



The King's School
Ottery St Mary

“Explore More”



A guide to independent research, beyond the curriculum, for students, parents and guardians.

Foreword

Jess Lister, School and College Liaison Officer

Downing College, University of Cambridge (2017 – 2019)



“Top universities will look beyond your GCSE and A-Level grades. We are looking for students who are intellectually curious, who can think for themselves, and who are independent learners. Finding out what you are interested in and developing that interest should be a top priority for all students who hope to make competitive applications.

Developing a capacity for independent study can often be overlooked, but it remains a key proficiency that admissions tutors across the UK - and especially at the University of Cambridge - are looking for. The best applications we receive are from students who develop their academic skills above and beyond the school curriculum.

Where to start? With the resources in this guide! There are also a few things to remember as you start to explore further:

- Be open-minded – look outside what you are learning in school and develop new interests. They might be linked to your favourite subject or be something completely different.
- ‘Little and often’ – 10 minutes a week is a good starting point, but the key is building the habit and sticking to it.
- Do not worry if you do not understand everything to start with – you will get better! It is like going to the gym – it takes a while before you see any results.
- Keep a list of any new vocabulary, ideas or phrases you come across and google them if you get stuck.
- Find connections – between the subjects you are studying at school, or the new topics you are exploring.
- Be active, not passive – seek out new opportunities and new resources. Share these with your friends, classmates or teachers
- Be reflective – when reading articles, listening to podcasts, or watching a new (educational!) YouTube video, develop your own opinions about it as well. Challenge yourself to keep a list of things you have been exploring, in a planner or a notes app on your phone.

Most importantly – enjoy it. The topics and subjects you are exploring should be things you are interested in and passionate about. If it starts to feel like extra homework, try to find something else.”

Introduction

Rob Gammon, Head Teacher

The King's School, Ottery St Mary



“The school’s commitment to “Achievement for All” makes King’s a cohesive and inclusive community in which every student has the opportunity to flourish. We see it as our responsibility to unlock the potential in our students, giving them the skills to develop into confident and articulate young people.

We have a track record of success in providing a platform from which our students can undertake top degree apprenticeships and apply to some of the best universities in the world. Our understanding of what is required has developed from our involvement with university outreach programmes such as those offered by the Universities of Cambridge and Oxford. What is very clear is that these universities and employers are seeking to identify students that have taken the time to explore their subject beyond the formal curriculum, engaging in “supracurricular” activities such as extra reading, downloading lectures, taking part in academic competitions and undertaking relevant work experience.

This interest in the subject must come from the student, supported by their parents and the school. It is complemented by formal programmes within school such as “Challenge Plus” and “Aspire”, our involvement with New College, Oxford’s “Step Up” programme, as well as the many enrichment opportunities that are provided by staff e.g. school trips and visiting speakers. These opportunities allow students and their parents to be inspired and to stimulate a discussion at both school and home that looks ahead to preparing for applications to prestigious universities and apprenticeship opportunities.

The purpose of this pack is to provide students and their parents with suggested resources that the student can access in their own time. Students will get the most from this if they are supported and encouraged at home and have the opportunity to discuss what they have read/watched/heard. Therefore, parents have a significant role to play in providing an environment in which your child can enjoy, engage and excel in their chosen area of interest.

My simple advice to students (and parents) is to work hard, grasp every opportunity and allow yourself to aspire to be the best you can be.

I would like to thank Jess Lister (Outreach Officer, University of Cambridge), and Claire Sims (Schools Liaison Officer, University of Oxford) for their assistance and guidance in compiling these resources. In addition, my thanks to our staff at The King’s for their recommendations.”

Contents

This booklet contains suggested resources for exploring your academic interests. The resources are arranged by type as follows:

1. Websites
2. Podcasts
3. You Tube Channels
4. Journals and Magazines
5. Twitter
6. Multi Open Online Courses (MOOCs)
7. The King's School Library.

