An Daras Multi Academy Trust
## Assessing Pupil Progress – Computing (Y5)

Integrated Curriculum Scheme of Learning - 2016	
Document:	**ADMAT Assessing Pupil Progress (APP)**
National Curriculum Subjects:	**Computing**
Year Group:	**Year 5**
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Related Documents and Guidance:	National Curriculum 14/15
	Dimensions Skill Ladders 14
	Computing Scheme of Learning 15
	Non-Negotiable 14
	Progression Frameworks for Computing
	Computing Policy 15
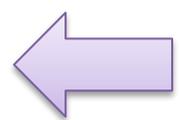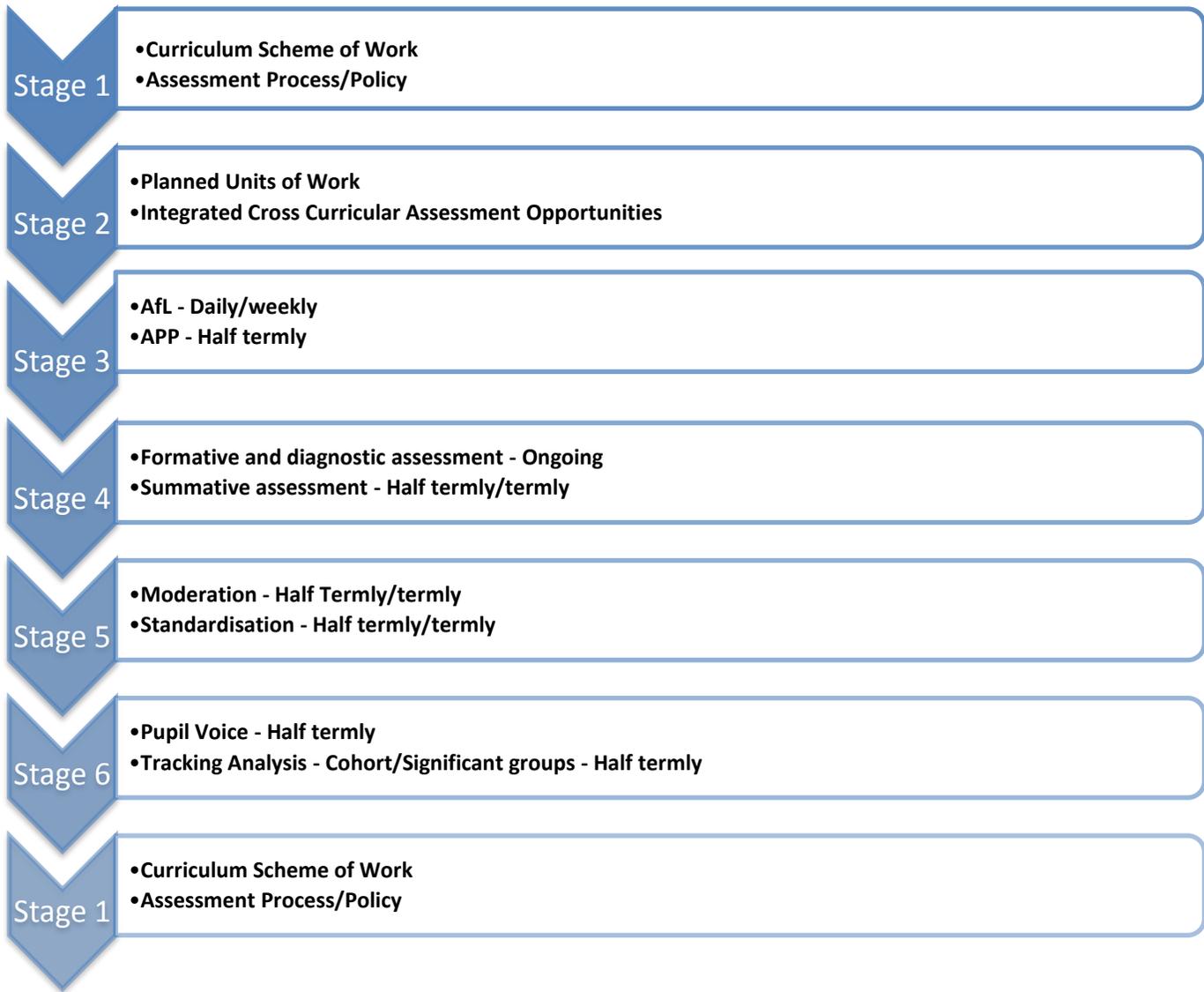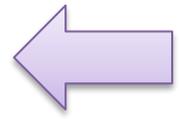
Stage		
Stage 1	•**Curriculum Scheme of Work** •**Assessment Process/Policy**	• Reviewed annually • Curriculum Policy • DfE Guidance • Pupil Outcomes
Stage 2	•**Planned Units of Work** •**Integrated Cross Curricular Assessment Opportunities**	• Reviewed Termly • Cross Curricular evidence
Stage 3	•**AfL - Daily/weekly** •**APP - Half termly**	• Marking • Rich Evidence • Standardisation Tasks
Stage 4	•**Formative and diagnostic assessment - Ongoing** •**Summative assessment - Half termly/termly**	• Analysis • I Track • 85% on track ARE
Stage 5	•**Moderation - Half Termly/termly** •**Standardisation - Half termly/termly**	• Within school • Across MAT • Practical exemplars
Stage 6	•**Pupil Voice - Half termly** •**Tracking Analysis - Cohort/Significant groups - Half termly**	• Within school • Across MAT • Practical Exemplar • Feeds into planned units of work
Stage 1	•**Curriculum Scheme of Work** •**Assessment Process/Policy**	• Reviewed annually • Curriculum Policy • DfE Guidance • Pupil Outcomes
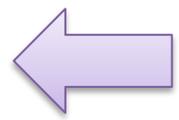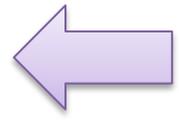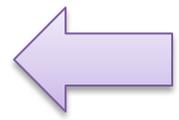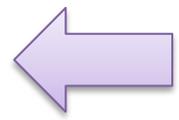
ADMAT/ARE **Year 5 Computing**	Pupil Name: Class Teacher:	**Term 1** We are Game Developers – **Developing an interactive game** We are Cryptographers – **Cracking codes** **Assessment:** **Aut 1:** **Aut 2:**	**Term 2** We are Artists – **Fusing geometry and art** We are Web Designers – **Creating a website about cyber safety** **Assessment:** **Sp 1:** **Sp 2:**	**Term 3** We are Bloggers - **Sharing experiences and opinions** We are Architects – **Creating a virtual space** **Assessment:** **Sum 1:** **Sum 2:**	Are Related Expectation Key: **NE** = Not Enough Evidence **EM** = Emerging **TI** = Towards Independence **EXP** = Expected **EXP+** = Expected Plus **EXC** = Exceeding

