

STEM AMBASSADOR TRAINING.

Institution of
**MECHANICAL
ENGINEERS**

Teacher's Top Tips: Engaging a Secondary-Age Audience

24th May 2023

Improving the world through engineering

HI, I'M ALEX KNIGHT FOUNDER & CEO, STEMAZING

- Chartered Mechanical Engineer.
- Fellow of IMechE.
- Over 15yrs in Industry.
- Founded STEMAZING in 2019 with a mission to ignite inspiration and amplify inclusion in STEM.
- Collaborating with IMechE to empower and support you to have a greater impact as a STEM Ambassador.
- Support from IMechE Regional Education Officers (REOs) to bring local insight and inspiration.



HI, I'M FARAH KHAN SCIENCE TEACHER & STEAM LEAD

- Secondary Science Teacher – with 20 years experience
- STEAM Lead
- House of Lords Award Winner of STEM Inspiration Awards for Most Dedicated STEM Club
- Finalist for TES Awards for Best STEM Teacher & Team in Secondary Education
- STEM Ambassador UK
- Fellowship Chartered College of Teaching (FCCT)
- STEMAZING CIC - STEMAZING women & Inspiration Academy
- 1MWIS – 1 million women in STEM
- Biomedical Scientist



TRAINING PLAN.



- 28th Feb – Make 2023 Your Year of Inspiration! ONLINE 6-7pm
- 29th March – Teacher’s Top Tips (Primary) ONLINE 6-7pm
- 25th April – STEM Ambassador Training Workshop. IN PERSON IMECHE HQ 1030-4pm
- **24th May – Teacher’s Top Tips (Secondary). ONLINE 6-7pm**
- 20th June – Providing advice on the routes into Engineering. ONLINE 6-7pm
- 18th July - Inclusion at the core of STEM Outreach. ONLINE 6-7pm.
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- 21st Nov – Inspire young people with engaging STEM. ONLINE 6-7pm

STEM OUTREACH FOR OLDER CHILDREN

Age groups

- 9 to 11 - Year 5 & 6 – Upper KS2
- 11 to 14 - Year 7, 8, 9 - KS3
- 14 to 16 - Year 10 & 11 - KS4
- 16 to 18 – Year 12 & 13 – KS5

What do you have experience with?



TOP TIPS FROM A TEACHER

Effective STEM delivery at Secondary

- Communicate well
- Adapt your planning
- Make things easier
- Be clear on age group, how many students, equipment needed, timings, set up
- Provide as much of the equipment
- Engage the students through interaction & immersion
- Include hands on activities
- DBS, media permissions
- Questions?



OTHER USEFUL RESOURCES

Meet the future you

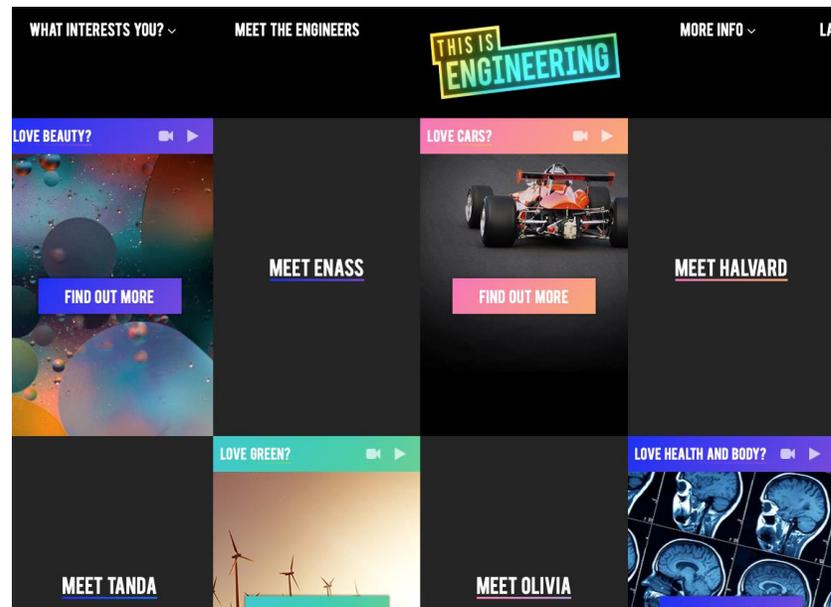
Ever wondered what an engineer does? Could you see yourself exploring outer space, protecting the environment, designing apps or developing cures for diseases?

Engineers do all this, and more! Answer a few short questions and find out how YOUR skills and passions could lead to an exciting job in the future. Whether you're just starting out, or ready to think about your next step, this is the quiz for you.