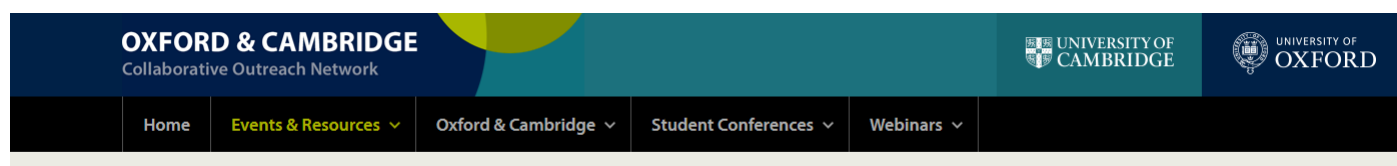
Within Sections 1-4, the suggested resources are grouped into headings often used to describe the different faculties or colleges at universities. These are:

- a) Cross-curricular
- b) Science / Medicine / Engineering / Maths
- c) Arts / Humanities
- d) Social Sciences.

1. Websites

a) Cross-Curricular

Oxford and Cambridge Universities host an **Outreach Network** (www.oxfordandcambridgeoutreach.co.uk), where you can find events and essay competitions from the Universities of Oxford and Cambridge. The website allows you to filter by region, subject, event type or key stage.



Explore: The Home of Big Questions: Aims to engage young people with debates and ideas that go beyond the classroom. Tackling complex ideas across a wide range of subjects and drawing on the latest research undertaken at Oxford. Students decide which question they wish to answer, agree or disagree with the question, and are presented with the arguments from the opposing side. <https://explore.org/>

Discover Downing: A website designed to lead you to online resources to help you to explore your area of interest. Type in a subject and it will point you to a variety of resources that you could use. www.discoverdowning.com/resources

Staircase 12: University College, Oxford's online hub of resources and information for students thinking about applying to top universities. You will find plenty of ideas here for stretching yourself beyond the school syllabus. www.univ.ox.ac.uk/applying-to-univ/staircase12/

HE+: Cambridge postgraduate students and academics at the cutting edge of research in their field produce topics with guided activities, questions to think about and suggestions for further reading. The main subject pages also give you a quick guide to what it would be like to study the subject at university level and suggest some further resources to check out. www.myheplus.com/

Zooniverse: Take part in science and humanities research projects from the comfort of your own home! Search for planets around stars, classify cyclone data, annotate historic war diaries and much more. A fantastic way to explore your subject and contribute to something in the process. www.zooniverse.org

Changeaview: Developed from a subreddit, this website encourages reasoned debate between users from across the internet. Post a position, and ask people to challenge it. Contribute to other debates. Moderated, but remember to check whether statements are fact or opinion. www.changeaview.com/

b) Science / Medicine / Engineering / Maths:

Isaac Physics: You work it out: A Cambridge University website designed to support students at GCSE, A Level and transition to University. Builds students' understanding of physics, via problem solving www.isaacphysics.org/

Isaac Chemistry: Coming soon, currently elements available via Isaac Physics.

NRICH: NRICH is an innovative collaboration between the Faculties of Mathematics and Education at the University of Cambridge, part of the University's Millennium Mathematics Project. NRICH provides thousands of free online mathematics resources for ages 3 to 18. nrich.maths.org/about

What if by XKCD: "Serious Scientific Answers to Absurd Hypothetical Questions". Using jokes and diagrams, this cartoonist gives real answers to ridiculous user-submitted questions. <https://what-if.xkcd.com/>

Ben Sparks: Musician and mathematician, able to explain advanced mathematical ideas in a clear and engaging manner. His website has great videos and other resources. www.bensparks.co.uk/

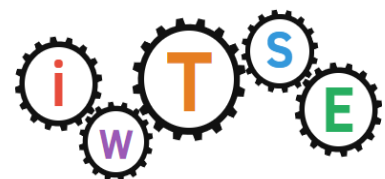
Brilliant: Master key ideas in maths, science, and computer science through problem solving. www.brilliant.org

Dr Frost Maths: An online learning platform for maths, including enrichment resources and videos. <https://drfrostmaths.com/index.php>

The UK Mathematical Trust (UKMT): UKMT is a charity whose aim is to advance the education of young people in mathematics. Lots of resources and challenges. <https://www.ukmt.org.uk/>

