

## **Session 1: 10:05 – 11:05**

### **Discover Enzymes Made Easy**

Join Dr Bill Burnett, one of Tonbridge School's experienced biology teachers with an industry background and a real understanding of the technician's perspective, for a hands-on workshop all about enzymes. You'll explore and test enzyme activities that are simple to source, inexpensive, and most importantly actually work! Learn how to adapt these experiments into microscale formats that save time, reduce mess, and make practical work more efficient and engaging. Don't miss this chance to pick up fresh ideas, practical tips, and classroom-ready activities!

### **Microscale Circus**

This engaging, hands-on session will be led by Katy Bray, Education Coordinator, Community Development at the Royal Society of Chemistry. Participants will explore a variety of microscale experiments and discover fun, educational activities such as titrations, neutralisation, and precipitation. The session will also feature two unique challenges, "*Technicians in Trouble*" and "*Escape the Classroom*", designed to spark curiosity, creativity, and problem-solving skills.

### **Energy in Motion: Smart Setups for Mechanics (GCSE)**

Join Ralph Fleming, a Tonbridge School Physics Teacher, and Physics Partners Coach for a hands-on workshop. Discover clever, low-cost ways to enhance classic motion and energy experiments. This session showcases how simple tweaks and smartphone tools can make trolley and ramp investigations more accurate, visual, and engaging, helping technicians get consistent results from familiar equipment.

### **STEM Clubs on a Budget**

Running a STEM club doesn't have to drain your already stretched science budget! In this session, Rae Chilton, Physics Technician at Lewes Old Grammar School, will share practical tips and insights from four years of experience setting up and leading a successful STEM club. You'll explore creative ways to source ideas and design engaging, low-cost activities tailored for Key Stage 3 students. The workshop will also include a chance to try out some simple but effective activities that you can take back and use straight away with your own club.

### **Crime Scene in a Box**

Join Vanessa Johnstone, a chemistry technician at Hills Road Sixth Form College and former forensic scientist, for this hands-on workshop. Drawing on her experience in forensic science and technical expertise, Vanessa has created Crime Scene in a Box. A ready-to-use activity that brings forensic investigation into the classroom. During the session, you'll explore how to set up and run your own crime scene using accessible materials and analytical techniques. Take the inspiration back to your school to let students test their problem-solving and scientific skills. Can you solve the crime?

## **Session 2: 11:45 – 12:45**

### **Discover Enzymes Made Easy**

Join Dr Bill Burnett, one of Tonbridge School's experienced biology teachers with an industry background and a real understanding of the technician's perspective, for a hands-on workshop all about enzymes. You'll explore and test enzyme activities that are simple to source, inexpensive, and most importantly actually work! Learn how to adapt these experiments into microscale formats that save time, reduce mess, and make practical work more efficient and engaging. Don't miss this chance to pick up fresh ideas, practical tips, and classroom-ready activities.

### **Takeaway Microscale**

In this practical session, Katy Bray, Education Coordinator, Community Development at the Royal Society of Chemistry, will guide participants in making their own personal hotplate to take away. Using easily accessible materials, this device is ideal for performing microscale experiments such as making salts, perfect for adding flexibility and engagement to classroom science.

### **pH Curve for a Weak Acid Strong Alkali Titration**

Join Dr Chris Lawrence, an experienced teacher from Tonbridge School in this practical workshop, where he will guide participants through the process of determining the pKa of a weak acid using pH titration techniques. You will use a pH meter to plot a titration curve for a weak acid strong alkali system and apply the data to identify the acid and calculate its pKa value. The session will also cover how to prepare a standard solution, highlight key titration techniques, and walk through the essential calculations needed to accurately quantify and interpret the results.

### **Light, Lasers, and Quantum (A-level)**

Explore elegant and modern optics demonstrations that bring quantum ideas to life. From laser alignment hacks and diffraction tricks to affordable spectroscopy and photoelectric effect setups, this session highlights how to achieve high-impact results with limited resources, and is workshop is led by Ralph Fleming, Tonbridge School Physics Teacher and Physics Partners coach.

### **Leadership and Prep Room Management**

Join Angie Ridout, Chief Technician at Dagenham Park C of E School, and Paul Cook, Lead Technician for the Ark Academy Network, for an engaging and practical workshop on leading prep rooms and managing teams effectively. Drawing on over 20 years of combined experience as award-winning technicians, Angie and Paul will share insights from two very different school settings and how they run their prep rooms. In this session, you'll explore strategies for allocating tasks, working more efficiently, and maintaining smooth operations. You'll also learn about managing databases, requisitions, and maintenance systems to keep your prep room running

like clockwork. You'll leave equipped with practical tools, leadership skills, and ideas to create a well-organised, high-performing prep environment for your team.

### **STEM Clubs on a Budget**

Running a STEM club doesn't have to drain your already stretched science budget! In this session, Rae Chilton, Physics Technician at Lewes Old Grammar School, will share practical tips and insights from four years of experience setting up and leading a successful STEM club. You'll explore creative ways to source ideas and design engaging, low-cost activities tailored for Key Stage 3 students. The workshop will also include a chance to try out some simple but effective activities that you can take back and use straight away with your own club.

### **Crime Scene in a Box**

Join Vanessa Johnstone, a chemistry technician at Hills Road Sixth Form College and former forensic scientist, for this hands-on workshop. Drawing on her experience in forensic science and technical expertise, Vanessa has created Crime Scene in a Box. A ready-to-use activity that brings forensic investigation into the classroom. During the session, you'll explore how to set up and run your own crime scene using accessible materials and analytical techniques. Take the inspiration back to your school to let students test their problem-solving and scientific skills. Can you solve the crime?

