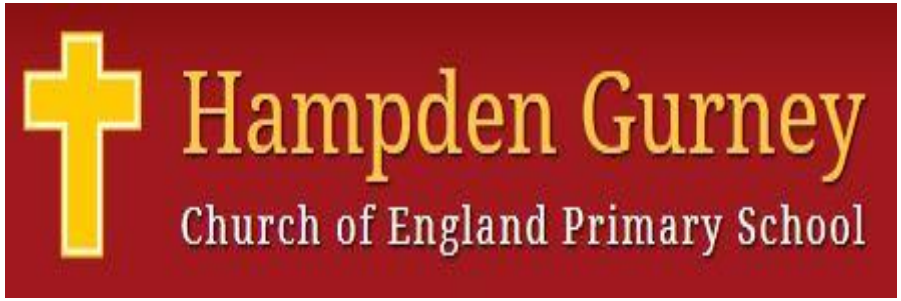


Hampden Gurney School Computing Skills and Progression Map

COMPUTING: AGE RELATED STATUTORY COVERAGE	
KEY STAGE ONE LEARNING	**KEY STAGE TWO LEARNING**
● Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions ● Create and debug simple programs ● Use logical reasoning to predict the behaviour of simple programs ● Use technology purposefully to create, organise, store, manipulate and retrieve digital content ● Recognise common uses of information technology beyond school ● Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	● Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts ● Use sequence, selection, and repetition in programs; work with variables and various forms of input and output ● Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs ● Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration ● Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content ● Select, use and combine a variety of software on a range of digital devices to design and create a range of programs, systems and content to accomplish given goals
Both Key Stages: ● Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	

COMPUTING: VOCABULARY MAP		
Key Stage 1	**Lower Key Stage 2**	**Upper Key Stage 2**
https://tinyurl.com/Year-1Vocab	https://tinyurl.com/Year3Vocab	https://tinyurl.com/Year5Vocab
https://tinyurl.com/Year2Vocab	https://tinyurl.com/Year4Vocab	https://tinyurl.com/Year6Vocab

The links above outline an extensive child friendly list of vocabulary and definitions relevant to each unit within the computing scheme of work.

Topic Map						
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Year 1	Online Safety Grouping and Sorting	Pictograms Lego builders	Maze Explorers	Animated Stories	Coding	Spreadsheets Technologies Outside School
Year 2	Online Safety Coding	Spreadsheets	Questioning	Effective Searching	Creating Pictures	Making Music Presenting Ideas
Year 3	Online Safety Spreadsheets	Typing	Coding	Email	Branching Databases	Simulation Graphing
Year 4	Online Safety Spreadsheets	Animation	Coding	Logo	Writing for different audiences	Effective Searching Hardware Investigations
Year 5	Online Safety Spreadsheets	Databases	Coding	Game Creation	3D modelling	Concept Maps
Year 6	Online Safety Spreadsheets	Blogging	Coding	Text Adventures	Networks	Quizzing

Additional Computing skills:

In addition to regular computing slots, ICT will be used to supplement other areas of the curriculum, particularly English and Maths. Apps and websites have been identified for practise in reading, times tables, spelling and place value, and will be used regularly across the school. Word Processing skills will be used for projects in English, Science and Humanities and the new IWB also provide opportunities for interactive learning in phonics and times tables.

Year 1 Computing Skills Map

	Computer Science			Information Technology	Digital Literacy	
Statement	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.	Create and debug simple programs.	Use logical reasoning to predict the behaviour of simple programs.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	Recognise common uses of information technology beyond school.	Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.
Outcome	Children understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. They know that an algorithm written for a computer is called a program.	Children can work out what is wrong with a simple algorithm when the steps are out of order, e.g. The Wrong Sandwich in Purple Mash and can write their own simple algorithm, e.g. Colouring in a Bird activity. Children know that an unexpected outcome is due to the code they have created and can make logical attempts to fix the code, e.g. Bubbles activity in 2Code.	When looking at a program, children can read code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program. Children can, for example, interpret where the turtle in 2Go challenges will end up at the end of the program.	Children are able to sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources, use Purple Mash 2Quiz example (sorting shapes), 2Code design mode (manipulating backgrounds) or using pictogram software such as 2Count.	Children understand what is meant by technology and can identify a variety of examples both in and out of school. They can make a distinction between objects that use modern technology and those that do not e.g. a microwave vs. a chair.	Children understand the importance of keeping information, such as their usernames and passwords, private and actively demonstrate this in lessons. Children take ownership of their work and save this in their own private space such as their My Work folder on Purple Mash.

