STEM 2016 Celebrates the **Rio Olympics**

Tuesday, 12th July 2016

Wednesday, 13th July 2016

Thursday, 14th July 2016

Information for Parents and Carers

@dwsstem

What is STEM?

STEM is an acronym for science, technology, engineering and mathematics.

"STEM subjects are integral to the UK's success: the UK is the world's sixth largest manufacturer, engineering turnover is around £800 billion per year, and whilst the UK makes up only 1% of the world's population, we produce 10% of the world's top scientific research. Despite this, it is remarkable to note that even though STEM graduates have the potential to earn amongst the highest salaries of all new recruits, employers are finding it difficult to recruit STEM skilled staff. Alongside our need for a skilled STEM workforce, it is crucial that all young people, regardless of their future career pathway, have the STEM knowledge and skills they need to be an informed citizen in an increasingly scientific and technological society." [Adapted from http://www.nationalstemcentre.org.uk/]

The Government and leading educational institutions have long identified STEM education as a major priority at secondary school level. At a national level, the Government and leading economic institutions continue a drive to encourage young people to consider further education and study in the STEM subjected. At Darrick Wood School, STEM education exists to encourage pupils to consider their future education and career options.

How will STEM work on 12th, 13th and 14th July 2016?

Monday, 11th July will be a normal school day that pupils are expected to attend. However, departments have planned together to organise a curriculum of various learning activities that focus on STEM and related skills that will start on Tuesday morning. Pupils are expected to arrive in full school uniform by 8:35am. Year 7, Year 8 and Year 9 will work in a variety of different scenarios, towards learning objectives, whilst considering STEM-based topics and enhancing their skills. Each learning opportunity will have specific learning objectives, whilst sessions will also enable pupils to enhance the following skills:

- Organisation
- Leadership
- Communication
- Initiative
- Resilience

The activities planned are also designed to embody the Darrick Wood Vision for Learning. The Vision for Learning consists of five aspects:

- Challenge
- Engagement
- Relationships
- Progress
- Ownership

Pupils will have the opportunity to keep a track of their learning throughout the organised STEM activities, through the use of a STEM Passport that all will be issued with on 11th July. It is pupil's individual responsibility to keep this Passport up to date, and staff will expect pupils to use the Passport appropriately. Pupils will also be invited to feed back on their experience of the STEM activities from each day, and will be expected to complete a survey on SharePoint. The majority of activities throughout the three days will take place in Houses and, as a result, staff will score each House in relation to their ability to show the key skills outlined above. A daily update on the 'Top Three Houses' for each year group will be

published on the Darrick Wood School Latest News Blog. Classcharts points will also be issued throughout the week as normal.

Can I follow STEM this year?

Yes! Darrick Wood School STEM is live on Twitter. Please feel free to follow us on @DWSSTEM.

Other Departments will have their own Twitter feed, although these will be re-tweeted by Darrick Wood School STEM – so please follow this account for the most up to date news from STEM.

There are two further exciting opportunities to see the work produced during STEM week:

1. A daily Darrick Wood School STEM Newspaper will be published by the English Department and a team of pupils.
2. A Darrick Wood School STEM Documentary will be produced by the Media Department and a team of pupils.

The July Darrick Wood School Newsletter will also have an extended feature on STEM.

What types of activities are taking place?

Departments have worked together to produce a wide and varied selection of learning activities. Some of the activities that pupils will take part in include:

Department Team	Description of activity
Chemistry and MFL – Team Citius	Citius (faster). Sailing is an Olympic sport and pupils will design and build a model sailing boat that is the fastest over a track of water. Pupils will research, plan and construct of sailing boat from the materials provided. The boat will be sailed along a track of water approximately 5m long. The fastest time wins! Key skills of focus: Teamwork, planning, design, creativity and construction skills.
Physics and MFL – Team Altius	Altius (higher) – Rocket Challenge. Pupils will be challenged to design and build a rocket to hit a specific target. Pupils will have the opportunity to alter their design following an initial test flight. Key skills of focus: Team work, problem solving, applying knowledge of aerodynamics to build a successful design, perseverance.
Biology and MFL – Team Fortius	Fortius (stronger) - The Rio Bridge Builders. Pupils will be working in teams of three to design and build a bridge from everyday materials. Their bridge must span a distance of 30cm and they will compete to see which bridge can support the most weight. Key skills of focus: Team work, problem solving, design skills, applying knowledge of structural engineering to build a bridge. Pupils will be

	encouraged to be inquisitive, reflective practitioners and take calculated risks in order to achieve the best outcomes.
DT and IT	Rio Design – A Vision for 2016. The Rio Olympics have been designed to enable the future development of Brazil and Rio de Janeiro for its local people. A big part of this is the desire for mobile design, which will make several of the Olympic buildings future-proof. Pupils will produce four designs for portable furniture that can be used in the Rio Olympics. Pupils will then evaluate their designs and, from this, will choose one design and create a model using soft materials. Key skills of focus: Planning, design and creation, whilst demonstrating both initiative and resilience (through the critical reflection of their designs).
English	An Olympics of Appeal – Rio 2016. Pupils will be encouraged to critically reflect upon the intended design of the Olympic venues and, with this in mind, design contemporary travel posters and adverts for Brazil and the Olympic Venues. Pupils will have to carefully consider all the main 'selling points', both for Rio 2016 and Brazil as a global tourist destination. Key skills of focus: contemporary design, literature, effective methodology of communication and skilful organisation to synthesise key information.
Movement and Performing Arts	Rio's Paralympic Games 2016. Pupils will compete in a Paralympic Festival, with fifteen stations of challenging games. In each activity, two groups will compete against each other for House Points. Key skills of focus: teamwork (pupils will have to work collaboratively and support each other to succeed), leadership and resilience.
Mathematics and Vocational Education	Rio needs 2016 Problem Solvers. Pupils will be completing a variety of mathematical challenges that are hidden in the grounds of the School. Pupils will use a variety of map reading skills to locate the challenges. Teams will then earn materials to build a replica Olympic podium and their accumulated winnings will also be used in carrying out a merchandising activity. This will consist of designing (and making) merchandise to be sold in the UK in support of Team GB. Key skills of focus: pupils will have to use their initiative to solve complex problems, whilst they will have to co-ordinate successfully to be effective leaders and team

	players. Pupils will have to perfect their skills of organisational leadership and personal organisation to be successful.
Humanities	'The dark side of the Olympics'. As a result of the increasing criticism that Brazil has come under for hosting the games, this is a topic of central importance. Can Brazil afford to host a worldwide event? What impact it is having on the citizens of Brazil? Is it safe enough for tourists to attend? What about the threat of spreading the Zika virus? The Humanities activity will be based around a class debate. Pupils will create their own motions and will spend part of the session researching arguments for and against it, including the use of carefully chosen resources. They will have access to tablet computers, pre-prepared resources and will be supported in improving their research skills. Pupils will then take part in a challenging debate focused around the 'dark side of the Olympics'.

Pupils will be issued with their timetable for STEM on Monday, 11th July and should write all arrangements onto their STEM Passport on the 12th, 13th and 14th. If you have any further queries or questions relating to STEM, then please do not hesitate to contact Mr Eynon via the School.