

Year 5/6 pupils – Lego Engineering: It's good to 'torque'!

| Date of course | Times | Venue | Cost | Max. places | Subject |
|---------------------------------------|-----------------|---------------------------|------|-------------|--------------|
| Monday 10 th February 2025 | 9.30am – 3.30pm | Braeside Education Centre | £60 | 16 | Science AGAT |

Course details

The world around us is built on Engineering. We will make motorised Lego models to explore the role that gears play in everyday machines and learn how we can combine gears to increase speed or increase torque (by calculating ratios). Our first Lego build will have interchangeable gear ratios, combining speed and torque. Further builds will consolidate this concept using different types of gears and gear combinations. Our final activity will be a small-group, collaborative challenge to build the Lego machine that can lift the heaviest mass.

Guidance criteria for identifying participants:

Pupils should:

- Show enthusiasm for STEM activities.
- Be intrigued and curious by the world around us and 'how things work'.
- Be able to work independently and collaboratively to develop ideas and apply new concepts.
- Show resilience and the ability to persevere – Sir James Dyson took 5,127 attempts to perfect his cyclone vacuum cleaner!

Course Tutors

Cotswolds Young Engineers is run by husband-and-wife team Paul & Julie Kirkham. Julie is a qualified teacher with 25 years experience in KS1 & KS2, teaching in a variety of school environments to children with a diverse range of needs. Paul studied Engineering at Brunel University and is a Design Engineer with 25 years experience working with clients including Jaguar, Land Rover, Airbus and Dyson, and more recently the UK based F1 teams (McLaren, Red Bull, Mercedes, Alpine, Aston Martin, Williams and Haas).

As a result of attending the course you will have:

- Enjoyed and engaged in engineering concepts and scientific experimentation.
- Displayed the qualities of a successful engineer, by demonstrating creativity and innovation to solve technical problems both individually and in a team.
- Developed the ability to adapt to learning in a less familiar environment.

Students should bring:

- Pencil case
- Notebook
- Water bottle
- Clothing suitable for outdoor breaks

**Lunch and refreshments are provided. School uniform is not required.
No mobile phones.**