What is STEM?

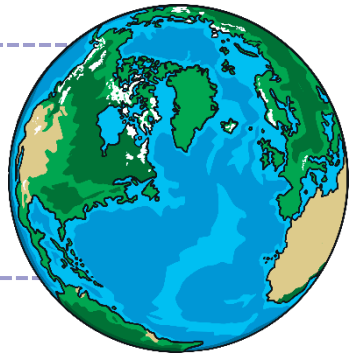
What is STEM?

STEM stands for:

- ✓ **S**cience
- ✓ **T**echnology
- ✓ **E**ngineering
- ✓ **M**athematics

STEM is a way of teaching these subjects by grouping them together.

These are subjects that help us to learn about our world and create inventions to make our lives easier, solving real-life problems like helping the future of our planet.



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Why Are They Grouped Together?

These subjects are grouped together as many of today's jobs and work projects involve people from these subject areas working as a team.

Learning about **STEM** and taking part in **STEM** activities help us to understand how these topics are linked.

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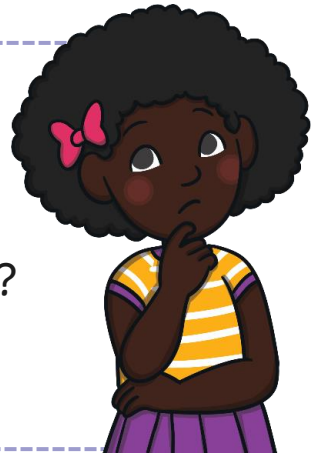
Science

Have you ever wondered:

- why the sky is blue?
- what animals live in the deepest parts of the ocean?
- why Saturn has rings?



Asking interesting questions about our universe and carrying out investigations to find out the answers is a key part of being a scientist.

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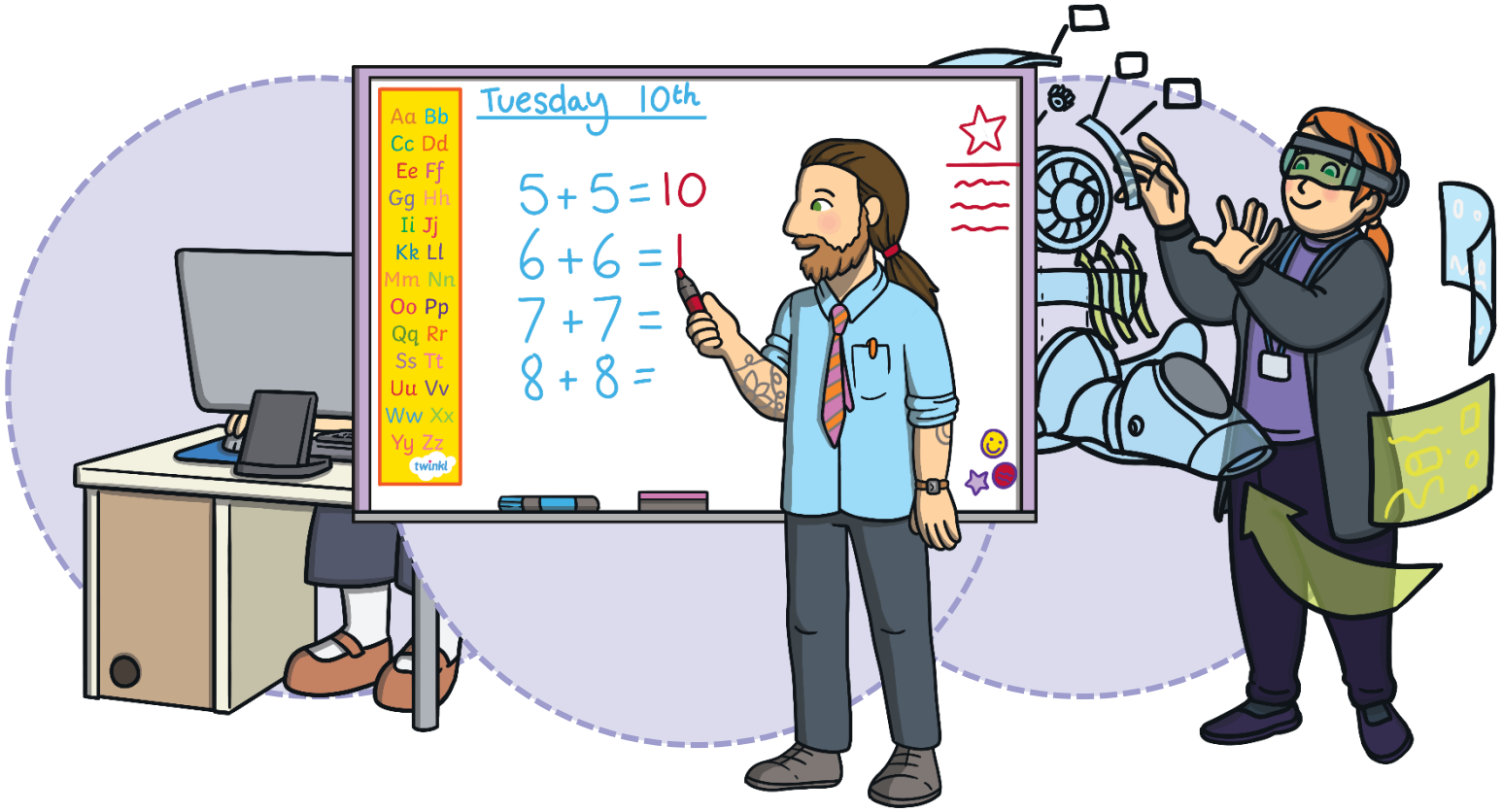
Science

