

*knowing*

*creating*

Computing Past, Present & Future

Writing programs & digital creativity

Computing

*abstraction, logic, algorithm, representation*

Using Software & Hardware

How Technology Works

e-safety & debugging

*using*

*analysing*

*evaluating*

## R•E•A•L Opportunities (How we will learn)

### Entitlements

**During their time at Stanley Road children will:**

Continue to the design, layout and content of the school website.

Have access to new and emerging technologies.

Compare and contrast hardware and software across at least two operating systems (Windows and iOS), continually analysing and evaluating the rival merits in each year.

Become aware of dangers online and develop safe ways to communicate and learn using the internet.

Cross-Curricular Learning

<p><b>ART &amp; DESIGN:</b> Integral to the art curriculum should be:</p> <ol style="list-style-type: none"> <li>1 using digital technology (photography, video, sound recording) as part of the artistic process.</li> <li>2 making digital art (video, installation, sound sculpture, graphics, photography)</li> <li>3 Using the internet as a limitless (but supervised) virtual art gallery.</li> </ol>	<p><b>DANCE:</b> The internet is an endless source of inspiration and dance sessions should be grounded in musical and visual stimulus, allowing children to access dances across all cultures and traditions. In addition, recording dance for evaluation purposes and designing slideshows as part of combined arts show are great opportunities.</p>	<p><b>HISTORY:</b> Digital recording and analysis of data and evidence presenting findings clearly and to back up arguments and opinions. Internet searching and online resources are valuable, but also, in contrasting more than one source, <b>an important message may be learned about the reliability of online information and how much we trust websites.</b></p>	<p><b>GEOGRAPHY:</b> Data handling and spreadsheet software should be used from the very early stages to record, analyse and evaluate data. Children should develop the internet as a resource but evaluate its reliability. The internet is the prime place to gain perspectives on distant locations and supervised, <b>e-safe email exchanges around the world should be developed.</b></p>
<p><b>LANGUAGES:</b> We will use German language software and programs to underpin language learning, but also the internet is a great (supervised) resource for looking at labels, graphics, design, packaging, images etc. from German culture, to contrast with our own.</p>	<p><b>MATHEMATICS:</b> There should be shared skill development in:</p> <ol style="list-style-type: none"> <li>1 breaking down problems into logical steps</li> <li>2 Writing logical algorithms</li> <li>3 troubleshooting poor logic</li> </ol> <p>In addition children should use computers to store, handle and analyse data, making graphs and using spreadsheets to calculate variables.</p>	<p><b>MUSIC:</b> From the very beginning children should be recording their own voice. As the music curriculum progresses children must record, manipulate, edit layer, mix and improve recorded singing and instruments, learning about <b>file formats, conversions, downloading and the risks/legality of these activities.</b></p>	<p><b>PHILOSOPHY:</b> Computing presents questions about: how do we tell technology from magic? Can a computer feel? If I found out I was a robot would it change how I feel? How do we know life is not a simulation? Have computers improved human life? Is this a logical sentence? <b>Does being on the internet make it true?</b></p>
<p><b>PHYSICAL EDUCATION:</b> Children should be using spreadsheets, databases, video and still photography to evaluate, analyse and improve performance (a spreadsheet which gives you your mean race time?). They should also use internet archives to learn about sporting heroes and study the technique of athletes.</p>	<p><b>RE:</b> The internet is a great source for religious source materials, holy texts and stories but also children should be recording their ideas, beliefs and opinions digitally, using computers to handle data and express learning creatively.</p>	<p><b>SCIENCE:</b> Certain applications such as data loggers lend themselves to science. Children should use spreadsheets to log data, statistics and findings, applying maths and science to computing. In addition the concepts of computer science should be taught: logic, abstraction and representation.</p>	<p><b>SMSC:</b> <b>The ethics of online communication and the perils of data sharing must run right through the computing curriculum and e-safety is represented by the “to respect” strand. In addition, the SMSC “to respect people” and “to take responsibility” will underpin the teaching of e-safety.</b></p>

# R•E•A•L Objectives (What we will learn to do)

Children should learn:

to communicate	to select	to respect		to troubleshoot		to design
using	using	analysing	evaluating	analysing	evaluating	creating
Children express, record and exchange ideas with clarity using the basic principles of document storage, presentation software and digital devices, safely and appropriately communicating at a local, national and global level through linked networks.	Children are taught to use and select the most appropriate approach, app, software, hardware, device or system applying the skills taught and working protectively in online contexts.	Children become aware of the social and emotional impact of technology and learn to use it safely and responsibly, respecting the risks to themselves and others.		Children ensure the successful working of algorithms, systems and projects by debugging, evaluating processes and suggesting improvements.		Children use digital media to express themselves for a variety of purposes towards a range of ambitious goals.

