

**STEM**@  
education  
connect

# STEM

## Pathway to Mastery

**Primary**

# Welcome to STEM @ Education Connect

**Specifically tailored to primary schools, the STEM Pathway to Mastery is:**

- Led by experts
- Collaborative



**Designed to develop curriculum, teaching and learning and assessment of STEM subjects.**



**Offers high quality CPD for teachers across all stages of their career providing sustained impact across the academic year.**



## Who are we?

Our team consists of national experts who have led on curriculum development, assessment and teaching and learning over the past 10 years, bringing with them a wealth of experience in both subject and senior leadership.

## Why choose the STEM Pathway to Mastery?

**For over 10 years** our team have been working with teachers, subject leads and leadership teams at both school and trust level to develop excellence in the STEM subjects.

Based in the North West our experts will work, within your school, to drive and sustain improvement in science, design and technology and computing.

**“The entire course was enlightening, especially the insights from an experienced practitioner!”**

**“Gained clear insights into effective curriculum implementation!”**

**“Valued the practical tips, shared practices, and useful links for Computing Leads!”**

## Meet the team



Chris Hillidge



Amy Welsh



Emma Antrobus



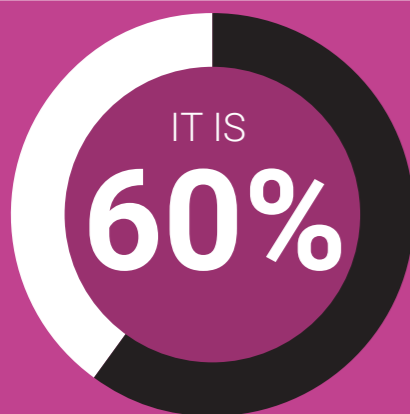
Jenny Barrowcliff

## Teacher Recruitment and Retention

Teachers who engage with high quality CPD in the STEM subjects are nearly **twice as likely to remain in post than teachers who don't.**

We understand the challenge of recruiting and retaining good quality teachers and subject leaders, and the STEM Pathways to Mastery program has proven impact to support your school.

Less than 5% of primary school teachers have a post 16 STEM qualification. **The STEM Pathways to Mastery provides colleagues with confidence across curriculum, pedagogy and assessment across these subjects.**



MORE LIKELY THAT A STEM TEACHER WHO ENGAGES WITH CPD WILL STILL BE IN THE PROFESSION 5 YEARS LATER.

## Local Network of Support

Schools on The Pathway to Mastery have the opportunity to **join face to face networks** that meet throughout the year.

Developing **subject leadership** and **assessment diagnostics.**

Our networks build on best practice and enable partner schools to **build genuine collaboration.**

## The Pathway to STEM Mastery - SCIENCE

### INTENT

- Provide access to our Primary Science Network for sustained CPD across the academic year for the science lead and whole staff.

### IMPLEMENTATION

- Coaching for subject leads on implementing action plans.
- Continued access to year group specific CPD through the Primary Science Network.

### IMPACT

- Moderation sessions through the year to ensure high quality science delivery in line with National Curriculum.
- Continued coaching and CPD to ensure best practice across the subject for all staff.

**10 face to face** twilight sessions across the academic year.

**Each of the 7 subject knowledge sessions** will have a specific year group as its focus providing CPD for the whole staff across the academic year from EYFS to year 6.

**The 3 sessions for science leads** will specifically develop the skills needed to lead science based on the latest academic research.

Cost £500 for school access to Primary Science Network

Contact us for further bespoke science support



## The Pathway to STEM Mastery – DESIGN AND TECHNOLOGY

Our subject experts can provide support including:

- Effective leadership of design and technology in your school
- Diagnostic support with your curriculum, especially on the tricky elements of the National Curriculum.
- Subject networks of support to address teacher gaps in knowledge.
- Access to supported sessions in our Fablab for up to 15 children per session to undertake design and make projects that meet the National Curriculum.

Our local networks focus on subject knowledge and pedagogy. Design and technology is often taught by non-specialists and through our networks, we can give them the confidence and knowledge to ensure your pupils can learn at Mastery level in design and technology.

Contact us for bespoke design and technology support

## The Pathway to STEM Mastery – COMPUTING

### INTENT

- Collaborate with the Senior Leadership Team (SLT) and the computing lead to review the current computing curriculum in your school.
- Develop an action plan based on the subject review.
- Work to complete the initial assessment of your school as part of the Computing Quality Framework (CQF), identify the strengths, and the next steps to develop computing further.
- Provide access to our primary computing CPD across the academic year for the computing lead and whole staff.

### IMPLEMENTATION

- Coaching for subject leads on implementing the action plan and CQF.
- Reviewing the use of hardware and software available within your school.
- Continued access to CPD throughout the year.

### IMPACT

- Moderation sessions throughout the year to ensure high-quality computing delivery in line with the National Curriculum.
- Continued coaching and CPD to ensure best practice across the subject for all staff.

Contact us for further computing support

WE'RE HERE TO HELP YOU NAVIGATE  
THE PATHWAY TO STEM MASTERY IN  
COMPUTING.



“ Investing in high  
quality CPD is a key  
strategy to reverse  
teacher shortages.

UNESCO

# STEM

## Pathway to Mastery

**Evidence backed CPD** is also available and is developed and delivered by experts. This could be as a bespoke course in school or individual teachers can access scheduled CPD.

### Science

#### Working scientifically

This short course can be delivered as a whole school twilight and covers the 5 types of enquiry and explores the practical work happening in each year group.

#### Science teaching for ECTs

This series of 6 twilights will cover all of the essentials needed for ECTs to effectively teach science, with sessions including tackling misconceptions and effective practical work.

#### New to leading primary science

This full day course is based on the latest evidence and best practice to provide a comprehensive insight into the role of the science lead, with opportunities to reflect on science in your school and identify next steps to move science on.

#### Linking science with english and maths

Join our half day course to explore engaging and ways to link science, english and maths. Gain insights on maths and english skills in the national curriculum whilst keeping science as the focus of learning.

#### Using scientific vocabulary

Boost your children's scientific vocabulary skills in this 90-minute course, designed to enhance your understanding of key technical terms for each year group. Learn effective strategies to integrate this vocabulary into lessons and foster a rich scientific language environment for your children.

#### EYFS: The building blocks of science

Join our half day course that will enhance your understanding of science in EYFS and equip yourself with a range of ideas and clear progression to key stage 1 ensuring a strong foundation for science in your school.

### Computing

#### Programming pedagogy

A half day session covering the latest educational research regarding programming pedagogy and how to implement them in the classroom.

#### Practical programming – building programs and live coding

A half day session on how to use live coding in lesson and how to demonstrate resilience in the students through coding.

#### Using block-based programming

A short 90 minute session on how to use block based programming.

#### Literacy in computing, using the right vocabulary

A 90 minute session on how to embed subject specific language in computing lessons, and how to use real-life concepts to help students understand the language of computing.

#### How to teach tricky concepts

A half day course looking at the tricky concepts on the curriculum and how to teach them. Available for each year group.

#### Equity, diversity and inclusion

A half day session on how to make computing inclusive for all students.

#### Computing to support other subjects

A 90 minute session on how computing can be embedded to support other subjects.

Contact us:  
**[stem.educationconnect@tcat.uk.com](mailto:stem.educationconnect@tcat.uk.com)**

For our full CPD offer and to book a place, scan the QR code.



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