Year 2 Computing Skills Map

	Computer Science			Information Technology	Digital Literacy	
Statement	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.	Create and debug simple programs.	Use logical reasoning to predict the behaviour of simple programs.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	Recognise common uses of information technology beyond school.	Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.
Outcome	Children can explain that an algorithm is a set of instructions to complete a task. When designing simple programs, children show an awareness of the need to be precise with their algorithms so that they can be successfully converted into code.	Children can create a simple program that achieves a specific purpose. They can also identify and correct some errors, e.g. Debug Challenges: Chimp. Children's program designs display a growing awareness of the need for logical, programmable steps.	Children can identify the parts of a program that respond to specific events and initiate specific actions. For example, they can write a cause and effect sentence of what will happen in a program.	Children demonstrate an ability to organise data using, for example, a database such as 2Investigate and can retrieve specific data for conducting simple searches. Children are able to edit more complex digital data such as music compositions within 2Sequence. Children are confident when creating, naming, saving and retrieving content. Children use a range of media in their digital content including photos, text and sound.	Children can effectively retrieve relevant, purposeful digital content using a search engine. They can apply their learning of effective searching beyond the classroom. They can share this knowledge, e.g. 2Publish example template. Children make links between technology they see around them, coding and multimedia work they do in school e.g. animations, interactive code and programs.	Children know the implications of inappropriate online searches. Children begin to understand how things are shared electronically such as posting work to the Purple Mash display board. They develop an understanding of using email safely by using 2Respond activities on Purple Mash and know ways of reporting inappropriate behaviours and content.

Year 3 Computing Skills Map

	Computer Science				Information Technology		Digital Literacy
Statement	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.	Use sequence, selection and repetition in programs; work with variables and various forms of input and output.	Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.
Outcome	Children can turn a simple real-life situation into an algorithm for a program by deconstructing it into manageable parts. Their design shows that they are thinking of the desired task and how this translates into code. Children can identify an error within their program that prevents it following	Children demonstrate the ability to design and code a program that follows a simple sequence. They experiment with timers to achieve repetition effects in their programs. Children are beginning to understand the difference in the effect of using a timer command rather than a repeat command when creating repetition effects.	Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, 'if' statements, repetition and variables. They make good attempts to 'step through' more complex code in order to identify errors in	Children can list a range of ways that the internet can be used to provide different methods of communication. They can use some of these methods of communication, e.g. being able to open, respond to and attach files to emails using 2Email. They can describe appropriate email conventions when communicating in this way.	Children can carry out simple searches to retrieve digital content. They understand that to do this, they are connecting to the internet and using a search engine such as Purple Mash search or internet-wide search engines.	Children can collect, analyse, evaluate and present data and information using a selection of software, e.g. using a branching database (2Question), using software such as 2Graph. Children can consider what software is most appropriate for a given task. They can create purposeful content to attach to emails, e.g. 2Respond.	Children demonstrate the importance of having a secure password and not sharing this with anyone else. Furthermore, children can explain the negative implications of failure to keep passwords safe and secure. They understand the importance of staying safe and the importance of

	the desired algorithm and then fix it.	Children understand how variables can be used to store information while a program is executing.	algorithms and can correct this. e.g. traffic light algorithm in 2Code. In programs such as Logo, they can 'read' programs with several steps and predict the outcome accurately.				their conduct when using familiar communication tools such as 2Email in Purple Mash. They know more than one way to report unacceptable content and contact.

Year 4 Computing Skills Map

	Computer Science				Information Technology		Digital Literacy
Statement	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.	Use sequence, selection and repetition in programs; work with variables and various forms of input and output.	Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.
Outcome	When turning a real-life situation into an algorithm, the children's design shows that they are thinking of the required task and how to accomplish this in code using coding structures for selection and repetition. Children make more intuitive attempts to debug their own programs.	Children's use of timers to achieve repetition effects are becoming more logical and are integrated into their program designs. They understand 'if statements' for selection and attempt to combine these with other coding structures including variables to achieve the effects that they design in their programs.	Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, 'if' statements, repetition and variables. They can trace code and use step- through methods to identify errors in code and make logical attempts	Children recognise the main component parts of hardware which allow computers to join and form a network. Their ability to understand the online safety implications associated with the ways the internet can be used to provide different methods of communication is improving.	Children understand the function, features and layout of a search engine. They can appraise selected webpages for credibility and information at a basic level.	Children are able to make improvements to digital solutions based on feedback. Children make informed software choices when presenting information and data. They create linked content using a range of software such as 2Connect and 2Publish+. Children share digital content within their	Children can explore key concepts relating to online safety using concept mapping such as 2Connect. They can help others to understand the importance of online safety. Children know a range of ways of reporting inappropriate content and contact.

		As well as understanding how variables can be used to store information while a program is executing, they are able to use and manipulate the value of variables. Children can make use of user inputs and outputs such as 'print to screen'. e.g. 2Code.	to correct this. e.g. traffic light algorithm in 2Code. In programs such as Logo, they can 'read' programs with several steps and predict the outcome accurately.			community, i.e. using Virtual Display Boards.	