# R•E•A•L Outcomes (What will learning look like?)

## The Depth & Breadth Assessment Model: Points System

Phase 1						Phase 2						Phase 3					
Year 1			Year 1			Year 3			Year 4			Year 5			Year 6		
Surface Learning		Enhanced Learning		Deep Learning		Surface Learning		Enhanced Learning		Deep Learning		Surface Learning		Enhanced Learning		Deep Learning	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
		3+		6+				9+		12+				15+		18+	

We are assessing not just the amount that children learn, but the **depth** and **breadth** of their learning. We monitor how well a child understands a concept and how useful that learning becomes. Progress in the D&B model widens from shallow, surface-level learning, to an enhanced understanding then beyond, into deep, thoughtful ownership. Extremely deep and rich learning within a year group is recorded as *n+* signifying mastery of the subject.

We chart children's understanding on this continuum, giving them a numerical score, based on averages. This is their attainment. The difference in *attainment* from one assessment to the next is their *progress*. The combination of both in a broad picture is their *achievement*.

with support and modelling	with modelling	independently	mastery ( <i>n+</i> )
Children attempt and complete learning after concepts and skills are clearly demonstrated. They make mistakes, are assisted and use consistent and continuing feedback to improve during the process.	Children attempt and complete learning after concepts and skills are clearly demonstrated. They work collaboratively or unaided, needing formative feedback, demonstrating maturing skills and concepts.	Children attempt and complete work confidently and independently, in collaboration or alone. They are largely unaided with minimum scaffolding and are demonstrating embedded skills and concepts.	Children's knowledge and understanding of the subject is so deep and thorough that they have required personalised extension and enrichment from the class teacher. Their work shows unusual insight, broad applications and great creativity.