Medic Mentor Seminar Series: A free long-distance study series to help prospective Medics, Vets and Dentists stay on top of important subjects such as current affairs, medical ethics, clinical scenarios and interview questions. www.medicmentor.co.uk/seminar-series/

iWantToStudyEngineering: The place to go for students interested in making competitive engineering applications to top universities. For A-Level students or high achieving Year 11s <http://i-want-to-study-engineering.org/>



iWantToStudyEngineering

A website to help *you* compete for engineering places at top universities.

c) Arts / Humanities:

iLove Languages: A hub website for anyone interested in languages with links to dictionaries, blogs, teaching resources, online communities and more.

www.ilovelanguages.com/index.php?category=Languages

BFI's Royal Geographical Society archive: A series of free videos from the Royal Geographical Society depicting various cultures throughout the history of film. <https://player.bfi.org.uk/free/collection/royal-geographical-society>

Public Law for Everyone: An accessible blog about a number of legal topics written by Mark Elliott, Professor of Public Law at Cambridge University. <https://publiclawforeveryone.com/>

RightsInfo: News and research about recent human rights issues. <https://rightsinfo.org/>

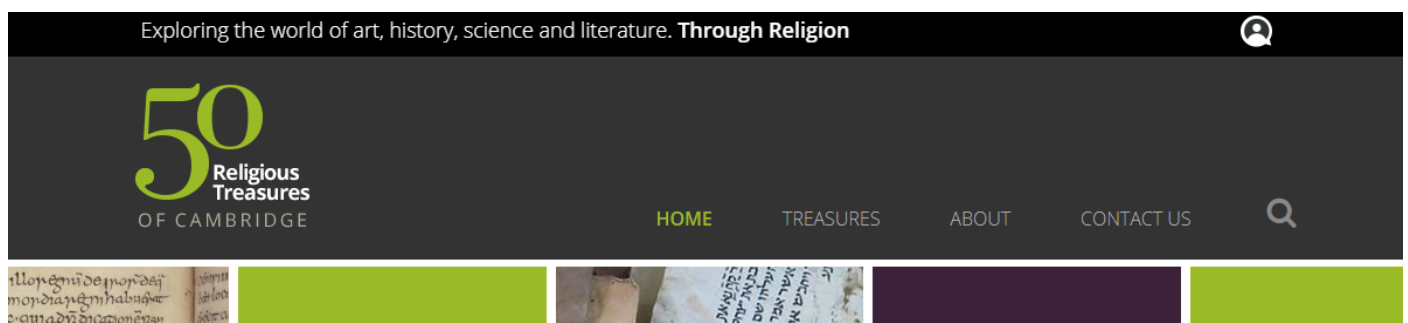
Cambridge University Virtual Classroom for History: A really useful collection of guides and resources for studying History at university. www.hist.cam.ac.uk/prospective-undergrads/virtual-classroom

CamLangSci Blog: An applied linguistics blog run by Cambridge graduates, focusing on linguistic misconceptions and current news stories. www.icge.co.uk/languagesciencesblog/

Practical Ethics: A blog run by Oxford academics, which applies the principles of ethics to everyday life. <http://blog.practicaethics.ox.ac.uk/>

History Chicks: Their goal is to introduce you to female characters in history, factual or fictional via a weekly podcast and notes. An introduction, an overview and a little push to explore and learn more on your own. Each topic comes with a reading list and biography. <http://thehistorychicks.com>

50 Religious Treasures of Cambridge: Detailed and interesting analysis of 50 objects to do with religion and culture in Cambridge. www.50treasures.divinity.cam.ac.uk/



d) Social Sciences:

Becoming Human: An interactive timeline on the history of humans, plus games and activities on the concept of human evolution. www.becominghuman.org/

Human Origins: A collection of resources from the Smithsonian Museum of Natural History. <http://humanorigins.si.edu/>

Oxford Q-Step Centre: A number of materials from the quantitative social science programme at Oxford University. If you are interested in quantitative methods or statistical approaches to politics, it is well worth looking at these resources. www.oqc.ox.ac.uk/resources/resources.html

OxPol: Oxford University's Politics blog, collating all the latest research and analysis from academics at the university. <https://blog.politics.ox.ac.uk/>



2. Podcasts

a) Cross-Curricular:

University of Oxford Podcasts: Free educational media recorded from the University of Oxford. From Big Questions to Shakespeare and Stargazing, find something new to listen to on your journey to school.

