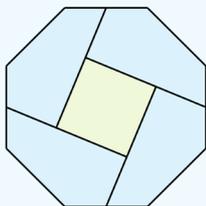


# Spring 2020

## Deputy First Minister's Maths Challenge



The Scottish  
Mathematical  
Council



Scottish Government  
Riaghaltas na h-Alba  
gov.scot

# Welcome to the Spring Maths Challenge

It was a chilly Monday in March when the children made their way to class but there were signs of Spring as the days were getting a bit brighter and longer.



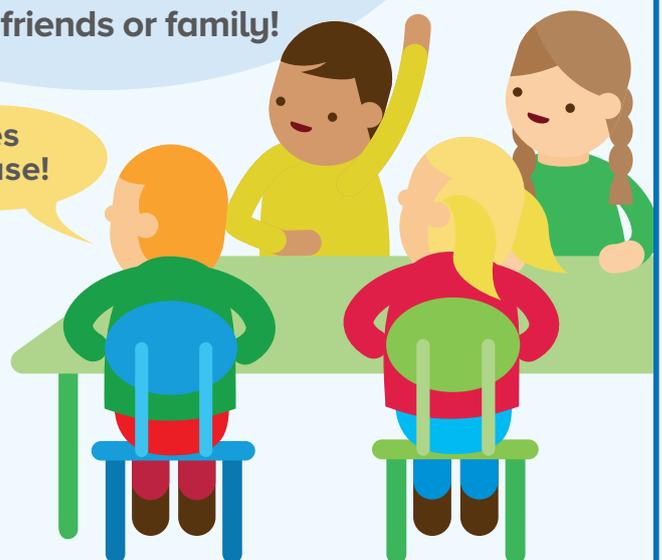
In the classroom, the teacher asked the children to describe what they liked best about Spring.



These are all excellent things about Spring. Let's think about fun ways that we can make games and puzzles based on Spring and maths and challenges – and maybe a trick for the Easter Holidays to impress your friends or family!



Yes please!



The children then worked together and created some activities to share with their class... and with you. They would really like it if you would give them a try. If you would like... why not try to come up with a game or activity of your own?

# Puzzle 1 – Mathematical Mind Reader

Hello!

I am Numerico the mathematical mind reader! Check this out – think of a number between 1 and 20, write it on a piece of paper and fold it up – don't tell anyone what it is.



Now do this (and remember to keep it a secret!)

Add 1 to your number.

Double that number.

Add 4 to your new number.

Now halve your new number.

I am Numerico the mathematical mind reader and I tell you to look at your bit of paper and take away the number you first thought of from your new number.

Write down your final answer.

Your answer is 3!

Try it again with different starting numbers between 1 and 20. Is the answer always 3?

Amaze your friends and family by reading their mind and telling them you can make the final number a 3!

# Puzzle 2 – Sum Flowers

Hello, I'm Suzie. 2 of my favourite things are sunflowers and adding.

