

PROUD FOUNDERS & SPONSORS OF...



The F1 in Schools Technology Challenge

F1 in Schools is a multi-disciplinary challenge in which teams of students aged 9 to 19 deploy CAD/CAM software to collaborate, design, analyse, manufacture, test, and then race miniature gas powered balsa wood F1 cars. F1 in Schools is the world's largest STEM-based (Science, Technology, Engineering and Maths) educational project.

Students taking part in the challenge are inspired to learn about physics, aerodynamics, design, manufacture, branding, graphics, sponsorship, marketing, leadership/teamwork, media skills and financial strategy, and apply them in a practical, imaginative, competitive and exciting way.

The challenge is supported with the F1 in Schools Curriculum Resource, a set of cross-curricular materials to help you run a project based on the F1 in Schools competition. Designed for pupils aged between 9 and 19, it includes over 60 fully-resourced session plans - everything you need for running the project in your school.

With F1 in Schools now operating globally in over 40 countries and currently with over 20 million students aware of the challenge, F1 in Schools provides a real opportunity for a learning experience of a lifetime and the chance to become a World Champion!



The 10th F1 in Schools World Finals took place in Abu Dhabi in November 2014 and linked to the 2014 Formula 1 Etihad Airways Abu Dhabi Grand Prix. With 38 teams competing for the Bernie Ecclestone World Champions Trophy, Colossus F1 from Robert May's School, Odiham, Hampshire, England, were crowned the F1 in Schools 2014 World Champions.

In addition to F1 in Schools, Denford Limited are also the proud Founders and Sponsors of the 'Land Rover 4x4 in Schools Technology Challenge' in partnership with Land Rover, The IET, WNT, IRob and Harper Adams University and is also supported by Industrial Cadets, Crest Awards and Arkwright Scholarship Trust; and the 'Jaguar Primary School Challenge' in partnership with Jaguar Cars.

For further information please visit the following sites or follow us on:

f1inschools.com
4x4inschools.com
f1inschools.co.uk/primary

 Like us @F1inSchoolsLtdUK
 Join us F1 in Schools Alumni Group
 follow us @F1inSchoolsHQ
 Watch us on F1 in Schools HQ

Andrew Denford
 Founder and Chairman, F1 in Schools Ltd

INNOVATIVE EDUCATIONAL PROJECTS



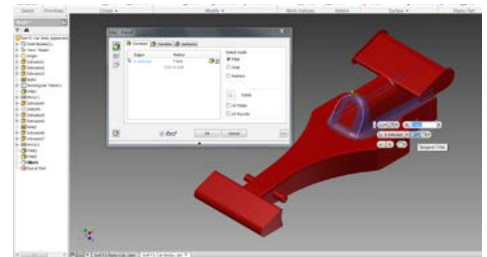
The F1 in Schools Technology Challenge encourages students to explore a variety of engineering and manufacturing processes by using CAD/CAM and CNC technology to produce their own model F1® Car of the Future.

As founding partners of the F1 in Schools Technology Challenge, Denford supply a wide range of equipment and training to get you to the starting line. In addition, Denford also support the Land Rover 4x4 in Schools Technology Challenge and the Jaguar Primary School Challenge.



Business Plan

Prepare a **business plan**, develop a budget and raise sponsorship. Teams are encouraged to collaborate with industry and create business links.



Design

Using 3D CAD (Computer Aided Design) software, **design** an F1® car of the future to the specifications set by the International Rules Committee just like in Formula 1®.



Analyse

Aerodynamics are **analysed** for drag coefficient in a virtual wind tunnel using Computational Fluid Dynamics Software (CFD).

