



The Big Bang

@ GTS

In partnership with Group Training & Development
and North Devon Manufacturers Association



Your Show Guide

Science of today is technology of tomorrow



6th October 2017
Great Torrington School

The Show Floor Map



DREAM
BELIEVE
ACHIEVE

● = Fire Exits

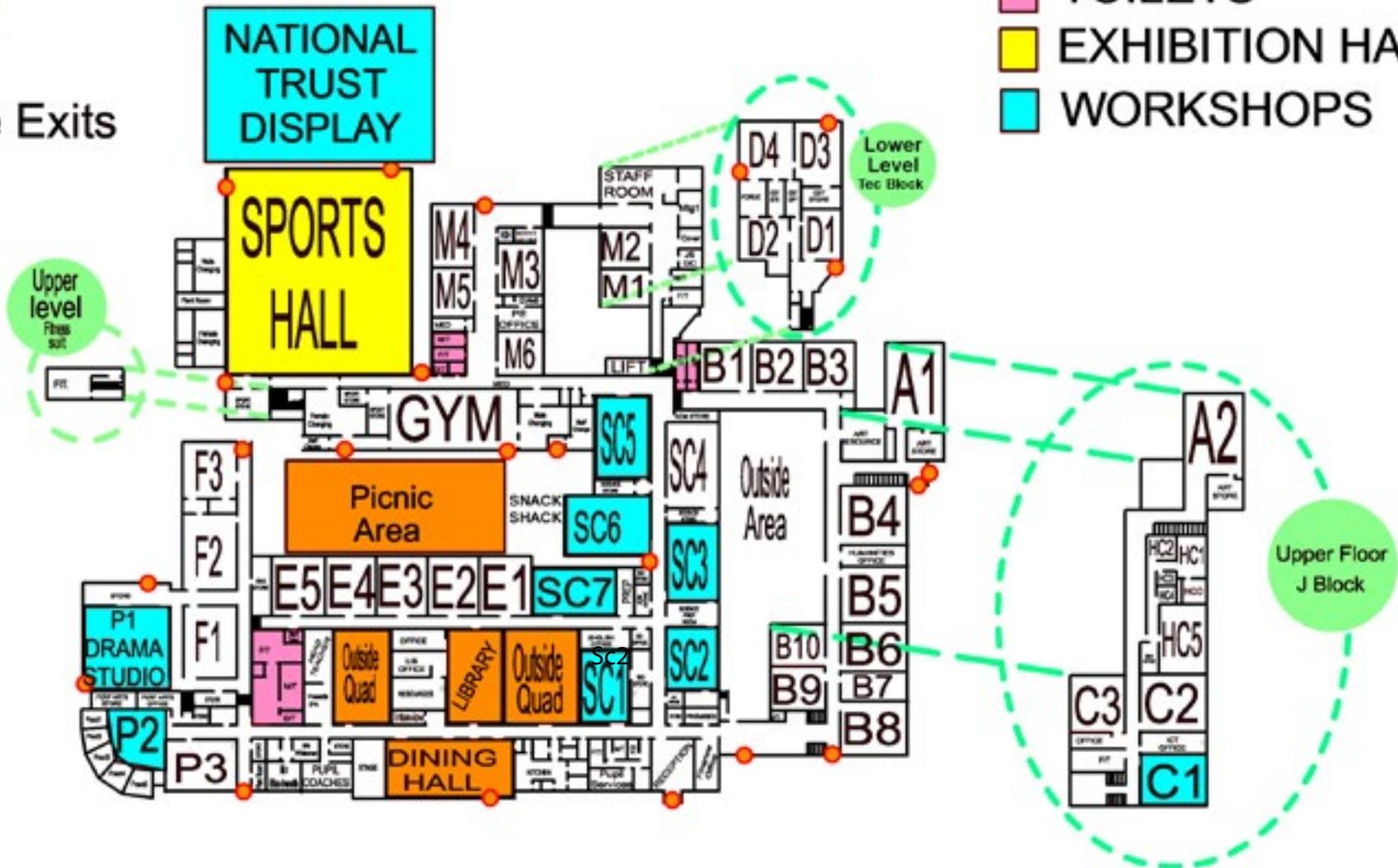
BIG BANG 2017

- TOILETS
- EXHIBITION HALL
- WORKSHOPS

BIG BANG ASSEMBLY POINT

← ATP

Assembly point



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Welcome

The Big Bang is a UK-wide programme led by EngineeringUK to bring science and engineering to life for young people. The Big Bang celebrates and raises the profile of young people's achievements in science and engineering and encourages more young people to take part in science, technology, engineering and maths initiatives with support from their parents and teachers.

The Big Bang @ GTS is part of The Big Bang Near Me, a programme of events which take place across the UK to enable young people to discover close to home the exciting and rewarding science and engineering careers that their science and maths subjects can lead to.

Ensure you have booked your place by 1st July 2017. Booking is now open for The Big Bang @GTS please visit: www.bigbang-gts.eventbrite.co.uk

The Big Bang's flagship event, The Big Bang UK Young Scientists & Engineers Fair will take place at The NEC, Birmingham, on 14 - 17 March 2018.

General Information

What to do in an emergency

On hearing the fire alarm, all teachers are to escort their pupils, via the fire exits to the assembly points located on the map. Once here please inform the designated member of GTS staff of any unaccounted persons.

Medical assistance

Pupils who are unwell on the day should in the first instance report to their teacher in charge. In the event that a first aider is required, please contact a GTS member of staff or a Science Ambassador who will contact reception and a first aider will arrive.

Lunch

For those schools who have booked a lunch slot on the Eventbrite booking system, you will be given a time and a venue for your pupils to sit and enjoy their packed lunches.

Volunteers

The GTS Science department have 25 Science Ambassadors from across the year groups, they will be clearly visible wearing Big Bang t-shirts. They are here to assist you to ensure that you and your pupils have an enjoyable day.

