

St Michael's CE
Primary School
Maths Is Fun!
Activity Pack
Year 6

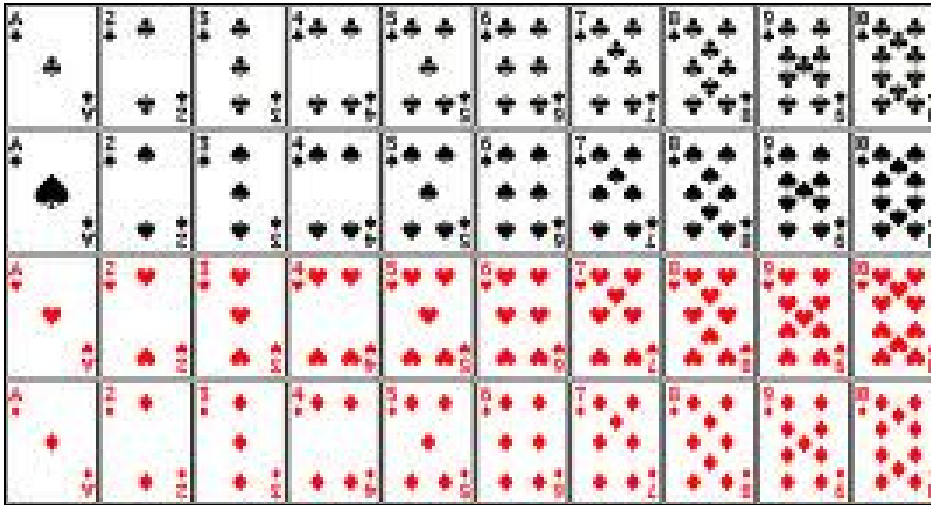
Please **enjoy** these games with your child on a regular basis. Talk with them about what you have both learnt, or about strategies that you notice them using.

Please initial and date each time you play. After you have played any of the games on 5 different days, show the book to the class teacher and your child will receive a small prize. Do the same after playing it 10 times.

Every correctly completed booklet sent in before the end of year 6 will receive a grand prize. This means that completing all ten games in the booklet will win your child a total of 21 prizes!

Please remember that the prizes are not the main thing (*though don't discourage your child from working towards them!*). The **real** prize for your child will be spending time with you doing something worthwhile and enjoyable, and of course your child (and maybe you!) will make invaluable progress in their mathematics.

1. Times Tables Cards



Shuffle a 1-10 deck (i.e. with all the picture cards removed). Take 20 cards each. Both turn a card face up at the same time and try to call out the product. For example, if you turn over the 6 of spades and your child turns over the 3 of clubs you must call out “eighteen”. The first person to get the answer scores a point. Play until one person gets to 20 points or until one player runs out of cards.

Play this game on 10 different days!

2. Fifteen

This game uses a single set of 1 - 9 cards. Lay them face up on the table in a row. Take it in turns to take a card from the centre. The object of the game is to take cards that add up to exactly 15 (aces count as 1), using exactly 3 cards.

For example, perhaps you started by taking the 8, then your opponent took the 3, then you took the 5, then your opponent realised you had 13 so took the 2. A great move would be to pick up the 6. Why? You now have an 8, a 6 and a 5. If your opponent tries to stop you getting $8 + 6 + 1$ you could pick up the 4, as $4 + 5 + 6$ is 15.

As you can see, this game can always be heavily weighted in favour of the person who goes first. They cannot guarantee to win but they can guarantee never to lose if they play correctly! Does that sound familiar? If you are reminded of noughts and crosses you would not be far off!

3. TV Countdown!

Have a set of blank cards or slips of paper (set one) consisting of three 1's, three 2's, three 3's, and so on up to three 9's. Have a second set with two 25's, two 50's, two 75's and two 100's.

Mix the cards up and ask your child to select, unseen, any 6 small numbers (from set one) and any one large number (from set 2).

Now roll a dice 3 times to generate a 3-digit number.

They have to combine their cards using addition, subtraction, multiplication and division to get as close as possible to the 3-digit number. Each card may be used only once. There is no need to impose a 30-second time limit, and they should get praise and credit for getting close, even if they cannot get there exactly.

4. Number Plates



The idea is to spot old-style number plates such as the one above, and find as many products as possible but still keep the digits in order while multiplying. So, in the above example, they could say any of the following:

- $1 \times 83 = 83$
- $1 \times 8 \times 3 = 24$
- $18 \times 3 = 54$.

This is quite tricky when travelling so they could use pencil and paper. Far better, however, is to ask them to do it mentally, and verbalise their thought processes along the lines of:

“Well, 18 is 10 and 8. 10 times 3 is 30, 8 times 3 is 24, so 30 and 24 make 54.” (Finally, as there are fewer numbers these days, you can allow that B can be 8, I can be 1, etc.)

