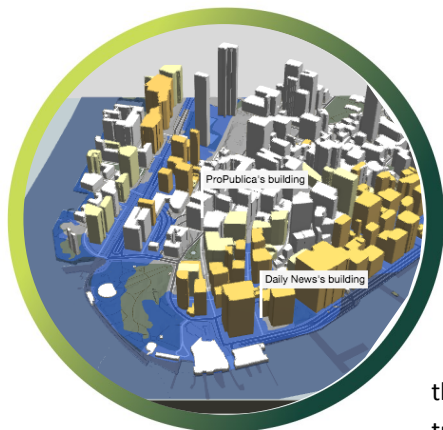


# Think Physics What does a Civil Engineer do?

**Civil Engineering is an exciting area of engineering which transfers across and can be witnessed 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. We have included informa**



Civil Engineers will work in a number of areas depending on their skills and interests. Typical areas where you may see Civil Engineers working in includes:

**Water Resources** - designing and constructing pipelines, water distribution systems and drainage systems. Example includes, 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 move efficiently and easily around the area. This may include developing new roads, making changes to existing roads or traffic management and also includes air ports, shipping ports, rail and canals.

**Urban** - Working in cities to make sure everything works together. From design roads, paths, lighting systems, greens pace, 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 sustainable futures. Which may include wind farms, water purification, waste water treatment, air pollution and hazardous waste management

**Earthquakes** - designing and testing structures to make sure they can withstand earthquakes and will not collapse or if they collapse will collapse in a certain way.

## How can you become a Civil Engineer:

If you are interested in becoming a civil engineer in the future there are different routes into this career. You could choose:

- A Levels: You will probably need to have an A Level in Maths and Physics
- Vocational: You could study a level 3 qualification in Engineering (universities may ask for you to also have studied further maths
- Apprenticeship: there are a number of apprenticeship opportunities available after completing your GCSE's 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.turnerandt Townsend.co.uk](http://www.turnerandt Townsend.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?

*Today we have found out that engineering is a huge word which describes many areas of engineering. One area of engineering which we are going to explore further is Civil Engineering. I would like you to 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 can support you with Civil Engineering?