# PHASE 2 ♦ COMPUTING

Depth of Learning		Stage of Teaching		Breadth of Learning						
				to communicate	to select	to respect		to troubleshoot		to design
				using	using	analysing	evaluating	analysing	evaluating	creating
7	Surface Learning	Aut	Year 3	<p><b>To communicate:</b> With support and modelling I can create folders in which to store documents, naming the folder.</p> <p><b>To communicate:</b> With support and modelling I can begin to lay out digital data with intentional clarity, so it is readable.</p> <p><b>To communicate:</b> With support and modelling I can export media files in suitable formats. <i>(jpeg, mpeg, mp3 &amp;c.)</i></p>	<p><b>To select:</b> With support and modelling I collect data simply, taking notes on screen, recording sounds and pictures, using the internet safely, copying text and images and entering basic data into simple spreadsheets.</p> <p><b>To select:</b> With support and modelling I can insert already available sound and video clips into presentation software.</p>	<p><b>To respect:</b> With support and modelling I navigate websites and apps internally, with minimum supervision, only leaving the domain with permission.</p> <p><b>To respect:</b> With support and modelling I type search terms and URL's carefully, avoiding mistakes and reading the returned results thoroughly.</p>	<p><b>To troubleshoot:</b> With support and modelling I can use logical reasoning to set up and improve simple data systems, retrieving data and naming and renaming it appropriately.</p> <p><b>To troubleshoot:</b> With support and modelling I can offer single units of specific technical offer feedback on digital elements of my own and others practice, to effect improvement.</p>	<p><b>To design:</b> With support and modelling I can design &amp; write simple programs to achieve specific goals, including solving problems.</p> <p><b>To design:</b> With support and modelling I can use digital technology to express myself in other subjects, recording or expressing my learning, particularly in cross-curricular art, music, dance etc.</p>		
				<p><b>To communicate:</b> With modelling I can create folders in which to store documents, naming the folder and retrieving the document.</p> <p><b>To communicate:</b> With modelling I can begin to lay out digital data with intentional clarity, so it is readable.</p> <p><b>To communicate:</b> With modelling I can export media files in suitable formats. <i>(jpeg, mpeg, mp3 &amp;c.)</i></p>	<p><b>To select:</b> With modelling I collect data simply, taking notes on screen, recording sounds and pictures, using the internet safely, copying text and images and entering basic data into simple spreadsheets.</p> <p><b>To select:</b> With modelling I can insert already available sound and video clips into presentation software.</p>	<p><b>To respect:</b> With modelling I navigate websites and apps internally, with minimum supervision, only leaving the domain with permission, and articulating the risks of unsupervised navigation.</p> <p><b>To respect:</b> With modelling I type search terms and URL's carefully, avoiding mistakes and reading the returned results thoroughly.</p>	<p><b>To troubleshoot:</b> With modelling I can use logical reasoning to set up and improve simple data systems, retrieving data and naming it appropriately.</p> <p><b>To troubleshoot:</b> With modelling I can offer single units of specific technical feedback on digital elements of my own and others practice, using more complex computing language to effect improvement.</p>	<p><b>To design:</b> With modelling I can design &amp; write simple programs to achieve specific goals, including solving problems.</p> <p><b>To design:</b> With modelling I can use digital technology to express myself in other subjects, recording or expressing my learning, particularly in cross-curricular art, music, dance etc.</p>		
8	Surface Learning	Spr		Year 3	<p><b>To communicate:</b> I independently create and name folders in which to store documents, naming the file and retrieving the document.</p> <p><b>To communicate:</b> I begin to independently lay out digital data with intentional clarity, so it is readable.</p> <p><b>To communicate:</b> I independently export media files in suitable formats. <i>(jpeg, mpeg, mp3 &amp;c.)</i></p>	<p><b>To select:</b> With support and modelling I collect data simply, taking notes on screen, recording sounds and pictures, using the internet safely, copying text and images and entering basic data into simple spreadsheets.</p> <p><b>To select:</b> With modelling I can insert already available sound and video clips into presentation software.</p>	<p><b>To respect:</b> independently I navigate websites and apps internally, with minimum supervision, only leaving the domain with permission, articulating the risks of unsupervised navigation.</p> <p><b>To respect:</b> I type search terms and URL's with habitual care, avoiding mistakes and reading the returned results thoroughly. *CL: money and finance – pop ups and competitions.</p>	<p><b>To troubleshoot:</b> I can independently use logical reasoning to set up and improve simple data systems, retrieving data and naming it appropriately.</p> <p><b>To troubleshoot:</b> I can offer single units of specific technical feedback on digital elements of my own and others practice, using more complex computing language to effect improvement.</p>	<p><b>To design:</b> I can design &amp; write simple programs to achieve specific goals, including solving problems.</p> <p><b>To design:</b> I can use digital technology to express myself in other subjects, recording or expressing my learning, particularly in cross-curricular art, music, dance etc.</p>	
