	DEPARTMENT	DIGITAL STUDIES (COMPUTING)	
	KEY STAGE	KS3	

Unit Title	Why This Is Important and Why Is It Taught at This Point?
Welcome to TPS	This unit is the necessary introductory unit for all Year 7s. It covers familiarisation with the school network and appropriate use of email. Students then go through up-to-date online safety issues including respecting others online, spotting strangers, and the effects of cyberbullying. These points are then reinforced by each student preparing an online safety presentation.

Dates Delivered	Unit Title	End Points	Substantive Knowledge What will they learn about in this topic?	Disciplinary Knowledge What subject concepts will be developed through this topic?	Assessment Method	Key Course Guides & Reading
Year 7: Autumn 1 to Spring 1	Welcome to TPS	Use software tools to support computing work Understand how individuals, systems, and society interact with computer systems Understand what a computer is, and how its component parts function together as a whole Understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers Understand how networks can be used to retrieve and share information, and how they come with associated risks	Rules of the computer room, how to create a memorable and secure password. How to access Microsoft Teams. How to access and use Office Online apps. How to recognise and create respectful emails. How to organise their work and stay safe online. The parts that form the computer system. The language computers speak "binary". How a computer network works. How networked devices make up the internet.	Effective use of tools Impact of technology Computing systems Data representation Networks	Formative assessment for each lesson. Summative assessment using Forms.	BBC Bitesize Oak National Academy

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Scratch	This unit is the first programming unit at KS3. The aim of this unit is to build students' confidence and knowledge of the key programming constructs. Importantly, this unit does not assume any previous programming experience, but it does offer students the opportunity to expand on their knowledge throughout the unit.

Dates Delivered	Unit Title	End Points	Substantive Knowledge What will they learn about in this topic?	Disciplinary Knowledge What subject concepts will be developed through this topic?	Assessment Method	Key Course Guides & Reading
Year 7 Spring 2 to Summer 2	Scratch	Understand several key algorithms that reflect computational thinking. Use logical reasoning to compare the utility of alternative algorithms for the same problem. Use a programming language to solve a variety of computational problems. Design and develop modular programs that use procedures or functions. Understand simple Boolean logic and some of its uses in programming. Create, reuse, revise and repurpose digital artefacts for a given audience.	How to create a program that runs in sequence. How to create a program that uses variable. How to create a program that uses selection. How to create a program that uses variable operators and selection. How to create a program that uses count-controlled iteration. How to apply computational thinking in solving problems.	Programming concepts developed in this unit are sequencing, variables, selection, and count-controlled iteration. Effective use of tools	Formative assessment for each lesson. Summative assessment using Forms.	BBC Bitesize Oak National Academy

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Unit Title	Why This Is Important and Why Is It Taught at This Point?
Python	This unit introduces learners to text-based programming with Python. The lessons form a journey that starts with simple programs involving input and output, and gradually moves on through arithmetic operations, randomness, selection, and iteration.

| Dates Delivered | Unit Title | End Points | Substantive Knowledge

What will they learn about in this topic? | Disciplinary Knowledge

What subject concepts will be developed through this topic? | Assessment Method | Key Course Guides & Reading |
|---|---|---|---|---|---|---|
| Year 8 Autumn 1 to Spring 1 | Python | Understand several key algorithms that reflect computational thinking.

Use logical reasoning to compare the utility of alternative algorithms for the same problem.

Use a programming language to solve a variety of computational problems.

Design and develop modular programs that use procedures or functions.

Understand simple Boolean logic and some of its uses in programming. | How to solve problems using computational thinking.

How to create a program that runs in sequence.

How to create a program that uses variable

How to create a program that uses simple arithmetic expressions in assignment statements to calculate values.

How to create a program that uses functions.

How to create a program that uses random. | Programming concepts developed in this unit are sequencing, variables, selection, and iteration.

Effective use of tools | Formative assessment for each lesson.

Summative assessment using Forms. | BBC Bitesize

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Unit Title	Why This Is Important and Why Is It Taught at This Point?
Vector graphics	This unit offers students the opportunity to design graphics using vector graphic editing software (Inkscape). Vector graphics can be used to design anything from logos and icons to posters, board games, and complex illustrations. Through this unit, students will be able to better understand the processes involved in creating such graphics and will be provided with the knowledge and tools to create their own.