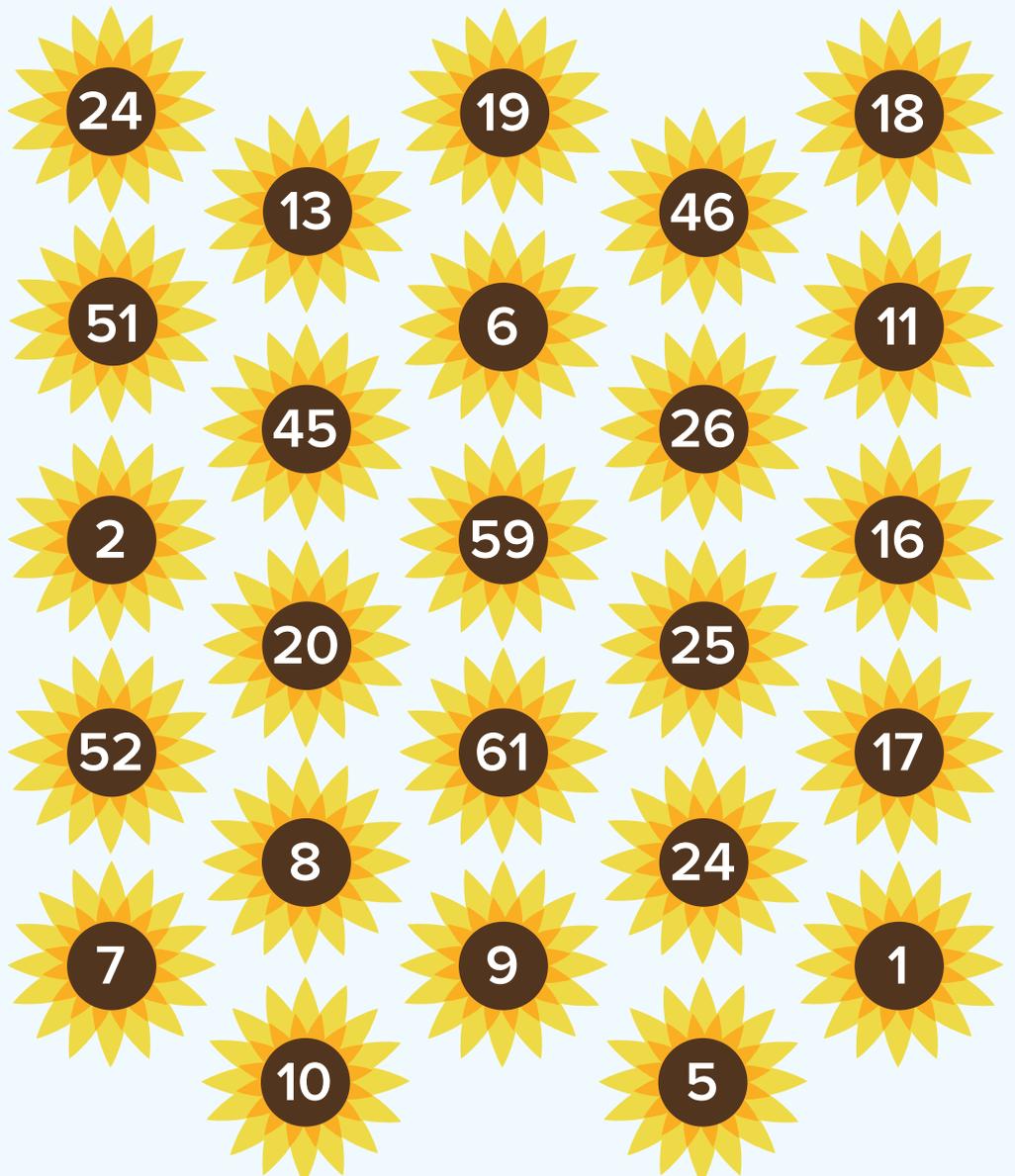
I have picked the number 70 because there are over 70 different kinds of sunflower and have made up a game. Please give it a try, either by yourself or with other people!

## How to play:

Each sunflower below has a number. You have 3 minutes. How many sets of sunflower numbers can you find that total 70? Each sunflower number can only be used once in each sum.

For example, if you add sunflowers 24, 26 and 20 you get 70.

The more you play the game, the quicker you will get.



# Puzzle 3 – Chick or Egg-sit

**A game for 2 players:**

**You will need: 3 cups, a toy chick, an egg, a bit of paper and a pen to keep a note of the scores.**

The game is played by putting the chick in one cup and the egg in another. You can play along using the cut out chick and egg or two different coloured balls instead.

Player 1 moves the cups around for a count of 15 seconds.

Player 2 then guesses the cup with the chick.

If they get it right they get 1 point.

If they get an empty cup 0 points.

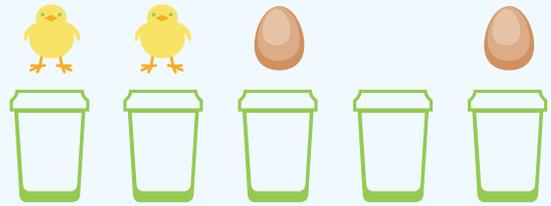
If they get the egg—they are out and exit (egg-sit!).

Player 1 and 2 only swap when the egg has been picked.

Once each player has had to 'egg-sit' 3 times, total the scores to see who has won.

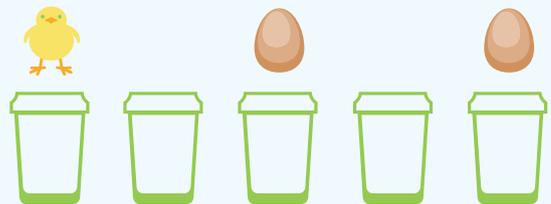


**Too easy? Then try this:**



Is it easier or harder to pick a chick rather than an egg in this version?