5. Six of the Best!

One step up from 'Gimme 5' (Year 5), this is a great game for reinforcing the bonds between multiplication, division and fractions. Choose any set of 3 numbers from the list below:

2,7,14

4,6,24

12,4,48

3,6,18

3,8,24

12,4,3

3,5,15

2,20,40

4,20,80

4,5,20

2,20,10

15,60,4

6,7,42

3,9,27

9,72,8

3,12,36

50,10,5

63,7,9

2,5,10

7,5,35

13,52,4

3,20,60

40,8,5

10,100,1000

Once you have exhausted this list, make up some trios of your own.

Your child must give you the six number facts relating the three numbers together. For example, if you chose the first set, the six facts are:

“Two times seven is fourteen.”

“Seven times two is fourteen.”

“One half of fourteen is seven.”

“One seventh of fourteen is two.”

“Fourteen divided by two is seven.”

“Fourteen divided by seven is two.”

6. Cookbook

Be brave here! Give your child a recipe book with a recipe that says something like 'feeds four'. Ask them to work out the precise quantities of ingredients for 2, 3, or 6 people. (If they are very good, try 5 people).



But don't stop there – they have to make the meal by following the recipe! And take a photograph to show the teacher (who may of course also appreciate sampling the evidence and award a bonus point!)

7. Count On

Even in the giddy heights of year 6, children still need regular counting practice, but of course by now we can make it a little more challenging!

Choose a starting number (perhaps 0, 100, 31, -7, or even 0.5) and a step size. If you like, you can make this more random by writing the starting numbers and step sizes on cards and then turning over one of each. In Year 6, children should be able to count in steps which are 2-digit numbers, or fractions, so why not have step cards with things like 13, 99 (easier than it looks!), or 3.5?

Have fun – and remember if it's too hard, try something simpler.

8. Count Back

If you have followed this course of booklets all the way through, this will come as no surprise to you at all. You guessed it – counting backwards but using the tricky starting points and steps from ‘Count On’.

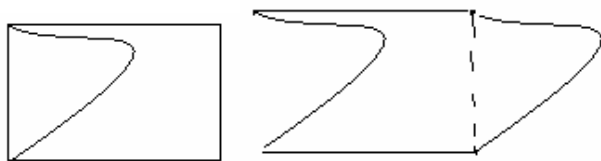
Can you see what the steps are in this example: 6, 2.5, -1, ?

How about this one? 22, 121, 220, ?

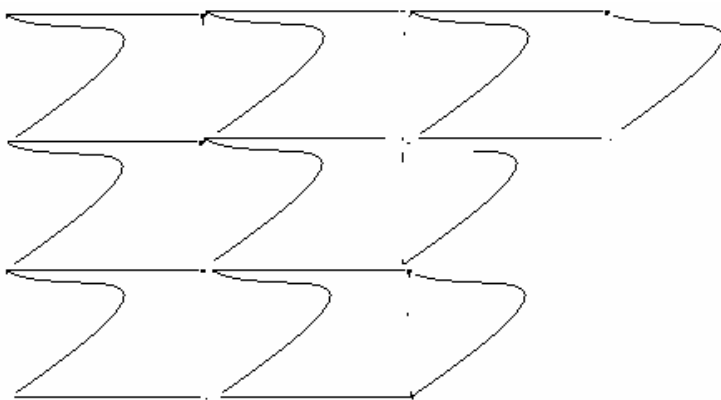


9. Tessellation Station

You need a piece of A7, scissors and tape and a larger sheet of paper for this activity. To make A7, cut an A4 sheet in half, then in half the other way and then the original way again. Cut a piece off the left hand end and stick it to the right as shown:



Now, repeatedly draw round this new shape on the larger piece of paper and you should find that it tiles with no gaps between the tiles. This is called 'tessellation'.



Finally, add a splash of colour and display. And they

told you maths wasn't beautiful! (*Advanced version; you can also cut a piece from the top and put it on the bottom!*)

10. Decimal Yoikes

Yoikes appears in both Years 4 and 5, but here is a brief recap. You call out ten numbers, one at a time, and your child must write each one down on one of 10 dashes they have drawn in a line. Numbers must always be sequential, so you cannot write '7' to the right of, say, '12', as it is smaller. The aim of the game is to place all ten numbers on the line without getting stuck. If your child cannot place a number without breaking the rule they must call "YOIKES" and place the called number in the specially drawn bin (just draw an open-topped square!).

Decimal Yoikes works the same way but using numbers between zero and 1.

So, if you decided to play the decimal version, you could call out 0.1, 0.2, 0.45, 0.71, 0.23, 0.17 etc.

Watch out, as many children think that 0.17 is larger than 0.2 (*it isn't, because 0.2 can be thought of as 0.20*) so they may need some help with this at first.

If you and your child are feeling confident, why not try fraction Yoikes? Or percentage Yoikes? Or combine all 3 together!