

Oakdene Primary School



Computing at Oakdene

Subject Leader: Mr M. Weston

Mission Statement

Oakdene - Growing and Learning Together

The above statement is our Mission Statement which is what we are all aiming to achieve at Oakdene.

We will try to achieve this through our aims in everything we do at Oakdene.

The Computing curriculum is underpinned by the whole school Intent, Implementation and Impact statement.

(see separate Curriculum Statement document)

Computing at Oakdene

Perhaps more than any other subject, Computing changes almost by the minute. New technologies are all around us. Many of the jobs available and the technologies that will be used when our children are ready for employment may not even exist right now. Therefore, it is vital that our Computing curriculum enables our children to cope with the changes of the future. We want them to become confident users of current technology, and responsible creators of content that has real purpose. We want them to be using a variety of different applications, challenging themselves to apply prior knowledge into new technologies and applications. Most of all, we want to engender an ability to show resilience with technology, where children can troubleshoot their own problems.

We teach Computing through three main strands in every year group - Digital Literacy (general knowledge of technology and networks, including safe and responsible use of the internet); Information Technology (using different skills and applications for a purpose); and Computer Science (learning the ability to design, write and debug programs).

Safe online use is a key element of our curriculum, and children in every year group begin each academic year with a unit of work called 'My Online Life' to ensure they both revisit and improve their knowledge of online safety. This is then further enhanced with additional tasks linked to Safer Internet Day in the spring term, and milestones should be constantly revisited through other units and indeed across other subjects.

Work in Computing is not completed in exercise books. Children initially log their learning on applications such as Book Creator, Powerpoint or Keynote, and then transfer that evidence into their online learning journal on Seesaw.

Tasks and units of work will be completed both on desktop and laptop computers in our Computer Suite, as well as i-Pads. This ensures that children are experiencing a range of devices.

Curriculum and Coverage

The Computing National Curriculum 2014 is followed at Oakdene Primary School.

We have adapted the Knowsley CLC Scheme of Work, which we subscribe to and which provides regular content updates. We have created our Oakdene milestones to show progression based on the content and objectives from this scheme. We will continue to keep our topic overview for Computing up-to-date based on new units of work and applications that may become available as technology changes.

<u>Year group</u>	<u>Autumn</u>	<u>Spring</u>	<u>Summer</u>
Reception	My Online Life (DL) 8 Talking Technology (IT) 6	Nursery Rhyme Coding (CS) 3 Technology & Me (DL) 5 <i>Byte-sized - Shape Hunt 1</i>	Animal Safari (IT) 1 Robots (CS) 5 <i>Byte-sized - Beats & Rhythms 1</i> <i>Byte-sized - Pretty Pictures 4</i>
Y1	My Onlife Life (DL) 8 What Is A Computer? (CS) 5	Mini-Beasts (IT) 5 Modern Tales (DL) 3 <i>Byte-sized - Animate Shapes 1</i>	My Friend the Robot (CS) 6 News Presenter (IT) tbc <i>Byte-sized - Drawing Maths 5</i>
Y2	My Online Life (DL) 8 Code-A-Story (CS) 4 <i>Byte-sized - Heads Up 1</i>	Presentations and Typing (IT) 6 Online Buddies (DL) 4	Story Land (IT) 6 Making Games (CS) tbc <i>Byte-sized - Maths Madness 2</i>
Y3	My Online Life (DL) 8 Dancing Robot (CS) 6	Be Digitally Awesome (IT) 6 Online Detectives (DL) 6	Rainforests (IT) 6 Programming with Robots (CS) tbc <i>Byte-sized - Keyboard Adventures</i>
Y4	My Online Life (DL) 8 Hour Of Code (CS) 6	Endangered Animals (IT) 6 Fake or Real? (DL) 6	Dinosaurs (IT) 6 Games Designer (CS) tbc <i>Byte-sized - Wizard School 5</i>
Y5	My Online Life (DL) 8 Web Designer (CS) 6	Making AR Games (IT) 6 You Tuber (DL) 6	Girls vs Boys - Steam Challenges (CS) 6 Binary Messages (IT) tbc <i>Byte-sized - Podcaster 3</i>
Y6	My Online Life (DL) 8 Chicken Run - Crossy Roads (CS) 5	Money (IT) tbc Online Safety Dilemmas (DL) 6	Coding Playgrounds (CS) 6 VR Worlds (IT) 6 <i>Byte-sized - Quiz Show Host 2</i>

