



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 **27th March 2024** 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 Twitter/X.

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.



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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 27th March 2024**. 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 2023 to end of March 2024**.

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 29th May 2024**, 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 Information Pack

Design a Go-Kart

The Scenario

Glasgow Science Festival is celebrating our 18th Birthday this year. To celebrate the staff want to have a fun day out at the go-kart racing! We'd like you to use your imagination, be innovative and design and make a model of a 'cool' go-kart from your K'Nex.

The Challenge

You have **ONE HOUR**.

You must build a go-kart with a steering mechanism. It should be able to move backwards and forwards, turn right and left.

The Specifications

Your Go-Kart must:

- Have at least 4 wheels
- Be between 10-20cm tall and 10-20cm wide
- Have a steering mechanism you can turn by hand to allow the vehicle to turn left and right
- Include at least one seat for the driver

Things to think of

- Remember to discuss and plan your design.
- How will you make your vehicle strong and stable enough?
- How will you make the steering mechanism?
- Do you want your vehicle to have brakes?

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? <p>Review your overall impression of the model, is it visually appealing?</p>		
Judged by:		<p>Max Score: 100 points</p> <p>TOTAL</p>	Any other comments:

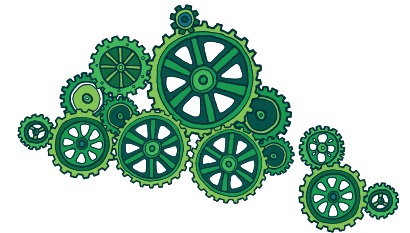


Creating Engineers Cluster Challenge 2024

Congratulations to the winners

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Primary School





Creating Engineers Cluster Challenge 2024

Congratulations to the runners up

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Primary School

