

**Global Science  
Education: Our role as  
educators and what  
does the future hold  
for students.**



**An international networking**

# What can you gain from international experience?

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- Achieve positive change in your country
- Realise that there is more than 1 way to do something - sometimes better ways
- Understanding that there are many similarities with teachers and students across the world
- Increase in professional knowledge and skills to share.
- Improved motivation
- Greater awareness of, social history, international literature and world politics
- CPD opportunities

# 14 big ideas in science- source: Harlen et al (2015)

- All matter in the Universe is made of very small particles
- Objects can affect other objects at a distance
- Changing the movement of an object requires a net force to be acting on it
- The total amount of energy in the Universe is always the same but can be transferred from one energy store to another during an event
- The composition of the Earth and its atmosphere and the processes occurring within them shape the Earth's surface and its climate
- Our solar system is a very small part of one of billions of galaxies in the Universe
- Organisms are organised on a cellular basis and have a finite life span

# 14 big ideas in science continue

- Organisms require a supply of energy and materials for which they often depend on, or compete with, other organisms
- Genetic information is passed down from one generation of organisms to another
- The diversity of organisms, living and extinct, is the result of evolution

## **Ideas about science :**

- Science is about finding the cause or cause of phenomena in the natural world
- Scientific explanations, theories and models are those that best fit the evidence available at a particular time
- The knowledge produced by science is used in engineering and technologies to create products to serve human ends
- Applications of science often have ethical, social, economic and political implications

# Science technicians and their roles

- Science technicians in your school- do you have one? What is their role?
- Continuing professional development opportunities for science technicians- what is it?

**What is the state of primary and secondary science in your countries?**

- What can be improved and how?
- Delegate discussions

# The State of Primary Science in the UK

## Key findings

### Progress since 2017

- More schools have a designated science leader
- Weekly science provision is more common
- Science leaders are accessing CPD more frequently

### Areas needing attention

- Confidence to teach science has declined for both science leaders and other teachers
- Fewer non-science leaders report access to mentoring or regular science meetings
- A higher proportion of non-science leaders report receiving no science CPD
- Variation persists across nations and contexts, including access to trips and outdoor learning

## Why leadership matters

- Schools with a designated science leader report stronger provision across multiple measures, including weekly teaching, perceived support for teachers and enrichment access

Source: [Primary Science Teaching Trust \(2025\)](#)

[The State of Primary Science in the UK \(2025\) - Primary Science Teaching Trust](#)

# Improving secondary science in the UK.

- **Preconceptions: build on the ideas that pupils bring to lessons**
- **Self-regulation: help pupils direct their own learning**
- **Modelling: use models to support understanding**
- **Memory: support pupils to retain and retrieve knowledge**
- **Practical work: use practical work purposefully and as part of a learning sequence**
- **Language of science: develop scientific vocabulary and support pupils to read and write about science**
- **Feedback: use structured feedback to move on pupils' thinking**

**Source: EEF (2018): [Improving Secondary Science | EEF](#)**

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- What are your CPD needs?
- Opportunities for international collaboration (research, training etc.)