**Primary Maths and Science conference**

**Thursday 21st June 2018**

**Workshop Options**

1. **Dr Bunhead- Keynote**

Fed up Fixing Lots of Problems? Rather run STEM sessions full of Fun, Learning, Inquiry and Play? In this keynote Tom Pringle shares ideas on how to move from the FLOP to the FLIP state. We explore how STEM in the classroom can prepare all pupils for the increasing uncertainties of 21st century work-life. How you nurture and develop the self-reliant, problem-solving, creative innovators needed to lead tomorrow's STEM industry, whatever their career path. Tom has spent 30 years as both a formal and informal science educator.  He has travelled worldwide teaching & performing in schools, theatres and on TV (best known as Dr Bunhead from Brainiac).

1. **Science on a shoestring with Debbie Jones and Kate Redhead**

# Make your science budget go further! This hands-on workshop will provide teachers with a bank of ideas to use in the classroom to promote practical science.  Each activity involves minimal spend on resources, whether it’s re-cycling materials from around the home/school or low-cost items from local supermarkets. *Debbie Jones and Kate Redhead, PSTT*

1. **Engaging Scientists and engineers in EYFS and KS1 with Kirstin Greygoose**

# Explore the wonders of machines in this hands-on session.  Use a range of common resources to develop children's natural curiosity about the world around them; encourage collaboration and communication skills to solve a simple problem. This session is presented by Kirstin Greygoose, Programme Manager for The Ogden Trust.  Kirstin has over 15 years primary teaching experience, working mainly in KS1 and EYFS.

1. **Effective engagement in STEM subjects with West Midlands STEM ambassador hub**

Do your learners ‘see themselves as scientists of the future’? Research tells us that although over 70% of KS2 pupils say that they think science is ‘interesting’, very few of them see themselves as using science in their future lives/careers. To combat this, we need to broaden our pupils’ awareness of the value of science to them ‘in the real world’ and increase their ‘Science Capital’. Join the West Midlands STEM Ambassador Hub, and some STEM Ambassadors from various industries, to discover activities and strategies and find out how you can access free support to enhance your pupils’ engagement in Science.

1. **Surprising science with Matt Pritchard**

A workshop jam packed with science tricks, stunts and puzzles that will challenge pupils to discover the sneaky scientific secrets behind the surprising illusions. This is not just an awe & wonder show but one that encourages scientific enquiry and critical thinking skills. Each demo uses everyday household objects that you can go away and try in the classroom later without busting the budget.

1. **Practical action with Amelia Perry**

This hands on practical session from Practical Action will show you how bringing real life global context into your science teaching will engage your pupils in science and give them the opportunity to discuss global issues. You will discover a wide range of high quality free teaching resources that will help you deliver the science curriculum and can also be used to gain CREST awards. Best of all you will get the chance to have a go at our ‘Floating Garden Challenge’ and reflect where you could embed this and and Practical Action’s other popular STEM challenges in your future planning. [www.practicalaction.org/schools](http://www.practicalaction.org/schools)

1. **Supporting SEND pupils with maths with Dawn Convery and Mairi Eggar**

This workshop will offer opportunities for signposting and sharing information regarding available Assessment tools and packages available to support with SEN learners, with a main focus on pupils working at Pre Key Stage 1 Standards. We will share practice and ideas around Mastery for SEND pupils and discuss effective use of resources and differentiation for these pupils. We will share information about using technology to enable these pupils to be more independent with recording their own work or gathering evidence. Led by Dawn Convery and Mairi Eggar, work group leads for the Bridging the Gap Maths Hub work group.

1. **Learning in books/ maths journals with Helen Hackett and Claire Duncan**

A few years ago children’s maths books were full of calculations, marked right or wrong using an answer book. Following a mastery approach, maths books look different…

Is there a difference between journaling and practice?

What should we see in maths books?

How often should children record?

Should EYFS record at all?

Are photos evidence of learning?

Who monitors maths books?

How do we recognise greater depth in books?

These questions will be explored during this workshop as participants look at a selection of learning in books and discuss what it reveals.

Session led by two TfMastery Leads - HH & CD.

1. **You don’t need to be ill to get better: using evidence to**

**improve your mathematics practice with Nicola Jones and Jennifer Devaney**

This session explores how utilising research evidence can improve classroom practice.  In particular, we will look at the recommendations from the recent EEF KS2/KS3 mathematics Guidance Report and how to develop these into effective teaching strategies for understanding.

1. **RAF100**

The Royal Academy of Engineering and the Royal Air Force have teamed up to bring 100 years of RAF engineering marvels to life in classrooms across the UK with an exciting new RAF Centenary ‘Aiming for Awesome’ teaching resource for primary schools. During the workshop, you will have an opportunity to explore some of the STEM challenges  and to consider ways that they can be adapted and differentiated. They are designed specifically for pupils in Years 5, 6 & 7.

1. **Dr Bunhead Paper Power**

Tom Pringle (Dr Bunhead from TV's Brainiac, Blue Peter etc) provides a host of cheap and reliable activities coupled with tried and tested approaches that deepen pupils' understanding and experience of scientific thinking and mathematical reasoning. These activities and approaches surprise, challenge and charm young learners. Best of all, they are made entirely from the simplest of classroom resources - paper! Through these activities you will practise the "Wow! Why? Aha!" approach to scientific working; turning curiosity into meaningful investigation. You will test and experience that tricky but **crucial progression from teacher-fed to pupil-led activity**. “Accompanying every successful class progression is a teacher's journey from sage on the stage to guide on the side. We let them go so they may learn to lead.”

1. **Building Mathematical Resilience**

Jane Moreton (university of Worcester) will be leading this workshop. The construct ‘mathematical resilience’ allows learners to manage and protect themselves from unhelpful emotions, such as mathematics anxiety, that may arise when mathematics becomes difficult to learn, and to recruit appropriate support. Mathematical resilience is not just something that learners do or do not have, it can be grown. This workshop will explore means to help learners understand and articulate their feelings when they are learning mathematics. Teaching for resilience involves learners developing

* A growth mindset
* A willingness to struggle
* A knowledge of how to work at mathematics
* An understanding of the meaning, value and purpose there is in mathematics.