A/Computer Science				B/Information Technology				C/Digital Literacy			
A1. Design, write and debug programs that accomplish specific goals.				**B1. Select, use and combine a variety of software (including internet services).**				**C1. Use technology safely, respectfully and responsibly.**			
EM 1	TI 2	EXP 3	EXC 4	EM 1	TI 2	EXP 3	EXC 4	EM 1	TI 2	EXP 3	EXC 4
A2. Controlling or simulating physical systems. **SOC unit: Typically covered as part of the design and technology curriculum. See also *Switched on ICT Control* units.**				**B2. Design and create a range of programs, systems and content that accomplish given goals.**				**C2. Recognise acceptable/unacceptable behaviour.**			
EM 1	TI 2	EXP 3	EXC 4	EM 1	TI 2	EXP 3	EXC 4	EM 1	TI 2	EXP 3	EXC 4
A3. Solve problems by decomposing them into smaller parts				**B3. Collecting, analysing, evaluating and presenting data and information.**				**C3. Know a range of ways to report concerns and inappropriate behaviour.**			
EM 1	TI 2	EXP 3	EXC 4	EM 1	TI 2	EXP 3	EXC 4	EM 1	TI 2	EXP 3	EXC 4
A4. Use sequence, selection and repetition in programs; work with variables.				**B4. Use search technologies effectively.**				**C4. Be discerning in evaluating digital content.**			
EM 1	TI 2	EXP 3	EXC 4	EM 1	TI 2	EXP 3	EXC 4	EM 1	TI 2	EXP 3	EXC 4
A5. Work with various forms of input and output.				**B5. Appreciate how search results are selected and ranked.**				**C5. Understand the opportunities networks offer for communication and collaboration.** **SOC unit: 5.4, 5.5**			
EM 1	TI 2	EXP 3	EXC 4	EM 1	TI 2	EXP 3	EXC 4	EM 1	TI 2	EXP 3	EXC 4
A6. Use logical reasoning to explain how some simple algorithms work.											

EM	TI	EXP	EXC								
1	2	3	4								
A7. Use logical reasoning to detect and correct errors in algorithms and programs.											
EM	TI	EXP	EXC								
1	2	3	4								
A8. Understand computer networks including the internet.											
EM	TI	EXP	EXC								
1	2	3	4								
A9. Understand how networks can provide multiple services, such as the world wide web.											
EM	TI	EXP	EXC								
1	2	3	4								

ARE Guidance Year 5	Not Enough Evidence	Emerging (1) • Fully supported…	Towards Independence (2) • Some support….	Expected (3) • Mostly independently…	Exceeding (4) • Always independently…
A/Computer Science **(Problem Solving)**	**A1.** Design, write and debug programs that accomplish specific goals	The child is beginning to design and write a **program** using a **block language** based on their own ideas. The child can, with help, design a **program** of their own and write this in a **block**-based language such as Scratch. The **program** need not be complex (a simple game or a turtle graphics **program** would suffice) but it should be accomplished with a degree of independent working. *(E.g. In 5.1, design and write their own game in Scratch.* *In 5.3, design and program their own geometric pattern in Scratch.)*	The child can design and write a **program** using a **block language** based on their own ideas. The child can design a **program** of their own and write this in a **block**-based language such as Scratch. The **program** need not be complex (a simple game or a turtle graphics **program** would suffice) but it should be accomplished with a degree of independent working. *(E.g. In 5.1, design and write their own game in Scratch.* *In 5.3, design and program their own geometric pattern in Scratch.)*	The child can design, write and **debug** a **program** using a **block language** based on their own ideas. The child can design a **program** of their own and write this in a **block**-based language such as Scratch. The child can test and **debug** their code, explain what bugs they found and how they fixed them. The **program** need not be complex (a simple game or a turtle graphics **program** would suffice) but it should be accomplished with a degree of independent working. *(E.g. In 5.1, design, write and debug their own game in Scratch.* *In 5.3 designs, program and debug their own geometric pattern in Scratch.)*	The child can design, write and **debug** a **program** using a **block language** based on their own ideas; the child can use iterative development to make improvements. The child can design a **program** of their own and write this in a **block**-based language such as Scratch. The child can test and **debug** their code, explain what bugs they found and how they fixed them. The child can then review their code, decide for themselves how this might be extended or improved, and then implement, test and **debug** these modifications. The **program** should be accomplished with a degree of independent working. *(E.g. In 5.1, design, write and debug their own game in Scratch.* *In 5.3, design, program and debug their own geometric pattern in Scratch. They should use iterative development approaches to make improvements to these.)*
Evidence:					
	A2. Controlling or simulating physical systems.	The child is beginning to understand that physical systems can be controlled by a computer. The child can, with help, give some examples of physical systems that are controlled by computers – these could include real-world examples such as engine management systems, refrigerators, DVD players or their own products made in design and	The child can understand that physical systems can be controlled by a computer. The child can give some examples of physical systems that are controlled by computers – these could include real-world examples such as engine management systems, refrigerators, DVD players or their own products made in design and technology.	The child can experiment with computer control applications. The child can use simple computer control and/or sensors with products they make in design and technology, perhaps using Lego WeDo kits, MaKey MaKey or similar.	The child can develop their own simple computer control application. The child can add computer control and/or sensors to products they design and make in design and technology, perhaps using Lego WeDo kits, MaKey MaKey or similar.

