

Diamond Year 4 – Computing Medium Term Planning

(Lower KS2 Curriculum – Year B)

Differentiation by input see the weekly planning sheet/

-Key vocab for each learning objective is in red font /

-Resources -see the weekly planning /

-Minimum Assessment for Learning strategies for all topics = Peer Talk; targeted questioning; mini white boards; and self and peer marking

- Long term memory development strategies= Recapping pervious learning at the start of each new topic / Long term memory strategy linked to the objectives on this sheet for each week

Computing Cultural Capital = are responsible, competent, confident and creative users of information and communication technology.

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Autumn first half	Connecting networks <u>Learning Objective</u> <ul style="list-style-type: none"> To describe how networks physically connect to other networks <u>Success Criteria</u> <ul style="list-style-type: none"> I can demonstrate how information is shared across the internet I can describe the internet as a network of networks I can discuss why a network needs protecting 	What is the Internet made of? <u>Learning Objective</u> <ul style="list-style-type: none"> To recognise how networked devices make up the internet <u>Success Criteria</u> <ul style="list-style-type: none"> I can describe networked devices and how they connect I can explain that the internet is used to provide many services I can recognise that the World Wide Web contains websites and web pages 	Sharing information <u>Learning Objective</u> <ul style="list-style-type: none"> To outline how websites can be shared via the World Wide Web (WWW) <u>Success Criteria</u> <ul style="list-style-type: none"> I can describe how to access websites on the WWW I can describe where websites are stored when uploaded to the WWW I can explain the types of media that can be shared on the World Wide Web (WWW) 	What is a website? <u>Learning Objective</u> <ul style="list-style-type: none"> To describe how content can be added and accessed on the World Wide Web (WWW) <u>Success Criteria</u> <ul style="list-style-type: none"> I can explain what media can be found on websites I can explain that internet services can be used to create content online I can recognise that I can add content to the WWW 	Who owns the web? <u>Learning Objective</u> <ul style="list-style-type: none"> To recognise how the content of the WWW is created by people <u>Success Criteria</u> <ul style="list-style-type: none"> I can explain that there are rules to protect content I can explain that websites and their content are created by people I can suggest who owns the content on websites 	Can I believe what I read? <u>Learning Objective</u> <ul style="list-style-type: none"> To evaluate the consequences of unreliable content <u>Success Criteria</u> <ul style="list-style-type: none"> I can explain that not everything on the World Wide Web is true. I can explain why I need to think carefully before I share or reshare content I can explain why some information I find online may not be honest, accurate, or legal. 	Assessment, Consolidation and Review
Key Vocabulary	Internet, network, router, network security	Network switch, server, wireless access point (WAP), router	Website, web page, web address, router, routing, web browser	World Wide Web, internet, content, website, web page, links, files	Website, use, content, download, sharing, ownership, permission	Information, sharing, accurate, honest, content, adverts	
KS2 NC Links	2.4, 2.5, 2.6, 2.7	2.4, 2.5, 2.6, 2.7	2.4, 2.5, 2.6, 2.7	2.4, 2.5, 2.6, 2.7	2.4, 2.5, 2.6, 2.7	2.4, 2.5, 2.6, 2.7	
Computing Strand	NW, SS	NW	NW	CM, NW	NW	IT, NW, SS	
Education for a Connected World							