Mathematics is also very important for helping them to understand the results of their investigations.



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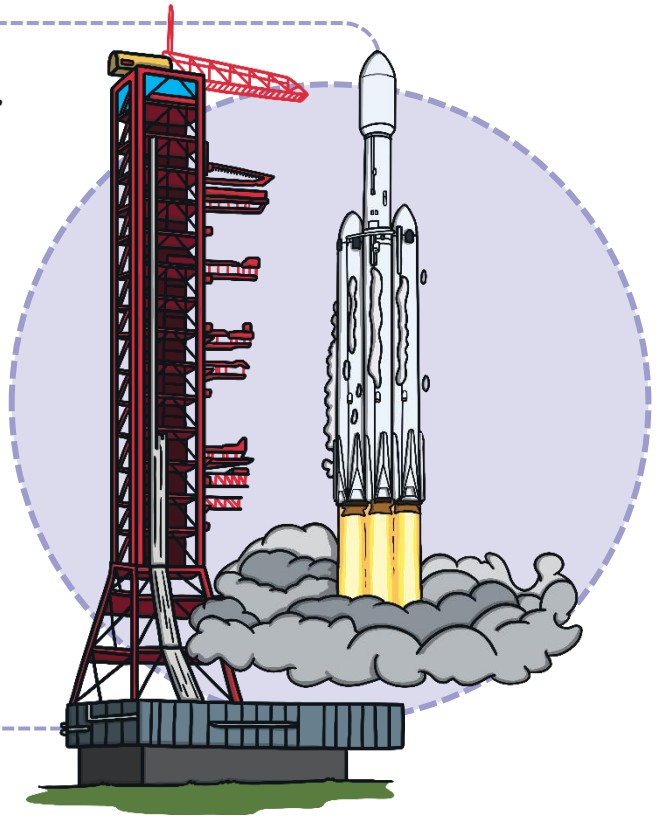
Technology

Technology is the use of knowledge to solve problems and create new resources, often to make our lives easier.

We use **technology** to do a range of things. These include:

- making new products, such as computers or modes of transport;
- finding new ways to carry out tasks, such as sending people into space;
- solving some of the world's biggest problems, such as climate change and disease.



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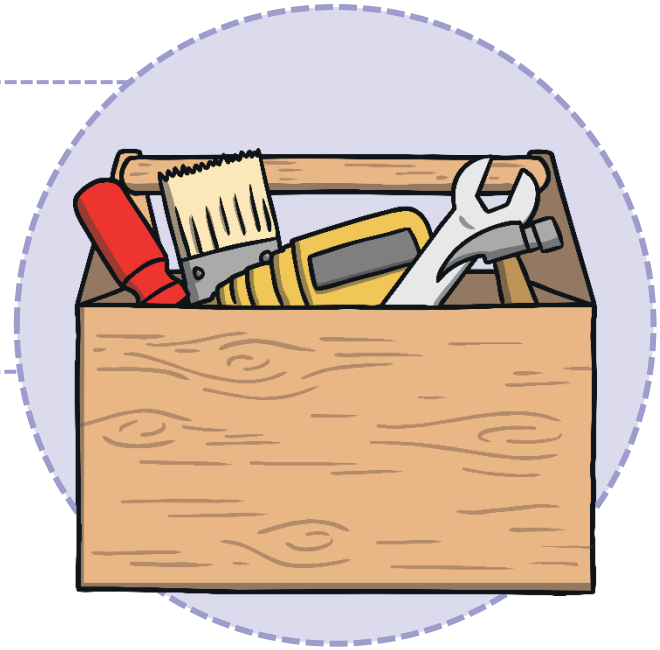
Technology

Technology doesn't just involve the use of electrical equipment. Some of the earliest examples of technology include people making tools and weapons during the Stone Age.

