

Moulton CEVC Primary School

Helping your child  
at home with maths

(Year 4)





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**Sharpen your mental skills.** Your child's class teacher has a copy of these on a handy little key ring. They are designed to be used informally at the end of the day, whilst the children are lining up, in a spare minute etc and we suggest that you use them in the same way. Each box contains a mental strategy that has been taught and rehearsed regularly with your child. The cards with the green text are particularly tricky, and may contain strategies from the next year group's teaching. They are there as a guide so feel free to take a step back or to extend them as necessary. Your child might excel with some but find others hard—that's perfectly normal!

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**At home and out and about.** Mathematics is everywhere! Have a go at these activities to encourage your child to talk about their mathematics and their methods of calculation.

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**Online...** Some suggestions of websites that contain maths games for your budding mathematicians to have a go at. There are also some explanations to activities that appear on the school website.

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**September...** An overview of the maths that your child will be learning in their new class at the start of September. This is unique to each year group.



Hello!

Allow me to introduce myself...

I'm Pascal the Penguin! I love mathematics and it would be great if you do too.

Welcome to your mathematical home help ideas! If you find yourself with a few spare minutes at home, have a go at some of these activities. As always, I have placed a strong emphasis on mental strategies and mathematical talk because confident and able mathematicians need to have these in abundance!

Don't forget, your class teacher and Mrs Shipp would love to hear about the things that you do at home so don't forget to go and tell them or better still, write it in your reading record too.



## Sharpen Your Mental Skills

Give your child a multiplication fact and ask them to derive a related division fact.

E. G

$$8 \times 4 = 32$$

$$32 \div 4 = 8 \text{ or } 32 \div 8 = 4$$

Give your child a starting number and ask them to count forwards in steps of 100. Stop them and then ask them to count backwards.

Focus on crossing tens barriers.  
E. G 600, 700, 800, 900. 100, 1100

Ask your child to add together three 2-digit multiples of 10.

E. G

$$30 + 40 + 20 =$$

Ask your child to add two 2-digit numbers by partitioning into tens and units first. Bridge through 100.

E. G

$$32 + 84 =$$

$$30 + 80 = 110$$

$$4 + 2 = 6$$

$$110 + 6 = 116$$

Say a number and ask your child to quickly add 19 (They should add 20 and then Subtract 1)

(Try the same strategy when trying to add 29)

Say a number and ask your child to quickly subtract 19 (They should subtract 20 and then

Add 1)

(Try the same strategy when trying to subtract 29)

Say a number and ask your child to quickly add 31 (They should add 30 and then add 1)

E. G

$$47 + 31$$

$$\text{Do, } 47 + 30 = 77$$

$$\text{Then } 77 + 1 = 78$$

Repeat with similar numbers

Ask your child to add three or four small numbers by looking for pairs that add to 10 or doubles.

E. G

$$7 + 6 + 6 + 3$$

$$(7 + 3) + (6 + 6)$$

Say a number and ask your child to partition in TH H T U

E. G

$$1637$$

$$1000 + 600 + 30 + 7$$

Say a 2 digit number and ask your child to double it by doubling the tens first.

E. G Double 78

$$\text{Double } 70 \text{ is } 140$$

$$\text{Double } 8 \text{ is } 16$$

$$140 + 16 = 156$$

Ask your child to multiply a 2-digit number by a 1 digit number by partitioning.

E. G

$$64 \times 3$$

$$\text{Do } 60 \times 3 = 180$$

$$\text{Then } 4 \times 3 = 12$$

$$\text{Then add together: } 180 + 12 = 192$$

Say a number to your child and ask them to recall its factors. (Numbers that divide exactly into it)

E. G

$$12$$

Factors are 1, 12, 2, 6, 3 and 4

Ask your child to find the sum of three 2-digits multiples of 10.

E.G  
 $30 + 40 + 20$

Ask your child to find the total of a pair of 'near doubles'

E.G  
 $7+8 = 15$   
 $60+61 = 121$

Give your child three numbers and ask them to find as many calculations as they can with those numbers. (Use + and -)

E.G  
16, 5, 21  
 $16+5=21$ ,  $21-5=16$ ,  $21-16=5...$

Ask your child to divide a number by 10 by moving the digits.

E.G  
 $320 \div 10 = 32$   
 $1200 \div 10 = 120$

Ask your child to divide a number by 100 by moving the digits.

E.G  
 $1600 \div 100 = 16$   
 $1400 \div 100 = 14$

Ask your child to halve a 2 or 3 digit even number.

EG  
Half of 36 is 18

Ask your child to double a 2 or 4 digit number.