### **Session 3: 13:30 – 14:30**

#### **Making the Most of Your Microscopes**

In this session, Julia Milligan, Senior Science Technician at Leigh Academy Halley, will explore how to set up and use microscopes effectively. The session will include guidance on troubleshooting common faults and introduce some creative and less conventional microscope activities, not all of them biology related!

#### **Organic Synthesis: Preparation of Aspirin (Double session)**

In this practical session, you will first prepare 2-hydroxybenzoic acid by hydrolysing methyl 2-hydroxybenzoate, then synthesise aspirin through the acetylation of salicylic acid using ethanoic anhydride. Emphasis will be placed on achieving a good yield and product purity through careful control of reaction conditions and technique. Under the expert guidance of Dr Chris Lawrence, an experienced teacher from Tonbridge School, you will develop practical laboratory skills, refine key synthetic and purification methods, and determine the melting point of your aspirin product. Please note, this is a double session.

#### **Microscale Cracking**

Join Katy Bray, Education Coordinator, Community Development at the Royal Society of Chemistry, for a hands-on demonstration of how to perform the cracking of liquid paraffin using microscale techniques. This session will show how a traditionally complex experiment can be simplified and made safer, more efficient, and more accessible for classroom use.

#### **Fields & Induction – Power from Motion (A-level)**

Turn motion into electricity with creative, hands-on demonstrations of electromagnetic induction. Ralph Fleming, a Tonbridge School Physics Teacher, and Physics Partners Coach will teach you how to build and troubleshoot simple generators and transformers, compare core materials, and safely set up magnetic experiments that make field theory truly dynamic.

#### **Tips, tricks, and practical science on a budget (Double session)**

Back again by popular demand, join technicians' Mark, David, and Nick from Hayes School Bromley, in a workshop covering budget-friendly tips, and subject-specific advice. The workshop includes practical tips, discussion-based learning, and advice on affordable purchasing strategies. Please note this is a double session.

#### **A Better Approach to Requisition Management**

Join Peter Sigsworth from LabLogger for an interactive presentation and workshop exploring LabLogger, the UK's leading requisitioning platform. Discover what makes LabLogger so effective, why it's trusted across the UK, and how it can streamline and transform your department's requisition process. Peter will guide you through LabLogger's key features, demonstrate how to get started, and share practical tips for making the most of the platform. The session will conclude with a live Q&A, giving you the opportunity to ask questions and explore specific use cases.

### **Crime Scene in a Box**

Join Vanessa Johnstone, a chemistry technician at Hills Road Sixth Form College and former forensic scientist, for this hands-on workshop. Drawing on her experience in forensic science and technical expertise, Vanessa has created Crime Scene in a Box. A ready-to-use activity that brings forensic investigation into the classroom. During the session, you'll explore how to set up and run your own crime scene using accessible materials and analytical techniques. Take the inspiration back to your school to let students test their problem-solving and scientific skills. Can you solve the crime?

## **Session 4: 14.35 – 15.35**

### **Modelling the Digestive System**

Models are frequently used in science lessons to demonstrate key principles. In this session, Julia Milligan, Senior Science Technician at Leigh Academy Halley, will lead a fun, hands-on activity modelling the processes of digestion. The session can be adapted for all age groups and provides an opportunity to explore what makes a good scientific model. Participants will also consider whether misconceptions can be clarified or potentially reinforced by modelling.

### **Organic Synthesis: Preparation of Aspirin (Double session)**

In this practical session, you will first prepare 2-hydroxybenzoic acid by hydrolysing methyl 2-hydroxybenzoate, then synthesise aspirin through the acetylation of salicylic acid using ethanoic anhydride. Emphasis will be placed on achieving a good yield and product purity through careful control of reaction conditions and technique. Under the expert guidance of Dr Chris Lawrence, an experienced teacher from Tonbridge School, you will develop practical laboratory skills, refine key synthetic and purification methods, and determine the melting point of your aspirin product. Please note, this is a double session.

### **Wireless Sensors for Required Practicals**

Join Lee Grahame from Data Harvest for a hands-on workshop exploring how to use EasySense2 software and wireless sensors to enhance your GCSE and A Level required practicals. Discover how datalogging can bring experiments to life, and in some activities, you can even use your own smartphones to collect data.

### **Tips, tricks, and practical science on a budget (Double session)**

Back again by popular demand, join technicians' Mark, David, and Nick from Hayes School Bromley, in a workshop covering budget-friendly tips, and subject-specific advice. The workshop includes practical tips, discussion-based learning, and advice on affordable purchasing strategies. Please note this is a double session.

### **Leadership and Prep Room Management**

Join Angie Ridout, Chief Technician at Dagenham Park C of E School, and Paul Cook, Lead Technician for the Ark Academy Network, for an engaging and practical workshop on leading prep rooms and managing teams effectively. Drawing on over 20 years of combined experience as award-winning technicians, Angie and Paul will share insights from two very different school settings and how they run their prep rooms. In this session, you'll explore strategies for allocating tasks, working more efficiently, and maintaining smooth operations. You'll also learn about managing databases, requisitions, and maintenance systems to keep your prep room running like clockwork. You'll leave equipped with practical tools, leadership skills, and ideas to create a well-organised, high-performing prep environment for your team.