		technology.			
Evidence:					
	A3. Solve problems by de-composing them into smaller parts.	The child is beginning to identify component parts of a problem. When given a complex problem or project, the child can, with help, identify the component parts of the problem or project and explain how they might tackle these in order to solve the original problem or complete the given project. Projects might include designing a computer game, creating a website or designing a building. *(E.g. In 5.1, think about the different parts of a game.* *In 5.4, think about the different elements that make up a web page or a website.* *In 5.6, think of the different parts of a building.)*	The child can identify component parts of a problem. When given a complex problem or project, the child can identify the component parts of the problem or project and explain how they might tackle these in order to solve the original problem or complete the given project. Projects might include designing a computer game, creating a website or designing a building. *(E.g. In 5.1, think about the different parts of a game.* *In 5.4, think about the different elements that make up a web page or a website.* *In 5.6, think of the different parts of a building.)*	The child can plan a solution to a problem using decomposition. The child can take a complex problem, identify component parts, use decomposition to break this problem down and then plan how they can solve the problem by working through the elements they have identified. Projects could include developing a computer game, creating a website or designing a building. *(E.g. In 5.1, use decomposition to plan how they will create their game.* *In 5.4, use decomposition to plan how to make a website.* *In 5.6, use decomposition to plan how to create a virtual art gallery.)*	The child can solve problems using decomposition, tackling each part separately. The child can take a complex problem, identify component parts, use decomposition to break this problem down and then plan how they can solve the problem by working through the elements they have identified. They can then use their plan to solve the original problem. Projects could include developing a computer game, creating a website or designing a building. *(E.g. In 5.1, tackle the parts of their game separately.* *In 5.4, work together to tackle the different elements of a website separately.* *In 5.6, tackle each of the different stages of their gallery.)*
Evidence:					
Programming	**A4.** Use sequence, selection, and repetition in programs; work with variables.	The child is beginning to use **sequence** and **repetition** in **programs**. The child's **program,** typically written in Scratch, or similar, may include **sequences** of **commands** or **blocks** and some **repetition**. **Repetition** would typically be for a fixed number of times, but might also include exit conditions (e.g. repeat...until...). **Programs** might include turtle graphics or a simple game. *(E.g. In 5.1, their game should use sequence and repetition.*	The child can use **sequence** and **repetition** in **programs**. The child's **program,** typically written in Scratch, or similar, should include **sequences** of **commands** or **blocks** and some **repetition**. **Repetition** would typically be for a fixed number of times, but might also include exit conditions (e.g. repeat...until...). **Programs** might include turtle graphics or a simple game. *(E.g. In 5.1, their game should use sequence and repetition.* *In 5.3, their turtle graphics program should use sequence and repetition.)*	The child can use **sequence**, **selection** and **repetition** in **programs**. The child's program, typically written in Scratch, or similar, should include **sequences** of **commands** or **blocks,** some **repetition** and **selection. Repetition** might include exit conditions (e.g. repeat...until...). Selection would normally be of an if...then or if...then...else type. At this level, expect the child to be able to combine **repetition** with **selection**. **Programs** might include a computer game or a turtle graphics design. *(E.g. In 5.1, their game program should*	The child can use **sequence**, **selection**, **repetition** and **variables** in **programs**. The child's program, typically written in Scratch, or similar, should include **sequences** of **commands** or **blocks**, **repetition**, **selection** and **variables**. **Repetition** might include exit conditions (e.g. repeat...until...) and perhaps a counter-variable for **iteration**. **Selection** would normally be of an if...then or if...then...else type. At this level, expect the child to be able to combine **repetition** with **selection** and **variables**. **Programs** might include a computer game and a more complex turtle graphics design.

		In 5.3, their turtle graphics program should use sequence and repetition.)		include sequence, selection and repetition.)	(E.g. In 5.1, use sequence, selection and repetition in their game, and keep track of score, lives or time remaining using a variable.)
Evidence:				
	A5. Work with various forms of input and output.	The child is beginning to write a **program** that accepts keyboard **input** and produces on-screen **output**.

In Scratch (or similar), the child can, with help, write a **program** that uses the keyboard to control the behaviour of a **sprite** on screen. This might be used as the basis for a simple computer game.

