

## Computing Objectives

### Year 1

Can they recognise that devices and on-screen objects can be controlled by sequences of actions or instructions?

Can they understand what an algorithm is and the need for precise instructions to implement it?

Can they recognise the actions that will result from a sequence of instructions?

Can they physically follow and give instructions to move around/make something?

Can they use a digital camera and iPad tools to capture images?

Can they learn how to resize and manipulate (pre-uploaded) images?

Can they create simple presentations for different purposes?

Do they know that ICT can be used to communicate ideas in different ways e.g. text, images, and sound?

Can they talk about their use of text, graphics and sound?

Can I create, name and date my digital creative work?

Can I safely search for images online?

Do I understand how to communicate safely online?

Do I understand what personal information I need to keep safe?

Can I explore how to use email safely to communicate?

Can I use my safety knowledge to help others make good choices online?

Can they understand and describe data handling by sorting, classifying or grouping various objects progressing from practical activities to the use of ICT? E.g. practically sorting fruit into colours, types or shapes, and then on-screen.

Can they use ICT to sort and sequence objects?

Can they use simple graphing programs to produce pictograms and other simple graphs?

Can they recognise ways in which technology is used in a range of work environments? e.g. supermarkets, industry, police, hospitals etc

Can they describe the purpose of a range of household technologies?

Can they typing using two hands?

Can they switch on and Shut down?

Can they log on/off?

Can they open/close programs?

Can they control the mouse?

Can they use the cursor for different purposes?

Can they use the keys on the keyboard for different purposes?

### Year 2

Can they plan, articulate and enter a sequence of instructions to achieve an algorithm, with a robot specifying distance and turn?

Can they predict what will happen for a sequence of instructions in a program and test results?

Can they use the word debug to correct any mistakes when programming onscreen or a floor robot?

Can they explore and evaluate outcomes when giving instructions in a simple program?

Can they create linear presentations and documents for different purposes using a combination of text, graphics, images, recorded sound and sound from a library?

Can they save, retrieve and amend their work?



## Computing Objectives

- Can they use their own edited images in a presentation or document?
- Can they begin to understand that images, sounds and text can be subject to copyright?
- Do I understand that the information I put online leaves a digital footprint?
- Can I use keywords in an online search to find out about a topic?
- Can I recognise whether a website is appropriate for children?
- Can I rate and review informative websites
- Can I identify kind and unkind behaviour online?
- Can I apply my knowledge of safe and sensible online activities to different situations?
- Can they develop more advanced classification skills by carrying out simple sorting activities (probably away from the computer)?
- Can they use graphing software to change a graph type (e.g. pictogram to bar chart)?
- Can they interpret graphs, discuss information contained and answer simple questions?
- Can they explore an online database? e.g. <http://www.kidsbiology.com/animals-for-children.php>
- Can they recognise and describe commonly used technologies?
- Can they discuss how things were done before the invention of a range of common technologies e.g. communication technology?
- Can they recognise the difference and similarities between desktop computers/laptops and mobile technologies?
- Can they cut/copy and paste?
- Can they understanding the network system? Saving (SAVE) and work My Documents (:Drive) and opening work in the shared drive (W:Drive)
- Do they know the difference between SAVE and SAVE AS?
- Can they open saved work?
- Can they view open windows: minimise, maximise, close, dual screen view?
- Can they upload files from external device?
- Can they go on the Internet and navigate around a page using a scroll bar?
- Can they select hyperlinks on a page or document to navigate to a different page?
- Can they use the iPad correctly for a range of tasks?
- Can they use the mouse and keyboard to play on online games?

### Year 3

- Can they extend understanding and knowledge of programming by experiencing a variety of resources?
- Can they begin to correct errors (debug) as they program devices and actions on screen?
- Can they develop computational thinking by undertaking a variety of specific tasks?
- Can they use assisted programming software (Scratch) to plan, design and create characters and scenes, which interact with external controllers (e.g. keyboard and/or mouse)?
- Can they recognise the features of good page design and multimedia presentations and consider how these meet the needs of the audience e.g. poster, newspaper, menu, instructions?
- Can they understand that images, sounds and text on a website can be subject to copyright and abide by copyright rules when creating a presentation?
- Can they understand how sound can be used in presentations to create meaning and provide effects?
- Can they add simple titles, credits and special effects e.g. transitions?