Year 5 Computing Skills Map

	Computer Science				Information Technology		Digital Literacy
Statement	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.	Use sequence, selection and repetition in programs; work with variables and various forms of input and output.	Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.
Outcome	Children may attempt to turn more complex real-life situations into algorithms for a program by deconstructing it into manageable parts. Children are able to test and debug their programs as they go and can use logical methods to identify the approximate cause of any bug but may need some support identifying	Children can translate algorithms that include sequence, selection and repetition into code with increasing ease and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures. They are combining sequence, selection and repetition with other coding	When children code, they are beginning to think about their code structure in terms of the ability to debug and interpret the code later, e.g. the use of tabs to organise code and the naming of variables	Children understand the value of computer networks but are also aware of the main dangers. They recognise what personal information is and can explain how this can be kept safe. Children can select the most appropriate form of online communications contingent on audience and digital	Children search with greater complexity for digital content when using a search engine. They are able to explain in some detail how credible a webpage is and the information it contains.	Children are able to make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution. e.g. creating their own program to meet a design brief using 2Code. They objectively review solutions from others.	Children have a secure knowledge of common online safety rules and can apply this by demonstrating the safe and respectful use of a few different technologies and online services. Children implicitly relate appropriate online behaviour to their right to personal privacy and mental wellbeing of

	the specific line of code.	structures to achieve their algorithm design.		content, e.g. 2Blog, 2Email, Display Boards.		Children are able to collaboratively create content and solutions using digital features within software such as collaborative mode. They are able to use several ways of sharing digital content, i.e. 2Blog, Display Boards and 2Email.	themselves and others.

Year 6 Computing skills Map

	Computer Science				Information Technology		Digital Literacy
Statement	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.	Use sequence, selection and repetition in programs; work with variables and various forms of input and output.	Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.
Outcome	Children are able to turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way using their knowledge of possible coding structures and applying skills from previous programs.	Children translate algorithms that include sequence, selection and repetition into code and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures, including nesting structures within each other. Coding displays an improving understanding of	Children are able to interpret a program in parts and can make logical attempts to put the separate parts of a complex algorithm together to explain the program as a whole.	Children understand and can explain in some depth the difference between the internet and the World Wide Web. Children know what a WAN and LAN are and can describe how they access the internet in school.	Children readily apply filters when searching for digital content. They are able to explain in detail how credible a webpage is and the information it contains. They compare a range of digital content sources and are able to rate them in terms of content quality and accuracy. Children use	Children make clear connections to the audience when designing and creating digital content. The children design and create their own blogs to become a content creator on the internet, e.g. 2Blog. They are able to use criteria to evaluate the quality of digital solutions and are able to identify	Children demonstrate the safe and respectful use of a range of different technologies and online services. They identify more discreet inappropriate behaviours through developing critical thinking, e.g. 2Respond activities. They recognise the value in

	Children test and debug their program as they go and use logical methods to identify the cause of bugs, demonstrating a systematic approach to try to identify a particular line of code causing a problem.	variables in coding, outputs such as sound and movement, inputs from the user of the program such as button clicks and the value of functions.			critical thinking skills in everyday use of online communication.	improvements, making some refinements.	preserving their privacy when online for their own and other people's safety.

Year 1 Online Safety Skills Map

Unit	Aims	Success criteria	Unit End Outcomes
1.1 – Online Safety and Exploring Purple Mash	To log in safely. To start to understand the idea of 'ownership' of their creative work.	Pupils can log in to Purple Mash using their own login. Pupils have created their own avatar and understand why they are used. Pupils can add their name to a picture they created on the computer. Pupils are beginning to develop an understanding of ownership of work online. Pupils can save work into the My Work folder in Purple Mash and understand that this is a private saving space just for their work.	**Emerging**: With support, pupils demonstrate an awareness of online safety using their own private usernames and passwords for Purple Mash (Unit 1.1 Lesson 1. Point 6). This can be assisted by using printed login cards. Pupils take ownership of their work and save this in their own private space (Unit 1.1 Lesson 1. Point 16). **Expected**: Pupils demonstrate an understanding of the importance of online safety, using their own private usernames and passwords for Purple Mash (Unit 1.1 Lesson 1. Point 6). Most pupils will be able to demonstrate an understanding of the reasons for keeping their password private including talking about the meaning of 'private information' (Lesson 1) and actively demonstrate this in lessons (Throughout all lessons in Unit 1.1). Pupils take ownership of their work and will be able to save their work, using a memorable file name, to their own personal space on Purple Mash and understand that this can be retrieved later Unit 1.1 Lesson 1 Point 18.
	To learn how to find saved work in the Online Work area and find teacher comments. To learn how to search Purple Mash to find resources.	Pupils can find their saved work in the Online Work area of Purple Mash. Pupils can find messages that their teacher has left for them on Purple Mash. Pupils can search Purple Mash to find resources.	Most pupils will be able to add their name to their picture in lesson 1. In lesson 2, most pupils will be able to explain that their teacher was able to connect with them online to leave a message in Purple Mash. They could contribute to the class discussion relating this to other forms of digital communication. Most pupils will be able to give a simple explanation of the way to word comments online when given the example of their teacher commenting upon their work. Throughout this unit most pupils will be able to contribute their ideas about communicating appropriately and relate online and off-line appropriate behaviour. Most pupils will be able to open Purple Mash and use the search bar within Purple Mash to find resources (lesson 2). They can suggest appropriate words to search with to find the results that they are looking for.
	To become familiar with the types of resources available in the Topics section.	Pupils will be able to use the different types of topic templates in the Topics section confidently.	

