say : 4 take 6 I cannot do. Rename 4 tens to 3 tens and 10 units, therefore the units become 14. Read from the top Say: 14 take 6 is 8. 3 take 1 is 2. Answer is 28.

Please do not say '**from**' i.e. 4 from 6.

3rd Class

Addition and Subtraction : Revise and consolidate

Subtracting three digit numbers with renaming:

* Always start at top of sum

$$\begin{array}{r} ^4 5\ ^1\ ^0 1\ ^1 4 \\ -\ 2\ \ \ 1\ \ \ 6 \\ \hline 2\ \ \ 9\ \ \ 8 \end{array}$$

4 take 6 I cannot do ,rename a ten, 14 take 6 is 8. 0 take I cannot do So I rename the hundreds, 10 take 1 is 9 , 4 take 2 is 2

Multiplication:

2 **multiply by** 3 equals 6

2x3= 6

2 **groups of** 3 =6

2 **times** 3 is 6

The **product of** 2 and 3 is 6

2 multiplied by 3 is 6

2 **3's are** 6.

Division:

6 ÷2 =3

6 sweets **shared among** 2 pupils equally. Each gets 3 sweets.

6 **divided by** 2 is 3, **How many 2's** in 6, **2 into 6** goes 3

Factors of 6 are 2 and 3

6 ÷ 3 = six divided by 3 is 2 or 6 divided by 3 equals 2 or three into 6 goes 2 times.

$$3\ \underline{|\ \ 7}$$
$$2\ R\ 1$$

7 ÷ 3 three into 7 goes twice remainder 1

4th Class   Share 48 between 2

2 | 4 8   1) 4 divided by 2 equals 2, 8 divided by 2 equals 4   **or**
  2 4   2) 2 into 4 goes twice, 2 into 8 goes 4 times

 3 |7 ^{1} 5   7 divided by 3 equals 2 remainder 1, 15 divided by
   2 5   3 equals 5 **or**   3 into 7 goes 2 times remainder 1, 3

              into 15 goes 5 times.

5th Class
Addition: **increase** 200 by 20%
A **positive** number on the number line.

Subtraction: decrease

Multiplication: multiples
Of means multiply
5 = 5 **by** 5 or 5 **to the power of** 2.

Division:
Numerator, Denominator, Divisor (Factor) and equivalent fractions

6th Class
Addition: V.A.T. increase by 21%
Simple Interest, Profit– Increase
Sale Price

Subtraction: Use decrease –**discount, loss,**
reduction, negative numbers.

Multiplication: 5 to the power of 2, L.C.M.
Division: H.C.F. Ratio 2:1 = 4:2
Two is to one represents the same ratio as 4 is to 2.

Tables are recited as follows:
Adding : Say
0 and 2 is 2
1 and 2 is 3
2 and 2 is 4
3 and 2 is 5

Addition facts up to 10 will be memorised by the end of Second
Class .

Subtraction
Subtraction will be taught as the inverse of addition.
(Take Away) Tables : Say
2 take 2 is 0
3 take 2 is 1
4 take 2 is 2
5 take 2 is 3

Children from 2nd Class recite their tables regularly and tables are
reinforced every day. Children are encouraged to memorise tables
and they are given for homework.

  Practicing Number Facts:

7	
4	3

7 – 3 = 4   4 + 3 = 7
7 – 4 = 3   3 + 4 = 7

Children are taught the relationship with addition. Knowing
addition tables means you know subtraction tables.

Tables 3rd—6th Classes

Tables : Multiplication
X and ÷ are introduced in 3rd Class
1X 2 =2   **Say**: 1 two is 2
2X2=4   **Say**: 2 twos are 4
3X2=6   **Say**: 3 twos are 6

Multiplication facts up to 12 will be memorised by the end of 4th Class and will be revised up to the end of 6th Class.

Multiplication is a natural progression from extended addition e.g. 3 groups of 3, 4 groups of 3 , 5 groups of 3 etc..
Therefore to ensure consistency and avoid confusion it is important that tables are recited as stated above.

Division
Division will be taught as the inverse of multiplication.
Say: 2÷ 2 =1   2 into 2 goes 1
        4÷ 2 =2   2 into 4 goes 2
        6÷ 2 =3   2 into 6 goes 3

36	
4	9

4x 9= 36   36÷ 9=4
9 x 4=36   36÷ 4=9

Children are taught the relationship with multiplication.
Knowing multiplication tables means you know division tables.

Practicing Number facts/Mental Maths

It is important children learn number bonds to 10 e.g.4 + 6 = 10 and number bonds to 20 e.g.14 + 6 = 20 by heart.

Play 'ping pong' to practice components with your child. You say a number and they reply with how much more is needed to make 10, 20, or 100. Encourage your child to answer quickly without counting or using fingers. E.g. make 100 you shout 40 they shout 60.

Throw two dice. Ask your child to find the total of the numbers (+), the difference between them (-) .

Use a set of playing cards (without the picture cards). Turn over two cards and ask your child to add the numbers. If they answer correctly, they keep the cards. How many cards can they collect in two minutes?

Play Bingo. Each player chooses five answers (e.g. numbers to 10 to practice simple addition,) Ask a question and if a player has the answer, they can cross it off. The winner is the first player to cross off all their answers.

