

INVITATION

Confirmed Event Partners



Friday 31 May 2019

Glasgow Science Centre

50 Pacific Quay, Glasgow, G51 1EA

CALLING ALL YOUNG ENGINEERS AND SCIENTISTS ACROSS SCOTLAND!



You are invited to compete in our annual **Celebration of STEM 2019** which will be held on **Friday 31 May at Glasgow Science Centre**. The day is a fantastic opportunity for STEM Clubs from all over Scotland, both primary and secondary to share their passion and enthusiasm for STEM with around 50 other clubs and about 20 STEM industry partners while taking part in a range of challenges and activities to expand their knowledge about STEM subjects, develop skills and learn about the amazing career opportunities in the sector, directly from companies!

Teams can compete for a range of great prizes including the Club of the Year 2019 title and compete in a series of fun 3 minute STEM (science, technology, engineering and maths) challenges set by industry partners. Around 500 pupils, teachers and companies from all over Scotland are expected to attend. The event will also host the exciting finals of our pH of Scotland competition in partnership with Royal Society of Chemistry; and Knots to Watts in partnership with Crown Estate Scotland, Equinor and the Institute of Physics Scotland as well as VEX IQ Robotics. In addition, for the first time ever, you will be able to showcase your projects to be in with the chance of winning a place at the Big Bang Finals at the NEC Birmingham in March 2020. Don't miss out in an action-packed day!

Teams will be invited to showcase their STEM projects and take part in various competitions and activities including:

- Judging for the Club of the Year Awards
- Judging for the Big Bang Scottish Finalists
- Finals of our Knots to Watts competition in partnership with Crown Estate Scotland, Equinor and the Institute of Physics Scotland
- Finals of the pH of Scotland competition in partnership with the Royal Society of Chemistry
- Finals of the Propel project in partnership with BAE Systems Naval Ships
- Finals of the Island Explorers project in partnership with University of Strathclyde
- 3 minute STEM challenges set by our industry partners
- Newcomers zone for clubs who've just started this academic year and haven't competed before
- Little Engineers zone for P1-4, showcasing "Little Lighthouse", "My Bottle Garden" or other STEM projects
- VEX IQ Robotics Skill Challenge
- Series of Drop-In hands on activities to learn more about the amazing world of STEM and exciting careers available
- Free access to all the activities of the Science Centre!

The event is **FREE** for schools to attend.

DRAFT PROGRAMME

7.00 am – 9.30 am	Arrival and set-up at Glasgow Science Centre – all must be set-up and ready by 9.30 am. A table top display panel and table will be provided for each showcasing school. Power and internet access will be available if requested on your application form.
9.30 am – 1.00 pm	Judging of Club Awards and Big Bang Scotland Finalists pH of Scotland, Knots to Watts, Propel and Island Explorers VEX IQ Robotics Skills Challenge 3-minute STEM challenges Drop-in hands-on STEM activities
1.00 pm – 2.00 pm	Explore the Science Centre
2.00 pm – 2.30 pm	Awards Ceremony
2.30 pm	Pack up and Depart

ATTENDANCE GUIDELINES

Registration Form: There are various options, detailed below. Please read carefully and submit your application form online **by Friday 26 April at the latest. We will then confirm places week beginning 29 April.**

On submission of your form, you will receive a message confirming delivery and a copy of your form will be emailed to you automatically. **If you don't receive this, get in touch, if you don't receive the form – we won't have either!**

Whilst we hope to welcome all who would like to come along, if we are oversubscribed then the range of projects you are exhibiting for the Club of the Year Awards will be taken into consideration, so it is important to give a good summary of your projects on the application form. We encourage you to showcase as much as you can!

Cancellation: Please let us know as soon as possible if you think there's any chance you may have to cancel your place. The event usually runs at capacity with a waiting list of school's who'd love to come along so the sooner you let us know, the more chance we have of being able to give another team the opportunity to attend!








We appreciate it can be challenging to get out of class for the day and to arrange cover. However, in order to organise the event to our usual high standards, we do incur costs ahead of the event and therefore teams who cancel their place after **5pm on Wednesday 23 May, can expect to be invoiced for costs incurred as a result of late cancellation.**



Travel: We hope to be able to offer some funding **towards** travel and accommodation costs for Club of the Year/Big Bang entrants if the costs would be prohibitive to you attending. Please request assistance with travel costs on the application form and we will confirm **week beginning 29 April.**

Food/Drink: Please note all teachers and students should **BRING THEIR OWN LUNCH AND SNACKS** unless you are travelling a distance and require overnight accommodation, in which case we will provide a packed lunch.