	To become more familiar with the icons used in the resources in the Topics section. To start to add pictures and text to work.	Pupils will be confident with the functionality of the icons in the topic templates. Pupils will know how to use the different icons and writing cues to add pictures and text to their work.	**Exceeding**: Pupils demonstrate an understanding of the importance of online safety using their own private usernames and passwords for Purple Mash. Pupils understand the importance of keeping information, such as their usernames and passwords private and actively demonstrate this in lessons. Pupils take ownership of their work and save this in their own private space. Pupils demonstrating greater depth understand the principle but not the terminology of 'intellectual property' e.g., pupils might say 'I am saving my work, in my folder because I have created it and it belongs to me'.
	To explore the Tools section of Purple Mash and to learn about the common icons used in Purple Mash for Save, Print, Open, New. To explore the Games section on Purple Mash. To understand the importance of logging out when they have finished.	Pupils have explored the Tools section on Purple Mash and become familiar with some of the key icons: Save, Print, Open and New. Pupils have explored the Games section and looked at Table Toons (2x tables). Pupils can log out of Purple Mash when they have finished using it and know why that is important.	

Year 2 Online Safety Skills Map

Unit\Lesson	Aims	Success criteria	Unit End Outcomes
2.2 – Online Safety	To know how to refine searches using the Search tool. To know how to share work electronically using the display boards. To use digital technology to share work on Purple Mash to communicate and connect with others locally. To have some knowledge and understanding about sharing more globally on the Internet.	Pupils can use the search facility to refine searches on Purple Mash by year group and subject. Pupils can share the work they have created to a display board. Pupils understand that the teacher approves work before it is displayed. Pupils are beginning to understand how things can be shared electronically for others to see both on Purple Mash and the Internet.	**Emerging**: With support, pupils are beginning to understand how to use the Purple Mash search bar and know the implications of inappropriate searches (Unit 2.2 Lesson 1. Point 1). With support, they can share their work using the display board (Unit 2.2 Lesson 1. Point 16). Furthermore, using 2Respond activities, the pupils develop an understanding of how to use email safely and responsibly (Unit 2.2 Lesson 2. Point 4). They also know how to report inappropriate content to their teacher. **Expected**: Pupils understand how to use the Purple Mash search bar and know the implications of inappropriate searches (Unit 2.2 Lesson 1. Point 1) Most pupils will be able to explain what a digital footprint is, that it is permanent and their online behaviour influences what it shows (lesson 3).

	To introduce Email as a communication tool using 2Respond simulations. To understand how we talk to others when they are not there in front of us. To open and send simple online communications in the form of email. To understand that information put online leaves a digital footprint or trail. To begin to think critically about the information they leave online. To identify the steps that can be taken to keep personal data and hardware secure.	Pupils know that Email is a form of digital communication. Pupils understand how 2Repond can teach them how to use email. Pupils can open and send an email to a 2Respond character. Pupils have discussed their own experiences and understanding of what email is used for. Pupils have discussed what makes us feel happy and what makes us feel sad Pupils can explain what a digital footprint is. Pupils can give examples of things that they would not want to be in their digital footprint.	Most pupils will be able to give reasons for keeping their password safe that include protecting their personal information. Most pupils will be able to express the good and bad sides of digital technology. In lesson 3, they can give examples of positive effects on life as well as negative. Pupils add their name to work but show a differentiation between full name and first name only when information is to be shared online. Most pupils will be able to share their work to a displayboard (lesson 1). By sharing their work using the display board, pupils begin to understand how things are shared electronically (Unit 2.2 Lesson 1. Point 16). Most pupils will be able to open and respond to simulated emails in 2Email (lesson 2) Most pupils will be able to open and send email responses to simulated emails in 2Email (Unit 2.2 Lesson 2 Point 4). Furthermore, using 2Respond activities the pupils develop an understanding of how to use email safely and responsibly (Unit 2.2 Lesson 2. Point 4). They also know how to report inappropriate content to their teacher. **Exceeding**: Pupils understand how to use the Purple Mash search bar (Unit 2.2 Lesson 1. Point 1) and for greater depth can refine searches using Boolean search terms (AND, OR, NOT).
2.5 – Effective Searching, Lesson 2	To gain a better understanding of searching the Internet.	I can identify the basic parts of a web search engine search page. I have learnt to read a web search results page. I can search for answers to a quiz on the Internet.	They know the implications of inappropriate searches. Pupils can share their work using the display board and begin to understand how things are shared electronically (Unit 2.2 Lesson 1. Point 16). Furthermore, using 2Respond activities, the pupils develop an understanding of how to use email safely and responsibly (Unit 2.2 Lesson 2. Point 4). They also know how to report inappropriate content to their teacher. **Emerging**: Pupils have an awareness that their Internet searches form part of a 'digital footprint'. **Expected**: Pupils can relate the creation of a digital footprint to their search history and make contributions to the class discussion about this in relation to online safety. Pupils know that many search engine companies collect and sell information about users.

			Exceeding: Pupils apply what they know about search engine algorithms to their own online safety and digital footprint. They can understand the implications of search engines selling information and having paid ads at the top of search results.

