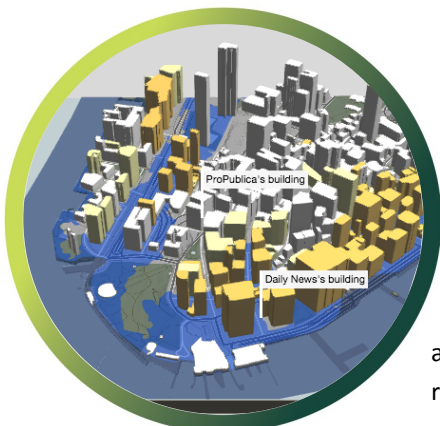


## Think Physics What does a Civil Engineer do?

**Civil Engineering can be seen within many aspects of our daily lives. There are many areas of Civil Engineering that you can explore and specialise in, depending upon your interests.**



Civil Engineers can work in a number of areas include:

**Water Resources** — designing and constructing pipelines, water distribution systems and drainage systems. Example include dams, reservoirs, storm sewers and canals.

**Coastal Defence Systems** — looking at the current coastal defence systems and making sure that these are adequate, maintained and replaced when needed. The main aim is to protect our coastline against flooding, surges and erosion.

**Transport** — ensuring that transport and traffic moves efficiently and easily around an area. This may include developing new roads, making changes to existing roads or traffic management. It also includes airports, shipping ports, rail and canals.

**Urban** — Working in cities designing roads, paths, lighting systems, greenspace, cycle paths, car parking, waste management and street lighting.

**Structural** — design and build bridges, tunnels, towers, flyovers, as well as offshore structure like oil and gas platforms.

**Environmental** — creating, developing and planning for a sustainable future. This may include wind farms, water purification and waste water treatment, controlling air pollution and hazardous waste management

**Earthquakes** — designing and testing structures to make sure they can withstand earthquakes, or if they collapse damage and destruction is minimised.

### How can you become a Civil Engineer:

There are different routes into this career. You could choose:

- A-levels and university: You will need A-Levels in Maths and Physics for most engineering courses.
- Vocational: You could study a Level 3 qualification in Engineering (some universities will ask for an additional maths qualification).
- Apprenticeship: there are a number of apprenticeship opportunities available after GCSEs and also Higher Apprenticeships (after A Levels or a Vocational Course).

### Examples of local companies that employ Civil Engineers:

- Turner and Townsend, Newcastle upon Tyne [www.turnerandtowntsend.co.uk](http://www.turnerandtowntsend.co.uk)
- Capita (based at North Tyneside Council) [www.capita.co.uk](http://www.capita.co.uk)
- Cundall, Newcastle upon Tyne [www.cundall.com](http://www.cundall.com)

For more information about Civil Engineering visit [www.ice.org.uk](http://www.ice.org.uk)

## Think Physics What does a Civil Engineer do?

*Engineering is a huge word which describes many different areas. One area of engineering which we are going to explore further is Civil Engineering. Work in pairs to research and answer the questions below and then, as a group, we will discuss what you have found out.*

What does a Civil Engineer do?



Can you provide an example locally of something a Civil Engineer may have been involved with?

Can you find a local Civil Engineering company in the North east of England and tell me a little bit about them.

What subjects can you study which will support you with Civil Engineering?

