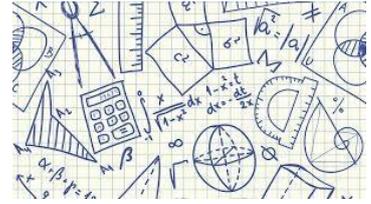


## Year 6 Transition pack

### Subject: Mathematics



Mathematics is a subject that influences our lives directly and indirectly. Mathematics is a subject that deals with quantity (numbers), structure (Algebra), space (Geometry) and change (Analysis). Most problems in the workplace are solved using mathematics and that is why there is an expectation for one to possess at least the basics of mathematical knowledge.

At Hanson school you will learn mathematics that is structured in a way that it will find interesting, fun, and engaging. Interesting in the sense that you will learn new ideas that you have never seen before about mathematics. Fun in the sense that it will involve challenging activities that will allow you to collaborate with others or compete against others and engaging in the sense that you will be made to realise its application to real life.

Learning mathematics is a process that requires; willingness to learn new things, willingness to persevere during problem solving, the desire to set yourself aspirational goals, the capacity to self-reflect, and the desire to change.

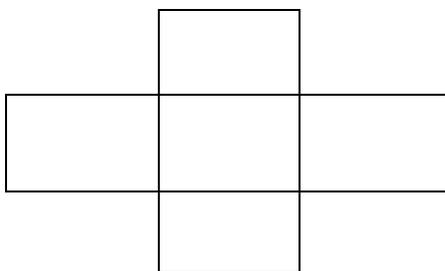
When times are hard just remember that; "the ability to learn is not fixed, it can be changed by change in attitude"

### **Transition activities**

Below are some simple but interesting activities that will help you kickstart your learning of secondary school mathematics.

#### **1. Cross totals**

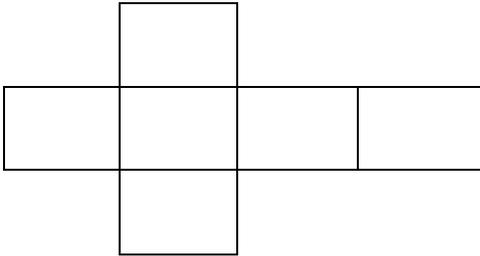
Write down numbers 1, 2, 3, 4, 5 in a piece of paper, cut the numbers out so you have individual numbers. Arrange the numbers in the template provided below such that the sum of the horizontal is the same as that of the vertical.



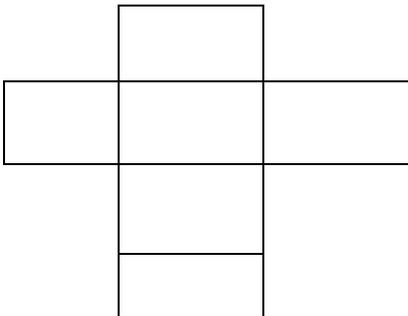
Five numbers: 1,2,3,4,5

- a) Is there more than one answer and if so, can you find all the answers and write them down?
- b) Look at all your answers, can you spot any patterns developing?
- c) Increase to 6 numbers, then 7 numbers, then 8 numbers and then 9 numbers?
- d) Is there a quicker way of getting all the answers? If there is, please write down instructions to teach someone how to get the answers quicker

Six numbers: 1, 2, 3, 4, 5, 6



Seven Numbers: 1, 2, 3, 4, 5, 6, 7



### Collecting and organising data

2. Here is a small activity that you could do at home. Take a piece of paper and pencil. Go and stand at the front of your house (where its safe) and make a record of cars driving past your house, you could make record by colour or by make of the car.
  - a) Use tally marks to keep your record, you need at least 30 cars in total.
  - b) Once you have finished you need to organise the data in a frequency table (use internet if you do not know what a frequency table is).
  - c) Write down why it is important to use a frequency table to organise data.
  - d) Data can be displayed in many other different ways, choose one to display your data.
  - e) What are the advantages of displaying data in the way that you have chosen to in part 2d.
  - f) Can you think of who would use this kind of information and why?
  - g) Write down the meanings of these words; frequency, mode, mean, average and range

### Extension

Using the information about cars from the above activity, create a bar chart and a pie chart using excel.

Write down (in your own words) clear instructions to teach someone else how to create the charts in excel

3. Use the links below to access printable interesting activities
  - a) [Code breaker](#)
  - b) [Patterns and sequences board](#) and [Patterns and sequences questions](#)

### Reading lists

Great maths ideas with a good laugh

Murderous Maths by Kjartan Ponskitt

1. Savage Shapes
2. Codes: How to make them and break them
3. The Phantom X
4. More murderous maths

### Useful websites

Below we provide some of the websites that you can explore to bring yourself up to speed with secondary school mathematics, you can learn and play games at the same time

#### [Aplusmath](#)

Interactive math resources for teachers, parents, and students featuring free math worksheets, math games, math flashcards, and more.

#### [MathTV](#)

We offer a wide range of math topics ranging from Basic Math to Calculus!

#### [Math's Fun](#)

This philosophy behind this website is to make math learning fun and enjoyable. It features a myriad of lessons and activities provided by teachers and math community from all around the world.

### **Films/documentaries/videos to watch**

#### [Just for a laugh but still very important](#)

Make sure you pay attention when watching this video clip and see if you can explain it differently  
Films based on Mathematics. You can watch any of these films for inspiration

1. A Young Brilliant Mind.
2. A Beautiful Mind.
3. Good Will Hunting.
4. The Man Who Knew Infinity.
5. The Imitation Game.
6. Stand and Deliver.
7. Pi.
8. Moneyball.
9. Fermat's Room.

### **Career links with this subject**

#### **These are some of the jobs linked with Mathematics**

Teacher, Accountant , Actuary, Air-traffic Controller, Astronomer, Bank Manager, Biomedical Lab Assistant, Building Technician, Carpenter / Joiner, Craft Engineer, Economist, Engineer, Finance Clerk, Financial Adviser, Market Researcher, Mechanical Fitter, Organisational Psychologist , Primary School Teacher, Retail Assistant, Self-Employed, Stock-taker / Warehouse Assistant, Surveyor ...