



St Benedict's Catholic School

The Catholic Secondary School for West Suffolk

Computer Science Curriculum Guide

Year 8

Autumn Taught Content

Half-term 1 - Spreadsheets:

- Formatting techniques such as; borders, shading, merging cells, font formatting, number/currency formats, resizing, adding and removing rows and columns.
- Formulae using cell referencing and basic arithmetic operators to make calculations.
- Functions and Absolute referencing. Students will use a number of built in functions such as SUM, AVERAGE, MIN, MAX and COUNT to build a spreadsheet model. Absolute and relative cell referencing enables the fill/copy tool to dramatically speed up development.
- IF statements are another built in function that perform different calculations or display different information depending on criteria.
- Graphs and Charts bring data to life and enhance the interpretation and understanding of information. Choosing the correct type of graph and adding elements appropriately such as axis labels, legends, data labels and gridline helps to add meaning to the underlying data.

Half-term 2 – Web Development:

- HTML – HyperText Markup Language is the coding language that is used to create web pages. Students create simple webpages using HTML tags to control the format and layout of text, images and hyperlinks.
- CSS – Cascading Style Sheets allow consistent formatting to be applied easily to an entire website from a single file. Students will use external CSS when creating a number of websites including a portfolio of their computing classwork from this year.

Spring Taught Content

Half-term 3 – Web Development:

- Website Design is important to provide pleasing and intuitive user experience. Students will use tools and techniques such as story boards and sitemaps to design their websites.
- Website Creation putting all their new skills to use and following their designs students will build their own website.
- Testing and Evaluation is a vital stage of any development project. Students will conduct thorough testing using a structured test plan. They will also evaluate their final website considering how it meets requirements and the needs of the target audience.

Half-term 4 and part of 5 – Hardware and Software:

- Computer Systems come in many forms but they are all fundamentally the same. They all take input and process it to produce output.
- Students will look at the vast range of Input, Output and Storage Devices learning about the features, advantages and disadvantages of each.
- We use Application Software all the time so it is important student know how to select the right app for the right job.
- Operating Systems and Utility Software complete many tasks that we as users take for granted. Students will gain an understanding to the functions they provide.
- The Binary Number System underpins everything in Computer Science. Students will learn how everything we see and do on a computer is represented as 1s and 0s. They will learn how to convert from denary to binary and vice versa.

Summer Taught Content

Half-term 5 and 6 - Developing Mobile Apps:

- Programming using App Lab students will create a mobile app. App Lab is a block-based programming language but it also allows students to view/write the underlying text-based JavaScript code. This will help students to progress their programming skills from Year 7 Scratch to year 9 Python.
- Development Lifecycles and Project Management help developers to produce high quality, efficient, robust and easily maintained software. Students will learn about the importance of formal processes to ensure these characteristics are met in every software development project.

Assessment

Each unit of work (each term) will be assessed in two ways.

1. There will be an online multiple-choice and short answer test usually in the penultimate lesson of the term. Homework the week before the test will be set as revision with a list of topics on Edulink. This test provides the grade on the report.
2. There will also be an assessed piece of classwork for each unit this will be a digital product or artefact. Student will self-evaluate their work in the final lesson of term. Teachers will provide written feedback in the form of “What Went Well” and “Even Better If” on this piece of work.

Homework Expectations

Homework will be set every other lesson via Edulink. Homework will consist of either researching or preparing for the next lesson and is therefore vital for the successful participation in the following lesson.

Reading List

Web Development

<https://www.bbc.co.uk/bitesize/topics/zf2f9j6/articles/zgx3b9q>

<https://www.sololearn.com/Course/HTML/>

<https://www.sololearn.com/Course/CSS/>

Mobile Apps

<https://learnappmaking.com/how-to-make-an-app/>

<https://code.org/educate/applab>

Extra and Super Curricular Opportunities

Year 8 Lunchtime “Coding Club” will resume once school returns to a regular timetable.

As the Community Leader for Computing At Schools (CAS) West Suffolk Community, I am first to receive news of any competitions and extra-curricular activities taking place in the region. If there are any interesting opportunities that will benefit our students learning we will be involved.