



## **Sandfield Close Primary School – Computing**

### **Vision Statement:**

Computing is an integral part of our everyday life and will play an immeasurable part in our children's future.

Therefore, at Sandfield Close Primary School, we aim to provide all of our children with the skills, creativity and enthusiasm to be able to live and thrive in such a world, whilst staying safe and respectful online.

We want our children to understand the deep links between Computing and other subject areas such as Maths, Science and DT to help them become competent problem solvers.

At Sandfield Close, our lessons are often collaborative which encourages the children to communicate verbally, hence supporting our English vision statement.

### **National Curriculum Aims:**

The national curriculum for computing 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.

## **Curriculum Content:**

### Key stage 1 pupils should be taught to:

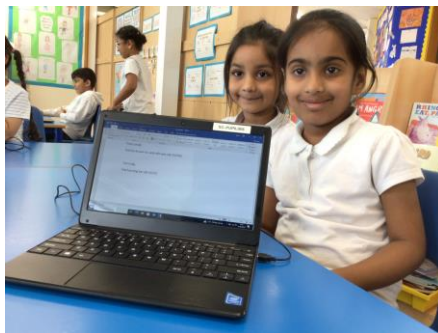
- understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- create and debug simple programs
- use logical reasoning to predict the behaviour of simple programs
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- recognise common uses of information technology beyond school
- 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.

### Key stage 2 pupils should be taught to:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- 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
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

## Curriculum Overview:

	Unit 1 - 6 weeks	Unit 2 - 6 weeks	Unit 3- 6 weeks	Unit 4 - 6 weeks	Unit 5 - 6 weeks
<b>Sunshine Room</b>	Interactive white board activities	Interactive white board activities	Interactive white board activities	Interactive white board activities	Interactive white board activities
<b>Year 1</b>	Computing Systems and Networks - Technology around us	Programming A - Moving a robot	Data and Information - Grouping data	Creating Media - Digital writing	Programming B - programming animations
<b>Year2</b>	Computing systems and networks – IT around us	Creating media – Digital photography	Programming A – Robot algorithms	Data and information – Pictograms	Programming B – A programming quizzes
<b>Year 3</b>	Computing systems and networks – Connecting computers	Data Information – Branching Databases	Programming A – Sequencing sounds	Creating Media – stop-frame animation	Programming B – Events and Actions
<b>Year4</b>	Computing systems and networks – The Internet	Programming A- Repetition in shapes	Creating Media- Audio production	Data and information- Data logging	Programming B- Repetition in games
<b>Year5</b>	Computing systems and networks – systems and searching	Creating media – Vector drawing	Programming A – Selection in physical computing	Data and information – Flat-file databases	Programming B – Selection in quizzes
<b>Year6</b>	Computing systems and networks – The Internet	Programming A-variables in games	Data and information- Introduction to spreadsheets	Creating Media- 3D modelling	Programming B- sensing movement