			<p><b>To communicate:</b> With support and modelling I can create sub-folders in which to store documents, naming the sub-folder.</p> <p><b>To communicate:</b> With support and modelling I can lay out text, pictures and numbers simply, using tables and charts so it is eye-catching, clear and readable.</p> <p><b>To communicate:</b> With support and modelling I can convert file formats.</p>		<p><b>To select:</b> With support and modelling I can begin to edit sound and vision, cutting, pasting and trimming to work towards a finished product.</p> <p><b>To select:</b> With support and modelling I can make an informed choice about how to present data, as plain text, mixed media, a spreadsheet or a media presentation.</p> <p><b>To select:</b> With support and modelling I can hyperlink to a webpage.</p>	<p><b>To respect:</b> With support and modelling I can articulate the hazards of internet search engines and ensure that safety settings are switched on.</p> <p><b>To respect:</b> With support and modelling I can begin to discuss the trustworthiness of different kinds of websites and apps, comparing information from more than one source.</p>	<p><b>To troubleshoot:</b> With support and modelling I can use logical reasoning to set up, improve and repair more complex data storage systems, with 3+ levels of reference.</p> <p><b>To troubleshoot:</b> With support and modelling I can offer feedback on digital processes over a range (2+) of criteria [file systems, layout and presentation, keyboard use, internet search, writing code, etc.]</p>	<p><b>To design:</b> With support and modelling I can plan, design &amp; write more complex programs to achieve specific goals, including synthesising systems (making a toy work).</p> <p><b>To design:</b> With support and modelling I can begin to combine digital media simply for creative purposes.</p>		
9	Enhanced Learning	Sum	Year 4	<p><b>To communicate:</b> With support and modelling I can create sub-folders in which to store documents, naming the sub-folder and sorting the documents.</p> <p><b>To communicate:</b> With support and modelling I can lay out text, pictures and numbers simply, using tables and charts so it is eye-catching, clear and readable.</p> <p><b>To communicate:</b> With support and modelling I can convert file formats.</p>	<p><b>To select:</b> With support and modelling I can begin to edit sound and vision, cutting, pasting and trimming to work towards a finished product.</p> <p><b>To select:</b> With support and modelling I can make an informed choice about how to present data (see above) using software-specific applications to justify my choice.</p> <p><b>To select:</b> With support and modelling I can independently hyperlink to a webpage.</p>	<p><b>To respect:</b> With support and modelling I can articulate the hazards of internet search engines and ensure that safety settings are switched on.</p> <p><b>To respect:</b> With support and modelling I can begin to discuss the trustworthiness of different kinds of websites and apps, comparing information from more than one source &amp; discussing the difference between different kinds of online information.</p>	<p><b>To troubleshoot:</b> With support and modelling I can use logical reasoning to set up and improve more complex data storage systems 3+ levels, labelling clearly and logically. [pupil share w/ YEAR3/Hawaii's Work/ Hawaii's Draft Writing/Hawaii's Letters/]</p> <p><b>To troubleshoot:</b> I can offer feedback on digital processes over a range (2+) of criteria.</p> <p><b>To troubleshoot:</b> to analyse and evaluate uses of information technology beyond school; to understand and describe computer networks including the internet; how they can provide opportunities for communication and collaboration.</p>	<p><b>To design:</b> With support and modelling I can plan, design &amp; write more complex programs to achieve specific goals, including synthesising systems.</p> <p><b>To design:</b> With support and modelling I can begin to combine digital media simply for creative purposes.</p>		
				<p><b>To communicate:</b> With support and modelling I can create sub-folders in which to store documents, naming the sub-folder and sorting the documents.</p> <p><b>To communicate:</b> I independently lay out text, pictures and numbers simply, using tables and charts so it is eye-catching, clear and readable.</p> <p><b>To communicate:</b> I convert file formats.</p>	<p><b>To select:</b> I independently edit sound and vision at a basic level, cutting, pasting and trimming to work towards a finished product.</p> <p><b>To select:</b> I independently make informed choices about how to best present data.</p> <p><b>To select:</b> I can independently hyperlink to a webpage.</p>	<p><b>To respect:</b> I can articulate the hazards of internet search engines and ensure that safety settings are switched on.</p> <p><b>To respect:</b> I independently compare information from more than one source and analyse different kinds of online information. *CL: manners and politeness - should online behaviour reflect real behaviour? Chatrooms/gaming?</p>	<p><b>To troubleshoot:</b> I use logical reasoning to develop and repair more complex data systems, showing understanding that when systems are shared, labelling and storage must be clear &amp; organised.</p> <p><b>To troubleshoot:</b> I can offer feedback on digital processes over a range (3+) of criteria.</p>	<p><b>To design:</b> I independently plan, design &amp; write more complex programs to achieve specific goals, including solving problems.</p> <p><b>To design:</b> I plan computing problems in a series of logical steps.</p> <p><b>To design:</b> I can begin to independently combine digital media simply for creative purposes.</p>		