<http://podcasts.ox.ac.uk/>

The Guardian Newspaper, Audio Long Read: A selection of long read articles delivered as a podcast.

In-depth reports from around the world on immigration, crime, business, the arts and much more. www.theguardian.com/news/series/the-audio-long-read



Radio 4 In Our Time: Leading academics discuss topics from History, sciences, philosophy and art – with topics from ‘The Gin Craze’ to ‘Julius Caesar’.

www.bbc.co.uk/programmes/articles/598SVYJ2smP8qJlpH29y7Vj/podcasts

b) Science / Medicine / Engineering / Maths:

The Naked Scientists: Science news stories, scientific breakthroughs and interviews with leading scientists, all done with a sense of humour. www.thenakedscientists.com/podcasts/naked-scientists-podcast

Costing the Earth: BBC Radio 4 programme exploring humanity’s impact on our environment.

www.bbc.co.uk/programmes/b006r4wn

Science Friday: A wide-ranging and fun podcast on a number of different science topics.

www.sciencefriday.com/listen/

science
FRIDAY

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c) Arts / Humanities:

Philosophy Bites: 15 minute introductions to various elements of philosophy. Their back catalogue covers a whole range of topics on morality and ethics, which can be relevant to many subjects (not just philosophy!). <https://philosophybites.com/>

Composer of the Week: BBC Radio 3 podcast covering a different composer every week, looking at some of their famous works and the context behind them.

www.bbc.co.uk/programmes/p02nrvd3/episodes/downloads

d) Social Sciences:

Analysis (Radio 4): 30 minutes a week on topics across politics, science, economics and beyond.

www.bbc.co.uk/programmes/b006r4vz

Talking Politics: Recorded every week in the Cambridge University Politics Department, a regular panel of experts and invited guests try to make sense of politics today. www.talkingpoliticspodcast.com/

The Week: Weekly magazine giving brief summaries of news from around the world: useful if you are trying to keep up with global current affairs www.theweek.co.uk

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3. You Tube Channels

a) Cross-Curricular:

Ted Talks and Ted Ed Talks: TED Talks are short, powerful talks (18 minutes or less) covering almost all topics — from science to business to global issues. Ted Ed is their platform for education, with shorter videos (generally approx. 4-5 minutes), that are animated videos with a voice-over. www.ted.com/talks and <https://ed.ted.com/>

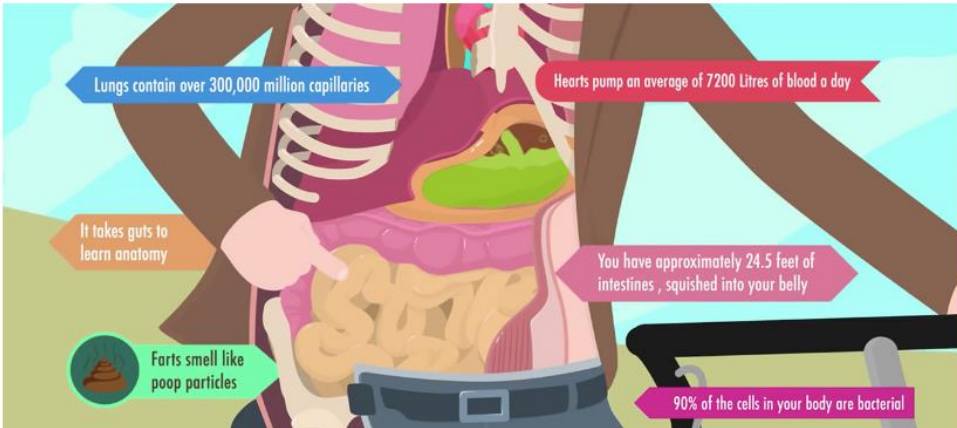
The Crash Course: Similar to Ted Ed talks, Crash Courses are witty videos that brilliantly capture key theories from across the curriculum, making it easy to learn without even realising that you are studying. <https://thecrashcourse.com/>