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	<u>Week 1</u>	<u>Week 2</u>	<u>Week 3</u>	<u>Week 4</u>	<u>Week 5</u>	<u>Week 6</u>	<u>Week 7</u>
Spring first half Programming A – Repetition in Shapes	Programming a screen turtle <u>Learning Objective</u> - To identify that accuracy in programming is important <u>Success Criteria</u> - I can create a code snippet for a given purpose - I can explain the effect of changing a value of a command - I can program a computer by typing commands	Programming letters <u>Learning Objective</u> - To create a program in a text-based language <u>Success Criteria</u> - I can use a template to draw what I want my program to do - I can write an algorithm to produce a given outcome - I can test my algorithm in a text-based language	Patterns and repeats <u>Learning Objective</u> - To explain what ‘repeat’ means <u>Success Criteria</u> - I can identify everyday tasks that include repetition as part of a sequence, eg brushing teeth, dance moves - I can identify patterns in a sequence, eg ‘step 3 times’ means the same as ‘step, step, step’ - I can use a count-controlled loop to produce a given outcome	Using loops to create shapes <u>Learning Objective</u> - To modify a count-controlled loop to produce a given outcome <u>Success Criteria</u> - I can choose which values to change in a loop - I can identify the effect of changing the number of times a task is repeated - I can predict the outcome of a program containing a count-controlled loop	Breaking things down <u>Learning Objective</u> - To decompose a task into small steps <u>Success Criteria</u> - I can explain that a computer can repeatedly call a procedure - I can identify ‘chunks’ of actions in the real world - I can use a procedure in a program	Creating a program <u>Learning Objective</u> - To create a program that uses count-controlled loops to produce a given outcome <u>Success Criteria</u> - I can design a program that includes count-controlled loops - I can develop my program by debugging it - I can make use of my design to write a program	Assessment, Consolidation and Review
Key Vocabulary	Program, turtle, commands, code snippet (could be the same as a program; it can have several sets of commands in one program)	Algorithm, design, debug, logo commands	Pattern, repeat, repetition, count-controlled loop, algorithm, value	Repeat, repetition, count-controlled loop, trace, value	Repeat, count-controlled loop, decompose, procedure	Count-controlled loop, procedure, debug, program	
KS2 Computing NC Links	2.1, 2.2, 2.3, 2.6	2.1, 2.2, 2.3, 2.6	2.1, 2.2, 2.3, 2.6	2.1, 2.2, 2.3, 2.6	2.1, 2.2, 2.3, 2.6	2.1, 2.2, 2.3, 2.6	
Computing Strand	AL, PG	ET, PG	AL, PG	PG	AL, PG	PG	
Education for a Connected World	- Copyright and ownership - Self-image and identity	- Copyright and ownership Self-image and identity	- Copyright and ownership - Self-image and identity	- Copyright and ownership - Self-image and identity	- Copyright and ownership - Self-image and identity	- Copyright and ownership - Self-image and identity	