(E.g. In 5.1, use the keyboard for control, producing output on screen.) | The child can write a **program** that accepts keyboard **input** and produces on-screen **output**.

In Scratch (or similar), the child can write a **program** that uses the keyboard to control the behaviour of a **sprite** on screen. This might be used as the basis for a simple computer game.

(E.g. In 5.1, use the keyboard for control, producing output on screen.) | The child can write a **program** that accepts keyboard and mouse **input** and produces **output** on screen and through speakers.

In Scratch (or similar), the child can create a computer game using the keyboard or mouse for **input** and the screen and speakers for **output**.

(E.g. In 5.1, use the keyboard and/or mouse for input for their game, produce output on screen and use sound effects, music or narration.) | The child can show an awareness of the importance of good user-**interface** design when developing a **program**.

In developing their **program,** the child should take account of the needs of their users and be able to explain how these have influenced design and development. They should test their **program** with users, making changes on the basis of feedback received.

(E.g. In 5.1 explain how they have developed the user interface for their game, taking into account its intended users; discuss how they have tested this. In 5.4 and 5.5, discuss the design elements of their website and blog. In 5.6, demonstrate how their virtual gallery has been designed with its users in mind.) |
| **Evidence:** | | | | |
| **(Logical Thinking)** | **A6.** Use logical reasoning to explain how some simple algorithms work. | The child is beginning to predict the outcomes of a rule-based **algorithm**.

When provided with rule-based **algorithms** (e.g. for a computer game) the child should be able to predict what would happen under a range of circumstances.

(E.g. In 5.1, predict what happens in their game.) | The child can predict the outcomes of a rule-based **algorithm**.

When provided with rule-based **algorithms** (e.g. for a computer game) the child should be able to predict what would happen under a range of circumstances.

(E.g. In 5.1, predict what happens in their game.) | The child can explain a rule-based **algorithm** in their own words.

When provided with a rule-based **algorithm** (e.g. for a computer game), the child should be able to explain what it does and how it works, in their own words.

(E.g. In 5.1, explain the rules of their game in their own words.) | The child can give a clear and precise explanation of a rule-based **algorithm**.

When provided with a rule-based **algorithm** (e.g. for a computer game), the child should draw on logical reasoning to give a clear and precise explanation of what it does and how it works.

(E.g. In 5.1, give a clear and precise explanation for the rules of their game.) |
| **Evidence:** | | | | |

	A7. Use logical reasoning to detect and correct errors in algorithms and programs.	The child is beginning to spot errors in **algorithms**. When given an **algorithm** for a particular purpose, e.g. a rule-based **algorithm** for a computer game or a **sequence** of steps to draw a geometric pattern, the child can, with help, identify possible errors in their **algorithm**. *(E.g. In 5.1, spot errors in the rules of their game.* *In 5.3, spot errors in the algorithm for their geometric pattern.)*	The child can spot errors in **algorithms**. When given an **algorithm** for a particular purpose, e.g. a rule-based **algorithm** for a computer game or a **sequence** of steps to draw a geometric pattern, the child can identify possible errors in their **algorithm**. *(E.g. In 5.1, spot errors in the rules of their game.* *In 5.3, spot errors in the algorithm for their geometric pattern.)*	The child can use logical reasoning to detect errors in **algorithms**. When given an **algorithm** for a particular purpose, e.g. a rule-based **algorithm** for a computer game or a **sequence** of steps to draw a geometric pattern, the child can use logical reasoning to identify possible errors in the **algorithm**, explaining why they believe the **algorithm** is incorrect. *(E.g. In 5.1, spot and correct errors in the rules of their game.* *In 5.3, spot and correct errors in the algorithm for their geometric pattern.)*	The child can use logical reasoning to detect and correct errors in **algorithms**. When given an **algorithm** for a particular purpose, e.g. a rule-based **algorithm** for a computer game or a **sequence** of steps to draw a geometric pattern, the child can use logical reasoning to identify possible errors in the **algorithm**, explaining why they believe the **algorithm** is incorrect. The child can use logical reasoning to suggest possible corrections to the **algorithm**, explaining why these would correct the bug they identified. *(E.g. In 5.1, use logical reasoning to detect and correct errors in the rules of their game.* *In 5.3, use logical reasoning to detect and correct errors in the algorithm for their geometric pattern.)*
Evidence:				
	A8. Understand computer networks including the internet.	The child is beginning to understand the internet as a **network** of networks. The child can, with help, give some explanation of how the internet allows computers on different **networks** (e.g. at school and at home) to communicate with one another. *(E.g. In 5.2, understand that multiple networks may be involved in passing encrypted messages.* *In 5.4 and 5.5, recognise that multiple networks may be involved in providing web-based content.)*	The child can understand the internet as a **network** of networks. The child can give some explanation of how the internet allows computers on different **networks** (e.g. at school and at home) to communicate with one another. *(E.g. In 5.2, understand that multiple networks may be involved in passing encrypted messages.* *In 5.4 and 5.5, recognise that multiple networks may be involved in providing web-based content.)*	The child can understand how data routing works on the internet. The child can give a coherent explanation of how **data packets** are routed from one computer to another on a separate **network**, which is also connected to the internet. *(E.g. In 5.2, understand how encrypted messages are routed on the internet.* *In 5.4 and 5.5, understand how web pages are routed on the internet.)*	The child can explain how internet routing adapts to faults in the **network**. The child can give a coherent explanation of how **data packets** are routed from one computer to another on a separate **network**, which is also connected to the internet, and how this routing would change if the **network** were to develop a fault. *(E.g. In 5.2, explain how encrypted messages could still be transmitted if there were faults on the network.* *In 5.4 and 5.5, explain how web pages could still be transmitted if there were faults on the network.)*
Evidence:				
	A9. Understand how	The child is beginning to show an	The child can show an understanding of	The child can understand how web pages	The child can show an understanding

