



**WYCHWOOD**

SCHOOL • OXFORD

# Introduction to Practical Science



# Introduction to Practical Science

**Dates:** 8<sup>th</sup> – 12<sup>th</sup> July 2024

**Age:** 11-14 years

**Course size:** 12 students

**Package fee:** £300

## Package includes:

- Hands-on workshops: learn through interactive lessons
- Expert tuition
- All course materials
- Lunch and snacks

## What you can expect:

- **Gain hands on practical experience in the lab** with interactive lessons with Oxford University qualified tutor.
- **Small class sizes** for individual attention.
- **Make lasting friendships** with students from all over the world, creating memories that will last a lifetime.



## Programme Overview:

Experiment like an **Oxford Scientist!**

This programme will introduce you to **practical science** enabling you to become a confident, competent experimentalist and to develop **investigative science skills**. This programme is designed for students who have no or little experience of conducting experiments in a laboratory. Each day during the week is broadly split into three sections where a different aspect of science is encountered - one dealing with topics from **physics**, one from **biology** and one from **chemistry**.

During the **laboratory sessions** you will become familiar with basic laboratory equipment and how to use it safely and correctly. You will also work to develop the four main skill areas of investigative science: **planning experiments, obtaining data, analysing** and **concluding** and **evaluating**.

By the final day you should be able to conduct an entire investigation from start to finish including:

- planning a safe and fair procedure
- selecting appropriate equipment
- gathering sufficient, reliable, accurate and fair data
- analysing data and drawing a valid conclusion
- deciding on improvements and extensions to further your work.

## Programme Tutor: Abigail Stacey

Abigail is the Academic Deputy Head at Wychwood School, Oxford and has worked for many years teaching science both in the UK and overseas in Norway and the US. She has an honours degree in Chemistry from the University of Oxford and a Master's Degree in Education from Oxford Brookes University where her thesis explored academic buoyancy and students' ability to persist with their learning when things get difficult.



## Sample Timetable

	Monday	Tuesday	Wednesday	Thursday	Friday
<b>9:00am - 10:30am</b>	Introduction and Safety  Physics - experiments	Physics - experiments with circuits measuring current and voltage.	Biology - chemical tests on food for protein, fats, reducing sugars and starch.	Physics - create a compressed air rocket.	Planning and pre-test
<b>Break</b>	Break	Break	Break	Break	Break
<b>11:00am- 12:3pm</b>	Biology - microscopy - making and observing slides	Biology - photosynthesis experiment	Physics - calculating the density of regular and irregular objects.	Biology - investigation into the preferred conditions for small animals using choice chambers	Obtaining data
<b>Lunch</b>	Lunch	Lunch	Lunch	Lunch	Lunch
<b>1:30pm- 3:30pm</b>	Chemistry - experimental investigation into the nature of acids, alkalis and indicators	Chemistry - measuring temperature changes in a range of exothermic and endothermic reactions	Chemistry - measuring rates of reactions.	Chemistry - making a range of slimes.	Analysing, Concluding and Evaluating



## Wanting to do more?

Like all our programmes, our Practical Science programme can be combined with other programmes to make a 2, 3 or 4 week course.

If you are interested in further developing your skills in Science, we would recommend combining with the **STEAM: 'Cracking the code'** programme and the **STEAM: 'Symmetry' programme**.

It is also possible to combine with our **Rowing, Rugby or World of Football** programme if something more sporting takes your fancy.

Please see our Programmes page for more information.





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