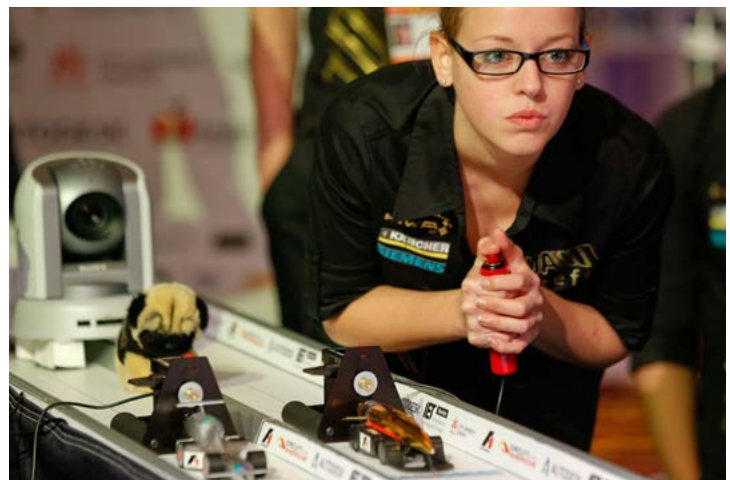
Make

Using 3D CAM (Computer Aided Manufacture) software, the team evaluates the most efficient machining strategy to **make** the car.



Test

Aerodynamics are **tested** in wind and smoke tunnels.



RACE !

Time to test what your team has worked so hard together to achieve: a **winning car**.

F1 IN SCHOOLS CURRICULUM RESOURCE
See Pages 70 - 71

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F1 in Schools - Jaguar Primary School Challenge (F1-JPSC) engages with primary schools students and teachers across the UK in the same way as the Secondary School Challenge. The challenge is open to students aged 5-11 years old and involves designing and manufacturing the fastest car possible, emulating the design and engineering processes employed by real engineering companies, such as Jaguar Cars. Students are challenged to form a team of 4 pupils and design a race car out of 160g/m² card, complete with wheels, body and even a mini driver. They will design and manufacture a body shell to fit a standard chassis using template software before printing/cutting their designs on to card and then making their car ready to race.

The Jaguar Primary School Challenge is sponsored and supported by Jaguar Cars, who have been a supporter of F1 in Schools since its launch in 2000. Jaguar understand the need to encourage and motivate young people to develop key skills needed for companies such as Jaguar to be successful in producing award-winning vehicles. The Jaguar Primary School Challenge has its own rules and regulations but the judging process is the same as the secondary school challenge.



F1-JPSC offers primary school pupils the opportunity to:

- Take part in a fun hands-on STEM (Science, Technology, Engineering & Maths) activity
- Tackle real life problem solving and learning
- Develop design, manufacturing, team work, communication & business skills
- Work with Jaguar Land Rover Graduates (who mentor the teams and the students)
- Win a VIP experience at Jaguar Land Rover plus other awards & prizes for their school
- Take part in a UK Nationwide challenge

In addition, teachers gain professional accreditation through the College of Teachers

The Rules and Regulations are available to download from the website:

f1inschools.co.uk/primary

INNOVATIVE EDUCATIONAL PROJECTS

Land Rover 4x4 in Schools Challenge

Teams of 3 to 6 young people working together are challenged to design and build a radio controlled 4-wheel-drive (4x4) vehicle - to set specifications - which can successfully negotiate a series of obstacles and tasks. The vehicles will be tested on a specially designed test track, emulating real life and what a full scale 4x4 vehicle can do. Teams entering the challenge will spend a number of weeks designing, researching, building and project managing their 4x4 vehicle to enter it into a regional heat, to compete against other schools from their area. Regional winners will be selected through a judging process (please see the rules and regulations document) to go through to the National Final where they will compete again, but this time, against the other regional winners to challenge to become the Land Rover 4x4 in Schools Technology Challenge UK National Champions.



This National Challenge offers an exciting opportunity to encourage the development of our engineers of tomorrow, to engage young people in the complexities and challenges of design engineering, and to demonstrate the rewards of choosing engineering as a career.

Sponsored by:
Denford Ltd, Land Rover, The IET, WNT, IRob and Harper Adams University and supported by Industrial Cadets, Crest Awards and Arkwright Scholarship Trust.

4x4inschools.com



LAND ROVER 4x4 STARTER KIT & TRACK ELEMENTS

See Pages 78 - 79

