

## Why are STEM subjects so important?

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## **Why are STEM subjects so important?**

STEM or Science, Technology, Engineering and Mathematics is a group of subject areas which have a profound impact on our everyday lives and are vital for the future of our country. These fields include chemistry, mathematical sciences, life sciences, information technology science and various others. As MSP Shirley-Anne Somerville (minister for further education, higher education and science) puts it, “STEM ignites our curiosity about and helps us enjoy and comprehend the natural and physical world around us. STEM skills and knowledge help us to understand, engage with and tackle important issues in society such as climate change and sustainability”.

However, despite the obvious importance of these subjects, the UK has seen a decline in the engagement of students in these areas, which is very worrying. The government is currently in the process of delivering a new STEM education and training strategy with two overarching aims:

1. To improve levels of STEM enthusiasm, skills, and knowledge in order to raise attainment and aspirations in learning, life and work.
2. To encourage the uptake of more specialist STEM skills required to gain employment in the growing STEM sectors of the economy, through further study and training.

This week several of Scotland’s Innovation Centres as well as Equate Scotland and SRPe (Scottish Research Partnership in Engineering) met to discuss the importance of STEM subjects and how the Innovation Centres as a group can ameliorate the issues surrounding uptake of young people and retaining talent. One major aspect that was discussed was the gender gap in the STEM industries. It is a well-known problem that there is a shortage of female talent within these subject areas and so getting young females excited about these subject areas is very important to try to address the gap. Although it’s evident that some industries have more work to do than others, for example construction has only 2% females. Obviously, there are cultural challenges that need to be addressed here to attract women to these kinds of industries. There are various schemes and opportunities available to young women to access the STEM programmes and schools have made an effort to encourage young women to think about future careers in STEM subjects which is very promising.

So why is the new strategy the government is drafting important to the DHI? Well, digital skills are becoming increasingly more important within society and the economy and indeed within the STEM industries as technology and data become more prolific across the sectors. As it stands, over 75% of

Scotland's workforce requires some degree of digital skills regardless of industry sector. As these industries become ever-more technology-focussed, the work force must be equipped to deal with this and have a suitable level of digital literacy. With this in mind, it is very alarming that 12.6 million adults in the UK lack basic digital skills and an estimated 5.8 million have never used the internet before. The digital skills gap is costing the UK government an estimated £63 billion a year in lost additional GDP. Therefore, the DHI are very focussed on ensuring that Scotland's 'digital readiness' as a nation is improved to allow for the digital divide to be reduced, our economy to grow and opportunities to be open to all. The DHI will work with the skills organisations and institutions across Scotland to support the achievement of this.

As more investment is made into digital-skills provision and educators encourage more young people to consider IT and digitally-led jobs as options for their future, the STEM industries will be equipped with the staff and the skills they require to be competitive in the global economy.

The STEM Education and Training Strategy for Scotland will be published in March.