

Cardboard Engineering Programme

This fun course concentrates on the relationship between Engineering and Advertising Photography.

Pupils work towards designing and building individual projects each week, as well as creating individual workbooks, documenting their learning skills.

Week 1

Application of: Pinhole Camera and Viking Boat

- Structural engineers and other scientists are always trying to find ways to make structures lighter and stronger.
- What is triangulation?
- Macro Photography

Week 2

Application of Bridge and Robotic Arm

- What is meant by Biomimetics and Reverse Engineering?
- Perimeter
- Volume
- Surface Area

Week 3

Application of Helicopter and Waterwheel

- Researching how parts of the human body work
- What is meant by 'Bionics'?
- Recording experiments in camera

Week 4

Application of: Aeroplane and Crane

- Size and Scale – visualizing the numerical properties of a range of objects from the nanoscale to the visible
- What is 'Molecular Manufacturing'?

Week 5

Application of: Rocket and Lunar Landing Craft

- What is 'Nano Pollution'?
- Understanding the size and scale of objects that can and can't be seen by the naked eye
- What is meant by 'Grey Goo'?
- Measuring length on the nanoscale
- Understanding size and scale of objects shrunk by orders of 10

Week 6

Application of: Tank and Lighthouse

- What are 'Personal Nanofactories'?
- How a magnifying glass works
- How a microscope works
- How a scanning electron microscope works