



WARWICK
SCHOOL

**BRING YOUR
OWN DEVICE
AT WARWICK
SCHOOL:
TECHNOLOGY
IN THE
CLASSROOM**



TECHNOLOGY IN THE CLASSROOM

In preparing our boys for the future, we see technology as an important component, but the boy's device is part of his toolkit not the guiding factor.

Just as we would not expect an expensive pen to make much difference to the quality of an essay, the device the boys use is a way of accessing learning: it does not replace the learning itself. Our approach at Warwick is to provide a blend of traditional methods that have proved successful year on year with appropriate and safe use of technology, designed to approach learning in a new way. In recent years, there has been a huge increase in the quality and availability of electronic and educational resources and these can be blended into lessons to provide the best possible learning experience.

We want to continue to run lessons that are creative and innovative with plenty of opportunity for discussion, critical thinking and individualised learning. Being able to weave technology into these lessons means that, at appropriate times, boys can have instant access to diagnostic questions, infographics, expert critical views,

design programmes or AI recreations of real spaces. This approach allows them to immerse themselves in the best educational resources, whilst still being in the normal space of the classroom. By using devices in the classroom, unlike a traditional computer room, the boys can move seamlessly from one type of working to another. They can also continue to work on a project outside the classroom.

For many learning activities boys enjoy using contemporary technology both at home and at school. However, they also need guidance and support to use this technology constructively and safely, and to make considered choices. We believe that the benefits of accessing enhanced technology for our boys are powerful, but equally important is the time we invest to educate the boys on becoming digitally literate and digitally safe throughout their time at Warwick.



In partnership with parents, we will prepare the boys to become effective and safe users of technology in their learning.

Enabling students to choose and make use of their own personal device for learning has several benefits. Boys are able to use the same applications at school as they use at home, making learning seamless. As boys move up the school they are able to download certain specialist programmes on to their own device (such as Sibelius if they choose GCSE or A level Music) meaning they do not have to be in specialist computer suites to work. Their choice of A level subjects may also mean they prefer certain devices over others.

OUR VIRTUAL LEARNING ENVIRONMENT

All students and staff have a school Microsoft Office account, providing them with access to 1 terabyte (1TB) of cloud space and the ability to install the Microsoft suite of applications onto their device. It is free for boys to use this on five different devices as part of our Microsoft package for their entire school career. Using Microsoft means that teachers and students can create, share and collaborate on resources through a wide range of applications. In school we use Teams assignments to set homework and share resources as well as making considerable use of OneNote. Students can create online forms and voting polls via Microsoft Forms, whilst teachers can pose questions or initiate debates and discussions about a topic before a lesson has begun. Microsoft Office can help students to organise their work and homework assignments, whilst providing access to the resources that teachers have used in their lessons when they come to revise or consolidate their understanding. It is also a safe place to share useful links and revision notes with friends. Working alongside Microsoft Office is Classlink, the platform that delivers instant access on any device to all the web resources that students will use both in and out of school. Everything they need can be easily

organised in one place, without the need to remember all the passwords that they may have for the multitude of websites and applications that they use. Meanwhile, Planet eStream is a powerfully simple and secure platform that makes departments' media content accessible and engaging for all students. Departments can develop their own secure, branded 'YouTube style' media library, featuring video on demand, live streaming, digital signage, interactive learning tools, conference and lesson / lecture capture functionality, and TV and radio recording.

IN THE CLASSROOM

Teachers at Warwick already enjoy significant and effective use of IT in their lessons. Every teaching classroom has a fully interactive whiteboard, with casting facilities, that allows teachers and students to share their work on the board with the class when invited. Having run a full timetable for all our classes during lockdown, the staff are all proficient in Teams, OneNote and relevant subject-specific technology. Quiz apps, such as Kahoot, Blooket or Socrative, are popular in many subjects for quick starter or plenary activities, with some students playing against each other or writing their own quizzes for their peers. Students can also use their touch-screen as a digital “mini-whiteboard” using Microsoft Whiteboard which is incredibly useful for brainstorming ideas.

Here are some subject-specific examples of what will be possible in lessons when every student has their device with them in the classroom.