Gresham College Lectures: Gresham College exists to disseminate knowledge to the public through free lectures. This four-century-old tradition continues today with the three or more lectures a week made freely available for download from their website and YouTube: <https://www.youtube.com/user/GreshamCollege>

Yale Courses: Filmed lecture series from Yale University, one of the top Ivy League Universities in the USA. Follow University level content on a whole range of subjects, with additional material available online. <https://www.youtube.com/user/YaleCourses/playlists>

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WELCOME TO CRASH COURSE



Lungs contain over 300,000 million capillaries

Hearts pump an average of 7200 Litres of blood a day

It takes guts to learn anatomy

You have approximately 24.5 feet of intestines, squished into your belly

Farts smell like poop particles

90% of the cells in your body are bacterial

Crash Course is one of the best ways to educate yourself, your classmates, and your family on YouTube!

From courses like Astronomy to US History and Anatomy & Physiology it's got you covered with an awesome variety of AP high school curriculum topics. With various witty hosts at your service, you won't even notice you're getting smarter.

b) Science / Medicine / Engineering / Maths:

MinutePhysics: This channel's motto is, "If you can't explain it simply, you don't understand it well enough." Concise videos explaining key physics-related topics.

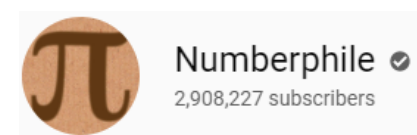
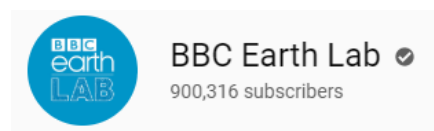
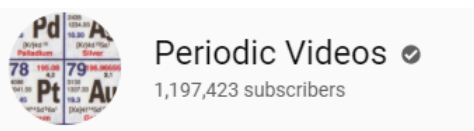
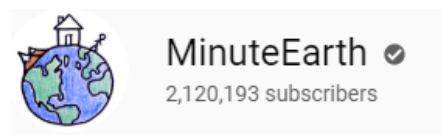
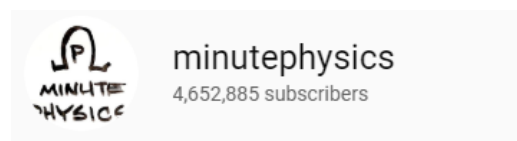
www.youtube.com/user/minutephysics

MinuteEarth: By the same creators as MinutePhysics, this channel focuses on Earth sciences. www.youtube.com/user/minuteearth

PeriodicVideos: Engaging videos arranged by the University of Nottingham, featuring the elements of the periodic table
www.youtube.com/user/periodicvideos/featured

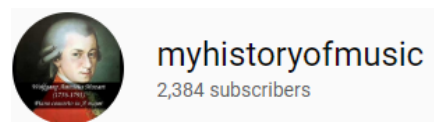
BBC Earth Lab: Videos from the BBC to answer your questions about science in the world around you.
www.youtube.com/user/HeadsqueezeTV/featured

NumberPhile: Really engaging videos about numbers.
www.youtube.com/user/numberphile/featured



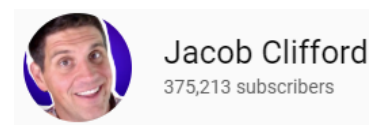
c) Arts / Humanities:

History of Music: A series of YouTube videos about composers, famous compositions, and how music has changed throughout history. Not just for budding musicians – it might be interesting for historians or anthropologists too.
<https://www.youtube.com/user/myhistoryofmusic/videos?sort=da&view=0&flow=grid>



d) Social Sciences:

Jacob Clifford (Economics): The co-host of Crash Course economic lectures also has his own channel with all things economics.
<https://www.youtube.com/channel/UCCQEbgDL8i40d83Au55IYMQ>



4. Journals and Magazines

a) Cross-Curricular:

The Phillip Allen Review via the Magazine

Archive: access to 15 Review magazines (current and back copies).

