A Practical Workshop for Key Stage 3

Great Bones is a half day workshop that can be offered for up to 60 Year 8 or Year 9 pupils, either in a University or School setting. A multidisciplinary team of researchers comprised of Engineers and Biologists from the Institute of Medical and Biological Engineering offer pupils of any ability the opportunity to participate in a practical workshop on the subject of fracture fixation. The emphasis of the workshop is on learning through a series of structured fun activities, where teamwork is a critical element.

All materials for the workshop are provided by ourselves and there will be no cost involved for yourselves.

Pupils will work in small groups to design and build a fracture fixation device against the clock. The design process and the scientific justification for the designs are presented in poster format before the fixed ‘bones’ are subjected to independent testing.

**Workshop Details:**

Knowledge and skills covered in the workshop include:
Science, Engineering, Economics, Product Design, Analysis, Teamwork, Drama, Communication and Presentation

- 30 minute interactive lecture providing information on bones, fracture and repair.
- Design a fracture fixation device.
- Build your fracture fixation device from the kit of materials provided.
- Independent testing of fixed ‘bones’ under compression, torsion and flexion-extension.
- Poster presentations detailing the design process.
- Devise and perform a one minute TV/radio advertisement to publicise your fracture fixation device.
- Question and answer session.
- Prize giving for the highest scoring teams.
- Feedback session.

This session can be adapted to run as a 1 hour session for science clubs.