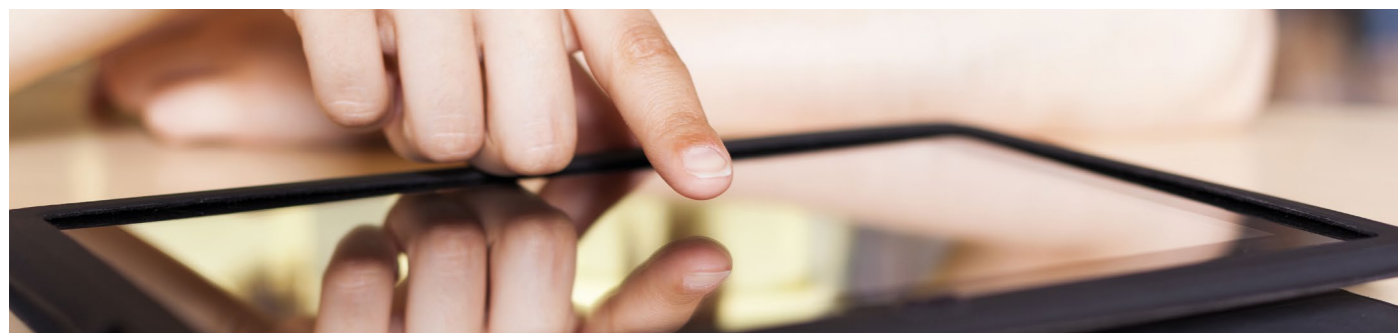
In **English**, devices will be used in lessons for research and collaborative activities, for example using Google docs and OneNote. At key stage 3 we use Book Creator, which will help teach students about the design and publication of texts, as well as writers’ intentions. At key stage 4, we will make good use of apps targeted at our new GCSE texts, including Audiopi and GCSE Pod. Spiderscribe will be used to teach essay planning and revision strategies, while Common Lit will be invaluable for the development of our GCSE English Language resources, as well as wider reading for A level Literature students. Currently we use Digital Theatre with key stage 5 students, as well as Massolit which is a fantastic resource for critical interpretations.



The provision of **English as an Additional Language (EAL)** teaching will require all students to use their device when completing written work. The National Geographic Perspectives Course that encompasses Year 9 to 12 offers online workbooks alongside a teacher online classroom presentation tool, meaning that all exercises can be accessed and stored electronically. The MyELT platform monitors progress and provides ongoing assessment of pupil attainment. The Perspectives course is underpinned by the use of TED Talks and National Geographic images which places an emphasis on critical thinking. The course allows the development of digital competencies: pupils are encouraged to be critical of information sources and be aware of their own digital footprint, whilst there is scope for pupils to evaluate the quality of own online communications in different contexts.

In **Mathematics**, younger mathematicians will be investigating transformations using MathsPad, exploring straight line graphs on Desmos, consolidating knowledge with the digital CGP textbook and challenged further with the UKMT resources on Dr Frost. This website also provides support material using Key Skills. Older mathematicians can discover circle theorems using Geogebra, plot quadratics on Desmos and collaborate with each other on OneNote and Teams. Senior mathematicians will be able to explore statistical distributions, mechanics problems and create a far more user-friendly set of notes using OneNote. Teachers will be able to continue providing audio feedback through OneNote; they can assess students in lessons using virtual mini-whiteboards which can then promote discussions in the classroom and they can set homework on Teams that can be completed individually or collaboratively on OneNote.

In **Physics**, many boys make use of key technology to enhance and support their learning. In addition to using online interactive lab simulations such as PHET, boys in Years 10 and above have access to dedicated software called Capstone. This software is used collaboratively to capture data in real time. Once compiled, the data is then used to produce graphs and other supporting analysis, as required. Examples include measuring the Velocity of a car at a given point in time; the relationship between Force and Acceleration on an object (Year 8, 10 and L6) and the time taken for Capacitors to discharge in a circuit (U6). The ability to link the output data to Microsoft Office such as Excel, OneNote and PowerPoint allows pupils to communicate and evaluate key outcomes amongst their peers. Finally, our Science in Action students (Physics and Engineering) also make use of this technology in L6 and U6.



In **Biology**, boys having their own devices allows them to look up images to illustrate a point, research information, tabulate data, enter data into a spreadsheet, draw graphs, photograph dissections and utilise a wide variety of software packages. Access to websites and applications such as the Natural History Museum or Human Anatomy applications allow access to high quality educational simulations within lessons. Students can be directed to find animations and simulations to reinforce their appreciation of a concept and videos can also be accessed and played again at home via Planet eStream links. This allows students to stop, start and replay parts which they may not have fully understood in class. By using digital text books and note packs, we will save paper and save boys carrying heavy backpacks. In L6 and U6, spreadsheets can be used to carry out statistical calculations and all year groups can be taught to select data to produce automatic graphs.