Talk About It

Can you think of any examples of technology that you have used so far today?



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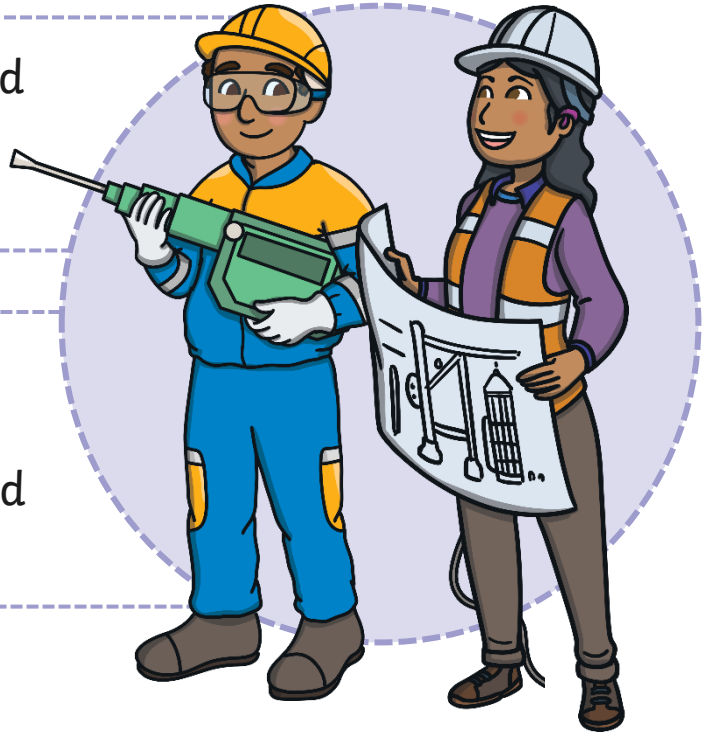
Engineering

Engineering is the way that new technology is created.

An **engineer**'s job is usually to design and build things and they often need to use **maths** and **science** to help them do this.



There are many different types of **engineers** and they create a huge range of things, such as bridges, machinery and computer programs.

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Mathematics

Mathematics is the study of numbers and how they relate to each other. We use **maths** in everyday tasks, such as buying items at shops, cooking and telling the time.

There are many different types of **mathematicians**. Some **mathematicians** work alongside other people in **STEM** to help solve a range of problems.

For example, their calculations might be used to work out how tall a building could be without it collapsing or to help to write a program for a computer.

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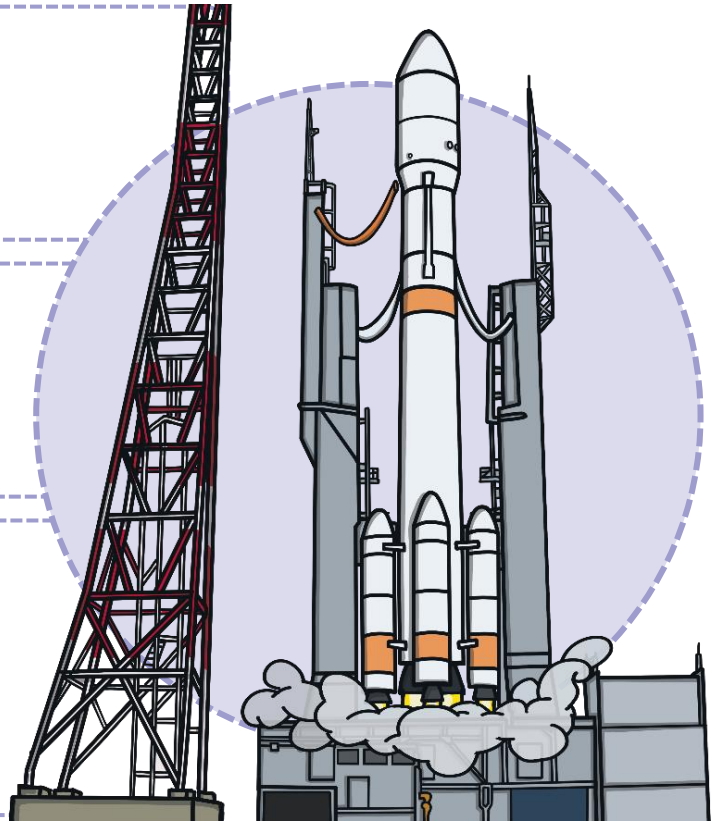
Examples of STEM

An example of people in different **STEM** jobs working together could include sending a rocket to space.