	networks can provide multiple services, such as the world wide web.	understanding of basic **HTML (hypertext mark-up language)**. The child can, with help, explain how a web page is transmitted in the form of **HTML** code. The child should be able to use simple tools (e.g. X-Ray Goggles) to view and edit the **HTML** code for a web page. *(E.g. In 5.4 and 5.5, recognise that the web pages they are creating are transmitted and stored as HTML.)*	basic **HTML (hypertext mark-up language)**. The child can explain how a web page is transmitted in the form of **HTML** code. The child should be able to use simple tools (e.g. X-Ray Goggles) to view and edit the **HTML** code for a web page. *(E.g. In 5.4 and 5.5, recognise that the web pages they are creating are transmitted and stored as HTML.)*	are created and transmitted. The child can explain how **HTML** is used to create a web page and how it is transmitted as **packets** of digital **data** over the internet. The child should have an awareness of simple **HTML** tags (such as <h1> and <p>) for marking up a web page. *(E.g. In 5.4 and 5.5, gain experience of creating web pages using content management systems and understand how these pages are transmitted via the internet.)*	of how **content management systems** are used on the **web**. The child can explain some differences between static web pages written as simple **HTML** files and those generated from a database of content elements by **content management systems** such as WordPress, MediaWiki or Moodle. *(E.g. In 5.4 and 5.5, recognise that the content of the pages they create is stored in a database, and programs on the web server generate the transmitted HTML from this when pages are requested.)*
Evidence:					
B/Information Technology **(Creating Content)**	**B1.** Select, use and combine a variety of software (including internet services) on a range of digital devices.	The child is beginning to use and combine a range of **programs** on a computer. The child can use multiple **programs** on laptop or tablet computers to achieve particular goals. E.g. They might use an audio editor or image editor to develop media content for a computer game; use image or video editing **software** to develop media content for a web page or blog; use image-editing **software** to develop images to use in 3D design **software**. *(E.g. In 5.1, make use of audio and image content in Scratch. In 5.4 and 5.5, add media content to their web pages or blog. In 5.6, add images to the walls of their virtual gallery.)*	The child can use and combine a range of **programs** on a computer. The child can use multiple **programs** on laptop or tablet computers to achieve particular goals. E.g. They might use an audio editor or image editor to develop media content for a computer game; use image or video editing **software** to develop media content for a web page or blog; use image-editing **software** to develop images to use in 3D design **software**. *(E.g. In 5.1, make use of audio and image content in Scratch. In 5.4 and 5.5, add media content to their web pages or blog. In 5.6, add images to the walls of their virtual gallery.)*	The child can use and combine a range of **programs** on multiple devices. The child can use multiple **digital devices** (such as tablets and laptops or digital cameras and laptops) to achieve particular goals. The devices might include web **servers,** allowing them to use cloud-based applications. E.g. They might use local media in conjunction with a cloud-based programming **platform**, such as Scratch; digital cameras and video cameras to capture content to use on an externally hosted website or blog; a digital camera to take photos they could import into 3D design **software** on a laptop. *(E.g. In 5.1, combine local media with web-based Scratch programs. In 5.4 and 5.5, combine local media, including that captured using portable technology, with a web-based content management*	The child can select, use and combine a range of **programs** on multiple devices. The child can choose for themselves from a range of available **programs** on laptops, tablets or cloud-based services to achieve particular goals. E.g. They might select and use an audio editor or image editor to develop media content for a computer game; use their own choice of image or video editing **software** to develop media content for a web page or blog; use their own choice of image-editing **software** to develop images to use in 3D design **software**. The child should be able to use multiple **digital devices** (such as tablets and laptops or digital cameras and laptops) to meet their given goals. *(E.g. In 5.1, choose how they will develop graphics and sound for their game. In 5.4 and 5.5, choose how they will*