## Online safety:

	Unit 1 – Self-Image and Identity	Unit 2- Health, Well-being and Lifestyle	Unit 3 - Online reputation	Unit 4- Online Bullying	Unit 5 – Privacy and Security
<b>Sunshine Room</b>					
<b>EYFS</b>	To recognise, online or offline, that anyone can say 'no' - 'please stop' - 'I'll tell' - 'I'll ask' to somebody who makes them feel sad, uncomfortable, embarrassed or upset.	To identify rules that help keep us safe and healthy in and beyond the home when using technology.  To give some simple examples of these rules	To identify ways that I can put information on the internet.	N/A	N/A
<b>Year 1</b>	To recognise that there may be people online who could make someone feel sad, embarrassed or upset.  If something happens that makes me feel sad, worried, uncomfortable or frightened, I can give examples of when and how to speak to an adult I can trust and how they can help.	To explain rules to keep myself safe when using technology both in and beyond the home.  To say how those rules / guides can help anyone accessing online technologies.	To recognise that information can stay online and could be copied.  To describe what information, I should not put online without asking a trusted adult first.	To describe ways that some people can be unkind online. (see EYFS)  To offer examples of how this can make others feel (see EYFS resources)	To explain how passwords are used to protect information, accounts and devices.  To explain why it is important to always ask a trusted adult before sharing any personal information online, belonging to myself or others.
<b>Year 2</b>	To explain how other people may look and act differently online and offline.  To give examples of issues online that might make someone feel sad, worried, uncomfortable or frightened and to be able to give examples of how I might get help.	To explain simple guidance for using technology in different environments and settings e.g. accessing online technologies in public places and the home environment.  To say how those rules / guides can help anyone accessing online technologies.	To explain how information put online about someone can last for a long time.  To explain that anyone's online information could be seen by others.	To describe how to behave online in ways that do not upset others and can give examples. (see Year 1 resources)	To explain and give examples of what is meant by 'private' and 'keeping things private'.  To describe and explain some rules for keeping personal information private (e.g. creating and protecting passwords).
<b>Year 3</b>	To explain how people can represent themselves in different ways online.  To explain ways in which someone might change their identity depending on what they are doing online (e.g. gaming; using an avatar; social media) and why.	To explain why spending too much time using technology can sometimes have a negative impact on anyone and to be able to give some examples of both positive and negative activities where it is easy to spend a lot of time engaged  To explain why some online activities, have age restrictions, why it is important to follow them and know who I can talk to if others pressure me to watch or do	To give examples of what anyone may or may not be willing to share about themselves online. I can explain the need to be careful before sharing anything personal.  To explain who someone can ask if they are unsure about putting something online.	To describe appropriate ways to behave towards other people online and why this is important.  To give examples of how bullying behaviour could appear online and how someone can get support.	To describe how connected devices can collect and share anyone's information with others.  To give reasons why someone should only share information with people they choose to and can trust. I can explain that if they are not sure or feel pressured then they should tell a trusted adult.

		something online that makes me feel uncomfortable (e.g. age restricted gaming or web sites).			
<b>Year 4</b>	To describe positive ways for someone to interact with others online and understand how this will positively impact on how others perceive them.  To explain that others online can pretend to be someone else, including my friends, and to be able to suggest reasons why they might do this.	To explain how using technology can be a distraction from other things, in both a positive and negative way.  To identify times or situations when someone may need to limit the amount of time they use technology e.g. I can suggest strategies to help with limiting this time.	To describe how to find out information about others by searching online.  To explain ways that some of the information about anyone online could have been created, copied or shared by others.	To describe ways people can be bullied through a range of media (e.g. image, video, text, chat).  To explain why people, need to think carefully about how content they post might affect others, their feelings and how it may affect how others feel about them (their reputation).	To describe strategies for keeping personal information private, depending on context.  To describe how some online services may seek consent to store information about me; I know how to respond appropriately and who I can ask if I am not sure.
<b>Year 5</b>	To explain that identity online can be copied, modified or altered.  To demonstrate how to make responsible choices about having an online identity, depending on context.	To describe some strategies, tips or advice to promote health and wellbeing with regards to technology.  To recognise the benefits and risks of accessing information about health and well-being online and how we should balance this with talking to trusted adults and professionals.	To search for information about an individual online and summarise the information found.  To describe ways that information about anyone online can be used by others to make judgments about an individual and why these may be incorrect	To recognise online bullying can be different to bullying in the physical world and can describe some of those differences.  To identify a range of ways to report concerns and access support both in school and at home about online bullying.	To explain what a strong password is and demonstrate how to create one.  To explain how many free apps or services may read and share private information (e.g. friends, contacts, likes, images, videos, voice, messages, geolocation) with others.
<b>Year 6</b>	To identify and critically evaluate online content relating to gender, race, religion, disability, culture and other groups, and explain why it is important to challenge and reject inappropriate representations online.  To describe issues online that could make anyone feel sad, worried, uncomfortable or frightened. I know and can give examples of how to get help, both on and offline.	To describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental warnings) and describe their purpose.  To assess and action different strategies to limit the impact of technology on health (e.g. night-shift mode, regular breaks, correct posture, sleep, diet and exercise).	To explain the ways in which anyone can develop a positive online reputation.  To explain strategies anyone can use to protect their 'digital personality' and online reputation, including degrees of anonymity	To describe how to capture bullying content as evidence (e.g., screen-grab, URL, profile) to share with others who can help me.  To explain how someone would report online bullying in different contexts.	To describe effective ways people can manage passwords (e.g. storing them securely or saving them in the browser).  To describe ways in which some online content targets people to gain money or information illegally. I can describe strategies to help me identify such content (e.g. scams, phishing).