Dates Delivered	Unit Title	End Points	Substantive Knowledge What will they learn about in this topic?	Disciplinary Knowledge What subject concepts will be developed through this topic?	Assessment Method	Key Course Guides & Reading
Year 8 Spring 2 to Summer 2	Vector graphics	Create, reuse, revise, and repurpose digital artefacts for a given audience, with attention to trustworthiness, design, and usability. 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.	How to use tools to draw and modify shapes. How to work with multiple objects. How to create and modify straight and curved paths. Vector graphics project with the opportunity to review and develop work further.	Introduction in using Inkscape to create vector graphics. Use tools to align, distribute, group, and combine objects. Explain that vector graphics are made up of paths Combine tools and techniques to plan and create a vector image.	Formative assessment for each lesson. Summative assessment using rubric to assess students' practical application of the skills they have learned in this unit.	BBC Bitesize Oak National Academy

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Unit Title	Why This Is Important and Why Is It Taught at This Point?
Microsoft Word	This unit offers students the opportunity to create a variety of documents, including letters, newsletters, and more. Through this unit, students will navigate the Word interface and become familiar with some of its most important features to format text, save and share documents, modify line and paragraph spacing, use tables and columns, and do more with documents.

Dates Delivered	Unit Title	End Points	Substantive Knowledge What will they learn about in this topic?	Disciplinary Knowledge What subject concepts will be developed through this topic?	Assessment Method	Key Course Guides & Reading
Year 9 Autumn	Microsoft Word	Create, reuse, revise, and repurpose digital artefacts for a given audience, with attention to trustworthiness, design, and usability. 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.	How to setup folders, create, open, save and share word document. How to use basic formatting. How to enhance a document using formatting. How to modify page orientation, margins, and size. How to add and modify headers and footers. How to add and modify page numbers. How to work with pictures, text boxes, and tables. How to create different documents.	Effective use of word processing tools. Combine tools and techniques to plan and create a document.	Formative assessment for each lesson. Summative assessment using rubric to assess students' practical application of the skills they have learned in this unit.	https://edu.gcfglobal.org/en/word/

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Unit Title	Why This Is Important and Why Is It Taught at This Point?
Microsoft Excel	This unit offers students the opportunity to use Excel to store, organise, calculate, and analyse information. The aim of this unit is to build students' confidence and knowledge on how to create formulas and charts, use functions, format cells, and do more with spreadsheets.

Dates Delivered	Unit Title	End Points	Substantive Knowledge What will they learn about in this topic?	Disciplinary Knowledge What subject concepts will be developed through this topic?	Assessment Method	Key Course Guides & Reading
Year 9 Spring	Microsoft Excel	Create, reuse, revise, and repurpose digital artefacts for a given audience, with attention to trustworthiness, design, and usability. 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.	How to setup folders, create, open, save and share Excel workbooks. How to insert and delete cells and cell content, drag and drop cells, use the fill handle, and use the cut, copy, and paste functions. How to modify rows, columns, and cells. How to format text in Excel. How to use cell references to create simple formula. How to insert and modify Excel charts to visualize comparisons in data. Learn the different parts of a function and how to create arguments to calculate values and cell references. How to apply, modify, and delete conditional formatting rules in Excel.	Effective use of spreadsheet tools. Combine tools and techniques to plan and create a worksheet.	Formative assessment for each lesson. Summative assessment using rubric to assess students' practical application of the skills they have learned in this unit.	https://edu.gcfglobal.org/en/excel/

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Unit Title	Why This Is Important and Why Is It Taught at This Point?
Microsoft PowerPoint	This unit offers students the opportunity to learn how to create dynamic slide presentations. These presentations can include animation, narration, images, videos, and much more. In this unit, students will learn their way around the PowerPoint environment.

Dates Delivered	Unit Title	End Points	Substantive Knowledge What will they learn about in this topic?	Disciplinary Knowledge What subject concepts will be developed through this topic?	Assessment Method	Key Course Guides & Reading
Year 9 Summer	Microsoft PowerPoint	Create, reuse, revise, and repurpose digital artefacts for a given audience, with attention to trustworthiness, design, and usability. 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.	How to setup folders, create, open, save and share presentation. How to work with slides, format text, apply themes and transitions. How to add numbered and bulleted lists. How to use indents and line spacing. How to insert, modify and format images in a slide. How to add and modify shapes. How to align, group, and order objects. How to animate text and objects. How to insert videos, audio, tables, charts, and SmartArt graphics. How to customise presentation using Slide Master view, links, and action buttons.	Effective use of PowerPoint tools. Combine tools and techniques to plan and create a presentation.	Formative assessment for each lesson. Summative assessment using rubric to assess students' practical application of the skills they have learned in this unit.	https://edu.gcfglobal.org/en/powerpoint/