Getting the most out of your visit

Every pupil will receive a "goody bag", so that they can collect items to take away from the exhibits and workshops. Teachers will also receive a memory stick containing information from all workshops, EBK resources and CREST award suggestions. We really hope there is plenty for you to take away and try back in your own classrooms.

Disabled access

Great Torrington School aims to cater equally for Able and Disabled Pupils, Staff and Visitors. The school complies with DDA requirements, having Wheelchair access routes, 3 lifts, 4 disabled toilets and all stairways have Emergency Evacuation Chairs. Outside, the school has access ramps allowing access to all playgrounds, picnic areas, sports field, Multi Use All Weather Pitch and allowing for safe Emergency Evacuation.



Support

Led by



EngineeringUK is an independent organisation that promotes the vital contribution of engineers, engineering and technology in our society. EngineeringUK partners business and industry, government and the wider science and engineering community. Through The Big Bang Fair and The Big Bang Near Me Fairs that happen around the country throughout the year, we're inspiring the next generation – from all backgrounds – to become engineers or scientists.

Organised by



Great Torrington School has hosted the BigBang@GTS for 3 years. In 2016 GTS was also the first school in the country to be awarded Platinum Science Mark for having demonstrated excellence in the use of learning and teaching, leadership and management, and the curriculum to secure better outcomes for students in science.

This was also the year GTS attained The Prince's Teaching Institute Award for Science and received the CREST Participation Award acknowledging GTS' outstanding support of CREST Awards with nearly one third of pupils achieving a CREST Bronze award for their STEM projects.

GTS has also hosted HackFest in 2016 producing both the winning and runners up teams! The school has been building a Grappo light aircraft for 2 years and aims to complete the project by 2019 and in September 2016 commenced work on their own Green Powered Car (with Bideford Bridge Rotary Club).