E.G  
Double 67 is 134

Give your child a 2-digit number and ask them how many you need to add to make 100.

E.G  
 $37 + 63 = 100$

Give your child a 3-digit number and ask them how many you need to add to get to the next multiple of 100

E.G  
 $537 + 63 = 600$

Give your child a 3-digit number and ask them how many you need to subtract to get to the previous multiple of 100

E.G  
 $826 - 26 = 800$

Ask your child to double a 3-digit multiple of 10.

E.G  
Double 380 is 760  
Double 230 is 460

Ask your child to double a 2-digit multiple of 5

E.G  
Double 35 is 70  
Double 65 is 130

Ask your child to multiply a 2-digit multiple of 10 by 5

E.G  
 $50 \times 5 = 250$   
 $60 \times 5 = 300$

Ask your child to multiply a 2-digit multiple of 10 by 3

E.G  
 $40 \times 3 = 120$   
 $60 \times 3 = 180$

Ask your child to multiply a 2-digit multiple of 10 by 4

E.G  
 $70 \times 4 = 280$   
 $60 \times 4 = 240$

Ask your child to multiply a number by 10 by moving the digits.

E.G  
 $32 \times 10 = 320$

Give your child a starting number and ask them to count forwards in steps of 1. Bridge through multiples of 100 and 1000

E.G  
9998, 9999, 10,000, 10,001...

Ask your child to find the difference between two 3-digit numbers.

E.G  
 $760 - 580 =$

Ask your child to find the sum of numbers with one decimal place.

E.G  
 $2.5 + 3.1 = 5.6$

Give your child a number with one decimal place and ask them how many you need to add to get to the next whole number.

E.G  
 $3.7 + ? = 4$

Give your child a table multiplication fact (up to  $10 \times 10$ ) and ask them to derive a related division fact.

E.G  
"8x4=32"  
"32÷4=8 or 32÷8=4"

Give your child a 3-digit number and ask them how many you need to add to make 1000.

E.G  
 $376 + 624 = 1000$

Ask your child to find the difference between two numbers with one decimal place.

E.G  
 $8.7 - 4.3 = 4.4$

Ask your child to multiply find the product of three numbers less than 10.

E.G  
 $3 \times 4 \times 6 = 72$



# At home and out and about.

Look at numbers on car number plates. Add or multiply them together. Older children could try multiplying or dividing them by 10 and add together to make it tricky.

Ask your child to lay the table. They could count out the cutlery as they go. Older children could answer questions. *"How many knives, forks and spoons would I need in total if I had 24 dinner guests?"*

At the shops, ask your child to find the cheapest/most expensive item.

*Is it in pounds or pence?*

Ask your child what time they think their TV programme is due to finish. Older children could see how long that program is on during 1 week.

Allow your child to cook and bake!

Let them look at the cost of the ingredients and then weight them out.

Give your child some store cupboard items and ask them to put them into weight/capacity order. Ask them to look carefully at the units that are used. *Are they grams or Kgs? L or MI?*

When you're out and about, see if you can find all digits 0-9.

Find two places on a road sign. *Which is the closest? By how many miles is it closer?*

Ask your child to sort items, such as food, into any criteria. Ask them to explain their reasons. Then you do the same!

When you take your child to the shop, ask them to calculate how much change you are due. Your child could help you to find the notes or coins needed to pay.

Choose some family members and friends. Find the sum of their ages. (Or multiply them together if you're an older child!)

Grow a plant and measure how much it grows and how long it takes to grow. You could record the measurements using a table or a graph. Younger children could draw a picture of the plant at different stages and sizes. Also, measure out the water needed to water the plant.

Use an egg timer when cooking. Ask your child to estimate when they think it will ring.



# At home and out and about.

Snakes and ladders, card games, dominoes and other such traditional games are great for maths and reasoning skills.

There are lots of card games in toy shops. (The Early Learning Centre have some lovely games). Your child could earn some money and then buy a treat to play with the family.

Mark the birthdays of friends and family on a calendar. *What day is your birthday on? What day will it be in two days' time?*

Older children could calculate the percentage or fractions of ingredients in a recipe.

Ask your child to imagine/draw a mobile phone key pad.  
*What do the corner digits add up to?*

*What do the numbers on the middle line add up to?*  
Younger children could practise typing in imaginary phone numbers.