OAKDENE COMPUTING MILESTONES PROGRESSION DOCUMENT

Key Stage 1 NC	Key Stage 2 NC	EYFS MILESTONES	KS1 MILESTONES	LKS2 MILESTONES	UKS2 MILESTONES
<i>DIGITAL LITERACY (DL) including CORE SKILLS</i>					
<p><i>Recognise common uses of information technology beyond school.</i></p>	<p><i>Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web</i></p> <p><i>Understand the opportunities networks offer for communication and collaboration.</i></p> <p><i>Be discerning in evaluating digital content.</i></p>	<p>I can do the basics with technology</p> <p>I can use a camera</p> <p>I can go online</p> <p>I can discuss the use of technology in the world around me</p>	<p>I can take a quality video or photograph on a tablet or digital camera</p> <p>I can use technology to organise and present my ideas</p> <p>I can save, share and retrieve my digital work</p> <p>I know the rules of using technology at home and in school</p> <p>I recognise how technology is used in school, the home, the community and in the wider world</p>	<p>I can collaborate to create digital content</p> <p>I can discuss different types of digital content</p> <p>I can troubleshoot when something doesn't appear to be working on my device</p> <p>I can explain different common file types</p> <p>I can label the different kinds of input connections on common devices</p> <p>I can explain how the internet works</p> <p>I can evaluate information and make informed choices (e.g. about what is 'fake news')</p>	<p>I can collaborate to create, improve and develop digital content</p> <p>I can film and produce a short video</p> <p>I can create a consistent design in my presentations and present to others</p> <p>I can make QR codes that link to my own work</p> <p>I understand how computer networks work, including the internet</p> <p>I can explain how to protect my computer or device from harm on the internet</p> <p>I am aware that the media can shape and influence my opinions and ideas (e.g. on gender)</p>

Key Stage 1 NC	Key Stage 2 NC	EYFS MILESTONES	KS1 MILESTONES	LKS2 MILESTONES	UKS2 MILESTONES
<i>DIGITAL LITERACY (DL) - inc INTERNET SAFETY</i>					
<i>Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</i>	<i>Use technology safely, respectfully and responsibly; recognise acceptable and unacceptable behaviour; identify a range of ways to report concerns about content and contact.</i>	<p>I understand that people can talk to each other (communicate) online</p> <p>I can discuss the rules for staying safe online</p> <p>I know online content is made by and belongs to someone</p>	<p>I can communicate safely and politely on the internet</p> <p>I understand that once something is posted, you lose control of it</p> <p>I understand that some things online may upset me, that I cannot trust everyone online and not everything I read online is true</p> <p>I can give examples of online bullying behaviour, and where to go for support</p> <p>I can explain what personal information is and understand the need for passwords</p> <p>I am aware that content online is owned by the person who created it</p>	<p>I know that the internet can be used for different methods of communication</p> <p>I can describe strategies for safe experiences in online social environments and where to go for help</p> <p>I am aware that people may have a different online identity</p> <p>I know which technologies are used for online bullying and I am considerate of others when posting myself</p> <p>I am aware of what I should be sharing online, who I should share it with, and how to keep my data secure.</p> <p>I understand the need for copyright</p> <p>I understand the impact technology can have on health and wellbeing</p>	<p>I understand how to communicate in a variety of different ways online (e.g. vlogs, podcasts, email)</p> <p>I understand the need to create a positive online reputation and relationships</p> <p>I know how to capture evidence of online bullying and how to report it</p> <p>I know how to keep my data private and secure, and create strong passwords</p> <p>I understand the consequences for ignoring copyright</p> <p>I understand the impact technology can have on my health, wellbeing and lifestyle</p> <p>I understand the real cost of some apps</p>

Key Stage 1 NC	Key Stage 2 NC	EYFS MILESTONES	KS1 MILESTONES	LKS2 MILESTONES	UKS2 MILESTONES
INFORMATION TECHNOLOGY (IT)					
<p><i>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</i></p>	<p><i>Use search technologies effectively and appreciate how search results are selected and ranked</i></p> <p><i>Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</i></p>	<p>I can select and use technology for particular purposes (e.g. an app for drawing a picture)</p> <p>I can type key words in a search engine</p>	<p>I am beginning to create with technology (e.g. video, e-book & animation)</p> <p>I can combine text and images in a document</p> <p>I can use design and formatting to enhance my digital work (e.g. fonts, resizing images)</p> <p>I can organise and store my digital work</p> <p>I can collect and record data purposefully (e.g. in a database)</p> <p>I can use a search engine to answer questions</p>	<p>I can create content with a range of technology (e.g. video, animation, 3D)</p> <p>I can produce documents, media and presentations with increasing competency and independence</p> <p>I can improve the quality and presentation of my work</p> <p>I can use a keyboard confidently and make use of tools and shortcuts</p> <p>I can collect, analyse, evaluate and present data and information</p> <p>I can explain how a search engine works, and use advanced search tools</p>	<p>I can record and produce audio</p> <p>I can use unfamiliar technology to create content</p> <p>I can create and combine a range of media to produce digital content</p> <p>I can improve the quality and presentation of my work using editing and formatting techniques</p> <p>I can use a spreadsheet to collect and record data</p> <p>I can create a digital storyboard to plan a project or investigation</p> <p>I can use complex searches and talk about the way search results are selected and ranked</p>