In Partnership with



GTD works closely with local businesses to offer comprehensive apprenticeship services to employers in the area who operate in a multitude of engineering and manufacturing disciplines. This is achieved by supporting employers not only in the selection of apprentices for their business, but also by managing and supporting the training needs of each of their trainees.



The NDMA represent the interests of manufacturing and supporting service industries in North Devon. NDMA promotes North Devon's manufacturing industry by:

- Promoting North Devon's manufacturing industry
- Raising awareness of local business issues
- Gives industry a voice
- Encourages quality and improvement
- Creates a network with common interest
- Promote STEM in schools & colleges

Sponsored by



Supported by



Supported by



We would like to extend a huge thank you to everyone who has contributed to The Big Bang @GTS to ensure it's success.

Timetable



08.45 - 08.50	Arrive and register		
08.50 - 09.40	Workshop 1	Science Magic...Magic Science Show	Exhibition Hall
09.40 - 10.30	Workshop 2		
10.30 - 10.40	Break		
10.40 - 11.30	Workshop 3	Science Magic...Magic Science Show	Exhibition Hall
11.30 - 12.20	Workshop 4		
12.20- 12.45	Lunch		
12.45 - 13.35	Workshop 5	Science Magic...Magic Science Show	Exhibition Hall
13.40 - 14.30	Workshop 6		



All workshops MUST BE BOOKED IN ADVANCE at the Eventbrite website: www.bigbang-gts.eventbrite.co.uk

Workshops

Whodunnit

Age Group:
Years 5 - 7

Description:
Use forensic science techniques to solve a murder. A fun workshop understanding the principles of collecting evidence from the crime scene, to carrying out investigations to collect and analyse the evidence to establish who killed Becky Boyle!

Presented by:
Great Torrington School - Science Dept

Doctor Doctor

Age Group:
Years 5 - 7

Description:
A fun and exciting workshop promoting healthy lifestyles. In this workshop students can carry out medical techniques to look at their own oxygen saturation levels, blood pressure, and VO_2 max. Examine the effects of lifestyle choices upon the digestive system, and real hearts and lungs. A first insight into the medical world.

Presented by:
Great Torrington School - Science Dept



Who do you think you are?

Age Group:
Years 5 - 7

Description:
A fun and fascinating activity that enables students to see the normally invisible substance of life and begin to comprehend the meaning of their own genetic makeup. In this activity, students employ the same real-world laboratory procedure to isolate human DNA, and create DNA necklaces they can actually wear.

Presented by:
Great Torrington School - Science Dept

Sublime Slime

Age Group:
Years 5 - 7

Description:
Let's talk about polymers or perhaps one of our body's first lines of defence – snot! Whichever angle you look at it, this is a fun and messy workshop. To make this practical more challenging, how about alter the proportions of the key ingredients to make either a firmer or runnier slime.

Presented by:
Sciencedipity: <http://sciencedipity.co.uk/>



Seeing the Light

Age Group:
Years 5 - 7

Description:
Explore the properties of light and discover how to create your very own pinhole camera, and take your own photographs. Simple periscopes use reflected light to see around corners or over walls, try your hand at making one for yourself.

Presented by:
Great Torrington School - Science Dept

Earth, Wind and Fire

Age Group:
Years 5 - 7

Description:
Work with the local National Trust wardens to appreciate how the nutrient cycle and water cycle play a vital role in supporting our food production. Explore how the land and the ocean work together to create a fertile landscape and how hunter gathers became the modern day farmer.

Presented by:
National Trust - Outside behind the Sports Hall

Elastic Fantastic

Age Group:
Years 5 - 7

Description:
Explore the energy within elastic, and how to release the energy from an elastic band. Use the science of energy to build an elastic racer buggy; investigate how forces, energy, friction and structure have to be balanced, in the building and testing of the elastic buggy.

