

## MATHS IN CONSTRUCTION

Mathematics is used extensively in construction. Measurement is the most important strand however engineers, builders, electricians, tilers and plumbers use algebraic formulas to calculate materials needed, the forces that prevent buildings from falling or calculating power and voltage.

Below are some ideas for students to explore. Students investigate the mathematics involved and write a mathematical report with their findings. This link gives instructions on how to write a report.

<http://mastering-mathematics.com/webpages/working-mathematically/report.html>

### STAGE 4 – YEARS 7 AND 8

- House Plans - Geometry
- Fencing rural properties (Google Earth) – Measurement
- Maximising area, minimising perimeter – Measurement
- Fencing – Pythagoras' theorem
- Perspective drawing – Geometry
- Position on Earth (GPS, What Three Words) – Geometry, Algebra
- Contours on Maps – Measurement, Geometry
- House electrical configuration – Networks

### STAGE 5 – YEARS 9 AND 10

- Architecture – Trigonometry and Measurement
- Measuring irregular blocks of land – Trigonometry and Measurement
- Bridge construction – Forces (Algebra)
- Maximising volume, minimising surface area – Measurement
- Skyscrapers and Earthquakes – Algebra
- Historical structures – Measurement, Geometry

