



## Sandy Hill Academy

### Teaching and Learning Principles

#### Subject: Computing

#### Mission Statement:

*'Aspiring to achieve, determined to succeed'*

#### Vision:

The computing curriculum at Sandy Hill provides pupils with opportunities to build creativity whilst developing their skills in computational thinking. In an ever-changing digital world, it is important to equip pupils with the necessary skills for the future workplace as well as ensuring a sound understanding of safety online. Throughout the course of their primary computing education, each year, pupils will be taught from the three strands of the computing curriculum; digital literacy and computer science, information technology.

#### We aim to:

- Ensure explicit teaching of online safety through the digital literacy strand, whilst embedding online safety awareness across the curriculum
- Nurture curiosity in an ever-changing digital world
- Develop an understanding of subject specific computing vocabulary
- Provide all children with practical experiences to apply, analyse and evaluate skills in computing across all three strands
- Celebrate mistakes in order to enhance resilience and self-motivation leading to greater well-being in every child
- Provide opportunities for cross-curricular use of ICT

#### Computing Expectations (National Curriculum 2014):

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

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

## **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





### **Skills Progression:**

At Sandy Hill, we use the objectives from the National Curriculum to ensure good coverage and challenge for all. We carefully track the objectives to ensure that new learning builds on prior knowledge and consolidates understanding showing sound progression across the depth and breadth of the subject.

Within lessons and topics, we ensure sufficient time is given to recall prior learning so that children are able to see and develop links within their learning.

## Contextual examples:

Examples of marking ladders: Year 4 example – Autumn term: Lesson 1

	S I G	<b>Monday 12<sup>th</sup> September 2022</b> <b>Computing - Internet Safety</b> <b>LO - To explain how my online identity can be different to the identity I present in 'real life'.</b>	  
Pupil			Teacher
		Find the definition of 'identity'.	
		Label the online profiles with the qualities they are portraying about themselves.	
		Create your own avatar for a gaming website and label with the qualities you will show online through your behaviour towards others.	
		<b>Key Spelling Words/Phonics Focus Sounds:</b>	
		<b>Challenge: You need to program your avatar to understand the differences between online and 'real-life' identities, list 3 important things you would include.</b>	
Vocabulary		identity, online, virtual, real life, reputation, internet, safely, avatar, behaviour, personal, represent/representation.	

## Teaching and Learning Expectations:

- Computing will be taught once a week: an hour slot timetabled for each class.
- The three strands – computer science, information technology and digital literacy - to be taught in blocks throughout the academic year
- Recap skills learnt previously at the start of each lesson
- Digital literacy ethos to inform planning in subjects across the curriculum
- All children are able to access computing
- All children have access to subject specific vocabulary definitions
- Opportunities for children to develop skills in each strand within a block of learning
- Teachers to use skills curriculum maps to ensure comprehensive and effective coverage
- All lessons will have step-by-step models from the teacher including expectation of outcome
- Class pages and social media to include examples of Computing (explicit lessons and use in a cross-curricular manner)

## Working Walls/Displays:

- All classes to display current computing learning on curriculum display (KS1 in classroom, KS2 outside classroom)
- Corridor display (new building) showcasing children's work Year 1 -6 builds up throughout the year, key vocabulary, three strands of computing curriculum, Aspire online safety vision statement, Chromebook shortcuts
- In classrooms: ICT equipment care agreement (signed by all pupils of each class – Back of PSHE books)

## **Monitoring/Assessment:**

### Work Scrutinies

- Summative assessment: Never heard the word pre and post assessment - to identify children who are WTS, EXS and GDS (including PP and SEN).
- Exit points: Never heard the word post assessment
- Formative assessment techniques within lessons: mini plenaries throughout a lesson
- Pupil Conferencing
- Learning Walks
- Work Scrutinies (examples of skills used in books across the curriculum)
- Progress review meetings