Year 3 Online Safety Skills Map

Unit\Lesson	Aims	Success criteria	Unit End Outcomes
3.2 – Online Safety	To know what makes a safe password, how to keep passwords safe and the consequences of giving your passwords away. To understand how the Internet can be used to help us to communicate effectively. To understand how a blog can be used to help us communicate with a wider audience. For pupils to consider if what they read on websites is true? To look at a 'spoof' website. To create a 'spoof' webpage. To think about why these sites might exist and how to check	Pupils understand what makes a good password for use on the Internet. Pupils are beginning to realise the outcomes of not keeping passwords safe. Pupils can contribute to a concept map of all the different ways they know that the Internet can help us to communicate. Pupils have contributed to a class blog with clear and appropriate messages. Extension: Pupils understand that passwords help to limit who can see personal / private / confidential information. Pupils understand that some information held on websites may not be accurate or true. Pupils are beginning to understand how to search the Internet and how to think critically about the results that are returned.	**Emerging**: With prompting, pupils can understand that it is important to have a secure password that is not shared with anyone else (Unit 3.2 Lesson 1. Point 1). Pupils can give a negative example of failure to keep passwords secure (Unit 3.2 Lesson 1. Point 1). Pupils are beginning to identify some of the main things to look for when deciding whether the information on a website is trustworthy or not (Unit 3.2 Lesson 2. Point 2). **Expected**: Pupils understand the importance of a secure password and not sharing this with anyone else (Unit 3.2 Lesson 1 Point 1). Furthermore, pupils understand the negative implications of failure to keep passwords safe and secure and can suggest examples of good and poor passwords (Unit 3.2 Lesson 1 Point 1). When using the internet, pupils can appraise the accuracy of the information on a website and make decisions on whether it is a trustworthy source of information (Unit 3.2 Lesson 2 Point 2). In lesson 1, step 16, pupils have a choice of topics about which to blog. Most pupils will have gained an understanding that it is not acceptable to use the work of others or post images of others without consent.

	that the information is accurate. To learn about the meaning of age restrictions symbols on digital media and devices. To discuss why PEGI restrictions exist. To know where to turn for help if they see inappropriate content or have inappropriate contact from others.	Pupils have accessed and assessed a 'spoof' website. Pupils have created their own 'spoof' webpage mock-up. Pupils have shared their 'spoof' web page on a class display board. Extension: Pupils evaluate facts from a website and explain how they fact checked the information that was presented. Pupils can identify some physical and emotional effects of playing/watching inappropriate content/games. Pupils relate cyberbullying to bullying in the real- world and have strategies for dealing with online bullying including screenshot and reporting.	Most pupils recognise the PEGI ratings and can give examples of why content is rated and how this protects them (lesson 3) Most pupils can contribute to a class collaborative file about the effects of inappropriate content with useful suggestions (lesson 3). Most pupils can answer the quiz questions in lesson 3, their answers demonstrating that they are developing their understanding of the features of online communication. In lesson 1, their blog posts and comments are appropriate. Most pupils can express the need to tell a trusted adult if they are upset by anything online, in lesson 3 their responses illustrate that they have taken this message onboard. Most pupils will be able to use Purple Mash as a platform for collaboration. Specifically, they will create a spoof website for other pupils to read and share on a class display board (Unit 3.2 Lesson 2). In lesson 2, most pupils can use suitable keywords when trying to verify sources. Exceeding: Pupils demonstrating greater depth will be able to give a clear explanation and examples of why having a secure, confidential password is essential and give negative examples of it not being secure and confidential (Unit 3.2 Lesson 1 Point 1).
			Pupils will be able to appraise the accuracy of information shared on a website and a provide suitable evidence to support their decisions on whether it is trustworthy or not (Unit 3.2 Lesson 2. Point 2).
Unit 3.5 – Email Lessons3and 4	To learn how to use email safely.	Pupils have written rules about how to stay safe using email. Pupils have contributed to classmates' rules. Pupils understand the importance of draft.	**Emerging:** Pupils demonstrate a basic understanding of email conventions and safety (Unit 3.5 Lesson 3 & 4). **Expected:** Pupils understand the importance of staying safe (Unit 3.5 Lesson 3. Point 2) when using email and have demonstrated knowledge of this through the writing of class rules for their conduct when using email systems (Unit 3.5 Lesson 3 Point 5).
		Pupils have created a quiz about email safety which explores scenarios that	Pupils apply their knowledge of email safety through the creation of a quiz on staying safe when emailing (Unit 3.5 Lesson 4. Point 3). In lesson 3, pupils can suggest why they need to seek permission before sharing photos.

		they could come across in the future.	In lesson 1, pupils can refer to what they learnt in Unit 3.2 regarding Online Safety when suggesting the way to communicate appropriately online. Pupils' email messages illustrate that they have taken on board messages about appropriate communication with a regard for their audience. In lesson 3, this forms part of the slideshow discussion., pupils include this as part of their guidelines for step 5. **Exceeding:** Pupils are not only able to demonstrate an understanding of email conventions and keeping safe but can explain why conventions and certain recognised positive behaviours are expected and the possible consequences of not abiding by them (Unit 3.5 Lessons 3 & 4). Pupils demonstrating greater depth, understand the importance of staying safe (Unit 3.5 Lesson 3. Point 2) when using email and can apply these principles to the related aspects of messaging. Pupils demonstrate their knowledge through taking an active role in the writing of class rules and quiz creation on appropriate conduct when using email systems and can expand on their points to explain their reasoning (Unit 3.5 Lesson 3. Point 5).