In **Chemistry**, all key stages will use their devices to support subject learning by way of digital textbooks and also through learning to conduct proper research on the internet. Students are taught to use Boolean search functions, to narrow their online searches and also to critically assess sources for validity and reliability and to reference them in a correct manner. Learning is consolidated with short online assessment and polling systems such as Kahoot, Socrative and PollEv. Students are given the opportunity to use computer aided sampling techniques to generate larger ranges of experimental data and are taught how to properly handle and analyse this data through the correct use of Microsoft Excel. Sixth Form chemists are also encouraged to collect their data and make records of their practical investigations using their portable devices in the laboratory areas of the classrooms. All students are taught to present their data in

a number of ways, such as through digital presentations and also by learning how to properly present their findings in a research poster as used in the wider academic community.

In **Psychology**, students use their devices for research to complete study tasks, such as research into the motives and crimes of a serial killer in preparation for the Forensic unit. They also learn important digital skills in designing an Academic Proposal Poster for the Biopsychology unit. Groupwork will be effectively carried out using OneNote which enables sharing both in lessons and for independent study. In addition, all boys make use of online textbooks which have the information of the traditional books with the added bonus of additional materials including videos, articles and quizzes. For revision, boys will be encouraged to make use of Seneca and PsychBoost as well as Kahoot. We also intend to run virtual field



trips, including one to the Freud museum in London. Finally, we take advantage of Teams by setting assignments and communicating news and updates with our Psychology students. This platform enables all boys to be organised with hand-ins as well as engaging with interesting psychological content.

In **Modern Foreign Languages**, students will be able to access a range of language-learning websites to cement vocabulary and aid learning of grammar and structures. Students will also be able to have ready access to grammar and topic instructional videos on OneNote, and to multimedia sources which will broadcast the language into the classroom from authentic sources. By using OneNote in the classroom, students will be able to go back and review a lesson immediately, with all resources available, to aid revision or to consolidate their learning. Having their own devices means

that students can regularly record themselves talking through their own speaking answers to oral questions, enabling increased fluency and retention of materials. This will allow a much more immersive experience with both the spoken and written language.

In **Latin** and **Greek**, the boys can use online vocabulary tools for reinforcing learning and looking up new words. For **Classical Civilisation**, boys use collaborative online tools such as looking at material sources for an examination question and pupils use their own devices to enter collaborative answers. For literary appreciation exercises OneNote enables us to use interactive notes with a teacher explaining and encouraging discussion on linguistic features. The collaborative space is also used for encouraging discussion.

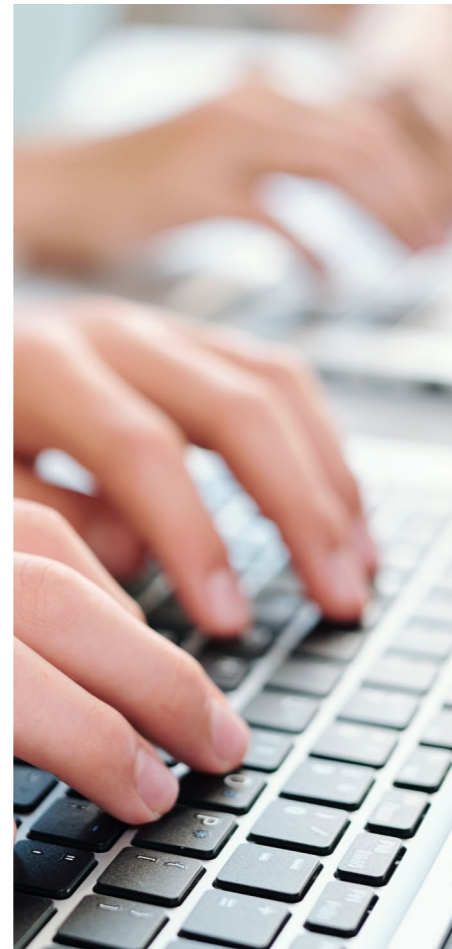
In **Drama**, devices are used by students to support both practical

and written aspects of their lessons. Particularly in line with devising-based schemes and assessments, devices will be used to aid the research process and to log rehearsal notes, resources and research materials. Devices are also used to video-record performances to allow students the opportunity to evaluate their work, in line with the GCSE assessment criteria. Furthermore, devices will be used to share collaborative and digital resources with pupils, including pre-recorded Live Theatre (accessed via Drama Online, Digital Theatre Plus, National Theatre On Demand).

In **Business and Economics**, devices allow the students to quickly access websites like ONS and gov.uk where the information changes, say annually or monthly such as national minimum wage increases and inflation changes. The BBC's business website is excellent for 'hot off the press' application for case studies, and the Bank of

England and IFS websites help with understanding the potential economic consequences of changes to macroeconomic policy.