Key Stage 1 NC	Key Stage 2 NC	EYFS MILESTONES	KS1 MILESTONES	LKS2 MILESTONES	UKS2 MILESTONES
<i>COMPUTER SCIENCE (CS)</i>					
<p><i>Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions</i></p> <p><i>Create and debug simple programs</i></p> <p><i>Use logical reasoning to predict the behaviour of simple programs</i></p>	<p><i>Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</i></p> <p><i>Use sequence, selection, and repetition in programs; work with variables and various forms of input and output</i></p> <p><i>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</i></p>	<p>I can explain an algorithm</p> <p>I can explain sequencing</p> <p>I can give instructions to a programmable toy</p>	<p>I can follow simple algorithms and create a simple sequence algorithm</p> <p>I can plan out an algorithm with a sequence of commands to carry out specific tasks</p> <p>I can identify bugs in computer programs, debug simple sequence errors and use the term debug in context</p> <p>I can create a simple repeat loop</p> <p>I can create a simple game program</p> <p>I can use logical reasoning to predict the outcome of simple programs, and a sequence of blocks in a control program (e.g Scratch)</p>	<p>I can design an algorithm to simulate a real-life situation</p> <p>I can use decomposition to help me solve problems (including open-ended)</p> <p>I can use sequence, selection, repetition and variables in programs</p> <p>I can work with various forms of input and output</p> <p>I can design, write and debug a program for a given purpose</p> <p>I can test existing programs to see how they could be improved</p> <p>I can use logical reasoning to predict and correct errors in algorithms and programs</p>	<p>I can design, plan and create a complex program, including linked to physical systems</p> <p>I can decompose a problem to help me write programs</p> <p>I can use variables, conditional statements, procedures and repeat commands to improve programs.</p> <p>I can write a program using text-based programming language</p> <p>I can translate binary numbers to decimal</p> <p>I can use logical reasoning to detect errors, debug and modify a program to improve it</p> <p>I can write a basic web page using HTML</p>

TIER 3 VOCABULARY (GLOSSARY OF TERMS PROVIDED ELSEWHERE)

Foundation	Instructions, camera, robot, QR code, sequence, share, technology, control, Google, information, internet, algorithm, computer, iPad/tablet, app (application), keyboard, button, printer, save, zoom.
Year 1	3D, program, debug, design, emoji, search, selection, website, personal information, link, menu, icon, trusted adult, online, sign in, game, wireless (Wifi), online bullying, landscape, portrait, Bluetooth, download, frame, processor, green screen, hard drive, illustration, log in, tool, send, follow, digital, communicate.
Year 2	Browser, computer networks, data, computational thinking, execute/run, input, output, software, World Wide Web (WWW), password, username, interact, images, facts, scan, chat, post / re-post, copyright, backdrop, repeat / loop, characters, avatars, fictitious/fake, evaluation, publish, trust, stroke, template, reputation, identity, digital book (eBook/ePub).
Year 3	Block, palette, code/coding, command, decomposition, sprite, stage, condition, control block, costume, digital content, simulation, hyperlink, attachment, URL, blog/blogging, consequences, illustrator, untrusted, cyberbully, cyberbullying, reliable, MegaByte, GigaByte, report, sceptical, verify, fake news, soundtrack, VR (virtual reality), font, shortcut, shots, 360° Video, authenticate, multimedia.
Year 4	Logical reasoning, audio, selection, page ranking, hacker, repetition (sometimes referred to as 'iteration' in upper KS2), script, scripts area, secure (https), PEGI, netiquette, conditional, scene, filters, grieving, storyboard, cloud computing, positive online communication, online persona, digital footprint, animation, age restrictions, social network, screenshot, screencast.
Year 5	Abstraction, vlog, YouTuber, IP address, pixels, vector, HTML, CSS, services, ISP, LAN, TCP/IP, variables, hub, peripheral, bandwidth, CEOP, ChildLine, cache, harassment, plagiarism, infringe copyright, illegal downloads, streaming, blocking, victim, cookie, junk mail, RAM / ROM, USB, ZIP, augmented reality, bit & bytes, upload, score, podcast, edit.
Year 6	Antivirus, new media, collaboration, visual coding, text based coding, adware, trojan, feedback, bot, boolean, checksum, server, firewall, generalisation, security updates, plug in, pop up blocker, scams, phishing, location based settings, in app purchasing, trolling, sexting, exclusion, doxxing, catfishing, flaming, fabotage, creeping, dissing, ghosting FTP, filtering, malware, screen time, balanced lifestyle, configuring.