GOOSEWELL SCHOOL

USING EVERYONE'S TALENTS

Maths

MOMENTS AT HOME

Maths Action GROUP

x-y=?

a+b+c

Hello and welcome...

Maths should be enjoyable and useful for all. At Goosewell, we love to have fun with our Maths learning!

For children and adults to function well in our ever increasingly complex world, we all need to be numerate and therefore mathematical knowledge and skills are crucially important. Maths is one of those life-skills we need and use every day; whether it's working out how many coins are need to pay for an item, or choosing the best mobile phone contract – mastering number skills is essential. That's why we've put together this booklet. This is a guide to supporting your child with 'Maths Moments at Home'.

This guide explains how your child will develop their understanding of the four Maths operations (addition, subtraction, multiplication and division) through their Primary Education. For each stage there is an overview of the key Maths concepts for that age and really helpful tips on how you can support your child to succeed in Maths.

Available for each calculation, at each educational stage, is a video clip showing children completing the task to illustrate the learning involved. These videos can be found on YouTube using the QR codes in this booklet (which can be scanned using your mobile phone) or through the website link below. The link to the videos is also on our Goosewell Primary School website Maths pages.

This is a fabulous resource to help you as parents and carers. So, please take a look inside to find out how you can help your child discover Mathematics and develop their confidence.

Goosewell's top tips for parents and families:

Be positive about maths.
Don't say things like "I can't do maths" or "I hated maths at school"; your child might start to think like that themselves.

Point out the maths in everyday life.
Include your child in activities involving maths such as using money, cooking and travelling.

Praise your child their for effort as well as talent
This shows them that by working hard they can always improve.

goo.gl/x13GGr

Maths Moments At Home

ADDITION

Help them to mentally learn doubles of numbers to 5. For example 1+1=2

Encourage your child to point to or touch each object as they count.

Foundation Stage - Count all or count on. Begin by supporting your child to count all the objects in 2 groups. When they are confident, show them how to count on from the first group of objects rather than recounting.

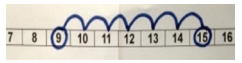
Showing your child how to arrange the objects in lines will help your child to successfully add.

Mentally knowing one more than a number will help with addition skills.

Support your child with counting on by showing them how to put the biggest number in their head and count on using their fingers.

Year 1 - Count on. Continue to develop the skill of counting on. Introduce counting on from numbers rather than just objects. Continue to use objects to support. Record number sentences to show the addition:

9+6=15



13=8+5

Show calculations recorded both ways. This will help your child to recognise that the answer is not always recorded at the end.

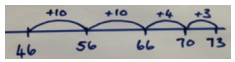
Help them to mentally learn doubles of numbers to 10. For example 6+6=12

Mentally knowing numbers that can be added together to make 5, 6, 7, 8, 9, and 10 will really help. For example 4+1=5, 2+3=5

Using place value materials such as Dienes/ Base Ten will help your child understand the value of each digit they are adding. It will also support them to add accurately.

Year 2 - Partitioning to add. As you child moves to adding 2 digit numbers, they will use partitioning (splitting) to add tens and ones/units. They will also begin to record the calculation using the expanded column method and then formal column method.

46+27



40+ 6
+20+ 3
60+ 9=69

46
+ 23
69

By starting with the expanded method your child will have a greater understanding of what they need to add.

Mentally knowing numbers that can be added together to make 11, 12, 13, 14, 15, 16, 17, 18, 19 and 20.

Maths Moments At Home

ADDITION

Place value is really important. Still say 100 add 100 not 1 add 1.

```
 1 6 6
+1 3 7
 3 0 3
 1 1
```

You can help your child succeed with the column method by showing them how to put the digits in the correct column.

Year 3 - To add 3 digit numbers. Your child will develop the use of the formal column method to include regrouping to carry. For example when they add 6 and 7 they will regroup 13 ones for 1 ten and 3 ones. (Ones can also be called units)

Your child will continue to use Dienes/Base Ten so they can fully understand the regrouping process.

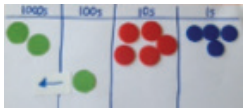
Your child will need to quickly add multiples of 10 and 100. For example 60+40 and 300+400

Adding multiples of 10, 100 and 1000 is a really important skill.