## Computing Objectives

Can they understand that planning evaluating and improving and editing are vital parts of the design process and that ICT allows changes to be made quickly and efficiently?

Can they use various tools in photo-manipulation software to edit/change an image e.g. applying different special effects?

Do I know what cyberbullying is and how to address it?

Do I understand how websites use advertisements to promote products?

Can I create strong passwords and understand privacy settings?

Can I safely send and receive emails?

Can I explore different ways children can communicate online?

Can I use my knowledge about online safety to plan a party online?

Can they change the contents of cells in a pre-prepared spreadsheet and explore the consequences?

Do they understand how spreadsheet models allow changes to be made quickly and easily in comparison with real life situations?

Can they generate and compare different charts and graphs (using graphing software, or spreadsheets) and understand that different graphs are used for different purposes?

Can they use a pre-prepared spreadsheet to record data to answer questions, explore simple number patterns and produce graphs?

Can they use online tools such as blogs and forums to exchange information and collaborate with others within and beyond their school?

Can they recognise the advantages and consequences of online communication?

Can they record and share information electronically?

Can they select key words to include in web searches?

Can they search for relevant images on the Internet to import into a document?

Can they use Internet research to help create a report or presentation that answers specific questions on a topic?

Can they copy and paste images from the Internet into a document to illustrate it?

### Year 4

Can they begin to type logo commands to create, edit and refine more complex sequences of instructions for a variety of programmable devices?

Can they recognise that 'repeat' and 'forever' can be used to achieve efficient solutions to tasks?

Can they create an algorithm and code it effectively e.g. to tell simple story?

Can they sequence pre-written lines of programming into order?

Can they talk about algorithms planned by themselves and others and identify any problems and the expected outcome?

Can they use a range of devices to capture still and moving images for a purpose? These could include digital cameras, video cameras

Can they select and import graphics from digital cameras, and other sources e.g. the Internet?

Can they select suitable text, sounds and graphics to import into own work?

Can they add simple titles, credits and special effects e.g. transitions?

Can they understand that planning evaluation and improvement are vital parts of the design process and that ICT allows changes to be made quickly and efficiently and demonstrate this through editing their work?



## Computing Objectives

Can they use various tools in photo-manipulation software to edit/change an image e.g. applying different special effects?

Can they use various layouts, formatting, graphics and illustrations for different purposes or audiences?

Can they select and import sounds from other sources e.g. own recordings, sound effects and music?

Can they recognise how to edit and combine sounds for a purpose?

Can I identify how a message can hurt someone's feelings and how to respond to it?

Can I use a search engine safely and accurately?

Can I understand 'online plagiarism' and how to avoid it?

Can I create a safe online profile?

Can I explain how to be a responsible digital citizen?

Can I create an online superhero character?

Can they generate and compare different charts and graphs to answer questions (using graphing software, database or spreadsheet) and understand that different graphs are used for different purposes?

Can they determine the data needed to answer a specific question; organise, present, analyse and interpret the data in tables, diagrams, tally charts, pictograms and bar charts, using ICT where appropriate?

Can they use a pre-prepared spreadsheet to record data to answer questions, explore simple number patterns and produce graphs?

Can they generate and compare different charts and graphs (using graphing software, database or spreadsheets) and understand that different graphs are used for different purposes?

Can they understand how e-mails work, and create and send e-mails including using the 'cc' and 'bcc' fields?

Can they use e-mail to e-mail work completed in school to their teachers and peers?

Can they contribute/edit/refine contributions to a shared document and understand that all changes are visible?

Can they begin to understand what a network is and relate this to computer networks?

Can they recognise that the Internet is a network of connected computers and the world wide web is a vast collection of websites that are stored on these computers?

Can they recognise that the Internet contains fact fiction and opinion?

Can they use search tools on the computer to find files or programs?

Can they analyse search engine result lists by looking at the web address and site summaries for clues?

Can they use a search engine to search for relevant text and images on the Internet to import into a document?

## Year 5

Can they recognise the need for an efficient algorithm to achieve a specific outcome?

