

Curriculum Intent Computing: Key Stage 3 & 4 2025 - 2026

At Compass School, the Challenge Me curriculum aims to equip pupils with the creativity, knowledge, and skills to thrive in an ever-evolving technological world. We believe that Computing plays a vital role in:

Nurturing problem-solvers and innovators: By engaging in Computing, pupils develop critical thinking skills to identify needs, explore solutions, and could help to create functional products.

Empowering informed consumers: Pupils gain an understanding of computing with could be Inco-operated in the design work as well as day to day life enabling them to make informed choices as consumers and future citizens.

Developing computer skills: Through the basic knowledge and the skills acquired and some of these skills could be used in their projects

Fostering collaboration and communication: Project work encourages teamwork, communication, and collaboration, preparing pupils for success in future careers and life in general.

Promoting creativity and self-expression: Pupils explore their creativity through design thinking and problem-solving, allowing them to express themselves through the computer programme they create.

We are committed to providing a stimulating learning environment that fosters a growth mindset, where pupils are encouraged to experiment, learn from mistakes, and take pride in their achievements. Our curriculum is designed to be relevant and engaging, incorporating real-world contexts and industry trends to spark pupil interest and equip them with the skills they need to be successful in the 21st century.

By the end of KS3 pupils are expected to acquire basic skills and knowledge in computing. As they progress to KS4 they then have to apply the skills and knowledge acquired to further there understanding of computing as well as programming.

By the end of KS4 pupils are expected to build on and consolidate their skills and knowledge in computing from KS3. Pupils in year 10 and 11 will apply to what was taught in key stage 3 to further their understanding of computer programmes on a higher level.

Skills and Knowledge Key Stage 3 & Key Stage 4

Every half term, we ensure that we offer cross curricular (Cc) opportunities to our pupils as well as covering Social, Moral, Spiritual and Cultural (SMSC) elements.

These are detailed below using the following codes, enabling us to track what is delivered in each subject:

Cross Curricular Links include: M (Maths), Eng (English), Sc (Science), PS (PSHE), FT (Food Tech), CR (Craft), AD (Art & Design), C (Computing), G (Geography), H (History), En (Engineering), R (Reading), Ec (Economics)

SMSC Links include: B (British Values), Sp (Spiritual aspects), M (Moral aspects), So (Social aspects), C (Cultural aspects), R (Religious aspects), Rel (Relationships), P (Prevent), E (E-Safety), I (Individual Advice & Guidance & Careers), H (Healthy Lifestyle including wellbeing)