10	Enhanced Learning	Aut	Year 4	<p><b>To communicate:</b> With support and modelling I can create sub-folders in which to store documents, naming the sub-folder and sorting the documents.</p> <p><b>To communicate:</b> With support and modelling I can lay out text, pictures and numbers simply, using tables and charts so it is eye-catching, clear and readable.</p> <p><b>To communicate:</b> With support and modelling I can convert file formats.</p>	<p><b>To select:</b> With support and modelling I can begin to edit sound and vision, cutting, pasting and trimming to work towards a finished product.</p> <p><b>To select:</b> With support and modelling I can make an informed choice about how to present data (see above) using software-specific applications to justify my choice.</p> <p><b>To select:</b> With support and modelling I can independently hyperlink to a webpage.</p>	<p><b>To respect:</b> With support and modelling I can articulate the hazards of internet search engines and ensure that safety settings are switched on.</p> <p><b>To respect:</b> With support and modelling I can begin to discuss the trustworthiness of different kinds of websites and apps, comparing information from more than one source &amp; discussing the difference between different kinds of online information.</p>	<p><b>To troubleshoot:</b> With support and modelling I can use logical reasoning to set up and improve more complex data storage systems 3+ levels, labelling clearly and logically. [pupil share w/ YEAR3/Hawaii's Work/ Hawaii's Draft Writing/Hawaii's Letters/]</p> <p><b>To troubleshoot:</b> I can offer feedback on digital processes over a range (2+) of criteria.</p> <p><b>To troubleshoot:</b> to analyse and evaluate uses of information technology beyond school; to understand and describe computer networks including the internet; how they can provide opportunities for communication and collaboration.</p>	<p><b>To design:</b> With support and modelling I can plan, design &amp; write more complex programs to achieve specific goals, including synthesising systems.</p> <p><b>To design:</b> With support and modelling I can begin to combine digital media simply for creative purposes.</p>		
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11	Deep Learning	Spr	Year 4	<p><b>To communicate:</b> With support and modelling I can create sub-folders in which to store documents, naming the sub-folder and sorting the documents.</p> <p><b>To communicate:</b> I independently lay out text, pictures and numbers simply, using tables and charts so it is eye-catching, clear and readable.</p> <p><b>To communicate:</b> I convert file formats.</p>	<p><b>To select:</b> I independently edit sound and vision at a basic level, cutting, pasting and trimming to work towards a finished product.</p> <p><b>To select:</b> I independently make informed choices about how to best present data.</p> <p><b>To select:</b> I can independently hyperlink to a webpage.</p>	<p><b>To respect:</b> I can articulate the hazards of internet search engines and ensure that safety settings are switched on.</p> <p><b>To respect:</b> I independently compare information from more than one source and analyse different kinds of online information. *CL: manners and politeness - should online behaviour reflect real behaviour? Chatrooms/gaming?</p>	<p><b>To troubleshoot:</b> I use logical reasoning to develop and repair more complex data systems, showing understanding that when systems are shared, labelling and storage must be clear &amp; organised.</p> <p><b>To troubleshoot:</b> I can offer feedback on digital processes over a range (3+) of criteria.</p>	<p><b>To design:</b> I independently plan, design &amp; write more complex programs to achieve specific goals, including solving problems.</p> <p><b>To design:</b> I plan computing problems in a series of logical steps.</p> <p><b>To design:</b> I can begin to independently combine digital media simply for creative purposes.</p>		
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12	Deep Learning	Sum	Year 4	<p><b>To communicate:</b> With support and modelling I can create sub-folders in which to store documents, naming the sub-folder and sorting the documents.</p> <p><b>To communicate:</b> I independently lay out text, pictures and numbers simply, using tables and charts so it is eye-catching, clear and readable.</p> <p><b>To communicate:</b> I convert file formats.</p>	<p><b>To select:</b> I independently edit sound and vision at a basic level, cutting, pasting and trimming to work towards a finished product.</p> <p><b>To select:</b> I independently make informed choices about how to best present data.</p> <p><b>To select:</b> I can independently hyperlink to a webpage.</p>	<p><b>To respect:</b> I can articulate the hazards of internet search engines and ensure that safety settings are switched on.</p> <p><b>To respect:</b> I independently compare information from more than one source and analyse different kinds of online information. *CL: manners and politeness - should online behaviour reflect real behaviour? Chatrooms/gaming?</p>	<p><b>To troubleshoot:</b> I use logical reasoning to develop and repair more complex data systems, showing understanding that when systems are shared, labelling and storage must be clear &amp; organised.</p> <p><b>To troubleshoot:</b> I can offer feedback on digital processes over a range (3+) of criteria.</p>	<p><b>To design:</b> I independently plan, design &amp; write more complex programs to achieve specific goals, including solving problems.</p> <p><b>To design:</b> I plan computing problems in a series of logical steps.</p> <p><b>To design:</b> I can begin to independently combine digital media simply for creative purposes.</p>		
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# PHASE 3 ♦ COMPUTING