Can they begin to recognise the need to break problems up into smaller parts to achieve a solution?

Can they recognise that sensing change can be used to begin an action?

Can they independently select the most appropriate ICT tools for their intended purpose and audience?



## Computing Objectives

Can they create an outline plan for a non-linear presentation; producing a diagram to demonstrate understanding how pages link and the need for clarity?

Can they understand that images, sounds, video and text can be subject to copyright and abide by copyright rules when creating a presentation?

Do they know that images (still and moving) can be used to enhance presentations or communicate ideas?

Can they develop consistency across a presentation?

Can they make effective use of transitions and animations in presentations?

DO they consider their appropriateness and overall effect on the audience?

Through self assessment, can they routinely evaluate presentations and make improvements?

Can they understand which searches and graph types are relevant to a specific problem and types of information?

Can they recognise the consequences of data not being accurate, relate to outside world? (e.g. Police / doctors / banks / school database).

Can they understand the need for accuracy and frequent checking when entering formulae?

Can they understand that spreadsheets can automate functions, making it easier to test variables? E.g. when planning a budget you can change the number of items and see the changes to total cost.

Can I identify spam emails and what to do with them?

Can I write citations for the websites I use for research?

Can I create strong passwords?

Can I recognise when, why and how photographs we see online may have been edited?

Can I give examples of unsafe online behaviour and the possible consequences?

Can I apply online safety rules to real-life situations?

Can they recognise the appropriate online tools to collaborate and communicate with others?

Can they recognise material on the Internet which belongs to someone else and know what can be downloaded to use in their own work?

Can they recognise and use different forms of electronic communication and web 2.0 tools and recognise appropriateness of using different tools in different contexts and the advantages and disadvantages?

Can they begin to understand some of the ways that search engines select and rank results?

Can they use advance search techniques to refine searches?

Can they compare websites and other sources to help verify and validate content?

Can they recognise that domain names and common website extensions? E.g. .co.uk, .com, .ac, .sch .org, .gov, .net, can support the validation process

## Year 6

Can they begin to understand the need for logical reasoning to detect and correct errors in a program?

Can they recognise a variable in an algorithm or program and begin to understand why it is needed?

Can they recognise the uses of programming in the world around and its impact on society, including that of gaming?

Can they understand the potential of multimedia to inform or persuade and know how to integrate text, images and sounds imaginatively for different audiences and purposes?



## Computing Objectives

Can they acquire, store and combine images from different sources, then use to enhance a presentation?

Can they develop consistency across a presentation, using the same styles of font, colour, size for headings, body text, etc.?

Can they make effective use of transitions and animations in presentations?

Can they consider their appropriateness and overall effect on the audience?

Can they use online tools and services to create, edit and store digital media and presentations?

Through peer and self-assessment, can they routinely evaluate presentations and make improvements?

Can they recognise the consequences of data not being accurate, relate to outside world (e.g. Police / doctors / banks / school database)?

Can they understand the need for data protection and some of the rights of individuals over stored data and how it affects use and storage of data in the real world?

Can they understand that spreadsheets can automate functions, making it easier to test variables? e.g. when planning a budget you can change the number of items and see the changes to total cost.

Can I find similarities and differences between in-person and cyberbullying and identify good strategies to deal with cyberbullying?

Can I identify secure websites by identifying privacy seals of approval?

Do I understand the benefits and pitfalls of online relationships and identify information that I should never share?

Can I identify how the media play a powerful role in shaping ideas about girls and boys?

Can I apply my online safety knowledge to my online activities?

Can I use my knowledge of online safety to create a multiple choice quiz?

Can they work collaboratively to produce a document or presentation using cloud based tools?

Can they recognise the advantages, disadvantages and consequences of face to face online communication and collaboration (SKYPE)?

Can they understand how a computer network works?

Can they understand the different aspects of the Internet and how it works?

Can they develop skills to question where web content might originate from and understand that this gives clues to its authenticity and reliability? E.g. by looking at web address, author, content, contact us sections, linked pages

Can they evaluate the usefulness of websites?

Can they use effective Internet research to help create a report or presentation that answers specific questions on a topic?