	Key Stage 3 Topics	Key Stage 3 Skills	Key Stage 3 Knowledge	Key Stage 4 Topics	Key Stage 4 Skills	Key Stage 4 Knowledge
HT1	<p>Scratch</p> <p>High-level, block based visual programming language Users on site can create projects on the website using a block like interface</p> <p>CC- M, Eng, AD, R, H, C</p> <p>SMSC- B, C, E, M, So</p>	<p>Problem solving skills. Mathematical and computational skills Creativity Self-expression Information and media skills Communication Project design skills such as reasoning logically and debugging problems Idea development Programming</p>	<p>To be able to use algorithms using coding in scratch programming To use a loop to repeat an action or sequence multiple times. To use a loop to repeat a sequence of instructions for a specific task. To be able to structure and control timing of event when using scratch. To sequence events to create a story narrative</p>	<p>Scratch</p> <p>High-level, block based visual programming language Users on site can create projects on the website using a block like interface</p> <p>CC- M, Eng, AD, R, H, C</p> <p>SMSC- B, C, E, M, So</p>	<p>Advanced problem-solving skills. Mathematical and computational skills Logical thinking Advanced Data Handling Information and media skills Communication Problem Decomposition skills which break down complex task into smaller manageable task. Complex animation skills and Reusability skills which enable custom block promote reusability Modularity skills, which enables custom block contribute to a more modular codebase making it easier to understand modify and debug</p>	<p>To be able to familiarise oneself with artificial intelligence using scratch, To be able to recognise images, text, shapes and numbers To be able to have knowledge of software in an enjoyable manner and effectively utilize media tools To be able to apply the scratch programming language to real world projects</p>
	<p>Online Safety Focus</p> <p>Safe and responsible use of Technology</p>	<p>To be able to manage privacy settings and security controls example being able to choose strong passwords, change settings on social media profiles, understanding what information is sensitive or not to share and enabling two-step authentication when available To be able to recognise unsafe contact including identifying phishing messages, predatory requests or unusual messages from strangers</p>	<p>To understand what constitutes appropriate vs. inappropriate online behaviour and knowing where to get support if needed To understand the significance of age restrictions and terms of service for apps, games, and social media platforms</p>	<p>Online Safety Focus</p> <p>Safe and responsible use of Technology and digital citizenship</p>	<p>To be able to analyse and adjust privacy and security controls To be able to configure settings to control visibility To manage friends' lists, block and report users To develop strong/unique password routines and consistently enable two-step authentication</p>	<p>To be aware of the moral and legal responsibilities related to their digital footprint To understand the concept of consent when sharing messages, photos or other content online To understand the long-term effects their online activity can have on employment, education or relationships</p>
	Key Stage 3 Topics	Key Stage 3 Skills	Key Stage 3 Knowledge	Key Stage 4 Topics	Key Stage 4 Skills	Key Stage 4 Knowledge
HT2	<p>Introduction to Python</p> <p>Basic Python is an interpreted programming language. This means that it needs a different programme (Called an interpreter) to read and execute the source code. Interpreters run through each line of the programme and execute all</p>	<p>Problem solving and debugging Logical thinking skills Data manipulation and analysis Analytical skills in data] science and visualising data Understanding basic syntax and core concepts</p>	<p>To create and execute basic Python scripts to solve simple problems To understand why Python is a useful scripting language for developers To learn how to design and program Python applications To learn how to use lists, tuples, and dictionaries in Python programs.</p>	<p>Python</p> <p>Python is a high-level, general-purpose programming language. It can be used on a server to create a web application. Python can also be can connect to database systems and can also modify files</p>	<p>To have a deeper understanding of programming concepts such as syntax To be able to apply programming concepts to build more complex programs Data manipulation and analysis. Exploration of web</p>	<p>To understand various data and they are used To understand on how to declare and use of variables to store and manipulate them To understand on how to write loops and decision statements in Python. To understand on how to write functions and pass arguments in Python</p>