2000+7000

Year 4 - Adding up to 4 digit numbers using the formal column method. They should still be mentally adding when it is more appropriate.

```
 2 4 5 8
+  5 9 6
 3 0 5 4
 1 1 1
```



Children will use place value counters to support their mathematical understanding.

Children need to know how to mentally add tenths and hundredths.

Year 5 and 6 - Across these two years, children will add increasingly larger numbers. In addition, they will learn how to use the formal column method to add decimals.

```
 1 4 3.6 2
+3 6 2.5 1
 5 0 6.1 3
 1   1
```

```
 2 3 4 5 4
+   5 9 6
 2 4 0 5 0
   1 1 1
```

Continue to practice mental addition of larger numbers.

Place value counters will continue to be used to inform place value knowledge and accuracy of adding.

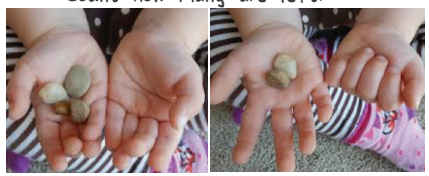
Maths Moments At Home

SUBTRACTION

Help them to count back in ones from any number under 10.

Encourage your child to point to or touch each object as they count.

Foundation Stage - Count a set of objects (e.g. 4) then physically remove an amount (e.g. 2). Count how many are left.



Showing your child how to arrange the objects in lines will help your child to successfully subtract.

Encourage children to think of 1 less for numbers under 10.

Support your child with counting back by showing them how to put the biggest number in their head and count back using their fingers.

Show children subtraction fact families to develop fluency.

E.g. 19 - 10 = 9,
19 - 9 = 10

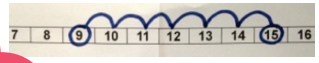
Year 1 - Count out sets of objects to at least 20 then physically remove an amount. Count how many are left. Children will begin to work with larger numbers and counting back on a number line. Children should record number sentences to show the subtraction problem.

7 - 5 = 2

15 - 6 = 9

Encourage children to find the difference by counting on from the smallest number to the biggest using a number line.

What is the difference between 15 and 9?



= 6

Help children to mentally know subtraction facts for numbers under 10.
E.g. 8-5=3, 8-6=2

Help children to complete missing number problems using counting on
e.g. 10 - ? = 6
count on from 6 to 10.

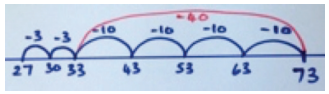
Maths Moments At Home

SUBTRACTION

Make sure children refer to the digits as 70 and 40 not 7 and 4.

Year 2 - Children will continue to work with larger numbers and counting back on a number line.

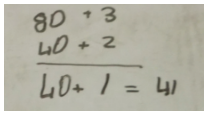
Children will begin to use more efficient 'jumps' on their number lines.

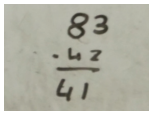


73 - 46 = 27

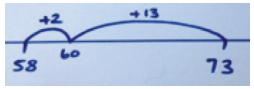
Using place value materials such as Dienes/ Base 10 will help your child to understand the value of each digit they are subtracting.

They will begin to record their subtractions using the expanded column method then moving on to the formal column method.





Children continue to find the difference by counting on along a number line from the smallest to the biggest number. What is the difference between 73 and 58?

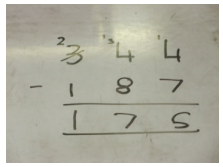


= 15

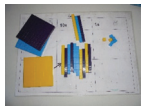
Encourage children to mentally subtract numbers by partitioning (splitting) the number into Tens and Ones then subtracting the Ones first then Tens.
E.g 36 - 18= 18
36 - 8=28 28 - 10=18

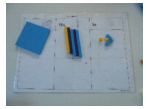
Year 3 - Children will subtract 3 digit numbers, developing their use of the formal column method with regrouping. For example they will know they cannot subtract 7 from 4 therefore they must 'go next door' and regroup one Ten for ten Ones to make it 14 - 7. (Ones can also be called units).

Your child will continue to use Dienes and place value counters so they can fully understand the regrouping process.



Continue to encourage children to mentally subtract numbers by partitioning (splitting).
E.g. 92 - 28 = 64
92 - 20 = 72, 72 - 8 = 64





Your child will need to quickly subtract multiples of 10 and 100.
For example
80 - 30 = 50

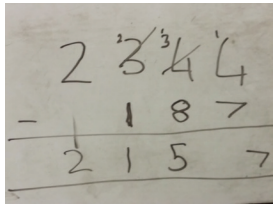
Maths Moments At Home

SUBTRACTION

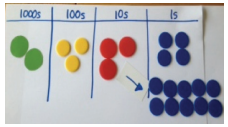
Your child will continue to use Dienes and place value counters so they can fully understand the regrouping process.