In **Geography**, students are able to use their devices to access real world data sources immediately to research and expand their understanding of the world quickly and contribute to ongoing class enquiry or discussions. Students will have rapid access to nationwide and global mapping through Digimap for schools and ArcGIS at a full range of scales and be able to establish a sense of place independently through Google mapping tools and both satellite and street view level imagery. Students will be more readily able to engage in geolocated data gathering through use of the ArcGIS Survey 123 app which can support fieldwork enquiry and independent investigative coursework. Data can be manipulated, graphed, analysed and incorporated into



work. Students will also be able to collaborate more effectively through the use of a shared space such as OneNote, collating and sharing work for immediate presentation in class through networked devices and screen casting. Creativity in presentation can be fostered through uses of a wide range of media.

In **History**, students will have immediate access to the internet and an abundance of digital resources on a wide range of historical topics, developing their ability to discern the reliability of a range of resources. We already use online historical databases, such as those of the British Library and the National Archives, together with collections dedicated to school age students. Technology can also be harnessed to produce immersive online experiences, such as visiting Tudor London or witnessing the Battle of Trafalgar. This will give students a deep understanding of

the period being studied. Similarly learning through 'war gaming' exercises, mimicking those used by the Civil Service or in the business environment is something that would be well suited to History. Collaborative documents will allow students to share and discuss their ideas as they analyse sources, whilst teachers can provide critical and personalised feedback on their learning in real time. The use of online testing websites such as Seneca combined with the toolkit of Microsoft Office programs can help provide targeted and personalised revision to help the students prepare thoroughly for their examinations.

In **Theology and Philosophy**, students will have the ability to work collaboratively on documents, projects and assessments. They will have access to high quality university level resources such as Massolit. Learning about different attitudes, beliefs, faiths and practices

will be further enhanced by using academic video clips on YouTube, Moral Maze on BBC Sounds, 'The Big Questions' on BBC iPlayer, BBC Bitesize and BBC Teach. Excerpts from documentaries from streaming services such as BBC iPlayer, 4OD and ITV player will also support learning and understanding of various arguments surrounding issues such as the Death Penalty and Animal Rights. In lessons we use quiz apps for informal tests. Assessments in Year 7 (Design your own country), Year 8 (Ethical Theory Advert) and Year 9 (Ethics of Genetic Engineering Project) will require students to research effectively online and use PowerPoint, Google Slides and/or video-editing software to effectively demonstrate their findings and increase IT literacy. When studying pilgrimage and miracles at GCSE, students will use immersive experiences such as completing a virtual tour of the Golden Temple, Amritsar, Masjid al-



Haram in Mecca or Lourdes, France. At GCSE, students will also complete tasks on Seneca to support revision before end of unit tests and Quizlet will be utilised to help learn difficult vocabulary. At A level students will use Stanford Encyclopaedia of Philosophy to further develop their understanding of course material. Students are also encouraged to watch subject specific webinars and sign up for revision webinars usually held in the Spring Term. Revision materials, enrichment, further reading and extension work will also be provided on OneNote for students in all key stages. In **Critical Thinking** students will read, compare and contrast the credibility of news articles and other sources online.

In **Physical Education and Games**, the students use Coach Logic and video delay apps to analyse and review their performance. In academic PE, they use a range of platforms to enhance their

learning experience. The website, Everlearner, provides students with the chance to watch video tutorials on the content and refine their knowledge. It also provides students with access to multiple choice and written examination questions so that students can test what they know in homework tasks or independent revision. Microsoft Teams and OneNote are also vital in supporting the students' learning as all the resources are shared so that all students have electronic copies available any time they need it.

The **Computer Science** department uses a range of digital programs for boys to learn coding and webpage editing throughout all years of the school. In order to ensure that boys are familiar with a range of platforms, the content is delivered via Google classroom so that boys are equally conversant with google products as well as Microsoft ones.

In **Design and Technology** the camera and video recording facilities will be used to document ongoing projects. Students can make use of a large interactive library in using technologystudent.com which is complemented by the specialist DT software available in the technology suite. Equally in **Music** the Keyboard Studio has specialist music software such as Sibelius which boys can download on to their own device at GCSE and A level. **Art** too has its own design suite where students can experiment with different colour ways and effects using photographic software, record films and edit to a high standard or use Adobe Photoshop to create expressive drawings.

The **Extended Project Qualification (EPQ)** taken in Lower Sixth requires pupils to undertake 90 hours of independent research. They must, therefore, have access to a variety of electronic resources. As part of

his research, a student might access academic books and journal articles through platforms such as Google Scholar and JSTOR, to make use of on-line newspaper articles, view TED talks and undertake virtual museum tours or site visits. All materials from the taught skills element of the course are available to access through Teams and some lessons such as the session on advanced internet searches are enhanced through access to a device. Students are also very much encouraged to make use of tools and applications for formatting the references for their 5000 word essays. They also complete their production logs through the epq.support website.





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