				system. *In 5.6, use digital photographs and other media in a virtual art gallery.)*	*develop original media for their web pages or blogs.* *In 5.6, choose how they will create content for their gallery.)*
Evidence:					
	B2. Design and create a range of programs, systems and content that accomplish given goals.	The child is beginning to design and create **programs** on a computer. The child can design a **program** of their own and write this in a **block**-based language such as Scratch. The **program** need not be complex – a simple game or a turtle graphics **program** would suffice. *(E.g. In 5.1, design and create a computer game.* *In 5.3, design and create a geometric pattern using turtle graphics.)*	The child can design and create **programs** on a computer. The child can design a **program** of their own and write this in a **block**-based language such as Scratch. The **program** need not be complex – a simple game or a turtle graphics **program** would suffice. *(E.g. In 5.1, design and create a computer game.* *In 5.3, design and create a geometric pattern using turtle graphics.)*	The child can design and create **programs** on a computer in response to a given goal. The child can design a **program** of their own in response to a given goal and write this in a **block**-based language such as Scratch. The program need not be complex - a simple game or a turtle graphics **program** would suffice, but it should be accomplished with a degree of independent working. *(E.g. In 5.1, design and create a computer game in response to a given brief.* *In 5.3, design and create a geometric pattern using turtle graphics in response to a given brief.)*	The child can design and create **programs** on a computer in response to a given goal and paying attention to the needs of a known audience. With a given audience in mind, the child can design a program of their own in response to a given goal and write this in a **block**based language such as Scratch. E.g. The child could design and create a computer game for a particular, known audience. *(E.g. In 5.1, design and create a computer game in response to a given brief, paying attention to the needs of the intended audience.)*
Evidence:					
	B3. Collecting, analysing, evaluating and presenting data and information.	The child is beginning to evaluate information. Working with text, audio, images or video, the child can, with help, evaluate the quality of the information, perhaps looking for bias or questioning assumptions that have been made, or considering the effectiveness of its presentation. E.g. They could work with a number of sources of information on **e-safety**, evaluating its quality, or they could provide constructive critical feedback to peers on the quality of their work in design projects. *(E.g. In 5.3, evaluate the quality of*	The child can evaluate information. Working with text, audio, images or video, the child can evaluate the quality of the information, perhaps looking for bias or questioning assumptions that have been made, or considering the effectiveness of its presentation. E.g. They could work with a number of sources of information on **e-safety**, evaluating its quality, or they could provide constructive critical feedback to peers on the quality of their work in design projects. *(E.g. In 5.3, evaluate the quality of their own and others' artwork.* *In 5.4, evaluate the quality of the information on which they base their*	The child can analyse and evaluate information. Working with text, audio, images or video, the child can analyse information, perhaps summarising this. They should evaluate the quality of the information, looking for bias or questioning assumptions that have been made. E.g. They could work with information on **e-safety**, evaluating its quality and providing a clear and coherent summary. *(E.g. In 5.4, evaluate the quality of the information on which they are drawing. Analyse this to provide a clear and coherent summary on their own page.)*	The child can analyse and evaluate information from multiple sources. Working with text, audio, images or video, the child can analyse information, perhaps summarising this or looking for common features or exceptions. They should evaluate the quality of the information, looking for bias or questioning assumptions that have been made. E.g. They could work with a number of sources of information on e-safety, evaluating their quality and providing a clear and coherent summary, drawing on multiple sources. *(E.g. In 5.4, evaluate the quality of the information from the multiple sources*

		their own and others' artwork. In 5.4, evaluate the quality of the information on which they base their web page. In 5.5, provide feedback to classmates about the	web page. In 5.5, provide feedback to classmates about the		on which they are drawing. Analyse this to provide a clear and coherent synthesis on their own page.)
Evidence:					
	B4. Use search technologies effectively.	The child is beginning to use a standard search engine to find information. The child can use a common search engine (such as Google with **safe search mode** locked in place) effectively, to search for particular information on the **web**, such as answers to questions they identify in a research project. *(E.g. In 5.4, use Google to search for information relevant to the topic of their web page.)*	The child can use a standard search engine to find information. The child can use a common search engine (such as Google with **safe search mode** locked in place) effectively, to search for particular information on the **web**, such as answers to questions they identify in a research project. *(E.g. In 5.4, use Google to search for information relevant to the topic of their web page.)*	The child can use filters to make more effective use of a standard search engine. The child can use a common search engine (such as Google with **safe search mode** locked in place) effectively, to search for particular information on the **web**, such as answers to questions they identify in a research project. They should use built-in search tools to filter their results, such as by time, location or reading level. *(E.g. In 5.4, use the filters in Google to search for information relevant to the topic of their web page and appropriate for its intended audience.)*	The child can use advanced search options to make more effective use of a standard search engine. The child can use a common search engine (such as Google with **safe search mode** locked in place) effectively, to search for particular information on the **web**, such as answers to questions they identify in a research project. They should use advanced search options to filter their results, perhaps searching for a key phrase rather than keywords, using alternate keywords, or restricting their search to particular locations or domains. *(E.g. In 5.4, use 'advanced search' in Google to search for information relevant to the topic of their web page and appropriate for its intended audience.)*
Evidence:					
	B5. Appreciate how search results are selected and ranked.	The child is beginning to understand that search engines use a **cached** copy of the crawled **web** to select results. The child can, with help, explain how a search engine creates a **cached** copy of the **web** and uses an index of this to select results. *(E.g. In 5.4, understand that Google uses a cached copy of the crawlable*	The child can understand that search engines use a **cached** copy of the crawled **web** to select results. The child can explain how a search engine creates a **cached** copy of the **web** and uses an index of this to select results. *(E.g. In 5.4, understand that Google uses a cached copy of the crawlable web to generate search results.)*	The child can understand that search engines use a **cached** copy of the crawled **web** to select and rank results. The child can explain how a search engine creates an index from a **cached** copy of the **web** and uses this to select and rank results. The child might also show an awareness of the Page Rank **algorithm** in which results are ranked according to the number and quality of in-bound links.	The child can understand how search engines build a **cached** copy of the **web** using **HTTP** and web-crawler **programs**. The child can explain how a search engine creates a **cached** copy of the **web** using automated **HTTP** GET requests, follows links found, indexes results and uses the resulting index to select and rank results. The child might also show an awareness of the Page Rank **algorithm** in which results are

