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# CORE MATHS



## Transition Work

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### What is Core Maths?

Core Maths is about using the maths skills you've learnt at GCSE and applying them to real-world situations. Core Maths is particularly useful in supporting subjects such as **Business**, **Psychology** and **Sociology** and would also complement **IT** along with enhancing your skills in other subjects and general life!

At St Bernard's Core Maths is a 1 year course which means you will be able to complete the course and take the examination by the end of Year 12. Although Core Maths must be chosen as a 4<sup>th</sup> subject, students who have studied this course at St Bernard's have found the workload very manageable alongside their other subjects. It also gives you extra UCAS points when applying for university!

### Preparing for Year 12

In order to prepare for the type of work involved in the Level 3 Core Mathematics course we have put together the following activities. Some of these are online but we've also put in some activities that get you away from the computer!

### Online work

#### Finance

1. Watch this video: <https://www.youtube.com/watch?v=THmi31F5-zM>
2. Work through this online activity (choose continue without signing in and just enter your name) <https://student.desmos.com/activitybuilder/student-greeting/6050c80339592e2defe94af4>

#### Estimation

1. Watch this video: <https://www.youtube.com/watch?v=EjXO8FFapZk>

2. Work through this online activity (choose continue without signing in and just enter your name) <https://student.desmos.com/activitybuilder/student-greeting/6050c73634d6bd2df0bef372>

## Other work

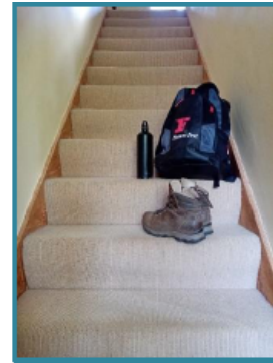
### Task 1 – Bake a cake

1. **Bake a cake.** What maths is involved in this activity?
2. **Write a 1-page plan,** including detailed calculations, on how much money you could fundraise from making and selling this cake. You'll need to consider:
  - Cost of ingredients per cake;
  - How many cakes you can make, so how many slices you sell;
  - How much money you make, so how much profit;
  - Is this a good profit percentage so worth doing?
  - Consider time, set-up, energy and other costs.

Chosen cake:	
Ingredients:	Approximate cost of each ingredient:
How many does this recipe serve?	
How much does the cake cost per serving?	
How many can you make?	
What will you charge?	
Other costs involved (time, set-up, energy etc.)	
Estimated profit	
Is it worth it?	

**Task 2 – Climb Ben Nevis**

1. **Walk up and down your stairs (or a staircase at school). What height do you climb? How long does it take you?**
2. **Research how high the largest mountain in the UK, Ben Nevis, is.**
3. **Calculate how long it would take you to complete the challenge of climbing the height of Ben Nevis at home.**
4. **Produce a double page magazine article on the 'Ben Nevis' home challenge, this could be as part of a daily fitness plan over a period of time, or a one-off charity event.**



Height of chosen staircase	
Number of times climbed	
Overall height climbed	
Time taken	
Height of Ben Nevis	
Time it would take to climb Ben Nevis	
Any other factors I have not taken into account that might affect the time it takes	

**Task 3 – Plan a Party**

You are planning your 18<sup>th</sup> birthday party. Work out a budget for the party. You'll need to think about:

- Number of guests
- Cost of a venue
- Cost of invitations
- Cost of hiring a DJ or band
- Cost of food and drink

Number of guests	
Venue (check capacity to make sure there's enough room for all your guests)	
Cost of venue	
Cost of invitations	
Cost of DJ/band	
Food I'd like:	Cost of food:
Drinks:	Cost of drinks:
Other costs	
Total	
How will you pay for this party?	

**Task 4 – New Car**

A rich uncle is going to give you a second-hand car for your 17<sup>th</sup> birthday. Estimate the running costs for a year. Use online research to find the costs of road tax and car insurance. Can you afford to run a car? Would it be cheaper to use public transport?

Make and model of imaginary car	
Car tax (per month)	
Insurance (per month)	
Expected petrol consumption (per month)	
Expected cost of petrol (per month)	
Overall monthly cost	
What other costs might you need to consider when owning a car?	
Estimated monthly cost of public transport	
What's the better option?	