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Spring second half Data and Information – Data Logging	<u>Answering questions</u> <u>Learning Objective</u> - To explain that data gathered over time can be used to answer questions <u>Success Criteria</u> - I can choose a data set to answer a given question - I can identify data that can be gathered over time - I can suggest questions that can be answered using a given data set	<u>Data collection</u> <u>Learning Objective</u> - To use a digital device to collect data automatically <u>Success Criteria</u> - I can explain that sensors are input devices - I can identify that data from sensors can be recorded - I can use data from a sensor to answer a given question	<u>Logging</u> <u>Learning Objective</u> - To explain that a data logger collects 'data points' from sensors over time <u>Success Criteria</u> - I can identify a suitable place to collect data - I can identify the intervals used to collect data - I can talk about the data that I have captured	<u>Analysing data</u> <u>Learning Objective</u> - To use data collected over a long duration to find information <u>Success Criteria</u> - I can import a data set - I can use a computer program to sort data - I can use a computer to view data in different ways	<u>Data for answers</u> <u>Learning Objective</u> - To identify the data needed to answer questions <u>Success Criteria</u> - I can plan how to collect data using a data logger - I can propose a question that can be answered using logged data - I can use a data logger to collect data	<u>Answering my question</u> <u>Learning Objective</u> - To use collected data to answer questions <u>Success Criteria</u> - I can draw conclusions from the data that I have collected - I can explain the benefits of using a data logger - I can interpret data that has been collected using a data logger	Assessment, Consolidation and Review
Key Vocabulary	Data, table (layout)	Input device, sensor, data logger	Data logger, logging, data point, interval	Analyse, data set, import, export	Data, data logger, logged, collection	Analyse, review, conclusion	
KS2 Computing NC Links	2.2, 2.6	2.2, 2.6	2.2, 2.6	2.2, 2.6	2.2, 2.6	2.2, 2.6	
Computing Strand	DI	CS, DI, ET	CS, DI, ET	DI, ET	CS, DI, ET	CS, DI	
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Summer first half Creating Media – Photo Editing	Changing digital images <u>Learning Objective</u> - To explain that digital images can be changed <u>Success Criteria</u> - I can explain the effect that editing can have on an image - I can explore how images can be changed in real life - I can identify changes that we can make to an image	Changing the composition of images <u>Learning Objective</u> - To change the composition of an image <u>Success Criteria</u> - I can change the composition of an image by selecting parts of it - I can consider why someone might want to change the composition of an image - I can explain what has changed in an edited image	Changing images for different uses <u>Learning Objective</u> - To describe how images can be changed for different uses <u>Success Criteria</u> - I can choose effects to make my image fit a scenario - I can explain why my choices fit a scenario - I can talk about changes made to images	Retouching images <u>Learning Objective</u> - To make good choices when selecting different tools <u>Success Criteria</u> - I can choose appropriate tools to retouch an image - I can give examples of positive and negative effects that retouching can have on an image - I can identify how an image has been retouched	Fake images <u>Learning Objective</u> - To recognise that not all images are real <u>Success Criteria</u> - I can combine parts of images to create new images - I can sort images into 'fake' or 'real' and explain my choices - I can talk about fake images around me	Making and evaluating a publication <u>Learning Objective</u> - To evaluate how changes can improve an image <u>Success Criteria</u> - I can compare the original image with my completed publication - I can consider the effect of adding other elements to my work - I can evaluate the impact of my publication on others through feedback	Assessment, Consolidation and Review
Key Vocabulary	Image, edit, arrange, select, digital, crop, undo, save	Image, search, save, copyright, composition, edit, save, pixels, crop, rotate, flip	Image, adjustments, effects, colours, hue/saturation, sepia, save, version, illustrator, vignette	Image, edit, retouch, clone, recolour, magic wand, select, adjust, sharpen, brighten	Image, fake, real, composite, cut, copy, paste, alter, background, foreground	Image, publication, elements, original, font style, shapes, border, layer	
KS2 Computing NC Links	2.5, 2.6, 2.7	2.5, 2.6, 2.7	2.5, 2.6, 2.7	2.5, 2.6, 2.7	2.5, 2.6, 2.7	2.5, 2.6, 2.7	
Computing Strand	CM, ET	CM, ET, IT	CM, DD, ET	CM, ET	CM, ET, SS	CM, DD, ET	
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Summer second half Programming B – Repetition in Games	Using loops to create shapes <u>Learning Objective</u> <ul style="list-style-type: none"> - To develop the use of count-controlled loops in a different programming environment <u>Success Criteria</u> <ul style="list-style-type: none"> - I can list an everyday task as a set of instructions including repetition - I can modify a snippet of code to create a given outcome - I can predict the outcome of a snippet of code 	Different loops <u>Learning Objective</u> <ul style="list-style-type: none"> - To explain that in programming there are infinite loops and count-controlled loops <u>Success Criteria</u> <ul style="list-style-type: none"> - I can choose when to use a count-controlled and an infinite loop - I can modify loops to produce a given outcome - I can recognise that some programming languages enable more than one process to be run at once 	Animate your name <u>Learning Objective</u> <ul style="list-style-type: none"> - To develop a design which includes two or more loops which run at the same time <u>Success Criteria</u> <ul style="list-style-type: none"> - I can choose which action will be repeated for each object - I can evaluate the effectiveness of the repeated sequences used in my program - I can explain what the outcome of the repeated action should be 	Modifying a game <u>Learning Objective</u> <ul style="list-style-type: none"> - To modify an infinite loop in a given program <u>Success Criteria</u> <ul style="list-style-type: none"> - I can explain the effect of my changes - I can identify which parts of a loop can be changed - I can re-use existing code snippets on new sprites 	Designing a game <u>Learning Objective</u> <ul style="list-style-type: none"> - To design a project that includes repetition <u>Success Criteria</u> <ul style="list-style-type: none"> - I can develop my own design explaining what my project will do - I can evaluate the use of repetition in a project - I can select key parts of a given project to use in my own design 	Creating our games <u>Learning Objective</u> <ul style="list-style-type: none"> - To create a project that includes repetition <u>Success Criteria</u> <ul style="list-style-type: none"> - I can build a program that follows my design - I can evaluate the steps I followed when building my project - I can refine the algorithm in my design 	Assessment, Consolidation and Review
Key Vocabulary	Scratch, programming, sprite, blocks, code, loop, repeat, value	Block, repeat, forever, infinite loop, count-controlled loop, costume	Repetition, forever, infinite loop, count-controlled loop, animate, costume, event block, duplicate	Block, repeat, forever, infinite loop, modify, design	Infinite loop, count-controlled loop, repetition, design, sprite, algorithm	Repetition, design, algorithm, duplicate, debug, refine, evaluate	
KS2 NC Computing Links	2.1, 2.2, 2.3	2.1, 2.2, 2.3	2.1, 2.2, 2.3	2.1, 2.2, 2.3	2.1, 2.2, 2.3	2.1, 2.2, 2.3	
Computing Strand	DD, PG	AL, PG	DD, PG	PG	DD, PG	DD, PG	
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