Give your child an answer. Ask them to write as many number sentences as they can with this answer. You could just ask for addition sentences or any type of calculation.

Give your child a number fact: eg 5 + 8 = 13. Ask them what else they can find out from this fact: 50 + 80 = 130. 8 + 5 = 13, 13 – 8 + 5, 130 – 50 = 80, etc.

Look out for car number plates. What is the number on the plate? What is this to the nearest 10 or 100 or 1000? How many more would you need to reach the next multiple of 10, 100, 1000?

Make up rhymes together to help your child remember tricky times tables.

Getting children involved in real situations where they are using mathematical skills is motivating and stimulating. Get them using their "Math's Eyes"

SHAPE AND MEASURE

Choose a shape of the week. Look for this shape in the **environment.** Ask your child to describe the shape to you.

Play 'guess my shape'. You think of shape. Your child asks questions to try to identify it but you can only answer 'yes' or 'no'.

Hunt for right angles around your home. Can your child spot angles that are bigger or smaller than a right angle?

Look for symmetrical objects. Help your child draw or paint symmetrical pictures/patterns.

Practise measuring the lengths or heights of objects (in metres or cm). Help your child to use different rulers and tape measures correctly. Encourage them to estimate before measuring.

Let your child help with cooking at home. Help them to measure ingredients accurately using weighing scales or measuring jugs. Talk about what each division on the scale stands for.

Choose some food items out of the cupboard. Try to put the objects in order of weight, by feel alone. Check by looking at the amounts on the packets.

THE **RUDE** WAY OF SOLVING A MATHS PROBLEM:

Children throughout the school are encouraged to use the following abbreviated strategy for solving a Maths problem –

Read the problem carefully

Underline the clue words/facts/Numbers

Draw a picture/table/graph/pattern

Estimate answer and do calculation

R ead, *Pupils are encouraged to read the problem at least 2 times.*
U nderline *Key numbers and key words are underlined in pencil.*
D raw *Pupils are encouraged to draw a picture/table/diagram of the information being presented in the problem.*
  This approach greatly assists visual learners in comprehending the problem
E stimate *Pupils make an estimation as to what the answer might be. The pupils write an equation/sum for the problem. They calculate their sum and check their calculation*
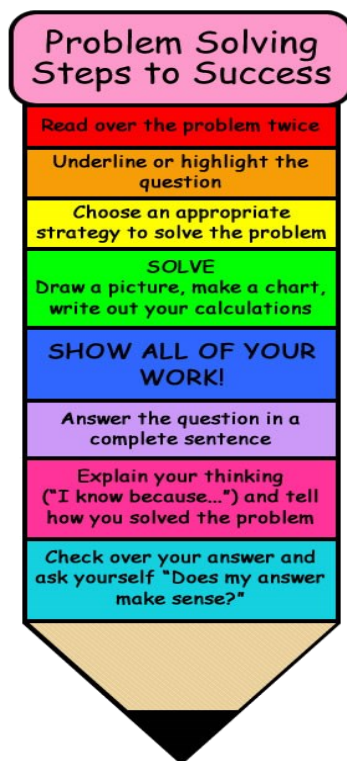
Example:

Jane had 5 sweets. She ate 3 sweets. How many sweets are left?

All children should be exposed to this strategy regularly and be very familiar with it by the time they reach 6th class.

Children are encouraged to use their own ideas as a context for problem solving.

They are encouraged to **find multiple approaches** to solving one problem and **explain how they got their answer to a problem** and discuss **alternative ways of doing** it. They are encouraged to listen to the views of others when solving problems and accept the reasoning of others in order to solve problems co-operatively.

Ask your child to explain their thinking and how they worked it out. Discussing the efficiency and suitability of different strategies is an important part of maths lesson. Explaining strategies orally helps to develop the use of appropriate mathematical vocabulary.

Problem Solving Steps to Success

- Read over the problem twice
- Underline or highlight the question
- Choose an appropriate strategy to solve the problem
- SOLVE
  Draw a picture, make a chart, write out your calculations
- SHOW ALL OF YOUR WORK!
- Answer the question in a complete sentence
- Explain your thinking ("I know because...") and tell how you solved the problem
- Check over your answer and ask yourself "Does my answer make sense?"

Useful websites

- NCCA.ie has videos to demonstrate how to do different maths topics throughout the curriculum.
- tcea.org/ipad has a list of apps for tablets or smartphones that are available. They are broken up into different topics.
- Aplusmath
- Funbrain
- IXL
- Math playground
- Sumdog
- Tenmarks
- Tutpup
- What2learn

Useful Websites—Problem Solving

- http://nrich.maths.org/early-years
- http://www.mathplayground.com
- http://nlvm.usu.edu/
- http://www.nzmaths.co.nz/level-1-problems

Useful Apps

- 4 Dice a Fractions game
- 5 Dice: Order of operations game
- Axiom
- Dinosaur train Classic in the Jurassic, Jr
- Gazzilimath
- Maths Champ
- Mystery math town
- Numbers league
- Operation math
- Skip math: Skip counting games
- Sushi monster
- Yodeloh math mountain

Obviously, these lists are not comprehensive. There are many apps and sites out there that could be used to reinforce your child's learning.