

SCHEME OF LEARNING – COMPUTING – YEAR 8

| Year 8 | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 and 2 |
|------------------|--|---|---|--|--|
| Content | <ul style="list-style-type: none"> Understand the hardware and software components that make up computer system Understand how computers communicate with one another and with other systems (networking) <p>Topics studied:</p> <ul style="list-style-type: none"> How computers interact Networking equipment Peer to Peer networks Client – Server networks LAN, WAN, PAN Network topologies How the internet works TCP/IP Packet switching | <ul style="list-style-type: none"> Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users <p>Topics studied:</p> <ul style="list-style-type: none"> Purpose and target audience Planning a product to meet an identified purpose Planning a product to meet an identified target audience Sourcing an acknowledging assets Using Movie + software Saving an exporting movie to the file type requested Reviewing a finished product and acting on feedback | <ul style="list-style-type: none"> Use two or more programming languages, at least one of which is textual, to solve a variety of computational problems Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals <p>Topics studied:</p> <ul style="list-style-type: none"> Structure of HTML Adding formatting Hyperlinks Including images Using tables CSS extension for higher ability students | <ul style="list-style-type: none"> Collecting and analysing data and meeting the needs of known users Understand simple Boolean logic [for example, AND, OR and NOT] <p>Topics studied:</p> <ul style="list-style-type: none"> Recap of formulae and functions Conditional formatting Searching and filtering spreadsheets Introduction to databases Files and records Flat file and relational databases Linking tables Validation Verification Searching for records using Boolean logic (queries and reports) Mail merging a letter | <ul style="list-style-type: none"> Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users Create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability Recognise inappropriate content <p>Topics studied:</p> <ul style="list-style-type: none"> Reliability of information Fake news Searching for information Create a radio advert for a specific target audience Create a video tour |
| Why? | <p>This unit builds upon the Computing 1 unit that is undertaken in Year 7. It recaps the skills they learnt and then introduces the concept of networking and the equipment needed for this to happen.</p> | <p>This is the first unit of work that introduces a project that spans a number of lessons. This is a way of working that students will need to be familiar with if they choose either Computer Science or IT as one of their options at KS3. As a department we believe the project based approach is something students need to be familiar with. This unit also introduces the idea of purpose and target audience which need to be considered when designing any IT based product but this is a methodology that also applies to many other curriculum subjects.</p> | <p>HTML is a Markup language. Although not a programming language, as a department we feel it is important for students to know about what is behind the websites that they visit online.</p> <p>This is a unit that could be developed into a cross curricular activity with another department (for example a website about a certain period of time for History).</p> | <p>This unit builds upon the earlier Spreadsheet unit that pupils undertake in Year 7. It refreshes pupil skills in spreadsheet design and introduces databases. Both spreadsheets and databases feature heavily in our KS4 IT course but we feel the skills developed in this unit could apply to a range of different subjects. For example, searching through a database of historical records for History or interrogating the performance data contained in a spreadsheet for PE.</p> <p>The skills developed in Boolean logic link well with programming concepts.</p> <p>There would be scope in this unit to develop a cross-curricular scheme of work.</p> | <p>This unit follows on from the eSafety unit that pupils undertook in Year 7 but has a focus on information reliability and accuracy. It looks at the recent topic of ‘fake news’ and how this is used in many cases for propaganda purposes. As a department, we feel it is important for students to be able to check the validity and reliability of online sources as this has benefits for them in all areas of the curriculum.</p> <p>It also builds on the project approach, which was introduced to pupils during Unit 2 of Year 8, and follows a similar structure where pupils are given a client brief and asked to create a radio advert for a specific target audience and a video tour.</p> <p>There would be scope in this unit for some cross-curricular work with another subject.</p> |
| Why now? | <p>Makes them remember concepts introduced in year 7 and build understanding ready for options choices next year</p> | <p>This is a good time to introduce a large project that introduces the project life cycle</p> | <p>This topic combines Computer Science and project management allowing students to develop their project management skills from the Movie Project with language skills required for HTML</p> | <p>This is a good time to introduce concepts they will use in the IT option, so they can make informed choices.</p> | <p>Towards the end of year 8 we have decided to underpin and embed all of their learning using a range of everyday problems that they have to solve using project approaches</p> |
| Matrix Reference | AO4S1 AO4E1 | AO3B1 AO3D1 | AO2B3 AO2D3 | AO5B1 AO5D1 | AO5B3 AO5D3 |

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| | AO4M1 | AO3S1 AO3E1 AO3M1 | AO2S3 AO2E3 AO2M3 | AO5S1 AO5E1 AO5M1 | AO5S3 AO5E3 AO5M3 |
| Assessments | Create presentation using the template to create a document detailing key terminology and facts | Create a movie for a client using a brief | Make a website of their choice using Notepad | | Create a radio advert and a video tour for a holiday destination |