



Curriculum Overview

Subject: Computing

The national curriculum for computing in KS3 and KS4 aims to ensure that all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology

However, the Osborne School teaching and schemes of work focuses primarily on I.C.T. skills that pupils **will** and **can** use in their adult lives. The schemes of work will be based on the above aims, but will also include the primary and digital literacy targets.

Why is computing important?

- Computing is concerned with computational thinking – this allows our young people to solve problems, design solutions and build confidence with technology.
- Computing is a practical subject – it allows pupils to use technology to create and innovate.
- Computing allows pupils to find things out for themselves. It allows them to exchange and share information.
- The computing curriculum has an emphasis on e-safety and using current technology safely. It is a legal requirement of schools to teach young people about e-safety.

Key Stage 3:

Unit	Title	Unit summary	Computing area of study	Hardware/ Software focus	Assessment
7.1	All About Me Autumn Term	Using PowerPoint and the internet to make a slideshow about the pupil's life.	Multimedia	PowerPoint Internet Scanner Word	'All About me' Presentation
7.2	City Breaks Spring 1	Using Publisher and the internet to create a leaflet about the city of Winchester.	Technology in our lives	Publisher Internet iPad	Winchester Leaflet
7.3	Programming – Bee-Bots/ Sequencing Spring 2	Using Bee-Bots and the Bee-Bot Activity Centre to programme routes and solve computational problems	Programming	Bee-Bots Bee-Bot activity centre Bee-Bot resources Terry the Turtle Outcomes	My Bee-Bot Project <ul style="list-style-type: none"> • Programming around a track • Programming on the App • Programming on the game • Terry the Turtle programming tasks.
7.4	Game Programmers Summer 1	Using Sploder to learn about debugging programmes. An introduction to algorithms and debugging problems in an algorithm.	Programming	Sploder Scratch Kodu	Game Programmer Project <ul style="list-style-type: none"> • Designed Game on Sploder and debugged • 2 debugged algorithms • A simple Scratch game decoded and/or written.
7.5	E-Safety 1 - Data Summer 2	Using excel to log data. Using access to make a simple database.	Handling Data e-Safety	Word Excel Access	E-Safety Research project
8.1	Programming & Sequencing Autumn 1	Pupils will learn how to sequence and programme different avatars and characters using different applications.	Programming	13RT Flowol Haitzu (iPad2)	Sequencing Project <ul style="list-style-type: none"> • 13RT Programming • Introduction to Flowol & algorithms
8.2	Devices Autumn 2	Pupils will learn about devices, and computational terminology.	Technology in our lives	Various Hardware and Software	Devices Project <ul style="list-style-type: none"> • Input Devices • Output Devices • Storage Devices • Internal Components • Different Devices • Uses of ICT
8.3	Computer Science Spring 1	Pupils will learn about devices, technology, jobs that use I.C.T., viruses and computational terminology.	Technology in our lives Handling Data	Various Hardware and Software	Computer Science Project <ul style="list-style-type: none"> • What is the internet? • What are networks? • How do search engines work? • What are viruses? • Should I trust everything I read on the web? • The law and Computers
8.4	Scratch – Introduction Spring 2	Pupils will learn to use code, coding blocks and put sequences together using Scratch. They will be able to follow code from a guide sheet, write	Programming	Word Scratch	Scratch Project

		their own code and create simple games and applications.			
8.5	Animation Summer 1	Pupils will explore Zu3D, how to express their ideas using film and animation. They will be able to put footage into a sequence and use editing techniques to improve their film.	Programming Multimedia	Zu3D	4 x Animations ➤ Hand drawn - Name ➤ Stop Motion – The Ball ➤ Stop Motion – The Wall ➤ Digital – The Ball
8.6	E-Safety 2 Summer 2	Learning about the dangers of using technology through roleplay and photos. Pupils will take photos and use them to create an interactive anti-cyber bullying presentation.	e-safety	Paint.net PowerPoint Digital Camera	A film promoting e-safety and a Radio advertisement. Using the Cybercafe / ABCYA resources,
9.1	Cinema Business Autumn	Using a variety of I.C.T. applications pupils will design and run their own cinema – dealing with budgets alongside write a database to include latest film releases	All Strands	Excel Publisher Paint.net Internet Explorer	Cinema Project
9.2	Algorithms & Flowol Spring 1	Using Flowol and Ace Software pupils will create algorithms and flow diagrams to solve computational problems. They will then identify algorithms found in society.	Programming	Flowol Ace Software	Algorithm project
9.2	Computational Thinking Spring 2	Using brackets to write html code to create simple websites and webpages.	All Strands	Firefox Bracket	Computational Thinking Project
9.3	Simulation Summer 1	Using No Limits rollercoaster builder the pupils will use computational thinking to plan, test and build a rollercoaster that is safe, making sure all variables are in the correct places.	Programming Multimedia	No Limits Rollercoaster builder	A completed rollercoaster and a branded logo.
9.4	Scratch – Intermediate Summer 2	Using Scratch pupils will create more advanced coded programmes to include 'if' and 'or' statements.	Programming	Scratch	2 x Completed scratch applications - Car - Helicopter

Key Stage 4:

10.1	E-Safety 3 Autumn 1	Pupils will learn about the dangers of emails, mobile phones and online gaming. They will present all their knowledge of cyberbullying into a leaflet.	e-safety Multimedia	Publisher Internet Explorer Mobile communication devices	A PowerPoint Presentation about 6 areas of e-safety <ul style="list-style-type: none"> • Staying safe using social networks • Being responsible with mobile technology • Passwords • Using Avatars • Stranger Danger • Texting
10.2	High Street Project Autumn 2	Pupils will use a range of applications to complete a series of challenges.	<ul style="list-style-type: none"> • OCR FUNCTIONAL SKILLS ELC • OCR COMPUTING ELC • ASDAN OUTCOMES 	Microsoft Applications	High Street Project
10.3	Email, Texting and communication online Spring	Pupils will send and receive emails. They will send attachments and learn how to send formal emails. Pupils will use mobile technology to communicate.		Email Mobile Phones	Computer Communication Project
10.4	Tests & Revision Summer	Pupils to complete the controlled assessments and practice key skills.		OCR tests	Tests
11.1	Finding specific information using the internet Autumn 1	<ul style="list-style-type: none"> • identify the ICT requirements needed to solve a straightforward task and apply their knowledge and understanding to produce an appropriate solution (complexity) • apply their knowledge and skills within a non 	<ul style="list-style-type: none"> • OCR FUNCTIONAL SKILLS ELC • OCR COMPUTING ELC • ASDAN OUTCOMES 	Microsoft Applications Paint.net Scratch	Using the internet project
11.2	Mock Tests Autumn 2	<ul style="list-style-type: none"> -routine but familiar context (familiarity) • apply a range of techniques in a number of applications to produce an appropriate outcome (technical demand) • solve problems that are essentially tutor guided, demonstrating the confidence to make 			Mock tests from the OCR website
11.3 & 11.4	Controlled Assessments Spring	informed choices and knowing when to seek guidance (independence)			Exams and Coursework completion

Accreditation:

- OCR Functional Skills (ELC)
- OCR Computer Science (ELC)
- OCR ICT Functional Skills (Level 1)
- ASDAN Transition Challenge

- ASDAN Life Skills – ICT Options