St Ninian's Mathematics Department Newsletter

Welcome

Welcome folks! We have now come into the middle of May and our maths exams have come and gone. A big well done to all students across Nat 5, Higher and Advanced higher who have worked hard this last year. We hope you get the grade you want come August!

This month is very interesting if you are a bit of a sci fi and mathematics geek (like myself).

On 04/05/2017 we celebrated 'Star Wars day' which of course stemmed from the date "May the fourth" i.e "May the fourth be with you"

This has then become a bit of 2 day celebration given that the next day (05/05) is suitably titled "The revenge of the fifth"

So with that in mind, this month's issue will feature all things Star Wars, and also a quick look at our IDL rapid response lesson.

Hope you enjoy!

The Death Star

The Death Star, known officially as the DS-1 Orbital Battle Station, was a moon-sized, deep-spacemobile battle station constructed by the Galactic Empire. Designed to fire a super laser powered by Kyber crystals and capable of destroying a single planet (Alderaan)

It was the pet project of the Emperor, Darth Vader, and its eventual commander Tarkin Doctrine.

But how much would it actually cost to run and make the death star?? Let's have a look at the facts.
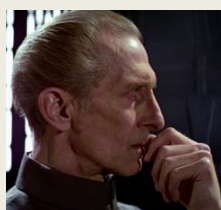
Staffing

The death star needs over a million people to operate given its sheer size (160km diameter) .

Given that there are 1,161,293 people on the books for Lord Vader, and assuming for handiness that they receive the average living salary of £27,600 per annum (as of 2015), we can then deduce that the cost of workers alone would be £320,516,868.

Machinery

Now, not only are there loads of people on board (who also want paid). There is also a lot of machinery. At any one time the death star can hold:
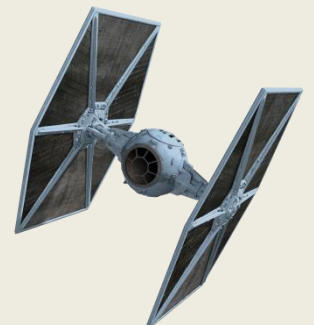
Assault shuttles: 3,600

Star Fighters: 7,200

AT-AT: 1,400

AT-ST: 1,400

Drop ships: 1,860

Strike cruisers: 4

According to Wookipedia, a star fighter comes in at around 60,000 credits. And according to 'GeekxGirls', ten intergalactic credits come in at £6.41. So if we then use this as an average (again for simplicity) we can assume that all machinery

will come in at a whopping £594745440.

Construction+ Production

This is the final detail we will go into for now.
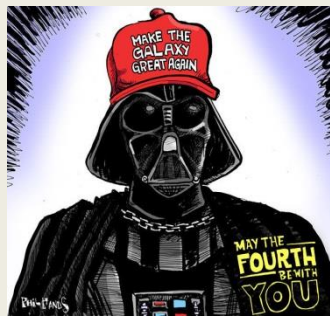
But based on [Twizzle](), the estimated cost of steel/aluminium required to build such a machine would cost around £658,170,000,000,000,000

And based on today's findings for sending an object into space (£16000 per kg) the total amount to send the death star into space would be £1, 668, 6000,000,000,000,000.

So therefore, neglecting annual costs to run on a daily basis and not considering how much it would cost to fire a single laser to destroy a planet. The death star would cost approximately £173,441,700,000,000,000,000+.

(£173 Quintillion pounds)…. Oh, and it would take 833,000 years to build…..

Resources available

A long, long time ago, in a place not too far away…. Knightswood, to be exact, I had a low ability S1 class that could simply not understand co-ordinates. I came up with Star wars battleships with a link between star wars and family guy to try and engage the pupils.

Just like the game battleships, pupil's worked in pairs and tried to win by calling out the co-ordinates facing them. It worked great and the pupil's loved the idea!

If you want to try it for yourself have a look online!

Star Wars Battleships

Have a look at these other cool star wars resources suitable for all abilities!

Death Star Standard Form

Star Wars Integers (Money)

Rapid Response

This week the whole school will be involved in an interdisciplinary lesson for all S1 students across 6 subjects. Students will participate in tailored lesson plans for Maths, Science, French, Techie, Art and modern studies all this week, with an overall aim of coming up with a plan to bring much needed support to a disaster hit area in Haiti.

The pupils are excited and relishing the challenge of a school wide project and will finish off their lessons with an activity day involving their lessons this Friday 12th May.

For maths we will be focusing on co-ordinates, fractions, percentages and money problems. Many thanks to teachers in maths and across the department for their help in organising this event.
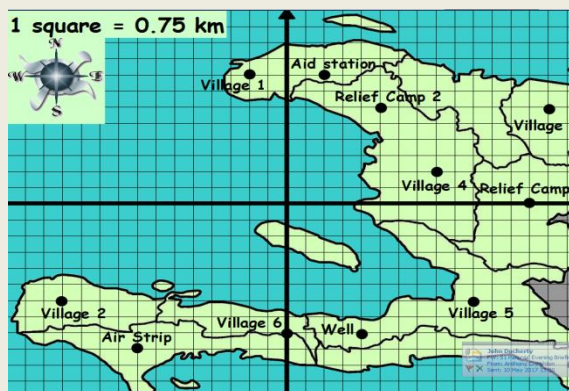
Puzzle of the Month

This month's puzzle comes from the Uk maths challenge which our S1 and S2 pupils completed this week. Any entries can be given to your teacher, have a go and if you have any interesting ideas worthy of next month's newsletter then contact Mr Cooke.

The shape shown is made up of three rectangles, each measuring 3cm by 1cm.
What is the perimeter of the shape?