Depth of Learning		Stage of Teaching		Breadth of Learning						
				to communicate	to select	to respect		to troubleshoot		to design
				using	using	analysing	evaluating	analysing	evaluating	creating
13	Surface Learning	Aut	Year 5	<p><b>To communicate:</b> With support and modelling I can write and appropriate online content. [Webpage, blog, etc.]</p> <p><b>To communicate:</b> With support and modelling I can communicate over the internet [email, Skype, live message, etc]</p> <p><b>To communicate:</b> With support and modelling I can present illustrated findings, data and ideas and to a high level, using my preferred presentation software.</p>	<p><b>To select:</b> With support and modelling I can select a variable to increase programming possibilities.</p> <p><b>To select:</b> With support and modelling I can recognise when I need to use a variable to achieve a required output.</p> <p><b>To select:</b> With support and modelling I can use 'if' and 'then' commands to select an action.</p> <p><b>To select:</b> With support and modelling I can write a simple spreadsheet formula.</p>	<p><b>To respect:</b> With support and modelling I actively protect my password and other personal information.</p> <p><b>To respect:</b> With support and modelling I report online concerns to an adult.</p> <p><b>To respect:</b> With support and modelling I begin to explore online visibility its permanence and potential harm.</p> <p><b>To respect:</b> With support and modelling I explore respectful online responses, incl. "trolling" &amp; sharing information.</p>	<p><b>To troubleshoot:</b> With support and modelling I can refine a procedure using repeat commands to improve a program.</p> <p><b>To troubleshoot:</b> With support and modelling I can use logical reasoning to detect and debug mistakes in a program, hyperlink or formula.</p> <p><b>To troubleshoot:</b> With support and modelling I begin to use logical reasoning to correct errors in algorithms &amp; programs.</p>	<p><b>To design:</b> With support and modelling I begin to use logical thinking, imagination &amp; creativity to vary and extend a program.</p> <p><b>To design:</b> With support and modelling I can continue to combine digital media and non-digital media to develop increasingly mature multimedia works.</p>		
				<p><b>To communicate:</b> With modelling I can write safe and appropriate published online content.</p> <p><b>To communicate:</b> With modelling I can communicate over the internet using email, Skype, live messaging etc.</p> <p><b>To communicate:</b> With modelling I can present illustrated findings, data and ideas and to a high level, using my preferred presentation software.</p>	<p><b>To select:</b> With modelling I can select a variable to increase programming possibilities.</p> <p><b>To select:</b> With modelling I can recognise when I need to use a variable to achieve a required output.</p> <p><b>To select:</b> With modelling I can use 'if' and 'then' commands to select an action.</p> <p><b>To select:</b> With modelling I can write a simple spreadsheet formula.</p>	<p><b>To respect:</b> With modelling I actively protect my password and other personal information.</p> <p><b>To respect:</b> With modelling I report online concerns to an adult.</p> <p><b>To respect:</b> With modelling I begin to explore my online visibility, its permanence and potential harm.</p> <p><b>To respect:</b> With modelling I explore respectful online responses, incl. "trolling" &amp; sharing information.</p>	<p><b>To troubleshoot:</b> With modelling I can refine a procedure using repeat commands to improve a program.</p> <p><b>To troubleshoot:</b> With modelling I can use logical reasoning to detect and debug mistakes in a program, hyperlink or formula.</p> <p><b>To troubleshoot:</b> With modelling I can use logical reasoning to correct errors in algorithms &amp; programs.</p>	<p><b>To design:</b> With modelling I begin to use logical thinking, imagination &amp; creativity to vary and extend a program.</p> <p><b>To design:</b> With modelling I can continue to combine digital media with other digital media and with and non-digital media to develop increasingly mature multimedia works. [e.g. a rolling slideshow of analogue artwork, with a musical soundtrack and commentary].</p>		
				<p><b>To communicate:</b> I can write safe and appropriate published online content.</p> <p><b>To communicate:</b> I can communicate over the internet using email, Skype, live messaging etc.</p> <p><b>To communicate:</b> I can present illustrated findings, data and ideas accurately and to a high level, using my preferred presentation software.</p>	<p><b>To select:</b> I can select a variable to increase programming possibilities.</p> <p><b>To select:</b> I can recognise when I need to use a variable to achieve a required output.</p> <p><b>To select:</b> I can use 'if' and 'then' commands to select an action.</p> <p><b>To select:</b> I can independently write a simple spreadsheet formula.</p>	<p><b>To respect:</b> I actively protect my password and other personal information.</p> <p><b>To respect:</b> I report online concerns to an adult &amp; explore what these might be.</p> <p><b>To respect:</b> I begin to explore online visibility, its permanence &amp; implications. I explore respectful online responses, incl. "trolling" &amp; sharing information.</p> <p><b>WHU:</b> What if I see something read something that upsets me? How to report abuse,</p>	<p><b>To troubleshoot:</b> I can refine a procedure using repeat commands to improve a program.</p> <p><b>To troubleshoot:</b> can use logical reasoning to detect and debug mistakes in a program, hyperlink or formula.</p> <p><b>To troubleshoot:</b> I independently use logical reasoning to correct errors in algorithms and programs.</p>	<p><b>To design:</b> With support and modelling I begin to use logical thinking, imagination &amp; creativity to vary and extend a program.</p> <p><b>To design:</b> I independently continue to combine digital media with other digital media and with and non-digital media to develop increasingly mature multimedia works.</p>		
