Computing Essential Knowledge

Rationale for assessment

There are relatively few assessment statements as these knowledge statements should be what pupils remember for ever.
In other words, this knowledge should be retained in long term memory.
There is a difference between knowledge which should be retained close to the point of teaching and knowledge which will be retained for ever.
These statements **should not** therefore be assessed directly after the point of teaching, but at a spaced interval to check if it has been embedded in long-term knowledge.

Year 1	Year 2
Know where the keys are located on a keyboard.	Know how to carry out the basics of touch typing.
Know how to create a series of instructions for a programmable toy.	Know how to create and follow and algorithm to create a basic computer programme.
Know that an algorithm is a set of step-by step instructions to carry out a task in a specific order.	Know how to copy, paste and alter text using keyboard shortcuts.
Know how to create digital art using an online drawing tool.	Know that personal information should not be shared on the internet.
Know how to drag, click and resize when using a mouse.	Know how to collect and input data into a spreadsheet.
Know how to log in and out using their own account.	Know how to use digital cameras effectively.
Know how to use the internet to search for images, understanding what to do if they come across something which makes them feel uncomfortable.	Know how to be respectful to others when sharing online content.

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Year 3	Year 4
Know how to take photographs and record video to tell a story.	Know that computer networks provide multiple services, such as the World Wide web, and opportunities for communication and collaboration.
Know how to create a repeat procedure when writing programmes.	Know how to solve unplugged problems by decomposing them into smaller parts.
Understand what computer networks do, identifying key components.	Know how to code a simple game.
Know how to use email effectively including adding attachments and including a subject.	Know how to narrow down results in search engines and to show specific areas wanted.
Know that not all emails are genuine, recognising when an email might be fake and what to do about it.	Know how software can be used collaboratively to work on programmes at the same time.
Know when digital behaviour is unkind, understanding what would constitute 'cyberbullying'.	Know how to build a web page and create content for it.
Understand the terms: field, record, data when working on databases.	Know how to present information for a given purpose using online software.
Know how to 'sort' and 'filter' to easily retrieve data when using spreadsheets.	Understand how to use hardware and sensors to record data.

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Year 5	Year 6
Know the difference between ROM and RAM and how RAM effects the processing of data.	Know how to write increasingly complex algorithms for a set purpose.
Know how to compress digital images.	Know how to alter a websites code to create changes.
Know how to create animations through a set of images.	Know how to create a podcast for a set purpose.
Know how to use a software programme to create music.	Know how to create and edit videos adding multiple elements: music, voice over, sound, text and transitions to create a video advert.
Know how to edit videos, images and programmes.	Know how to create a website with embedded links and multiple pages.
Know how to use 3D design software.	Understand secure passwords and the use of 2- step authentication.
Know how apps can access personal information and how to alter their permissions to keep safe.	Understand the implications of their digital footprint and online reputation.