



Cluster Challenge Information Pack

The Cluster Challenge involves Classroom Challenge winners from the participating primary schools. The Cluster Challenge should be hosted at the secondary school and we suggest you involve older pupils as judges. Once you have held your Cluster Challenge, the winning teams information should be submitted to Glasgow Science Festival (GSF) through our Cluster Winners Online Form before the **26th March 2025** to secure your clusters place in a semi-final. A member of the GSF team will then be in touch with information about the next stage.

[Cluster Winners Online Form](#)

The Challenge

The Cluster Challenge is set by the GSF team and can be found attached to this document.

Feel free to share any builds or designs with us on social media using #GSFCreatingEngineers or tag us @GlasgowSciFest on X or @glasgocifest on Instagram.

Competition Rules

- Pupils compete in teams of two.
- Competition is open to P5 and P6 pupils.
- One hour to complete challenge, including preparation and planning.
- Pupils shouldn't see the challenge beforehand.
- Before starting to build the teams should sketch out and plan some ideas, so please ensure they have access to pencils and paper before the challenge begins.

Judging

The Cluster Challenge can be judged by e.g. the teachers, teaching assistants, secondary school pupils or local organisations. We have provided a judging sheet at the end of this document, this is the same judging sheet used throughout all stages of the competition.

Certificates

The winners and runners-up of the Cluster Challenge will receive a certificate. A copy of both is attached to this document ready to be printed and filled in.



Cluster Challenge Information Pack

Deadline

The Cluster Challenge can take place at a time that suits your cluster. The deadline for submitting details of your cluster winners to GSF is **Wednesday 26th March 2025**. Please ensure your Cluster Challenge is held prior to this date to ensure enough time to submit your winners and secure your clusters place in the next stage.

A member of the GSF team will be in touch with the named primary school contact regarding information about the next stage.

Creating Engineers Kit Loan

Glasgow Science Festival (GSF) have a class-worth of kits available on short-term loan for a period of one week or longer. This booking system allows you to select a kit loan slot of between 7 and 13 days, during the period **November 2024 to end of March 2025**.

[Glasgow Science Festival Creating Engineers Kit Loan](#)

Where requested, please enter Cluster School name and Cluster person contact details, along with details of the person completing the form. No payment is required.

Next Stage: Semi-Finals

The **named Cluster Contact** from your application will have received an email inviting your cluster winner to a **Semi-Final**. These are taking place throughout May in various locations, you will have been invited to the nearest one to your cluster.

The final is taking place on **Wednesday 28th May 2025**, after the semi-finals the named Primary Contacts of the progressing teams will receive further details of the event.

Contact Details

Any questions about the Creating Engineers challenge can be sent to sciencefestival@glasgow.ac.uk.



Cluster Challenge

Design an Exercise Bike

The Scenario

A new gym is opening in your town and they need to fill their space with top of the range equipment. You have been hired to design an exercise bike that the gym members will use for cycle training.

The Challenge

You have **ONE HOUR**.

Design an exercise bike with pedals to spin the wheels.

The Specifications

Your exercise bike must:

- Have two wheels that spin when pedals are pushed.
- Be no longer than two grey rods
- Have at least one seat for the rider.
- Have handlebars.

Things to think of

- Remember to discuss and plan your design.
- How will you ensure the pedals move the wheels?
- What will your bike look like?

GOOD LUCK!

Creating Engineers Judging Sheet

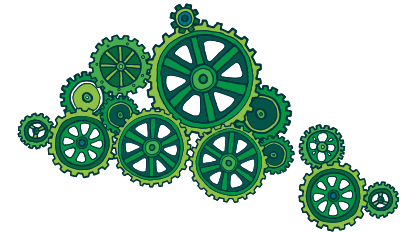
Pupil 1		Pupil 2	
Judging Criteria	Consider	Score	Judges Comments:
<p>Presentation, Communication & Teamwork</p> <p style="text-align: center;">Max Points 25</p> <p>Poor Average Good Excellent 1-6 7-15 16-21 22-25</p>	<ul style="list-style-type: none"> Did the pupils plan the model before building it? Do they have drawings they can show, were they made before, during or after they started to build? How well did the team communicate about their design? Do they play to their individual strengths and use them to make a good team? Do they work well together? 		
<p>Problem Solving</p> <p style="text-align: center;">Max Points 25</p> <p>Poor Average Good Excellent 1-6 7-15 16-21 22-25</p>	<ul style="list-style-type: none"> Discuss the problems the pupils encountered during the design & construction stages of the model. Did they overcome the problems methodically & analytically? What ideas were tried before the final solution was adopted? Have they shown a clear understanding of how to problem solve? Did they work together on solving them? 		
<p>Operation & Function</p> <p style="text-align: center;">Max Points 25</p> <p>Poor Average Good Excellent 1-6 7-15 16-21 22-25</p>	<ul style="list-style-type: none"> Have the pupils built an effective model that meets the criteria - interesting, novel and sturdy with moving parts? Does it perform the intended function competently, could it be improved? 		
<p>Design & Visual Appeal</p> <p style="text-align: center;">Max Points 25</p> <p>Poor Average Good Excellent 1-6 7-15 16-21 22-25</p>	<ul style="list-style-type: none"> Has safety been considered, is it strong and sturdy? Review your overall impression of the model, is it visually appealing? 		
Judged by:		<p>Max Score: 100 points</p> <p>TOTAL</p>	Any other comments:

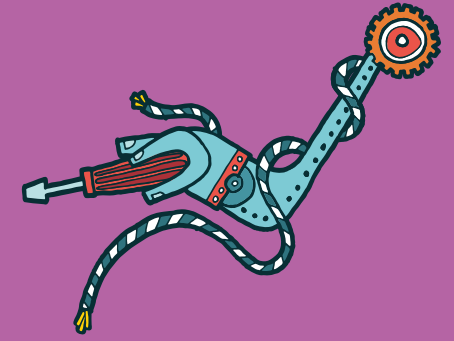


Creating Engineers Cluster Challenge 2025

Congratulations to the winners

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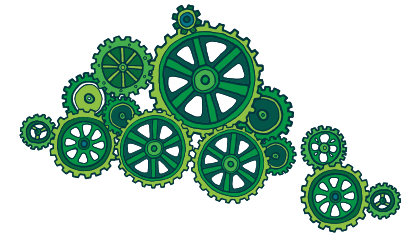




Creating Engineers Cluster Challenge 2025

Congratulations to the runners up

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Privacy Notice *(this page is to be retained by data subject)*

Your Personal Data

The University of Glasgow will be what's known as the 'Data Controller' of your personal data processed in relation to Glasgow Science Festival events during 2025, for the purpose of being used to promote the Festival and the University. This Privacy Notice will explain how the University will process your personal data.

Why we need it

We are collecting your basic personal data in order to promote the University for marketing and promotional purposes in the ways which are specifically detailed and consented to in the accompanying signed and dated consent form. We will only collect data that we need in order to fulfil and oversee this.

Legal basis for processing your data

We must have a legal basis for processing all personal data. In this instance, the legal basis is '*Consent*'.

What we do with it and who we share it with

All the personal data you submit is processed by staff at the University of Glasgow in the UK.

The University has the right to edit any comments/testimonials for the purposes of correcting grammatical, spelling, punctuation and formatting purposes without altering the viewpoint and nature of the original text.

How long do we keep it for

Your data will be retained by the University for up to three years. After this time, data will be securely deleted. However, I understand that some images, recordings or written comments may be kept permanently once they are published and be kept as an archive of Glasgow Science Festival events.

What are your rights?

You can request access to the information we process about you at any time. If at any point you believe that the information we process relating to you is incorrect, you can request to see this information and may in some instances request to have it restricted, corrected or, erased. You may also have the right to object to the processing of data and the right to data portability.

As we are using '*Consent*' as the legal basis to process your personal data, you also have the right to withdraw your consent at any time

If you wish to exercise any of these rights, please contact dp@gla.ac.uk.

Complaints

If you wish to raise a complaint on how we have handled your personal data, you can contact the University Data Protection Officer who will investigate the matter. Our Data Protection Officer can be contacted at dataprotectionofficer@glasgow.ac.uk.

If you are not satisfied with our response or believe we are not processing your personal data in accordance with the law, you can complain to the Information Commissioner's Office (ICO) <https://ico.org.uk/>.

Contact details

If you have any questions relating to this consent form or the way we are planning to use your information please contact: The Glasgow Science Festival team on sciencefestival@glasgow.ac.uk

Media Consent Form

Event

Creating Engineers Challenges 2025

The University of Glasgow is committed to controlling and processing personal information in accordance with the General Data Protection Regulation (GDPR) and the Data Protection laws. The personal data collected as detailed below will therefore be controlled and processed in line with the relevant Data Protection laws and Regulations in the way(s) and purpose(s) detailed in the accompanying Privacy Notice.

I consent to my personal data being used in the following formats: (tick to consent)

Photographic images – printed and digital (I understand that images may contain metadata including personal data which could be accessible to others when images are processed/shared, including beyond the University of Glasgow.)	
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I consent to this personal data being used (processed) in the following ways: (tick all that you consent to)

Glasgow Science Festival/ University of Glasgow web pages	
Email and online marketing including e-newsletters; online adverts; online advertorials and editorial features in digital publications	
Social media posts	
Printed materials including leaflets; flyers; posters; banners; brochures, magazines and newspapers.	
PowerPoint presentations	
Teaching materials	

Signed: _____

Print Name of Pupil: _____

School name: _____

Date: _____

Email: _____

Please note signing this consent form applies to photos submitted from the cluster challenge and any photos taken at any Creating Engineers 2025 competition.