	<p>the commands on the fly.</p> <p>CC - M, Sc, AD, E, H, G, C</p> <p>SMSC - Sp, B, C, E, I</p>	<p>To learn how to identify Python object types</p> <p>To learn how to use indexing and slicing to access data in Python programs</p> <p>To understand the fundamental concepts such as syntax, data types</p>	<p>CC - M, Sc, AD, E, H, G, C</p> <p>SMSC - Sp, B, C, E, I</p>	<p>development</p> <p>Scripting and automation</p> <p>Familiar with object relational mapper Libraries</p> <p>Writing Readable Code with Proper Documentation.</p>	<p>To understand on how to build and package Python modules for reusability</p> <p>To understand on how to read and write files in Python.</p> <p>To understand on how to design object-oriented programs with Python classes</p> <p>To understand on how to use class inheritance in Python for reusability</p> <p>To understand on how to use exception handling in Python applications for error handling</p>	
	<p>Online Safety Focus</p> <p>Managing privacy and digital footprint online</p>	<p>To understand digital footprint.</p> <p>To implement privacy setting.</p> <p>To be aware of digital trace: What you post, share or comment leaves a permanent record</p> <p>To have consideration for their future impact: How their digital profile might affect employment, education, or relationships</p> <p>To be able to perform controls and clean up: How to manage, delete, or modify digital content</p>	<p>To understand the concept of a digital footprint and that everything you do online leaves a trail</p> <p>To differentiate between active and passive footprints</p> <p>To recognise the components of digital footprints.</p> <p>To understand the evolution of digital footprints.</p> <p>To understand how profiles, messages, photos and comments can affect future opportunities</p> <p>To use techniques for keeping personal information private examples strong password, careful sharing, custom settings</p>	<p>Online Safety Focus</p> <p>Identify unsafe or suspicious communication.</p>	<p>Recognise phishing messages, suspicious links or social engineering attacks</p> <p>Identification of content that is offensive.</p> <p>Recognizing of fake social media profiles</p> <p>Be able to report abusive or illegal content to the appropriate platforms and authority</p> <p>Distinguish credible messages from manipulative or scam messages</p> <p>To know where to go for support and how to take appropriate action (report, block, ignore)</p>	<p>To identify situations where personal information is being requested online</p> <p>To understand the dangers of interacting to strangers online</p> <p>To recognise how online actions can impact one's reputation in future</p> <p>To understand the importance of critical thinking when evaluating online information</p> <p>To understand the importance of respecting boundaries and privacy online</p> <p>To understand the impact of online actions on others</p>
	Key Stage 3 Topics	Key Stage 3 Skills	Key Stage 3 Knowledge	Key Stage 4 Topics	Key Stage 4 Skills	Key Stage 4 Knowledge
	<p>Introduction to 3D Designs</p> <p>3D stands for three-dimensional. Everything we see in the world around us is 3D or exists in three dimensions.</p> <p>It involves creating three-dimensional models that can be viewed and manipulated on a computer</p> <p>CC - M, Eng, AD, R, Sc En, C</p> <p>SMSC - B, C, E, M, So</p>	<p>To create a gateway to understanding spatial relationships and visualizing ideas in a tangible form</p> <p>Creation of architectural models, product designs, animations, and virtual reality environments</p> <p>Creation of digital prototypes, students can identify potential issues early in the design process, minimizing the need for costly revisions and physical prototypes</p>	<p>To have the basic knowledge of