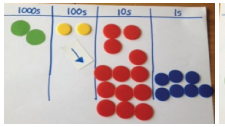
Year 4 - Children will subtract 4 digit numbers using the formal column method with regrouping.

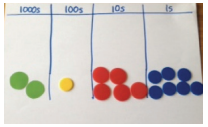
Children will begin to subtract decimals mentally.



244 - 187 = 2157

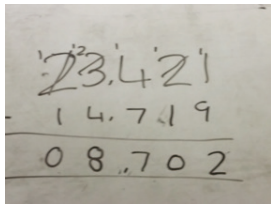






Equipment will continue to be used to inform place value knowledge and accuracy of subtracting.

Year 5 and 6 - Children will continue to subtract increasingly larger numbers. In addition they will learn how to use the formal column method to subtract decimals.



23.421 - 14.719 = 8.702

Your child will continue to subtract decimals with up to 3 decimal places mentally.

Remember you can view all of our videos by visiting our online library. Just scan here!

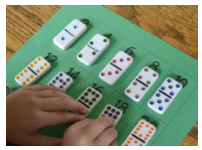
Maths Moments At Home

MULTIPLICATION

Foundation Stage - Your child will begin to learn how to multiply through practical activities. For example you could ask them how many wellies for three children? Teaching your child how to double in practical contexts will also support their progress, for example counting doubles on dominoes.

Encourage your child to point to or touch each object as they count or group.

Showing your child how to arrange objects in groups will help your child build the foundations for multiplication.



Mentally knowing how to count in 2s will help with multiplication skills.

Support your child by helping them to count confidently in 2s, 5s and 10s.

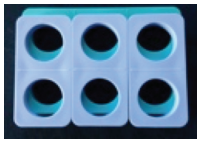
Year 1 - Multiplication as repeated addition. In Year 1 children are encouraged to begin to write multiplication as repeated addition so they understand that the number is repeated when you multiply, e.g., 2+2+2=6

Show that calculations can be recorded in both ways. 2x3=6 and 3x2=6 This will help your child to recognise patterns

Continue to use practical representations:

2 frogs on each of the 3 lily pads: 3x2=6

Help your child to mentally learn doubles of numbers to 10. For example 6+6=12



Numicon is a great way to represent repeated addition for multiplication. It helps your child to understand there are 3 lots of 2.

Continue to use practical representations to support their understanding of multiplication.

Year 2 - Calculating multiplication calculations. As your child becomes more confident they will begin to solve multiplication calculations that are within the multiplication tables they know (2, 3, 5 and 10 times table).

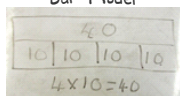
Show your child that multiplication of two numbers can be done in any order (commutative- 5x4=4x5).

Help them to know the 2, 5 and 10 times table facts out of order. Also begin to chant the 3 times tables with your child.

3x5=15

Number lines also help 3x2=6

Bar Model



Help your child identify odd and even numbers. Also they need to learn doubles of all numbers up to 20.

Maths Moments At Home

MULTIPLICATION

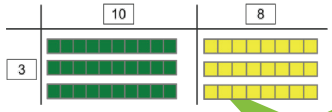
Help your child to learn the 3, 4 and 8 times tables. Don't forget to keep practicing the 2, 5 and 10 times tables!

You can help your child succeed with multiplication with regular rehearsal times table facts.

Year 3 - Partitioning to multiply. Your child will begin to use known times table facts to multiply a 2-digit number by a 1-digit number. They will use partitioning to solve these calculations.

Your child will continue to use Dienes/Base Ten so they can fully understand the multiplication process.

18 x 3 = 54



Your child will begin to record multiplication in the grid method.

You can support your child by helping them to learn all of the times table facts up to the 12 times table.

Year 4 - Multiply two-digit and three-digit numbers by a one digit number using the formal written layout. Your child will continue to develop the use of the grid method and they will begin to record the formal written multiplication method.

Place value counters will help your child fully understand each step in the multiplication process.

