

# > Lesson Plan 1

## What does STEM mean to you?



**Duration: 45 – 60 minutes**

### Aims:

- Inspire students about STEM.
- Challenge any myths or stereotypes they may have about STEM professionals and careers in STEM.
- Discover that STEM is everywhere – looking at the STEM behind everyday items.
- Discuss famous STEM professionals and explore important STEM discoveries and how they have impacted our lives.

### Skills:

- STEM Knowledge
- Research Skills
- Creative Thinking
- Teamwork
- Communication

### Resources:

- Lesson Plan
- Famous STEM professionals cards
- STEM Discoveries and STEM in everyday items cards
- Plain paper – pens / pencils

### Preparation:

- Download and print all cards



### Activity:

Group Discussion on what they already know about STEM professionals and careers.

**Ask the following questions:**

a) What does STEM stand for? (Science, Technology, Engineering and Maths)

b) How many careers related to STEM can you think of?

c) What do STEM professionals do?

d) Does anyone know a STEM professional?

### Team Exercise:

1. Split the students into groups of 4-5 and ask them to draw 1 scientist and 1 engineer. They need to come up with the images as a team.
2. Ask them to give their characters a first name and surname.
3. If you have time or for older pupils also get the group to draw the place that person works in and write 3 words they associate with that person.
4. Collect the pictures and then compare them, drawing out any myths or stereotypes that they have either dispelled or reinforced with their pictures.

### Potential myths/perceptions to use for this include:

- **STEM is only for boys** – see next section to dispel.
- **STEM is boring** – see STEM discoveries section to dispel.
- **STEM is only for the really clever people** – talk about different routes into STEM other than university e.g. apprenticeships – see additional information section at the end of the lesson plan.
- **People who work in STEM are 'geeks' or 'nerds'** – STEM professionals are just like us they have similar hobbies and interests e.g. sport, music.

## Group Activity

### Famous STEM Professionals

Talk through the following individuals and their achievements. Use the Famous STEM professionals cards provided to aid discussion and bring it to life. You may wish to research other famous STEM professionals to use in addition to our examples.

- Mae Jemison
- Tim Berners-Lee
- Brian Cox
- Marie Curie

## Group Activity

### STEM discoveries and STEM in everyday items

Talk through the following examples and how they have impacted our daily lives. Use the STEM Discoveries and STEM in Everyday Items cards provided to aid discussion and bring it to life. Some students may benefit from additional imagery to help them understand the impact on our lives.

- Penicillin
- X-Rays
- Gore-Tex
- Perfumes
- Fingerprint Analysis



## End the session by explaining that a career in STEM can offer:



Training and development opportunities



Make a difference to the world



STEM skills are always in demand by employers



Global Travel



Excellent pay (over a lifetime those who follow a STEM career can earn on average **£250,000** more than someone who takes a non STEM career)



## Additional information

Below is a summary of career routes available to students:

### Work experience

Work experience is usually a placement at an employer's premises in which a student carries out particular tasks or duties, more or less as an employee would but with the emphasis on the learning aspects of the experience. Only students in their last two years of compulsory schooling or taking post-16 courses are eligible. The vast majority of pre-16 placements last for two weeks, while post-16 placements can be more varied in length depending on the course the student is studying. Work experience is unpaid, but out-of-pocket expenses are often reimbursed and a placement can sometimes lead to a paid job.

### Apprenticeships

An apprenticeship is a structured programme of training which gives young people the opportunity to work for an employer, learn on the job and build up the knowledge and transferable skills that will be needed throughout their working life. One advantage of an apprenticeship is that you can earn while you learn. They can also be undertaken part time.

More information about apprenticeships can be found here:

[www.cogentskills.com/new-talent/individuals/](http://www.cogentskills.com/new-talent/individuals/)



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