Year 4 Online Safety Skills Map

Unit\Lesson	Aims	Success criteria	Unit End Outcomes
4.2 – Online Safety	To understand how pupils can protect themselves from online identity theft. Understand that information put online leaves a digital footprint or trail and that this can aid identity theft. To Identify the risks and benefits of installing software including apps.	Pupils know that security symbols such as a padlock protect their identity online. Pupils know the meaning of the term 'phishing' and are aware of the existence of scam websites. Pupils can explain what a digital footprint is and how it relates to identity theft. Pupils can give examples of things that they would not want to be in their digital footprint. Pupils can identify possible risks of installing free and paid for software.	**Emerging**: Pupils contribute their ideas to discussion of spam email (lesson 1), malware (lesson 2) and plagiarism (lesson 3). They have included appropriate content in their Top Tips for Online Safety publication (lesson 2, point 5 and onwards). They have been able to share their work online. With support throughout, pupils show an understand what online safety is. In a small group, they can use 2Connect (Unit 4.2 Lesson 1. Point 3) to map out the key features of online safety. Pupils produce a simple leaflet, postcard, or slideshow etc about online safety, which can then be used as part of presentation to parents (Unit 4.2 Lesson 1. Point 7). **Expected**: Pupils have decided upon the most important online safety messages to communicate and have shared these ideas in their Top Tips for Online Safety publication (lesson 2, point 5 and onwards). They put this knowledge into action in their own online activity. Pupils can explore key concepts relating to online safety using 2Connect Unit 4.2 Lesson 1. Point 3). They help others to understand

	To understand that copying the work of others and presenting it as their own is called 'plagiarism' and to consider the consequences of plagiarism. To identify appropriate behaviour when participating or contributing to collaborative online projects for learning.	Pupils know that malware is software that is specifically designed to disrupt, damage, or gain access to a computer. Pupils know what a computer virus is. Pupils can determine whether activities that they undertake online, infringe another's' copyright. They know the difference between researching and using information and copying it Pupils know about citing sources that they have used.	the importance of online safety (Unit 4.2 Lesson 2. Point 3) and apply their knowledge through the creation of online safety resources which are then used as part of presentation to parents (Unit 4.2 Lesson 1. Point 7). Using the example from lesson 1, pupils can give some examples of things to look out for in an email to ensure that it from a valid source and is not a phishing scam email. They can explain what can be learnt by looking at the padlock details for a website (lesson 1) Most pupils can reflect upon positive and negative aspects of a digital footprint and can give examples of the care they would take when sharing online in relation to their and others' digital footprint (lesson 1). Most pupils can give reasons for taking care when installing apps or software. They know what Malware is and the possible impact of computer viruses and can give recommendations for how best to ensure that they only install valid software as part of their top tips document in lesson 2. Most pupils can give reasons for limiting screen time that include the effect on physical and mental health. In lesson 4, they were able to reflect on their own screen time and collective class screen time and begin to make informed decisions about when to limit their own screen time.
	To identify the positive and negative influences of	Pupils can take more informed ownership of the	

	technology on health and the environment. To understand the importance of balancing game and screen time with other parts of their lives.	way that they choose to use their free time. They recognise a need to find a balance between being active and digital activities. Pupils can give reasons for limiting screen time.	Most pupils can explain how plagiarism is stealing, they are beginning to be able to identify the aspects of sharing that would be classed as plagiarism (lesson 3) In lesson 4, pupils were able to include actions for reporting cyberbullying or inappropriate content in their screen time study document. By completing lesson 4, most pupils would have saved both online and locally to a device and are able to explain the differences between the two storage types. Most pupils will be able to identify key messages that should be shared with other pupils and parents about online safety, including identification of reliable content from websites found via common search engines (Unit 4.2 Lessons 1 & 2). **Exceeding**: Pupils have decided upon the most important online safety messages to communicate and have shared these ideas in their Top Tips for Online Safety publication (lesson 2, point 5 and onwards). Pupils demonstrate that they are making connections between the positive possibilities that technology provide e.g. collaboration and sharing and the possible downsides of this such as malware and phishing. They actively use this knowledge to support their own online activities safely. Pupils demonstrating greater depth understand the key concepts and implications of the choices they make relating to online safety (Unit 4.2 Lesson 1. Point 3). They help others to understand the importance of online safety (Unit 4.2 Lesson 2. Point 3) and apply their knowledge and approach to staying safe online in all areas of the curriculum (Unit 4.2 Lesson 1. Point 7).

4.7 – Effective Searching, lesson 3	To assess whether an information source is true and reliable.	Pupils can analyse the contents of a web page for clues about the credibility of the information.	Emerging: Pupils understand that just because something is on the internet it does not mean it is true. They know that they should consider checking and verifying information. Expected: Most pupils will be able to analyse the contents of a web page for obvious clues about the credibility of the information. They will be able to work in small groups to decide collectively if a website has questionable credibility (Unit 4.7, Lesson 3). Exceeding: Pupils understand that a single search provider might present a bias, or present information from a flawed source. They seek to corroborate information from other sources using more than one search engine. Pupils know that the results presented to a person on many search engines reflect their previous searches. They realise that this does not give a balanced way to form an opinion about something and presents dangers of being consumed by inaccurate viewpoints and having a misrepresentative world view reinforced.