		web to generate search results.)		*(E.g. In 5.4, understand that Google uses a cached copy of the crawlable web to generate search results, using the links between the pages in the cache to determine the rank order in which results are displayed.)*	ranked according to the number and quality of in-bound links. *(E.g. In 5.4, understand that Google's web-crawler programs run on their servers simply using HTTP requests to obtain copies of web pages, using the links in these for further HTTP requests to add or update pages in their cache.)*
Evidence:					
C/Digital Literacy **(Online Safety)**	**C1.** Use technology safely, respectfully and responsibly.	The child is beginning to demonstrate that they can act responsibly when using computers. The child can, with help, act responsibly when using computers. E.g. They are beginning to appreciate the importance of using encryption to keep information private and the need for strong passwords to protect their identity. They should act responsibly when creating web pages or writing blog posts. *(E.g. In 5.2, recognise the importance of encrypting private information and using strong passwords. In 5.4 and 5.5, act responsibly when creating pages or blog posts.)*	The child can demonstrate that they can act responsibly when using computers. The child can act responsibly when using computers. E.g. They appreciate the importance of using encryption to keep information private and the need for strong passwords to protect their identity. They should act responsibly when creating web pages or writing blog posts. *(E.g. In 5.2, recognise the importance of encrypting private information and using strong passwords. In 5.4 and 5.5, act responsibly when creating pages or blog posts.)*	The child can demonstrate that they can act responsibly when using the internet. The child can act responsibly when using the internet. E.g. They should act responsibly when participating in an online community, such as the Scratch community, if permitted to do so. They should demonstrate that they understand the importance of **encrypted** (**HTTPS**) connections when browsing the **web** and of using strong passwords to protect their identity online. They should act responsibly when creating, editing or commenting on web pages or blog posts. *(E.g. In 5.1, contribute positively to the Scratch community, if permitted to do so. In 5.2, recognise the importance of encrypting private information when communicating online and of using strong passwords. In 5.4 and 5.5, act responsibly when creating, editing or commenting on pages or blog posts.)*	The child can show that they can think through the consequences of their actions when using digital technology. The child can discuss likely and potential consequences of their actions when using digital technology in a range of contexts. Contexts might include participation in online communities, such as the Scratch community, if they are permitted to do so; the use (or non-use) of **encryption**, of using weak passwords or sharing their passwords with others; of creating particular content for a class website or blog. *(E.g. In 5.1, consider the consequences of uploads and comments to the Scratch community. In 5.2, consider the consequences of their own and others' use (or non-use) of encryption when communicating online and of setting weak passwords. In 5.4 and 5.5, recognise the consequences of creating particular content in a class website or blog.)*
Evidence:					
	C2. Recognise acceptable/unacceptable behaviour.	*The child is beginning to understand the difference between acceptable and unacceptable behaviour when using digital*	The child can understand the difference between acceptable and unacceptable behaviour when using digital	The child can discuss the consequences of particular behaviours when using digital technology.	The child can show that they can think through the consequences of their actions when using digital technology. The child can discuss likely and

		technology. *The child can, with help, discuss the difference between acceptable and unacceptable behaviour when using digital technology in a range of contexts. Contexts could include the Scratch website, or other online communities; using cryptography and passwords; creating websites or writing blog posts.* *(E.g. In 5.1, understand the differences between acceptable and unacceptable behaviour in the Scratch community.* *In 5.2, understand the differences between acceptable and unacceptable behaviour when using cryptography and when using passwords. In 5.4 and 5.5, understand the differences between acceptable and unacceptable behaviour when developing online content for a website or blog.)*	technology. The child can discuss the difference between acceptable and unacceptable behaviour when using digital technology in a range of contexts. Contexts could include the Scratch website, or other online communities; using cryptography and passwords; creating websites or writing blog posts. (E.g. In 5.1, understand the differences between acceptable and unacceptable behaviour in the Scratch community. *In 5.2, understand the differences between acceptable and unacceptable behaviour when using cryptography and when using passwords. In 5.4 and 5.5, understand the differences between acceptable and unacceptable behaviour when developing online content for a website or blog.)*	The child can discuss the likely or possible consequences of particular behaviours when using digital technology in a range of contexts. Contexts could include the Scratch website, or other online communities; using cryptography and passwords; creating websites or writing blog posts. *(E.g. In 5.1, discuss the consequences of particular behaviours in the Scratch community.* *In 5.2, discuss the consequences of particular behaviours when using cryptography and when using passwords.* *In 5.4 and 5.5, discuss the consequences of particular behaviours when developing online content for a website or blog.)*	potential consequences of their actions when using digital technology in a range of contexts. Contexts might include participation in online communities, such as the Scratch community, if they are permitted to do so; the use (or non-use) of **encryption**, of using weak passwords or sharing their passwords with others; of creating particular content for a class website or blog. *(E.g. In 5.1, consider the consequences of uploads and comments to the Scratch community.* *In 5.2, consider the consequences of their own and others' use (or non-use) of encryption when communicating online and of setting weak passwords.* *In 5.4 and 5.5, recognise the consequences of creating particular content in a class website or blog.)*
Evidence:				
	C3. Know a range of ways to report concerns and inappropriate behaviour.	Begin to know who to talk to about concerns and inappropriate behaviour at home or in school. Pupils should know to report inappropriate behaviour when using technology in school to their teacher, the **network** manager or another trusted adult, and that they can discuss any concerns they have with their teacher or other trusted adults in school. They	Know who to talk to about concerns and inappropriate behaviour at home or in school. Pupils should know to report inappropriate behaviour when using technology in school to their teacher, the **network** manager or another trusted adult, and that they can discuss any concerns they have with their teacher or other trusted adults in school. They should also know that any	Know how to report concerns and inappropriate behaviour in a range of contexts. Pupils should know how to report inappropriate behaviour when using technology in school: preferably this will be to their teacher, the **network** manager or another trusted adult. They should know how to report any concerns over inappropriate behaviour with digital technology at home. Preferably this	Know a range of ways to report concerns and inappropriate behaviour in a variety of contexts. Pupils should know how to report inappropriate behaviour when using technology in school: typically this will be to their teacher, the **network** manager or another trusted adult. They should know how to report any concerns over inappropriate behaviour with digital technology at home.