Take the quiz and get ready to be inspired...



www.mtfy.org.uk



www.thisisengineering.org.uk

Careers resources

Downloadable leaflets, posters, postcards, booklets and activities to inspire your students to explore engineering.

Our careers resources are available to order in print, free of charge. [Place your order.](#)

Filter by resource type

Any resource type



POSTER
Green engineering careers posters

A set of 4 inspiring green engineering careers posters for students to think about how they can change the way



PRESENTATION
Engineer your future

A PowerPoint presentation for teachers, advisers and ambassadors to use with 14 to 19 year olds, to inform and inspire young people about a



LEAFLET
Inspiring future engineers: notes for teachers

Teachers can use this 4-page leaflet to familiarise themselves with key points

www.neonfutures.org.uk



Getting the message across

Top tips for delivering inspiring engineering activities

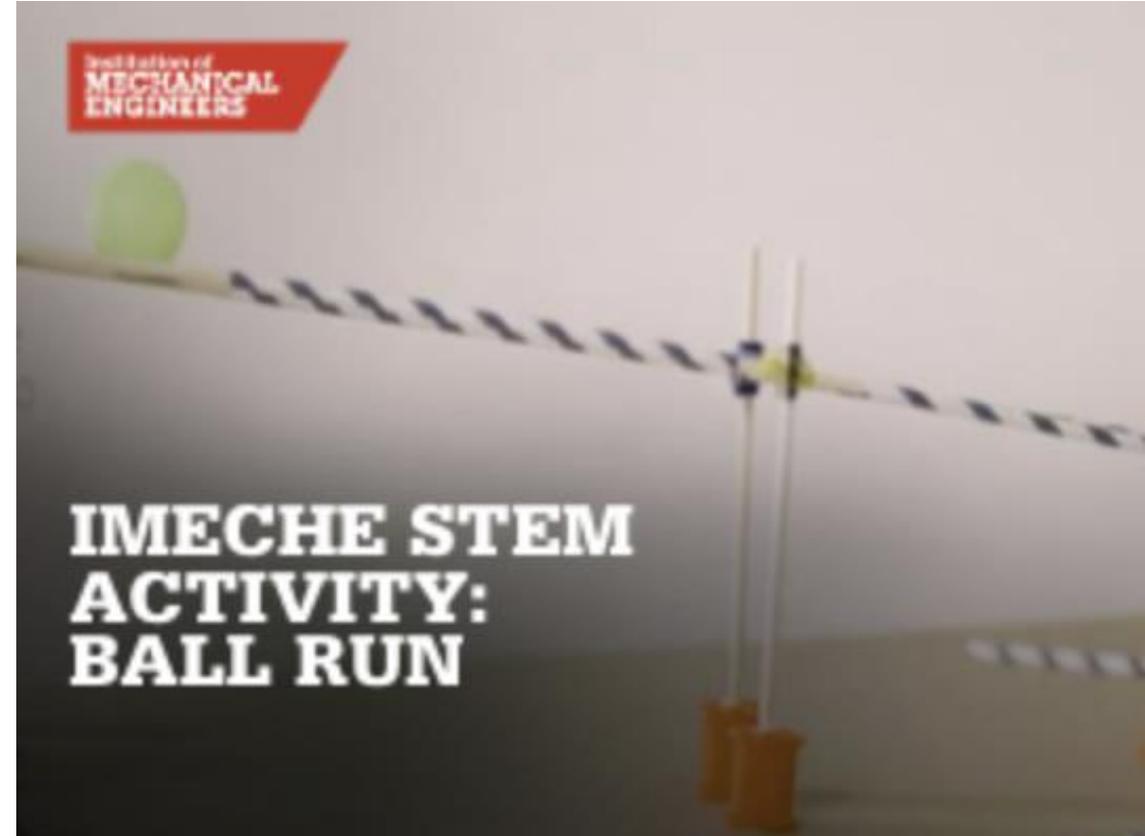


www.tomorrowseengineers.org.uk

STEM OUTREACH ACTIVITY

BALL RUN

- Young people work in small teams
- Objective: Build a ball run that keeps the ball moving as long as possible.
- Encourage them to think about what every day systems are engineered to move something from A to B.
- Each team has:
 - 20 elastic bands
 - 16 bulldog clips
 - 14 wooden dowels
 - 10 paper straws
 - 6 cotton reels
 - 1 ping pong ball
 - White tack



Ball Run >

Download the Ball Run
worksheet >

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THANK YOU.

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