Year 5 Online Safety Skills Map

Unit\Lesson	Aims	Success criteria	Unit End Outcomes
5.2 – Online Safety	To gain a greater understanding of the impact that sharing digital content can have. To review sources of support when using technology. To review pupils' responsibility to one another in their online behaviour.	I think critically about the information that I share online both about myself and others. I know who to tell if I am upset by something that happens online. I can use the SMART rules as a source of guidance when online.	**Emerging**: Pupils demonstrate a developing understanding of their responsibility to others as well as to themselves when communicating and sharing content online. They know what to do if they are upset by online content and know that there are rules such as the SMART rules to protect them (lesson 1). With support throughout, pupils demonstrate an understanding of what the SMART rules are but may find it difficult to apply all of these to using technology safely and respectfully (Unit 5.1 Lesson 1). They can create a simple comic strip to teach other pupils about online safety (Unit 5.2 Lesson 2). **Expected**: Pupils demonstrate an understanding of their responsibility to others as well as to themselves when communicating and sharing content online. Pupils demonstrate a clear understanding of what the SMART rules are and how they should be applied to using technology safely and respectfully (Unit 5.1 Lesson 1). In lesson 1, step 2, pupils demonstrate that they are developing critical thinking skills in their online experience and know what sorts of inappropriate content should be reported.
	To know how to maintain secure passwords. To understand the advantages, disadvantages, permissions, and purposes of altering an image digitally and the reasons for this.	Pupils think critically about what they share online, even when asked by a usually reliable person to share something. Pupils have clear ideas about good passwords.	
	To be aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online.	Pupils can see how they can use images and digital technology to create effects not possible without technology. Pupils have experienced how image manipulation could be used to upset them or others even using simple, freely available tools and little specialist knowledge.	They can apply their knowledge in the creation of a comic strip to teach other pupils about online safety (Unit 5.2 Lesson 2). When doing image editing in lesson 2, they were able to see both the positive and negative consequences of technological developments including altering images both in terms of impact upon themselves and impact upon others. In lesson 3, pupils can explain why citations must be considered when using the work of others. They know that there is a convention for recording citations and can put this into practice in their work. In lesson 3, step 11 onwards, pupils' contributions demonstrate a growing

	To learn about how to reference sources in their work To search the Internet with a consideration for the reliability of the results of sources to check validity and understand the impact of incorrect information. Ensuring reliability through using different methods of communication	Pupils can cite all sources when researching and explain the importance of this. Pupils select keywords and search techniques to find relevant information and increase reliability Pupils show an understanding of the advantages and disadvantages of different forms of communication and when it is appropriate to use each.	awareness of the context of communication and an ability to view the communication from the intended audience's point-of- view. Most pupils will be able demonstrate that they understand what is meant by reliable and can build on their ability to identify reliable content. In lesson 3 while completing the citation writing frame, they were able to recognise that it is not a good idea to rely upon only 1 source for information, for example, the Pacific Tree Octopus example. **Exceeding**: Pupils are developing a deeper understanding of the interaction of the positive benefits and negative risks of innovative technology. They take advantage of these technologies in theirwork but are mindful of protecting themselves and others from harm. Pupils demonstrating greater depth have a detailed knowledge of what the SMART rules are and understand how these are applied to using technology safely and respectfully. Furthermore, they understand the implications of improper use of technology and the internet (Unit 5.1 Lesson 1). They can apply their knowledge in the creation of a detailed comic strip to teach other pupils about online safety (Unit 5.2 Lesson 2).

Year 6 Online Safety Skills Map

Unit\Lesson	Aims	Success criteria	Unit End Outcomes
6.2 – Online Safety	Identify benefits and risks of mobile devices broadcasting the location of the user/device, e.g. apps accessing location. Identify secure sites by looking for privacy seals of approval, e.g. https, padlock icon. Identify the benefits and risks of giving personal information and device access to different software. To review the meaning of a digital footprint and understand how and why people use their information and online presence to create a virtual image of themselves as a user. To have a clear idea of appropriate online behaviour and how this can protect themselves and others from possible online dangers, bullying and inappropriate behaviour. To begin to understand how information online can	Pupils have used the example game and further research to refresh their memories about risks online including sharing location, secure websites, spoof websites, phishing and other email scams. Pupils have used the example game and further research to refresh their memories about the steps they can take to protect themselves including protecting their digital footprint, where to go for help, smart rules and security software. Pupils understand how what they share impacts upon themselves and upon others in the long- term. Pupils know about the consequences of promoting inappropriate content online and how to put a stop to such behaviour when they experience it or witness it as a bystander.	**Emerging**: Pupils can refer to the SMART rules to guide them online. They can navigate networks within Purple Mash (Work folders, class folders and group folders), the local network (school) and the Internet (using as a source for research or leisure time). They use these networks to collaborate with support using Purple Mash tools such as 2Write and 2Connect. They can use search tools and have an awareness of the need to select sources carefully. They can recognise features online that are risks and those that exist to protect them (lesson 1). Pupils are aware that their actions online have an impact not only on themselves but on others as well. They know to ask for help if they are worried or distressed by something online. **Expected**: Pupils have a good knowledge of the benefits and risks to working collaboratively. They have no trouble navigating networks within Purple Mash (Work folders, class folders and group folders), the local network (school) and the Internet (using as a source for research or leisure time). They use these networks to collaborate using Purple Mash tools such as 2Write, 2Connect and 2Blog and can use a variety of networked devices such as webcams, online tools, printers, and tablets in a connected way for their educational benefit. Pupils can use search tools and routinely try to verify the validity and reliability of their sources. They look for corroborating sources for information and enter keywords that help them to choose the best results. Pupils demonstrate an understanding of their responsibility to others as well as to themselves when communicating and sharing content online.

