Crosby Ravensworth CE Primary Long Term Planning – Computing

Year	Autumn			Spring			Summer		
A	Year 1/2	Year 3/4	Year 5/6	Year 1/2	Year 3/4	Year 5/6	Year 1/2	Year 3/4	Year 5/6
1st half term	**Teach Computing Year 1:** Computer systems and networks-Technology around us	**Teach Computing Year 4: Creating Media -** Photo Editing		**Programming: Kodable** Digital art paint—Draw a house and write text to go with it	**Year 6 Teach Computing Data and Information –** Introduction to Spreadsheets		**Twinkl: Presentations Yr2** Create a PowerPoint for Shanghai Effective searching online	**Comic Creation**	
2nd half term	**Teach Computing Year 2: Programming B-**Programming Quizzes **Teach Computing Year 1: Programming A-**Animations SCRATCH JNR	**Video Editing**		**Teach computing Year 2:** Creating media digital music	**Code.org**		**Teach computing Year 1: Data & Information-**Grouping Data (Minibeasts) Year 2: Branching database minibeasts JIT5	**Teach Computing Year 5: Creating Media –** Introduction to vector graphics	
B	Year 1/2	Year 3/4	Year 5/6	Year 1/2	Year 3/4	Year 5/6	Year 1/2	Year 3/4	Year 5/6
1st half term	**Teach computing Year 2:** IT around us	**Scratch: Events and Actions**		**Teach computing Year 1:** Creating media-Digital painting Seaside background	**Year 4 Teach Computing - Repetition in shapes (Logo)**		**Teaching computing Year 2:** Data & Information-pictograms	**Year 5 Teach Computing Selection in physical computing -** Codey Rocky	
2nd half term	**Teaching computing Year 1:** Digital writing Digital art: JIT5 Tux paint Bonfire and write text to go with it	**Teach Computing Year 6: Programming A - Variables in Games (Scratch)**		**Teach Computing Year 2: Programming A** Robot Algorithms **Teach Computing Year 1: Programming A-**Moving Robot BEE-BOTS	**Search engines and emails**		**Teach Computing Year 2:** Creating media-Digital Photography Book creator/puppet edu	**Code.org**	
Year	Autumn			Spring			Summer		

C	Year 1/2	Year 3/4	Year 5/6	Year 1/2	Year 3/4	Year 5/6	Year 1/2	Year 3/4	Year 5/6
1st half term	Repeat Year A	**Music - Moving on with blocks (code.org)**		Repeat Year A	**Year 3 Teach Computing – Creating Media -** Stop Frame Animation		Repeat Year A	**Year 3 Teach Computing Data and information -** Branching databases	
2nd half term	Repeat Year A	**Year 6 Teach Computing Creating Media -** Web page design		Repeat Year A	**Year 5 Teach Computing Selection in physical computing - Crumble Controller**		Repeat Year A	**Year 5 Teach Computing Data and information-**Flat file databases	
D	Year 1/2	Year 3/4	Year 5/6	Year 1/2	Year 3/4	Year 5/6	Year 1/2	Year 3/4	Year 5/6
1st half term	Repeat Year B	**Scratch -Sequence in Music Introduction to blocks (code)**		Repeat Year B	**Year 4 Teach Computing Programming B –** Repetition in games (Scratch)		Repeat Year B	**Internet and Email**	
2nd half term	Repeat Year B	**Audio Editing**		Repeat Year B	**Year 6 Teach Computing Creating Media -** 3D modelling		Repeat Year B	**Code.org**	

	E-safety Curriculum Online safety advice is given throughout the whole school curriculum as and when the opportunities arise, for example, during computing lessons or when issues arise in the media Termly online safety assemblies: Self-image and identity, online relationships, online reputation, online bullying, managing online information, health, wellbeing and lifestyle, copyright and ownership and privacy and security Safer Internet Day For discreet online safety lessons see PSED long tern planning document (One decision)		
Computing Links across the curriculum	Multi-media Windows Movie Maker PowerPoint Stop Motion Animation Photostory iMovies Publisher Puppetedu Audacity Chrome music lab	Technology in Our Lives iPads: camera, video, calculator, thermal camera, throughout curriculum Tablets Digital thermometer Digital magnifier Dataloggers Interactive whiteboards throughout the curriculum Photocopier Microwave, kettle, oven (DT) GoogleEarth Microphones & talk pads	Processing Skills in other Curriculum areas Word PowerPoint Excel Publisher Email Internet use JIT2E

Coding and programming – code.org, A.L.E.X, Light Bot, Kodable, Scratch 2.0, Scratch Junior, Beebot App, Beebot robots, Logo.

Handling data –Branch/Flexitree, Excel, Word (tables), Musescore, dataloggers.

Multimedia text and images – Word, Paint, Publisher, BBC Dance Mat typing, ipad camera, dictionary app, online dictionaries, Excel, photo editing apps, Stop-motion animation, Photostory, email, PowerPoint.

Multimedia sound and motion – sound recording/playback recording, ipad (sound editing apps), Musescore, Podcasts, Stop-Motion animation, Internet, Windows Movie-maker/apps, Garageband, PowerPoint.

Technology in our lives – digital thermometer, digital microscopes, photocopier, interactive whiteboard, microwave, kettle, oven, microphones, Google Earth, calculator, thermal camera, search engines, email, WWW, social media.

Online safety – CEOP, Thinkuknow-Hector's World, Kara, Winston and the SMART crew – Childnet, NSPCC, Kidsmart, BBC Bitesize, Safety Net kids, Internet Matters.

Computing

Purpose of study

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

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.

Attainment targets

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.

Schools are not required by law to teach the example content in [square brackets].

Subject 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.