

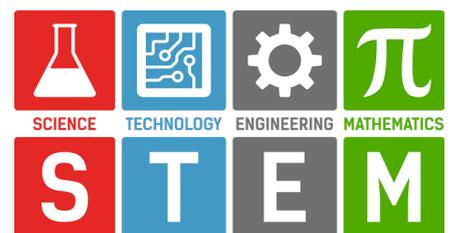
STEM: BUILDING THE SKILLS BASE FOR MEETING SOCIETY'S FUTURE ENERGY DEMAND



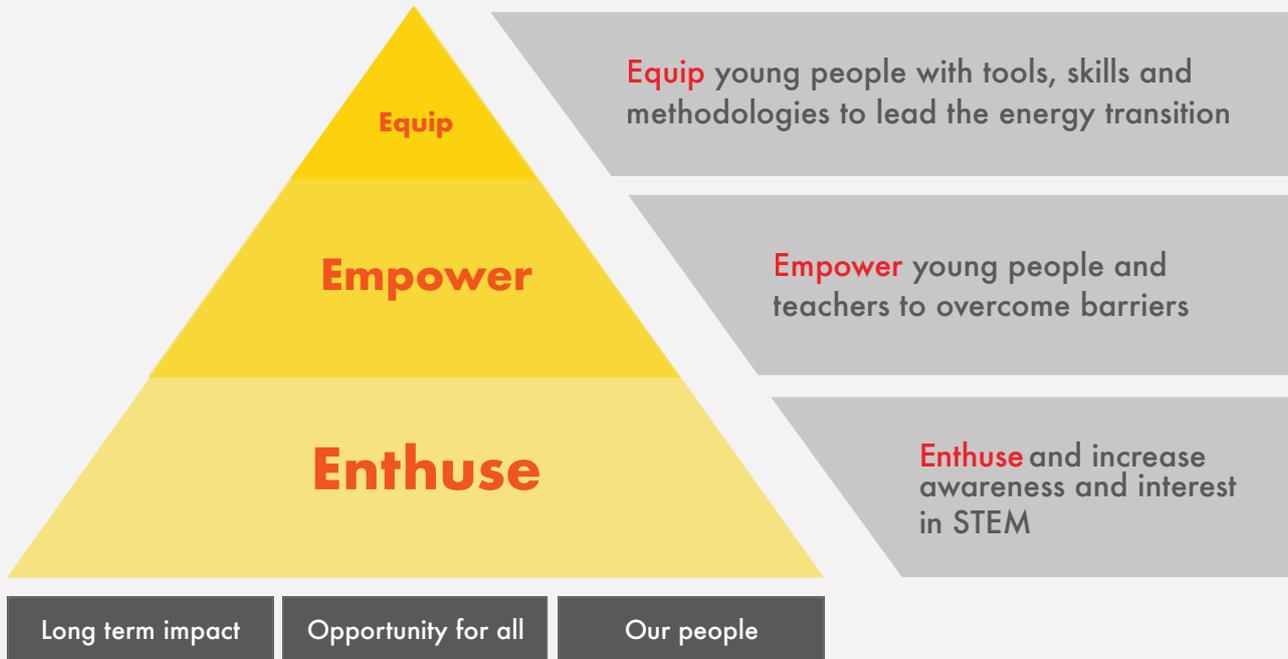
Science, technology, engineering and mathematics (STEM) are more than gateways to great, sustainable careers; they are the subjects that dictate whether a country will be competitive and able to hold its own in a world where digitisation and innovation are keys to future prosperity.

Increasing digitalisation and automation are changing the nature and mix of skills that young people will need if they wish to remain relevant today and in the future. Relevance also requires that individuals have to be agile and ready, not only to adapt to changing technologies but also to lead innovation in the workplace.

Shell is a passionate supporter of STEM-based education as it acknowledges that the skills of scientists, engineers, educators and leaders are essential to meeting the world's demand for energy. Furthermore, STEM is also fundamental to our business; we need to continue to attract and retain talented people with relevant STEM knowledge and skills as we strive to deliver cleaner energy.



Supporting STEM



- Identifying schools which will benefit most by having the programme available to their learners.
- Training of mathematics and science teachers through 'train the trainer programmes' to empower teachers to teach and transfer mathematics and science knowledge effectively.
- Providing additional classes for learners on Saturdays. Shell partners with the Maths Centre, which offers educators to assist learners with understanding the material taught at school and also assist with advice on careers.
- The participation of Shell staff volunteers to provide learners with guidance on career paths and assist them with university applications.
- Awarding of Shell bursaries to universities, other tertiary institutions and learnerships at Shell to provide a good start to those considered most likely to succeed.

Many schools do not have access to the funding needed to provide science labs and computer centres to facilitate practical and experiential learning of technical subjects.

Shell-sponsored 'mobile labs' help to fill this gap, bringing infrastructure to learners. It's an end-to-end process that helps close the gaps that state-assisted schools cannot address.





Sthembiso Musana
– Shell Bursar

A Gateway to Future Career Pathways in STEM:

Education is one of South Africa's top development priorities. Improving our real matric pass rate and encouraging more learners to take mathematics and science as core subjects are both crucial to developing a competitive, future-focused economy and to creating a more efficient education system.

Shell South Africa is helping to tackle the issue at its source – at schools where additional classes are making a difference in the lives of learners.

When Sthembiso Musana first came into contact with Shell South Africa, both parties could not have realised that they were starting a relationship that would last for years.



For the Grade 11 pupil, his intention was taking his respectable maths, and physical science marks to the next level. For this, he required practical teaching support. Fortunately, this assistance was close at hand and being offered at his Katlehong school by Shell South Africa through one of their maths and science programmes.

"In Grade 10, physics was difficult," Sthembiso recalls." Then Shell came in on Saturday mornings in my Grade 11 year and started offering extra classes. Things just improved. From Grade 10 to Grade 11, my marks went from 60% to 70%. I stuck with the programme into Grade 12 (matriculation), and my scores increased from 70% to 90%. I got 98% for my physics final and 93% for my maths."

"Yes, I did work hard, but my marks wouldn't have been possible if I hadn't been attending the programme from the beginning. Most of the concepts were made more explicit in the classes and that helped me. Shell told me in Grade 11 that they had bursaries available, but only those who achieved 75% or more could apply."

"I worked towards that target and was offered a bursary in Grade 12."

Originally, Sthembiso wanted to specialise in Mechatronics Engineering. However, after some reflection, he realised that it would probably be better to study electrical engineering and consider adding mechatronic studies after he had some experience under his belt.

Now, he is working towards an electrical engineering degree. Sthembiso has Shell at the top of his mind after graduation. He hopes, he says, to join the company and carve himself a career in a global environment.

In the meantime, Shell supports Sthembiso with a bursary that covers full tuition and accommodation. This support is crucial as, without it, he would not be able to consider tertiary education. "Getting the bursary is one of the best things to ever happen to me," he says.

His path to university, however, wasn't without its difficulties. His mother, who had single-handedly brought him up, passed away unexpectedly while he was preparing for the most important exams of his life during his matric year. Her funeral took place two days before he was due to take his maths exam. He sat it and passed with distinction, an achievement he views as a tribute to his mother.

There is no doubt that his single-minded focus on getting ahead played a part in his school achievements and will continue to drive his studies and future career. The move from high school to a competitive academic institution where self-discipline is a requirement for success was empowering. "The move has helped me realise that the harder I work, the more I can achieve in life," he concludes.