manipulating 3D objects within a computer environment</p> <p>To explain on how to navigate a 3D space, move, resize and duplicate objects</p> <p>To develop problem-solving skills that includes critical thinking and being creative</p> <p>To explain what is meant by basic design process</p> <p>To able to recognise the Google Sketch Up Tools</p> <p>To be able to explain the functions of the Goggle Sketch Up Tools</p> <p>To understand the fundamental principles of 3D design</p>	<p>3D Designs</p> <p>Use of software to create and design a digital model of a three-dimensional shape.</p> <p>CC- M, Eng, AD, R, Sc En, C</p> <p>SMSC- B, C, E, M, So, Sp</p>	<p>Design skills including drawing, sketching and creating</p> <p>Design a very detailed drawing and create 3-dimensional drawing</p> <p>Critical thinking computer environment skills on how to change the 2-Dimensional drawing to a 3-dimensional drawing using Google sketch up</p> <p>Drawing, modelling, making of 3-dimensional drawing skills.</p> <p>To evaluate a 3D-dimensional drawing</p> <p>Fine motor skills in detailed drawing</p> <p>Editing skills</p>	<p>To be able to relate computer aided design to 3D design</p> <p>To able to recognise the Google Sketch Up Tools and apply it in designing</p> <p>To use Google Sketch Up and design prototype in making the project to a more complicated design</p> <p>To use features of Google Sketch Up eg: components, add surfaces/tiles to understand scale etc</p> <p>To acquire hands on experience in 3D design – skill to a more advanced level.</p> <p>To be able to understand the appropriate use of device and platforms and relate it in a more complex design</p>
HT3	<p>Online Safety Focus</p> <p>Cyberbullying awareness</p>	<p>To prevent people from being cyberbullied.</p> <p>To identify what is meant by cyberbullying</p> <p>To understand the importance of children telling someone if they or someone else is being bullied.</p> <p>To be aware of digital trace: What you post, share or comment leaves a permanent record</p> <p>To have consideration for their future impact: How their digital profile might affect employment, education, or relationships</p> <p>To be able to perform controls and clean-up: How to manage, delete, or modify digital content</p>	<p>To identify how a message can hurt someone's feelings</p> <p>To understand on how to respond to a hurtful message online.</p> <p>To understand what cyberbullying looks like, inc online fraud, scams, sextortion, phishing, harassment, trolling, spreading rumours, messages meant to harm</p> <p>To be aware that there is harmful content online and to know how to report it</p> <p>To understand the effects on victims' mental health and well-being as a result of cyberbullying</p>	<p>Online Safety Focus</p> <p>Cyberbullying awareness</p>	<p>To be able to recognise harassment, trolling, revenge pornography and sextortion.</p> <p>To be able to gather and retain evidence (screenshots, messages, URLs)</p> <p>To be able to support friends experiencing abuse or cyberbullying</p> <p>To know to report to the appropriate authorities or platforms</p>	<p>To understand what cyberbullying is and that it is not appropriate</p> <p>To have the knowledge as to when and how to get help if cyberbullying happens to me or someone I know</p> <p>To describe the meaning of bullying and cyberbullying, and the impact this can have on an individual</p> <p>To understand the treatment of all people with kindness is very important</p> <p>To recognise harassment, trolling, revenge pornography, and sextortion</p> <p>To be aware of the criminal offenses related to cyberbullying (Harassment Act, Malicious Communications Act)</p> <p>To be aware of support mechanisms example reporting to the platform, the police, or a trusted adult</p>

