



Fy nhaith ddysgu yn Ngwyddoniaeth/Thechnoleg/TGCh

My learning journey in **Science** and Technology/ICT



Uned ymholi/Enquiry unit: *Do you have what it takes to be a Civil Engineer?*

Gwybodaeth a dysgu blaenorol/Prior knowledge and learning: Previously, you will have explored how the motion of objects can be affected by applying specific forces and how you can use a variety of simple models to describe the forces acting on an object. You would have also learnt how energy can be transferred from one place to another and how this can be used to provide the energy we need in our modern lives.

Yn ystod eich taith mi fyddwch yn ...

During your journey you will ...

- Explore different careers within STEM, including discovering the desirable skills and attributes of a Civil Engineer
- Distinguish between contact and non-contact forces, giving examples of each
- Using examples, describe the difference between balanced and unbalanced forces
- Investigate factors affecting the period of a pendulum
- Explain what is meant by 'air resistance' and investigate factors that would affect this
- Measure the speed of different objects
- Explore the energy transfers that occur when objects are moving or at a height
- In the context of springs, explain how you would calculate the 'extension'
- Compare what is meant by high and low pressure using a labelled diagram
- Construct distance and velocity-time graphs to show objects that are stationary, moving at a constant speed and accelerating

Yr ydym ar y daith hon oherwydd ...

We are on this journey because ...

- There are amazing career pathways and future opportunities for all of us in STEM. A career in engineering can be exciting and extremely valuable, finding solutions to some of the newest and oldest challenges we as humans face. Today, UK engineering graduates are as high in demand as ever, thanks to our world-class universities and world-famous culture of innovation.
- We want to challenge cultural stereotypes in engineering. Currently, girls only make up 16% of the engineering workforce but engineering needs people with different experiences, ideas, and perspectives so that we can respond with the best and most innovative solutions to current & future problems
- Through hands-on experimentation, we will be developing key skills such as problem solving and deduction

Eich tasgau/Your tasks:

Tasg/k 1: **Summative Assessment:** Pre and post topic quiz

Tasg/k 2: **Home Learning Task:** Pendulum at Home Investigation

Tasg/k 3: **Practical Skills:** Air Resistance Experiment

Tasg/k 4: **Creative Assessment:** Careers Focused Task