		should also know that any concerns over, or inappropriate behaviour with, digital technology at home can be discussed with their parents, with you or with another trusted adult. *(E.g. Know to tell a teacher about any concerns or inappropriate behaviour in any units. Know that concerns in relation to the Scratch community can be reported to the community moderators (units 5.1 and 5.3). Know that they should talk to their parents about concerns and inappropriate behaviour outside school.)*	concerns over, or inappropriate behaviour with, digital technology at home can be discussed with their parents, with you or with another trusted adult. *(E.g. Know to tell a teacher about any concerns or inappropriate behaviour in any units. Know that concerns in relation to the Scratch community can be reported to the community moderators (units 5.1 and 5.3). Know that they should talk to their parents about concerns and inappropriate behaviour outside school.)*	would be through discussion with their parents, with you or with another trusted adult. Pupils should also know how to report inappropriate behaviour to those running websites which they regularly use, and to ChildLine, CEOP or to the police. *(E.g. Know to tell a teacher about any concerns or inappropriate behaviour in any units. Know that concerns in relation to the Scratch community can be reported to the community moderators (units 5.1 and 5.3). In unit 5.4 and 5.5, know that concerns over illegal web content can be reported to the police. Know that they should talk to their parents about concerns and inappropriate behaviour outside school.)*	Preferably this would be through discussion with their parents, with you or with another trusted adult. Pupils should also know how to report inappropriate behaviour to those running websites which they regularly use, and to Child Line, CEOP or the police. Pupils should know that illegal content or activities can be reported to the police. *(E.g. Know to tell a teacher about any concerns or inappropriate behaviour in any units. Know that concerns in relation to the Scratch community can be reported to the community moderators (units 5.1 and 5.3). In unit 5.4 and 5.5, know that concerns over illegal web content can be reported to the police, but be aware that other countries have different legal codes. Know that they should talk to their parents about concerns and inappropriate behaviour outside school. Know that they can also discuss concerns with CEOP or Child Line)*
Evidence:					
	C4. Be discerning in evaluating digital content.	The child is beginning to decide whether digital content is relevant for a given purpose or question. The child can, with help, form a judgement about whether digital content, such as sound and graphics for a game or media for a web page or 3D model, is appropriate for finding out the answer to a question they have or for a given purpose. *(E.g. In 5.1, decide whether particular sound and graphics are appropriate for their game.*	The child can decide whether digital content is relevant for a given purpose or question. The child can form a judgement about whether digital content, such as sound and graphics for a game or media for a web page or 3D model, is appropriate for finding out the answer to a question they have or for a given purpose. *(E.g. In 5.1, decide whether particular sound and graphics are appropriate for their game. In 5.4, decide whether particular content is relevant to the purpose of the*	The child can decide whether digital content is reliable and unbiased. The child can discuss whether particular content (such as a web page, other children's pages or blog posts) is reliable and whether it has been written from a neutral point of view. They should be able to spot some examples of bias in digital content. *(E.g. In 5.4, decide whether external content is reliable and unbiased before using it in their own web page. In 5.4 and 5.5, comment on the reliability and bias of others' pages or posts.)*	The child can form an opinion about the effectiveness of digital content. Taking into account the intended audience and purpose of the content, the child should be able to form a judgement, and provide reasons, for the extent to which they consider digital content to be effective. Content could be a game or media, their own or their peers' artwork, their own or classmates' pages or posts or a 3D model. *(E.g. In 5.1, form a view of the effectiveness of their game and the*

		In 5.4, decide whether particular content is relevant to the purpose of the web page they are developing. *In 5.6, decide whether particular media would be suitable for their virtual gallery.)*	*web page they are developing.* *In 5.6, decide whether particular media would be suitable for their virtual gallery.)*		*media they use in it.* *In 5.3, form an opinion about how effective their artwork is.* *In 5.4 and 5.5, form an opinion about how effective their own and their classmates' pages and posts are.* *In 5.6, form an opinion about how effective their virtual gallery is.)*
Evidence:					
	C5. Understand the opportunities networks offer for communication and collaboration.	The child is beginning to contribute to a class website or blog. The child can make a positive contribution to a shared website or class blog. *(E.g. Contribute to the class website in 5.4 and blog I 5.5.)*	The child can contribute to a class website or blog. The child can make a positive contribution to a shared website or class blog. *(E.g. Contribute to the class website in 5.4 and blog in 5.5.)*	The child can work collaboratively with classmates on a class website or blog. The child can work productively and positively with others when developing a shared website or contributing to a class blog. *(E.g. Work collaboratively with classmates on the class website in 5.4 and the class blog in 5.5.)*	The child can provide constructively critical feedback to classmates in a class website or blog project. Showing appropriate sensitivity, the child can provide constructive, critical feedback to another, e.g. on others' contributions to a shared website or a class blog. *(E.g. Provide constructively critical feedback to one another on contributions to the class website in 5.4 and blog in 5.5.)*