			To understand how to report and block cyberbullies and to know where to get support			
	Key Stage 3 Topics	Key Stage 3 Skills	Key Stage 3 Knowledge	Key Stage 4 Topics	Key Stage 4 concetualisingSkills	Key Stage 4 Knowledge
HT4	<p>Introduction to Micro: bit Focus on Night sensor and barefoot litter hunt.</p> <p>The micro: bit is a pocket-sized computer designed to inspire creativity and learning in children. It features an LED light display, buttons, sensors, and various input/output capabilities that allow users to program and interact with it physically. It can be used for a variety of projects, such as controlling devices, displaying messages, and more.</p> <p>CC - M, Sc, En, AD, Eng, C</p> <p>SMSC - B, M, C, Rel, E, I</p>	<p>When you transfer the program from your computer to the micro: bit</p> <p>To adapt your knowledge of programming to a new environment</p> <p>To create a program to run on a controllable device</p> <p>To add additional features to their Night sensor or create a sensor using the Python editor.</p> <p>To create a new project</p> <p>Place "show icon" blocks into the programming area</p> <p>To download the program</p> <p>To transfer the program file to micro: bit</p>	<p>To understand the problem of road safety for children</p> <p>To explore ways technology can help children stay safe at night</p> <p>To plan, create and test a 'Night sensor' using the BBC micro: bit</p> <p>to remind children to 'Be Safe: Be Seen!</p> <p>To explain what the buttons and sensors on the micro: bit do in barefoot meet micro: bit in litter hunt.</p> <p>To program sensors and buttons using the Make Code editor</p> <p>To store data with variables using the Make Code editor</p>	<p>Micro: bit Focus on Fitness friend plan and sensory classroom</p> <p>The micro: bit is a pocket-sized computer designed to inspire creativity and learning in children. It features an LED light display, buttons, sensors, and various input/output capabilities that allow users to program and interact with it physically. It can be used for a variety of projects, such as controlling devices, displaying messages, and more</p> <p>CC - M, Sc, En, AD, En, C</p> <p>SMSC - B, M, C, Rel, E, I</p>	<p>To explain as to why regular exercise important to prevent heart disease.</p> <p>To explain some reasons why people don't do more exercise and activity</p> <p>To explain the importance of regular activity then create a simple wearable device to give regular reminders to exercise.</p> <p>To explain as to why sensory classrooms can be helpful for students who find standard classrooms? too stimulating.</p> <p>To annotate the sensory aid given images.</p>	<p>To understand the importance of regular activity to help prevent heart disease</p> <p>To write a pseudocode or flowchart algorithm for a 'fitness friend' wearable device to remind someone to exercise</p> <p>To program, create and test a fitness friend wearable device using the BBC micro: bit</p> <p>To understand that some learners are sensitive to sensory stimulus</p> <p>To know some benefits of sensory classrooms</p> <p>To evaluate sensory aids</p>
	<p>Online Safety Focus</p> <p>Introduction to Cyberbullying awareness and resilience</p>	<p>To be able to recognise cyberbullying (signs, forms, and effects) incl online fraud, scams, sextortion and phishing</p> <p>To be able to report cyberbullying to a responsible adult or platform</p> <p>To be able support friends who are targets of cyberbullying</p> <p>To be able to recognise misinformation, disinformation, and deepfakes including AI generated imagery</p>	<p>To describe the meaning of cyberbullying, incl online fraud, scams, sextortion and phishing and the impact this can have on an individual</p> <p>To understand the impact and legal consequences of sharing indecent images of under 18-year-olds</p> <p>To explain where to seek support and advice on bullying and cyberbullying</p> <p>To identify risk and manage personal safety in increasingly independent situations, including online</p> <p>To recognise unwanted attention (such as harassment and stalking including online), ways to respond and how to seek help</p>	<p>Online Safety Focus</p> <p>Cyberbullying awareness and resilience</p>	<p>To identify the legal and ethical responsibilities people have in relation to online aspects of relationships</p> <p>To acquire the skills and strategies to respond to exploitation, bullying, harassment and control in relationships</p> <p>To recognise bullying, and its impact, in all its forms; the skills and strategies to manage being targeted or witnessing others being bullied</p>	<p>To understand the impact that cyberbullying, incl online fraud, scams, sextortion and phishing can have on someone's emotional and physical wellbeing.</p> <p>To understand the impact and legal consequences of sharing indecent images of under 18-year-olds</p> <p>To be able to recognise misinformation, disinformation, and deepfakes including AI generated imagery</p> <p>To recognise our responsibilities in helping to deal with and prevent cyberbullying</p> <p>To explain the meaning of cyberbullying, and its impact in depth</p> <p>To explore and analyse the challenging scenarios and their appropriate responses</p> <p>To explain where to seek support and advice on bullying and cyberbullying</p>
		Key Stage 3 Skills	Key Stage 3 Knowledge	Key Stage 4 Topics	Key Stage 4 Skills	Key Stage 4 Knowledge
HT5	<p>Introduction to Web Design</p> <p>This a process of planning, conceptualising and arranging content intended for the intent. It involves creating the visual layout and interactive elements of a website to ensure it is both pleasing and user friendly</p> <p>CC - AD, M, G, Sc, H, C</p> <p>SMSC - B, M, C, Rel, E, I</p>	<p>To create a static homepage.</p> <p>To choose a suitable theme for your website.</p> <p>To upload a suitable header and/or background image.</p> <p>To adjust the website sidebar and add suitable widgets.</p> <p>To add text and images to a page and edit them.</p> <p>To change the site identity to a suitable title, tagline and website icon.</p>	<p>To recognise the common features of a web page.</p> <p>To identify and explain that when making a website you need to think about who it is for (the audience) and why you are making it (the purpose).</p> <p>To understand that the design of a web page should demonstrate the layout of the page and an indication of what content will be.</p>	<p>Web Design</p> <p>This a process of planning, conceptualising and arranging content intended for the intent. It involves creating the visual layout and interactive elements of a website to ensure it is both pleasing and user friendly</p> <p>CC - AD, M, G, Sc, H, C</p> <p>SMSC - B, M, C, Rel, E, I</p>	<p>Visual communication skills</p> <p>Communication skills</p> <p>Time Management</p> <p>Problem-solving skills</p> <p>Analytical and thinking</p> <p>Computer skills</p>	<p>To understand and acquire knowledge of the computer operating systems and hardware and software</p> <p>To understand on how to write computer programs</p> <p>To understand the core principles of visual Design</p> <p>To understand how to arrange text effectively for readability and visual appeal</p> <p>To understand on how to arrange elements on how to style the page of a web page (text, images, links etc)</p>