Each edition contains topical articles, cutting-edge research and brand new case studies to deepen your subject knowledge and help you develop independent learning skills. Plus revision support and expert exam advice.

Simply login to **moodle > LIBRARY > Magazine Archive** then type a topic into the search box and select a subject from the dropdown menu.



b) Science / Medicine / Engineering / Maths:

New Scientist Magazine and British Medical Journal: Although these are subscription-based magazines, you can register to receive two free articles a month online. They cover current thinking and hot topics in politics / economics / science and medicine.

The Oxford Scientist Magazine: an exciting student-led magazine from Oxford University. <http://oxsci.org/>

c) Arts / Humanities:

National Geographic Magazine: The official magazine of the National Geographic Society, with articles covering geographical issues around the world,

Current Archaeology: A collection of online resources and articles from the latest issue of Current Archaeology. <https://www.archaeology.co.uk/>

d) Social Sciences:

The Economist Magazine: Subscription based, the Economist provides authoritative insight and opinion on international news, politics, business, finance, science, technology and the connections between them.

5. Multi Open Online Courses (MOOCs)

MOOCs are free online courses written by the world's universities. They can take a variety of forms, but students will probably find it easiest to find a self-paced MOOC, so that you are not giving yourself extra deadlines. MOOCs are fantastic for learning more about a curriculum topic, going deeper into a topic than is covered on the curriculum, and testing whether you are actually interested in a subject that you are considering at University, if you have not studied it before (e.g., anthropology, astronomy etc.).

There are various search engines, so try any of the following:

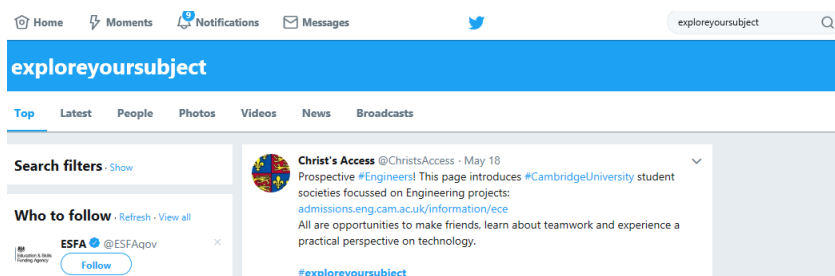
www.futurelearn.com, www.coursera.org, www.mooc-list.com, www.edx.org (etc.).

6. Twitter

The Twitter sphere is full of conversations where people are sharing latest ideas and thinking across unlimited subjects. We would advise Sixth Form students to set up a twitter account and use it solely to follow individuals and institutions related to their areas of interest. For example, students with an interest in mechanical engineering should be following the likes of Rolls Royce, BAE Systems, Institute of Mechanical Engineers, Year of Engineering, This is Engineering, Tomorrow's Engineers, and The Royal Academy of Engineering etc.

If you are interested in particular universities or colleges, follow their twitters too.

Use the hashtag **#exploreyoursubject** to find recommendations from Oxford and Cambridge social media accounts.



7. Wider Reading via The King's School Library

Library staff work closely with departments to ensure an impressive range of resources is available to support and enhance your learning. In addition to the excellent Magazine Archive, the Library has fully web-based software giving access to its entire catalogue. A simple keyword search will generate a list of high quality books, DVDs and more. Staff also provide wider reading guidance tailored to your individual needs, whether to increase general understanding, improve powers of reasoning or support supra-curricula research.

‘Reading is to the mind what exercise is to the body.’ Joseph Addison



THE FUTURE BELONGS TO
THE CURIOUS.
THE ONES WHO ARE
NOT AFRAID TO **TRY** IT,
EXPLORE IT,
POKE AT IT,
QUESTION IT
AND **TURN** IT INSIDE OUT.

[skillshare.com](https://www.skillshare.com)