15	Enhanced Learning	Sum	Year 5	<p><b>To communicate:</b> With support and modelling I can present illustrated findings, data and ideas accurately and to a high level, using a combination of my preferred presentation software.</p> <p><b>To communicate:</b> With support and modelling I can explain and program each of the steps in my algorithm.</p>	<p><b>To select:</b> With support and modelling I can recognise when I need to use a variable to achieve a required output.</p> <p><b>To select:</b> With support and modelling I can select a variable and operators to stop a program.</p> <p><b>To select:</b> With support and modelling I can select different inputs (including sensors) to control a device or onscreen action and predict what will happen.</p>	<p><b>To respect:</b> With support and modelling I know which resources on the internet I can download and use safely &amp; legally.</p> <p><b>To respect:</b> With support and modelling I can explore the vulnerability of my computer &amp; take simple precautions.</p> <p><b>To respect:</b> With support and modelling I analyse and evaluate types of online behaviour.</p>	<p><b>To troubleshoot:</b> With support and modelling I can deconstruct a problem into smaller steps, recognising similarities to previous solutions.</p> <p><b>To troubleshoot:</b> With support and modelling I can evaluate the effectiveness and efficiency of my algorithm or program whilst continually testing.</p>	<p><b>To design:</b> With support and modelling I plan, design and present sophisticated multimedia presentations carefully integrating digital content (e.g. a film with credits, soundtrack and fluid editing).</p> <p><b>To design:</b> With support and modelling I engage creatively with programming confidently extending simple programs creatively.</p>		
				<p><b>To communicate:</b> With modelling I can present illustrated findings, data and ideas accurately and to a high level, using a combination of my preferred presentation software.</p> <p><b>To communicate:</b> With modelling I can explain and program each of the steps in my algorithm.</p>	<p><b>To select:</b> With modelling I select a variable to achieve a required output.</p> <p><b>To select:</b> With modelling I select a variable &amp; operators to stop a program.</p> <p><b>To select:</b> With modelling I select different inputs (including sensors) to control a device or onscreen action and predict what will happen.</p>	<p><b>To respect:</b> With modelling I know which resources on the internet I can download and use safely &amp; legally.</p> <p><b>To respect:</b> With support and modelling I can discuss the vulnerability of my computer &amp; take simple precautions.</p> <p><b>To respect:</b> With modelling I analyse and evaluate types of online behaviour.</p>	<p><b>To troubleshoot:</b> With modelling I can deconstruct a problem into smaller steps, recognising similarities to previous solutions.</p> <p><b>To troubleshoot:</b> With modelling I can evaluate the effectiveness and efficiency of my algorithm or program whilst continually testing.</p>	<p><b>To design:</b> With modelling I plan, design and present sophisticated multimedia presentations carefully integrating digital content (e.g. a film with credits, soundtrack and fluid editing).</p> <p><b>To design:</b> With modelling I engage creatively with programming confidently extending programs.</p>		
16	Enhanced Learning	Aut	Year 6	<p><b>To communicate:</b> With support and modelling I can present illustrated findings, data and ideas accurately and to a high level, using a combination of my preferred presentation software.</p> <p><b>To communicate:</b> With support and modelling I can explain and program each of the steps in my algorithm.</p>	<p><b>To select:</b> With support and modelling I can select a variable to achieve a required output.</p> <p><b>To select:</b> With support and modelling I can select different inputs (including sensors) to control a device or onscreen action and predict what will happen.</p>	<p><b>To respect:</b> With support and modelling I know which resources on the internet I can download and use safely &amp; legally.</p> <p><b>To respect:</b> With support and modelling I can discuss the vulnerability of my computer &amp; take simple precautions.</p> <p><b>To respect:</b> With support and modelling I analyse and evaluate types of online behaviour.</p>	<p><b>To troubleshoot:</b> With support and modelling I can deconstruct a problem into smaller steps, recognising similarities to previous solutions.</p> <p><b>To troubleshoot:</b> With support and modelling I can evaluate the effectiveness and efficiency of my algorithm or program whilst continually testing.</p>	<p><b>To design:</b> With support and modelling I plan, design and present sophisticated multimedia presentations carefully integrating digital content (e.g. a film with credits, soundtrack and fluid editing).</p> <p><b>To design:</b> With support and modelling I engage creatively with programming confidently extending simple programs creatively.</p>		