X	40	3
6	240	18

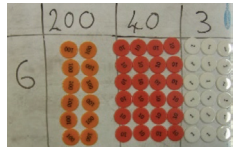
~~2 1~~
243
x 6
1,458

This can still be represented using place value counters.

Year 5 and 6 - Across these two years children will multiply increasingly larger numbers. They will multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.

When multiplying begin with Units/ Ones and carry above the calculation to ensure numbers are not confused when adding

1
~~2 1 1~~
5,432
x 36
32,592
162,960
195,552
1 1



Continue to practice times tables with your child to help them increase their ability to quickly recall times tables facts.

Maths Moments At Home

DIVISION

Practical examples. E.g. how many pebbles will each person get if we have 10 pebbles and five people?

Encourage your child to point to or touch each object as they share or group.

Foundation Stage - Beginning to share or group. Present your child with practical problems for example, can you share 6 cars between two children? Also use practical contexts to understand halving such as sharing spots onto two sides of a ladybird or halving a sandwich or a pizza.

Showing your child how to share objects in groups will help your child build the foundations for division.

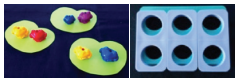
Mentally knowing how to count in twos will help with division skills. You could count pairs of socks with your child.

Support your child by helping them to learn how to count in 2s, 5s and 10s.

Year 1- Represent division facts using objects. Continue to teach sharing and grouping using practical objects. Also begin to show the written calculation and how the practical can be recorded using dots, (these are called arrays).

15 ÷ 3 = 5

6 ÷ 3 = 2



Show that calculations record both ways. 6÷3=2 and 6÷2=3 This will help your child to recognise patterns

Your child will also begin to show jumps on a number line

Bring division into everyday life. Use real life experiences such as sharing raisins, money, biscuits, pencils etc.

Help them to mentally learn halves of even numbers to 10. For example half of 8 is 4.

Continue to use practical objects to support your child's understanding.

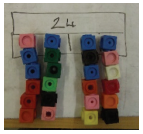
Year 2 - Calculating division calculations. As your child becomes more confident they will begin to solve division calculations that are within the multiplication tables they know (2, 3, 5 and 10 times table).

Help your child identify odd and even numbers. Also they need to learn doubles of all numbers up to 20.

15÷3=5 (sharing)

15 ÷ 3 = 5 (grouping)

Bar Model. 24÷2=12



Help them to know the 2, 5 and 10 times table facts out of order. Also begin to chant the 3 times tables with your child.

Show your child that division of numbers has to be done in the correct order with the largest number first (eg 10÷2 not 2÷10).

Maths Moments At Home

DIVISION

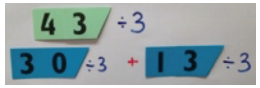
Your child needs to know the facts for the 2, 3, 4, 5, 8 and 10 times tables.

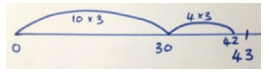
You can help your child succeed with division by regular practice of saying the multiplication and division facts. Try TTRockstars!

Year 3 - Partitioning to divide. Your child will continue to complete division calculations within the times tables they know. They will begin to calculate division statements that include 2 digit numbers divided by 1 digit. Your child will use partitioning to support division. They will find 10x the divisor (E.g.10x3=30) then will divide the remaining digits by the divisor using their times tables (we know 3x4=12 so 13÷3= 4r 1)

Use times table language to help them solve calculations. For example how many 3s in 30?

Your child will continue to use Dienes/Base Ten so they can fully understand the process.





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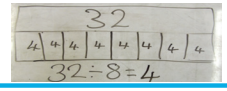
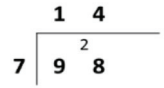


Year 4 - Divide two-digit and three-digit numbers by a one digit number using the formal written layout. Your child will continue to use their times table knowledge to solve division calculations and they will progress to using the formal short division written method which is nicknamed the bus stop method. 98 ÷ 7 becomes

Your child will continue to use place value counters to solve calculations so that they fully understand the process.

It is important to support your child in learning all the times table facts for all tables up to the 12 times table. They need to be able to recall the facts out of order.



When dividing, begin with hundreds and carry above the calculation to ensure numbers are not confused when adding.

Year 5 and 6 - Across these two years children will divide increasingly larger numbers. They will divide multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long division.

This can still be represented using place value counters.

You can support your child by continuing to practise times tables and related division facts.

Maths Action GROUP

x-y=?

a+b+c

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