We appreciate your cooperation in enabling us to deliver another successful event, free of charge to schools!

<p>1</p>	<p>Club of the Year Awards 2019/Big Bang Finals P5-S6</p>	<p>For the Club of the Year Awards, your display should illustrate a range of projects undertaken by your Young Engineers/Science/STEM club during the 2018/19 session and any assistance/sponsorship from local businesses, emphasising what the team learned through the project, showing any models or demonstrating any experiments. Your school should already be registered with YESC.</p> <p>A friendly group of about 3 judges will spend 10 minutes with each Club. Each Club is asked to prepare a 3 minute (max) presentation to introduce its projects. You may wish to include a PowerPoint presentation – if so, please supply your own equipment. A power supply and internet access is available if requested in advance on the application form.</p> <p>Judging criteria includes: Projects – originality/creativity, experiments/investigations undertaken, construction of models, demonstration of understanding of science/engineering/technology/maths behind project Showcase – effectiveness of presentation (both content and delivery) and display The Club and Teamwork – range of projects, club membership and how it is run, understanding of projects, use of research and resources, any fundraising and external support etc.</p> <p>Please note all secondary school projects entering the Club of the Year will automatically be judged for their eligibility to win a place at the Big Bang Finals at the NEC Birmingham in March 2020.</p> <p>Please indicate on the registration form whether you are happy to be judged for this.</p> <p>Participation is limited to mixed gender teams of 6 club members, regardless of whether the school is also taking part in the pH of Scotland, Knots to Watts or Propel! competitions and/or VEX IQ Robotics challenge.</p> <p>You will be allocated a slot to compete in the 3 minute STEM challenges.</p> <p>If you have a pH of Scotland kit, you can showcase this as part of your Club of the Year entry, and you will have the opportunity to participate in the competition on the day. You will be allocated a 10 minute slot and will need to bring your models and poster. See below for more detail on the pH of Scotland competition.</p> <p>If you have a Knots to Watts kit, you can showcase this as part of your Club of the Year entry, and you will have the opportunity to participate in the competition on the day. You will be allocated a 10 minute slot and will need to bring your models and poster. See below for more detail on the Knots to Watts competition.</p>
<p>2</p>	<p>Newcomers Zone P5-S6</p>	<p>Newcomers zone is designed to encourage new clubs along so if you have just started up this academic year we'd love to see you showcase your projects with a group of up to 6 pupils. (Note – a prize for Best Newcomer will be awarded if the minimum number of entrants in this category is met).</p> <p>Participation is limited to mixed gender teams of 6 club members, regardless of whether the school is also taking part in the pH of Scotland, Knots to Watts or Propel! competitions and/or VEX IQ Robotics challenge. You will be asked to prepare a 3 minute presentation to introduce your projects.</p> <p>You will be allocated a slot to compete in the 3 minute STEM challenges.</p> <p>If you have a pH of Scotland kit, you can showcase this as part of your Club of the Year entry, and you will have the opportunity to participate in the competition on the day. You will be allocated a 10 minute slot and will need to bring your models and poster. See below for more detail on the pH of Scotland competition.</p>

