

### Pentagrams

Join each vertex of this pentagon to the two vertices opposite.

How many triangles can you see?

### Tessellation

Cut out the regular pentagons from the resource sheet.

Do they tessellate?

If they don't, what other shapes will you need?

### Ice cream maths challenge!

The ice cream stall sells chocolate, peach, mint, lemon, strawberry and vanilla flavour.

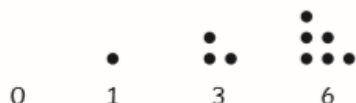
What combinations can be created for a double cone?

Be sure to work systematically and record your solutions in an order.

How will you know once you have found all the possibilities?



Here is a pattern of dots as triangles.



*Note: the first triangle has no dots.*

Write the number of dots and find the difference between each number. Continue the pattern for the next 4 triangles.

0	1	3	6				
difference:							

What do you notice about the difference in the number of dots in each triangle?

Can you explain why?



### Challenge linked to Home Learning **Birthday Maths Challenge**



- Write your birthday in digits, using the format dd/mm/yyyy.
- Write your birthday in words only.
- What is the total of all the digits in your birthday? Use your answer from question 1 to help.
- What is the difference in number between the month and day of your birthday?
- Are there any symmetrical numbers in your birthday? How many? Write them and draw in their lines of symmetry.
- Write your birthday in digits, backwards.
- What is the product of the date and year in your birthday?

Using only scissors and a scrap sheet of A4 paper, what is the longest piece of paper you can make? Make an estimate and test out different ways you can cut the paper to make it longer.



If you roll a dice 100 times, which number would you roll the most? Give a reason for your answer and then try it out. Record your results using a tally and then graph using a choice of your own.



### Websites/Games/Useful Links

<https://nrich.maths.org/8077>

For lots more investigations see the **Maths Investigations Pack** in the resources section.