Scientists would carry out different investigations and research to find out more about space and flight.

New **technology** would be created to design the rocket and **engineers** would help to build this.

Throughout each step, all of the workers would need to use **mathematical** calculations to make sure the rocket would be successful.



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What Skills Does STEM Learning Teach Us?

Learning through **STEM** help us to:

- become better at problem solving;
- improve our teamwork skills;
- understand that making mistakes is an important part of learning.

Linking our learning together across these subjects also helps us to understand why they are important in the real world.

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Your Future in STEM

? How many different **STEM** jobs can you think of?

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Your Future in STEM

? Would you like to have a job in **STEM** when you are older? Explain why.

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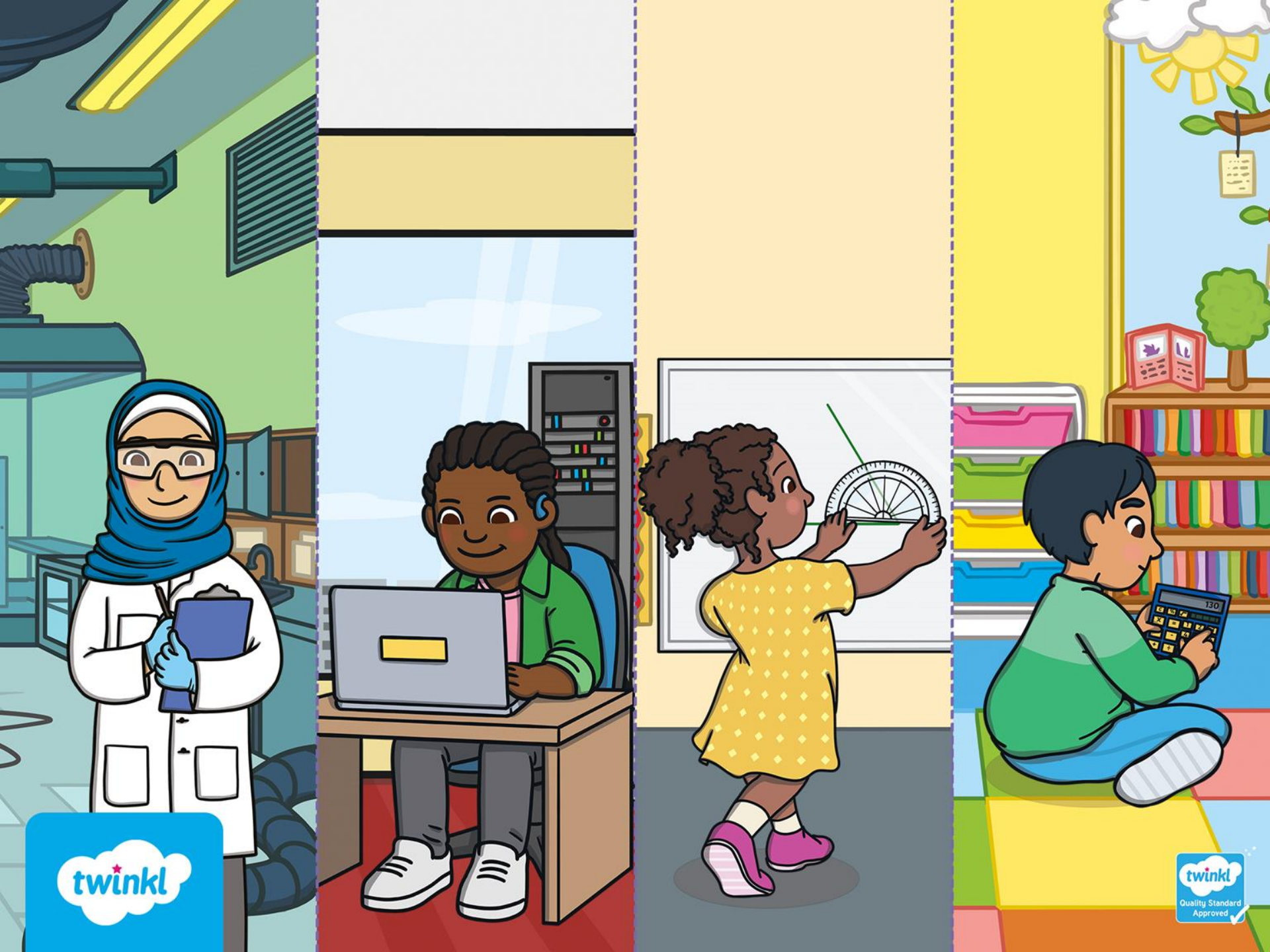
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