Presented by:
Great Torrington School - Science Ambassadors

All workshops **MUST BE BOOKED IN ADVANCE** at the Eventbrite website: www.bigbang-gts.eventbrite.co.uk

Workshops

WeDo Robotics

Age Group:
Years 5- 7

Description:

Try your hand at simple programming. Students will be able to build LEGO models featuring working motors and sensors; program their models; to see if they can make their design move.

Presented by:

Great Torrington School - IT Dept

Chroma Key

Age Group:
Years 5- 7

Description:

Explore the Arts and how science has developed the use of green screen technology. Students will be provided with a character, costume, lines and a scenario before filming in front of a green / blue screen. The background will then be replaced with the location for the story to be told.

Presented by:

Great Torrington School - Drama Dept

All workshops **MUST BE BOOKED IN ADVANCE** at the Eventbrite website: www.bigbang-gts.eventbrite.co.uk

Keep in touch...

 [twitter.com @BigBangGTS](https://twitter.com/BigBangGTS)

 [facebook.com/STEM in North Devon](https://facebook.com/STEM%20in%20North%20Devon)

 youtube.com/thebigbangfair

Show

Science Magic.....Magic Science

Age Group:
Years 5 - 7

Description:

From presenting at the National Big Bang in Birmingham, Ian Dunne is presenting his Science Magic.....Magic Science Show here at Big Bang @GTS.

There are a whole lot of Science demonstrations that have been used for conjuring tricks through the ages, or just plain look like magic. From Robert-Houdin's use of electromagnetism and M.D. Bodie's frightening tricks with static to the more simple but still effective "cut rope restored" they can all be used to demonstrate some principle or other, if only of looking in the right place at the right time.

This science show has mystery, suspense and laughs.

Presented by:

Ian Dunne: <http://www.doscience.co.uk>

Remember to book your place for the show **IN ADVANCE** at the Eventbrite website: www.bigbang-gts.eventbrite.co.uk



Competition



Photography Competition

Science and technology is all around us, everywhere we turn. The goal of this year's competition is simple: capture the essence of our theme - Science of today is technology of tomorrow.

There is no limit to the number of entries, to enter your photographs simply send them to Rachel Higgs - rhiggs@gts.devon.sch.uk with your name, school year, and primary school details, by 22nd September 2017.

Winning entries will be displayed in the exhibition hall on the day, and the top 12 entries will be made into a 2018 calendar. Plus lots of great prizes from local employers to be won.



Great prizes to be won!



CREST is a UK award scheme that recognises success, and enables students to build their skills and demonstrate personal achievement in project work. It offers educators an easy-to-run framework for curriculum enhancement and is student-led, which means that young people take ownership of their projects and choose to undertake them in areas they enjoy or see as relevant.

Crest Star

CREST Star is for primary school-aged students (5 – 11 years) and encourages them to solve science, technology, engineering, and maths challenges through practical investigation. All the activities are available to download for free.

Levels:

- CREST Star has three levels,
- Star (usually 5-7 year olds),
- SuperStar (usually 7-11 year olds)
- MegaStar (usually 8-12 year olds).

Each time a child completes an activity they add a sticker to their logbook, when their logbook is filled up they get a certificate!

Crest Awards

Each year, over 32,000 CREST Awards are undertaken by 11-to-19-year-olds, giving them opportunities to explore real-world science, technology, engineering and maths projects in an exciting way.

Levels:

There are four different levels of CREST Award:

- Discovery (a great first introduction to project work, these take about five hours and can be done in one day; typically undertaken by 11-to-14-year-olds)
- Bronze (around 10 hours project work; typically undertaken by 11-to-14-year-olds)
- Silver (around 30 hours project work; typically undertaken by 14-to-16-year-olds)
- Gold (around 70 hours project work; typically undertaken by 16-to-19-year olds)

Book early to avoid disappointment!

www.bigbang-gts.eventbrite.co.uk



twitter.com @BigBangGTS



facebook.com/STEM in North Devon



<http://gts.devon.sch.uk/learning/the-big-bang.html>



The Big Bang
UK's Top Science & Maths Fair



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