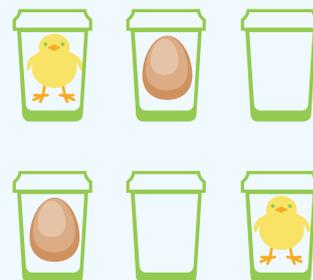
**If you are the champion... Try this:**



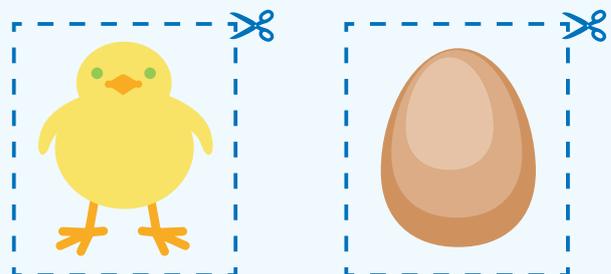
Is it easier or harder to pick a chick rather than an egg in this version?

**List or draw as many different ways as possible that the cups could be arranged.**

Here are 2:



How many are there altogether?



# Puzzle 4 – Allotment Vegetable Grab



Ellie and Charlie are keen gardeners and like growing vegetables and flowers. Each of them has an allotment which they have set out in a grid of squares for this puzzle.

Ellie and Charlie enjoy puzzles and challenges and have created a game for you based on the vegetables on their allotment. Two players hide four carrots on their grids without showing each other. They take it in turns to guess a square where there might be a carrot growing. If they are wrong—the other player says 'you missed'. If they guess right—the other player says 'that's a hit' and places an 'x' on top of the square.

I guess C2.



That's a hit! I guess A6.



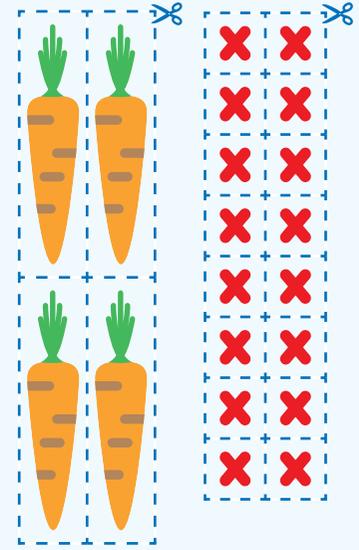
1									
2			X						
3									
4									
5									
6									
7									
8									
	A	B	C	D	E	F	G	H	

Because Charlie guessed correctly with C2 Ellie has to place an X on that square.

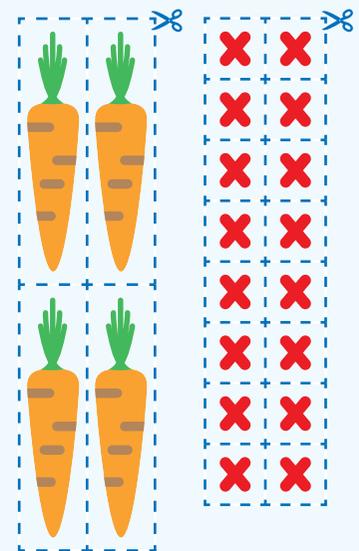
The winner is the first person to find all of the other person's carrots.

Time for you to play!

1									
2									
3									
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8									
	A	B	C	D	E	F	G	H	



1									
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	A	B	C	D	E	F	G	H	



Created by the **The Scottish Mathematical Council** for the **Scottish Government**.

Solutions and workings will be available at [blogs.gov.scot/making-maths-count](https://blogs.gov.scot/making-maths-count) from 10 April 2020.

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## Parents and carers

Please check out Parentzone Scotland [www.education.gov.scot/parentzone](http://www.education.gov.scot/parentzone) and Parent Club [www.parentclub.scot](http://www.parentclub.scot) for more ways to enjoy numeracy and maths.

## What you can do as a parent or carer

- Play board games! Games can involve a lot of maths: this could be counting squares, looking for sequences, moving in different directions, exploring probability by rolling dice or being dealt a card, and following logic and rules.
- Play puzzles and puzzle-like games. Examples include Noughts and Crosses, Guess Who?, Sudoku, Dominoes, Battleships and Draughts. These involve strategic thinking, problem solving, and planning, as well as lots of the skills mentioned above.
- Include children in activities that use maths. For instance cooking often asks for lots of quantities and measuring as well as shapes, times and temperatures. Shopping involves prices, counting money and checking dates (the expiry date).
- Estimate all sorts of things together: “I wonder how many steps there are here?”
- Plan journeys together, look at maps, timetables, and talk about distances.
- Talk about maths in a positive way – that way your child will too!