A scientist just like me

Dr Geoffrey Neale
Materials Engineer

Primary Science Teaching Trust

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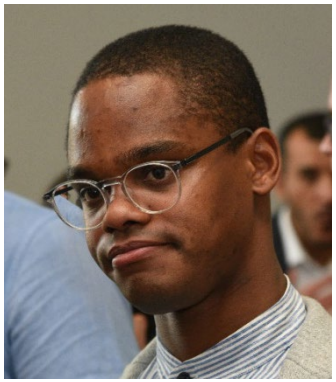
Hi there! I am Dr Geoffrey Neale – a materials engineer



Where do I work?

I work at Cranfield University in Bedfordshire.

What did I like doing when I was at school?

I loved science and geography at school and originally wanted to be a pilot. I also spent a lot of time in after school activities like scouts, music band and playing water polo.

What do I like doing in my spare time?

I love doing anything outdoors like hiking, camping and wild swimming. I also really enjoy travelling to new countries and exploring cultures across the world.

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What do I do as a materials engineer ?

I design new materials that we use to make the most amazing modern engineering structures like planes, cars, spacecraft, and wind turbines. I try to make it so that these materials, mostly plastics and ceramics, are very strong, sustainable and lower cost.

How does what I do make the world a better place?

My job helps to make sure that the materials that make the built-up environment around us are fit for the future, allowing us to build bigger, better and smarter structures. I also educate the next generation of engineers so that they can help us address the climate emergency too.

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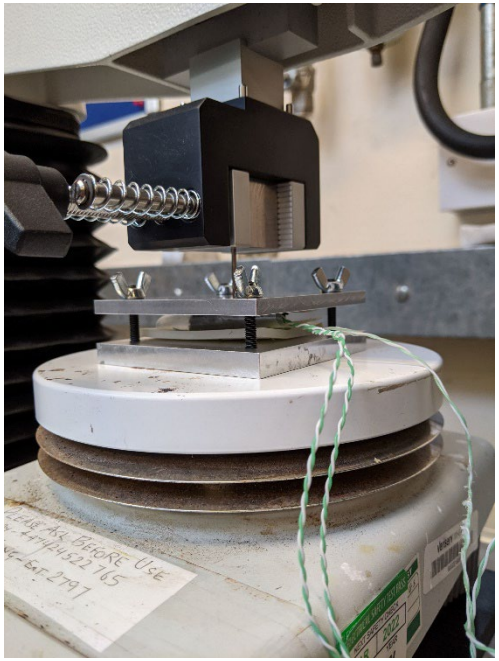
What I like about my job

I like that no day is the same. I deal with many different projects for industries like aerospace, maritime, energy, space and so on. No two material needs are the same, but the projects are all a fun challenge to solve. It gives me something brand new to focus on almost every day.



Challenges I have faced

The main challenge that I have faced is around feeling comfortable to share my ideas with my co-workers. It can be hard to keep going when someone tells you that your idea isn't good, but I make sure that I learn from their feedback and use that to come up with something even better!

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If you want to be a materials engineer, you need:

- **to like looking at materials and specimens under microscopes** to see their structures close up
- to be **interested in how things break and behave** when they're hot, cold, shocked, burned, drenched or simply just pulled or bent
- **to like to get your hands dirty** playing with mixing different substances together
- **an inquisitive mind** and the ability to ask, "Why not try this?" – some of the best materials inventions were accidental

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Discussion time

- Would you like to be a materials engineer like Dr Geoffrey Neale?

  Why? Why not?

- What skills and interests do you already have that would help you become a materials engineer?

- What new skills and knowledge would you need to develop?

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Dr Geoffrey Neale is a STEM ambassador. Click here to access free STEM Ambassador support and resources.

Free supporting resources for materials engineering

Bringing Back Glass – a set of activities to explore the properties and importance of glass in everyday lives, in science and in technology

Science & STEM Clubs – See 'Engineering Our World' or 'Challenge chasers'

Did you know? articles use cutting-edge science research as a context for learning. Teacher Guides can be used a classroom presentations. They explain what scientists have done and suggest practical activities for children. Children interested in marine science might also be interested in these projects. See:

- Bamboo could be used to make cricket bats
- Geoengineering could slow melting of Arctic Ice
- How to clean water Using a Molecular Sieve

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