		<p>If you have a Knots to Watts kit, you can showcase this as part of your Club of the Year entry, and you will have the opportunity to participate in the competition on the day. You will be allocated a 10 minute slot and will need to bring your models and poster. See below for more detail on the Knots to Watts competition.</p>
3	Little Engineers Zone P1-P4	<p>A special area for little engineers in P1-P4.</p> <p>Participation is limited to mixed gender teams of 6 pupils.</p> <p>(Note: if you are competing in pH of Scotland as well as the Club of the Year Awards/ Newcomers Zone etc, you will be allocated a 10 minute slot to test your models).</p>
4	Knots to Watts Competition	   
		<p>If you have a Knots to Watts kit, you can showcase your model as part of your Club of the Year and/or Big Bang entry alongside other STEM projects the team have been working on.</p> <p>If you don't have any other STEM projects to showcase, then you can opt to take part in Knots to Watts only. You will be allocated a time slot to present your poster to the judges and test your model in the wind tunnel, but you will not have a showcase table.</p> <p>You will also be allocated a slot to take part in the 3 minute STEM challenges.</p> <p>Participation is limited to mixed gender teams of 6 club members, regardless of whether the school is also taking part in the Club of the Year/Big Bang showcase, the pH of Scotland or Propel! competitions and/or VEX IQ Robotics challenge.</p>
5	pH of Scotland Competition	 
		<p>If you have a pH of Scotland kit, you can showcase your model as part of your Club of the Year and/or Big Bang entry alongside other STEM projects the team have been working on.</p> <p>If you don't have any other STEM projects to showcase, then you can opt to take part in pH of Scotland only. You will be allocated a time slot to present your poster to the judges and test your models, but you will not have a showcase table.</p> <p>You will also be allocated a slot to take part in the 3 minute STEM challenges.</p> <p>Participation is limited to mixed gender teams of 6 club members, regardless of whether the school is also taking part in the Club of the Year/Big Bang showcase, the Knots to Watts or Propel! competitions and/or VEX IQ Robotics challenge.</p>
6	Propel!	
		<p>If you have a Propel! kit, you can showcase your project as part of your Club of the Year and/or Big Bang entry alongside other STEM projects the team have been working on.</p> <p>If you don't have any other STEM projects to showcase, then you can opt to take part in Propel! only. You will be allocated a time slot to present your designs to the judges, but you will not have a showcase table.</p>

		<p>You will also be allocated a slot to take part in the 3 minute STEM challenges.</p> <p>Participation is limited to mixed gender teams of 6 club members, regardless of whether the school is also taking part in the Club of the Year/Big Bang showcase, the pH of Scotland or Knots to Watts competitions and/or VEX IQ Robotics challenge. You will be asked to prepare a 3 minute presentation to introduce your projects.</p>
7	Island Explorers	 <p>If you have an Island Explorers kit, you can showcase your project as part of your Club of the Year and/or Big Bang entry alongside other STEM projects the team have been working on.</p> <p>If you don't have any other STEM projects to showcase, then you can opt to take part in Island Explores only. You will be allocated a time slot to present your designs to the judges, but you will not have a showcase table.</p> <p>You will also be allocated a slot to take part in the 3 minute STEM challenges.</p> <p>Participation is limited to mixed gender teams of 8 club members, regardless of whether the school is also taking part in the Club of the Year/Big Bang showcase, the pH of Scotland or Knots to Watts competitions and/or VEX IQ Robotics challenge. As this project was open to P4 to 7, we would suggest 2 pupils from each year group.</p>
8	VEX IQ Robotics Skills Challenge	 <p>Teams can take part in the VEX IQ Robotics Skills Challenge only if they already have a VEX IQ robot and they must bring their robot along on the day to enter.</p> <p>We will have a drop-in field for teams that would like to give it a go and learn more about VEX IQ Robotics!</p> <p>You can showcase your VEX IQ robot as part of your Club of the Year and/or Big Bang entry alongside other STEM projects the team have been working on.</p> <p>If you don't have any other STEM projects to showcase, then you can opt to take part in VEX IQ Robotics Skills Challenge only.</p> <p>Due to timetabling, this competition will focus only on Robot Skills Challenge and there will not be any Teamwork matches. The challenge will be to score as many points as possible in sixty seconds. These matches consist of Driving Skills Matches, which will be entirely driver controlled, and Programming Skills Matches, which will be autonomous with limited human interaction. Teams will have 2 driver runs and 2 programming runs. The object of the game is to attain the highest score by Scoring Hubs in Building Zones, by Removing Hubs from the Hanging Structure, and by Hanging Robots at the end of the Match.</p> <p>You will also be allocated a slot to take part in the 3 minute STEM challenges.</p> <p>Participation is limited to mixed gender teams of 6 club members, regardless of whether the school is also taking part in the Club of the Year/Big Bang showcase and/or the pH of Scotland, Knots to Watts and Propel! competitions. Drivers must be aged from 8-14 years, young people in the team out with this can still attend to support the team and programme the robot.</p>

PRIZE CATEGORIES

Celebration prizes and trophies awarded on the day will include:

Club of the Year – Primary and Secondary

Big Bang Finalists

STEM Challenge winner – Primary and Secondary

pH of Scotland Challenge winner – Primary and Secondary

Knots to Watts winner – Primary and Secondary

Propel winner

Island Explorers winner

Best Newcomer

VEX Robotics winner

FURTHER INFORMATION

If you're ready to sign up, please complete the application form here:

<https://www.scdi.org.uk/events/celebration-of-stem/>

If you have any questions, please contact:

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