

# **12 supercurriculars that strengthen your child's Physics application.**

*What top universities actually want to see beyond A-level grades.*

*the activities:*

*Your child doesn't need to do all 12. Pick 2-3 that genuinely interest them and go deep. Admissions tutors can spot a checklist approach immediately.*

### 1. **UKMT Maths Challenges**

Physics degrees are mathematically demanding. UKMT proves your child has the problem-solving foundation that top physics departments expect.

**Start here:** Enter via school or register at [ukmt.org.uk](http://ukmt.org.uk). Start with the Intermediate Challenge in Year 9-11, progress to Senior in Year 12.

### 2. **British Physics Olympiad (BPhO)**

The single most respected physics supercurricular. Shows you can think beyond the A-level syllabus. Admissions tutors at Oxford, Cambridge, and Imperial actively look for BPhO participation.

**Start here:** Enter via school. Past papers and solutions at [bpho.org.uk](http://bpho.org.uk). Even attempting the problems builds the skills they test at interview.

### 3. **ESAT Preparation**

Required by Cambridge, Imperial, UCL, and Durham for Physics. Replaced the old PAT. This is your entry ticket to the top departments.

**Start here:** Register and find past papers at [esat-tmua.ac.uk](http://esat-tmua.ac.uk). Physics applicants need Maths 1 + Physics. Start prep in summer of Year 12.

### 4. **Read Physics Books Beyond the Syllabus**

Shows genuine curiosity beyond what you are taught. Admissions tutors want to see that you have explored physics because you wanted to, not because you had to.

**Start here:** [Six Easy Pieces by Richard Feynman](#) is the classic starting point. Also: *The Elegant Universe* by Brian Greene, or *Surely You're Joking, Mr. Feynman!*

*the activities (continued):*

## 5. **3Blue1Brown + Physics YouTube**

Visual intuition for the maths behind physics. 3Blue1Brown covers linear algebra and calculus in ways that directly apply to university physics.

**Start here:** [3blue1brown.com](https://www.3blue1brown.com) for the maths foundations. MinutePhysics and Veritasium for conceptual understanding. Watch one video a week and note what surprised you.

## 6. **A Deep-Dive Physics Investigation**

Pick one area of physics and spend three months exploring it. Quantum mechanics, astrophysics, particle physics, fluid dynamics. Admissions tutors want intellectual depth, not a checklist.

**Start here:** Choose something that fascinates you. Read one paper or popular-science book chapter on it. Try to understand the maths. Write up what you found and what questions it raised.

## 7. **Free Online Courses**

MIT OpenCourseWare offers Walter Lewin's legendary physics lectures for free. Khan Academy covers the foundations. Complete one course properly.

**Start here:** [ocw.mit.edu](https://ocw.mit.edu) for university-level lectures. Khan Academy for filling gaps. One full course, not three halves.

## 8. **Physics Experiment or Build Project**

A hands-on project shows you understand physics as a practical science, not just equations on paper. Build a spectrometer, measure gravitational acceleration, or model a pendulum system.

**Start here:** Start with equipment you have. [Arduino](https://www.arduino.cc) sensors can measure light, motion, and temperature for under £30. Document your method, results, and what went wrong.

*the activities (continued):*

## 9. Attend Public Physics Lectures

The Royal Institution Christmas Lectures, Gresham College, and university public lectures give you material no other applicant has. Mention a specific lecture at interview and you stand out.

**Start here:** [rigb.org](http://rigb.org) for Royal Institution events. [gresham.ac.uk](http://gresham.ac.uk) for free London lectures. Many are also available on YouTube.

## 10. Physics Competitions Beyond BPhO

The Isaac Physics platform, STEM Olympiad, and Physics Challenge all strengthen an application. Isaac Physics in particular is used by Cambridge as preparation material.

**Start here:** [isaacphysics.org](http://isaacphysics.org). Work through the problem sets at your level and push into the next level up. Designed by Cambridge physicists.

## 11. Tutor Physics to Younger Students

Teaching deepens your own understanding and shows leadership. Explaining momentum or circuits to a Year 10 student forces you to really understand them.

**Start here:** Offer to help at your school's GCSE physics revision sessions, or tutor a younger student one-to-one. The reflection on what was hard to explain is gold for your personal statement.

## 12. University Taster Days & Summer Schools

The 'Why this university?' interview question needs a specific answer. Physics taster days let you compare lab facilities, research specialisms, and teaching styles.

**Start here:** Check physics department websites from Year 11 onwards. [Ogden Trust](http://ogden-trust.org) runs funded physics events for sixth formers. Many universities offer free taster days too.

*Pick 2-3. Go deep, not wide. Quality over quantity.*

# Need a personalised plan for your child?

Whether it's GCSE planning, A-level choices, university applications, or supercurricular strategy, I can help you build a clear plan for your child's next step.

Book a 1:1 Education Advice Call. 30 minutes. Your specific situation. A clear plan forward.

**This guide shows what to do. The Physics Requirements Cheat Sheet shows where to apply. Grades, offer rates, A\* placement rules for 16+ universities.**

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