	<p>Online Safety Focus</p> <p>Introduction to Healthy digital habits and well-being screen time management</p>	<p>To be able to set healthy routines, turning off notifications and creating screen-free spaces/time</p> <p>To be able to balance online and offline life examples making time for in-person relationships, physical activity and hobbies</p> <p>To be able to manage Fear of Missing Out (FOMO) and being able to combat social pressures to be constantly connected</p> <p>To be able to apply security measures example anti-virus, two-step authentication, strong password practices</p>	<p>To explain on how to make a healthy choice around the screen.</p> <p>To explain the meaning of screen time.</p> <p>To understand as to why balanced time is important</p> <p>To understand how the mental wellbeing is affected from spending a lot of time on the screen.</p> <p>To identify which screen-time activities could be described as being healthy</p>	<p>Online Safety Focus</p> <p>Healthy digital habits and well-being screen time management</p>	<p>To be able to consistently maintain healthy digital habits and routines example turning off notifications, creating screen-free spaces/time</p> <p>To balance your screen time activities</p> <p>To effectively manage online and offline life, ensuring time is made for in-person relationships, physical activity and hobbies</p> <p>To be able to consistently apply security best practices example anti-virus, two-step authentication, strong password practices, not clicking suspicious links</p>	<p>To understand the importance of managing online and offline life and how too much screen time can affect wellbeing</p> <p>To identify the consequences of too much screen time and the ways this can impact upon our mental and physical health.</p> <p>To describe in detail the consequences of having too much screen time, how this affects the brain and positive alternatives for recreation</p> <p>To explain, using today's key terminology in the correct context, why too much screen time can damage the brains and whether screen time can have positive affects if enjoyed in moderation</p>
	Key Stage 3 Topics	Key Stage 3 Skills	Key Stage 3 Knowledge	Key Stage 4 Topics	Key Stage 4 Skills	Key Stage 4 Knowledge
HT6	<p>Introduction to Photo Editing on Computer</p> <p>Involves using a software to enhance manipulate and improve digital images</p> <p>CC - M, AD, CR, Sc, C</p> <p>SMSC - M, C, P, E, I</p>	<p>To explain how Photo editing software can be used to edit a digital image</p> <p>To explain how colouring of an image can evoke different feelings and thoughts.</p> <p>To explain how cloning can be used to change the composition of a digital image</p> <p>To select, copy and paste can be used to combine images.</p> <p>To explain how Images can be combined using image editing software</p>	<p>To use a range of tools to change a digital image and its composition</p> <p>To explain the impact of changing the colours in a digital image.</p> <p>To explain how cloning can be used to change digital images</p> <p>To describe how images can be combined.</p> <p>To create a new image using parts of other images.</p> <p>To evaluate how changes can improve an image</p>	<p>Photo Editing on Computer</p> <p>Involves using a software to enhance manipulate and improve digital images</p> <p>CC - M, AD, CR, Sc, C</p> <p>SMSC - M, C, P, E, I</p>	<p>To explain how special effects can be applied to digital photographs</p> <p>To be able to change the Resolution of a Photo</p> <p>To be able to use the crop tools on the computer</p> <p>To explain the function of Quick Shape tools</p> <p>To be able to adjust other settings using the sliders</p>	<p>To explain that they are some of the ways Photo Plus can edit photographs</p> <p>To be able to explain the terms resolution and pixels</p> <p>To explain when to use a high-resolution digital photo</p> <p>To understand what the term crop means</p> <p>To be able to use the Quick Shape tool and nodes to create a suitable shape</p> <p>To find a high-resolution photo on the Internet</p>
	<p>Online Safety Focus</p> <p>Healthy digital habits and well-being</p>	<p>To be able to apply techniques to manage phone usage eg notification controls, phone-free periods, healthy routines</p> <p>To be able to recognise security risks example suspicious links, phishing emails, viruses, or malware</p> <p>To be able to apply safe practices example updating software, employing strong password practices, using two-step authentication.</p> <p>To be able to report security concerns</p> <p>To be able to get help if something goes wrong</p>	<p>To understand the impact of screen time and social media on mental health.</p> <p>To understand the importance of managing phone usage eg notification controls, phone-free periods, healthy routines</p> <p>To understand the importance of reporting security concerns</p> <p>To know where to go to get help if something goes wrong</p>	<p>Online Safety Focus</p> <p>Healthy digital habits and emotional resilience</p>	<p>To be able to consistently implement routines to manage phone usage and avoid overwhelm</p> <p>To be able to engage in reflection and relaxation routines to ease stress related to social media usage</p> <p>To develop greater interpersonal skills alongside technical skills</p>	<p>To have a greater understanding that their self-perception and well-being can be influenced by social media</p> <p>To be aware of the signs and symptoms of stress, overwhelm or dependency related to phone usage and to know where to get help</p> <p>To be aware of techniques for developing healthy routines and setting realistic boundaries</p>