				<p><b>To communicate:</b> With modelling I can present illustrated findings, data and ideas accurately and to a high level, using a combination of my preferred presentation software.</p> <p><b>To communicate:</b> With modelling I can explain and program each of the steps in my algorithm.</p>	<p><b>To select:</b> With modelling I select a variable to achieve a required output.</p> <p><b>To select:</b> With modelling I select a variable &amp; operators to stop a program.</p> <p><b>To select:</b> With modelling I select different inputs (including sensors) to control a device or onscreen action and predict what will happen.</p>	<p><b>To respect:</b> I know which resources on the internet I can download and use safely &amp; legally and can discuss the law.</p> <p><b>To respect:</b> With I can discuss device safety: (viruses, malware, spyware etc.) and take precautions against infection.</p> <p><b>To respect:</b> With I analyse and evaluate types of online behaviour as safe, unsafe, respectful and disrespectful in an informed way, building good habits.</p>	<p><b>To troubleshoot:</b> With modelling I can deconstruct a problem into smaller steps, recognising similarities to previous solutions.</p> <p><b>To troubleshoot:</b> With modelling I can evaluate the effectiveness and efficiency of my algorithm or program whilst continually testing and improving.</p>	<p><b>To design:</b> I plan, design and present sophisticated multimedia presentations carefully integrating digital content (e.g. a film with credits, soundtrack and fluid editing).</p> <p><b>To design:</b> I independently engage creatively with programming confidently extending and developing programs.</p>		
17	Deep Learning	Spr	Year 6	<p><b>To communicate:</b> With support and modelling I can present illustrated findings, data and ideas accurately and to a high level, using a combination of my preferred presentation software.</p> <p><b>To communicate:</b> With support and modelling I can explain and program each of the steps in my algorithm.</p>	<p><b>To select:</b> With support and modelling I can select a variable to achieve a required output.</p> <p><b>To select:</b> With support and modelling I can select different inputs (including sensors) to control a device or onscreen action and predict what will happen.</p>	<p><b>To respect:</b> With support and modelling I know which resources on the internet I can download and use safely &amp; legally.</p> <p><b>To respect:</b> With support and modelling I can discuss the vulnerability of my computer &amp; take simple precautions.</p> <p><b>To respect:</b> With support and modelling I analyse and evaluate types of online behaviour.</p>	<p><b>To troubleshoot:</b> With support and modelling I can deconstruct a problem into smaller steps, recognising similarities to previous solutions.</p> <p><b>To troubleshoot:</b> With support and modelling I can evaluate the effectiveness and efficiency of my algorithm or program whilst continually testing.</p>	<p><b>To design:</b> With support and modelling I plan, design and present sophisticated multimedia presentations carefully integrating digital content (e.g. a film with credits, soundtrack and fluid editing).</p> <p><b>To design:</b> With support and modelling I engage creatively with programming confidently extending simple programs creatively.</p>		
				<p><b>To communicate:</b> With modelling I can present illustrated findings, data and ideas accurately and to a high level, using a combination of my preferred presentation software.</p> <p><b>To communicate:</b> With modelling I can explain and program each of the steps in my algorithm.</p>	<p><b>To select:</b> With modelling I select a variable to achieve a required output.</p> <p><b>To select:</b> With modelling I select a variable &amp; operators to stop a program.</p> <p><b>To select:</b> With modelling I select different inputs (including sensors) to control a device or onscreen action and predict what will happen.</p>	<p><b>To respect:</b> I know which resources on the internet I can download and use safely &amp; legally and can discuss the law.</p> <p><b>To respect:</b> With I can discuss device safety: (viruses, malware, spyware etc.) and take precautions against infection.</p> <p><b>To respect:</b> With I analyse and evaluate types of online behaviour as safe, unsafe, respectful and disrespectful in an informed way, building good habits.</p>	<p><b>To troubleshoot:</b> With modelling I can deconstruct a problem into smaller steps, recognising similarities to previous solutions.</p> <p><b>To troubleshoot:</b> With modelling I can evaluate the effectiveness and efficiency of my algorithm or program whilst continually testing and improving.</p>	<p><b>To design:</b> I plan, design and present sophisticated multimedia presentations carefully integrating digital content (e.g. a film with credits, soundtrack and fluid editing).</p> <p><b>To design:</b> I independently engage creatively with programming confidently extending and developing programs.</p>		
18	Deep Learning	Sum	Year 6	<p><b>To communicate:</b> With support and modelling I can present illustrated findings, data and ideas accurately and to a high level, using a combination of my preferred presentation software.</p> <p><b>To communicate:</b> With support and modelling I can explain and program each of the steps in my algorithm.</p>	<p><b>To select:</b> With support and modelling I can select a variable to achieve a required output.</p> <p><b>To select:</b> With support and modelling I can select different inputs (including sensors) to control a device or onscreen action and predict what will happen.</p>	<p><b>To respect:</b> With support and modelling I know which resources on the internet I can download and use safely &amp; legally.</p> <p><b>To respect:</b> With support and modelling I can discuss the vulnerability of my computer &amp; take simple precautions.</p> <p><b>To respect:</b> With support and modelling I analyse and evaluate types of online behaviour.</p>	<p><b>To troubleshoot:</b> With support and modelling I can deconstruct a problem into smaller steps, recognising similarities to previous solutions.</p> <p><b>To troubleshoot:</b> With support and modelling I can evaluate the effectiveness and efficiency of my algorithm or program whilst continually testing.</p>	<p><b>To design:</b> With support and modelling I plan, design and present sophisticated multimedia presentations carefully integrating digital content (e.g. a film with credits, soundtrack and fluid editing).</p> <p><b>To design:</b> With support and modelling I engage creatively with programming confidently extending simple programs creatively.</p>		
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