How many 2D shapes can you see whilst on your travels? *Can you describe their properties?*

How many 3D shapes can you see whilst on your travels? *Can you describe their properties?*

Ask your child to cut things (such as cake) into equal sections and use the correct terms. *Cut it in half. Cut it into quarters.*

Look together at a phone number. *What's the largest digit? Smallest? What's the total of the digits? Can you write the digits in order?*

Older children, can you spot any percentage signs when out and about? *Why are they used?*

Set your child a money problem.  
*Can you make 10p using exactly 3 coins? What is the largest amount of money I could make with 6 coins? What is the minimum amount of coins that I would need to make 19p?*

Use Google to find an interesting maths problem. Solve it and then bring it in to share in September.





# Online Fun!

## Maths Activities websites

<http://www.maths-games.org/counting-games.html>

<http://www.ictgames.com/payForIt/index.html>

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

<http://www.mathplayground.com/games.html>

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

<http://www.topmarks.co.uk/>

<http://www.kenttrustweb.org.uk/kentict/content/games/> (*particularly good for KS1 and reception*)

<http://www.primarygames.co.uk/>

<http://www.bbc.co.uk/bitesize/ks1/maths/>

<http://www.bbc.co.uk/bitesize/ks2/maths/>

<http://www.primaryinteractive.co.uk/maths.htm>

<http://www.oxfordowl.co.uk/maths/treasure/games/>

<http://www.kmprimary.leics.sch.uk/MainFolder/Images/MathsInfo/Maths%20vocabulary%20book.pdf>  
(This booklet shows the vocabulary that children will learn in each year group.)



# Online Fun!

I have added some activities to the website under each class section. Feel free to print them. Most of them only require dice to play. I have put a suggested age range on each game but below, I have suggested how you could make each game easier or trickier.

Game	Make it easier by...	Make it harder by...
<p><b><u>Wipeout:</u></b> This game is great for speeding up addition skills, practicing adding when crossing over tens boundaries and allowing children to choose the most efficient strategy.</p>	<p>Lower the winning total. Pair up younger children with an older sibling or an adult. Encourage jottings to aid mental calculations.</p>	<p>Make the total a lower number but then make the dice rolls decimals. E. G The winning total could be 5. If I throw a 3, it becomes 0.3 etc... Add the decimals to eventually get to 5.</p> <p>Make the total larger but make the dice rolls multiples of 10. E. G. the winning total could be 500. If I roll a 6, it could be worth 60.</p>
<p><b><u>Count on:</u></b> This game helps children to learn their addition pairs to 10 and to calculate the difference between two numbers.</p>	<p>You could lower the winning total.</p>	<p>You could raise the winning total.</p>
<p><b><u>The hundred square:</u></b> Lots of ideas to help your child with calculation.</p>	<p>Ideas are on the sheet.</p>	



# Digit dilemmas!

I have added some digit cards to the website for you to print off. Below are some activities that you could try with the digit cards.

Lay the digit cards face down. Whoever chooses the highest number wins. You could each choose two digits and see who could make the highest number. Older children could see who could make the highest decimal number?

Print off several copies and place them face down. Play a pairs game and look for bonds to 10.

For younger children, make a sequence of numbers but miss one out. *Which is missing? How do you know?*

*E.G 1, 2, 3, 4 \_\_ 6, 7  
23, 24, 25 \_\_ 27, 28*

Choose two or three cards. *How many different numbers could you make using just those digits?* Predict how many before you try.

Choose two or three cards and find their product. (Multiply them together). *Can you find two other numbers that you could multiply together and get the same answer? Why? Why not?*

Say a number to your child and ask them to make the number with the cards as quickly as you can. You could make the number as high or as low as you want or extend to decimal numbers.

Choose two or three cards. Give your child clues about the number you have made.

*My number is prime*

*My number is larger than 30 etc*

Make it as easy or as hard as you want.

Choose two cards (or two pairs of two cards) and work out the difference between the numbers. (Subtract the smaller from the larger)

Use some of the digits to make the start of a sequence. E. G 2, 4...

*What might come next? Why 6?*

*Why 8? Are there any other*

*Possibilities? Can you explain the rule?*



Next year I will be learning to...

1. ...write down how I solved a problem, showing every step
2. ...find missing numbers in a sequence that includes negative numbers
3. ...say what any digit represents in a number with up to seven digits
4. ...work out sums and differences of decimals with two digits
5. ...explain each step when I write addition and subtraction calculations in columns
6. ... memorise my tables to  $10 \times 10$ . I will use them to work out division facts and to multiply multiples of 10 and 100
7. ...find a pair of factors for a two-digit number
8. ...multiply or divide a whole number by 10, 100 or 1000
9. ...work out some calculations in my head or with jottings. I can explain how I found the answer
10. ... estimate and check the result of a calculation
11. ...describe each stage of my calculation method (e.g. for  $18 \times 25$ ). I can explain why it is a good method for this calculation