	persist and give away details of those who share or modify it. To understand the importance of balancing game and screen time with other parts of their lives, e.g. explore the reasons why they may be tempted to spend more time playing games or find it difficult to stop playing and the effect this has on their health. To identify the positive and negative influences of technology on health and the environment	**Extension:** Pupils' actions demonstrate that they also feel a responsibility to others when communicating and sharing content online. Pupils can take more informed ownership of the way that they choose to use their free time. They recognise a need to find a balance between being active and digital activities. Pupils can give reasons for limiting screen time. Pupils can talk about the positives and negative aspects of technology and balance these opposing views. **Extension:** Pupils have an internalised in-depth understanding of the risks and benefits of an online presence.	They can identify a variety of risks and benefits of technology (lessons 1 and 3). They feel confident in having strategies to help them promote a positive online image of themselves in their digital footprint. Pupils can identify location sharing as a risk to online safety in lesson 1 and could relate this to work done on protecting their identifying private information. Pupils were able to identify the padlock and https as aids to the online safety in lesson 1 and could explain what these means referring to the work that they did on this in previous years' online safety units. Pupils' work in lesson 1, indicates that they have a clear understanding of terms such as Computer virus, Location sharing, phishing scams, spam email, Malware and Identity theft. In lesson 2, they make sensible contributions to the question of what risks there are when installing an App and the possible risks hidden in the small print. Pupils' work as digital footprint detectives in lesson 2 demonstrates that they understand the impact of a positive and negative digital footprint and how to take control of their own online virtual image. Most pupils can balance the positive impact of technology with the reasons for limiting screen time that include the effect on physical and mental health. In lesson 3, they were able to reflect on their own screen time and collective class screen time and begin to make informed decisions about when to limit their own screen time Having studied this aspect in depth in year 5 (lesson 3), pupils routinely include citations in their research work across subjects. They also take care to credit the artist when using images from the Internet. In lesson 2, as part of the discussion surrounding digital footprints, pupils explored the existence of metadata to track the source of images. Having studied this aspect in depth in year 5 (lesson 2, step 11+ and lesson 3, step 6+), pupils take care to credit the artist when using images from the Internet and know how to explore the rights and permissions associated with an image online. They can explain the difference between copyright and privacy and are mindful of both aspects when working with images. Most pupils can make informed choices when communicating online for example selecting the appropriate form of

			communication for its purpose and audience. They can discuss the use of instant messaging in social contexts, aware of the pros and cons of using such tools. **Exceeding**: Pupils view their own/school devices as a means to access a wealth and mixture of networked and local resources. They use these in an integrated way; for example, they can take information and images from one source, compare them to others, include them in their written work alongside their own original images and text to enhance their own understanding and produce high quality comprehensive work. They are implicitly aware of the benefits and risks to working collaboratively. They navigate networks within Purple Mash (Work folders, class folders and group folders), the local network (school) and the Internet and use these networks to collaborate using Purple Mash tools such as 2Write, 2Connect and 2Blog. Pupils can use search tools effectively, routinely verifying the validity and reliability of their sources. They look for corroborating sources for information and enter keywords that help them to choose the most suitable results. They are aware that search engines are also often money-making ventures for their providers and that this has personal privacy implications. They know where to look to investigate their privacy settings on search engines. Pupils have an internalised in-depth understanding of the risks and benefits of an online presence (lessons 1 and 3). Their actions demonstrate that they also feel a responsibility to others when communicating and sharing content online. They feel confident in having strategies to help them promote a positive online image of themselves and deal with issues that might arise in the future.

6.4 – Blogging, Lesson 4 & 5	To understand how to contribute to an existing blog. To understand how and why blog posts are approved by the teacher. To understand the importance of commenting on blogs. To peer-assess blogs against the agreed success criteria.	Pupils can post comments and blog posts to an existing class blog. Pupils understand the approval process that their posts go through and demonstrate an awareness of the issues surrounding inappropriate posts and cyberbullying. Pupils can comment on and respond to other blogs. Pupils can assess the effectiveness and impact of a blog. Pupils understand that content included in their blog carefully considers the end user.	**Emerging**: Pupils are aware there is an approval process that their posts go through and demonstrate an awareness of the issues surrounding inappropriate posts and cyberbullying (Unit 6.4 Lesson 4. Point 6). Pupils understand the importance of being respectful on the internet. **Expected**: Pupils recognise the approval process that their posts go through and demonstrate an awareness of the issues surrounding inappropriate posts and cyberbullying (Unit 6.4 Lesson 4. Point 6). Pupils become active contributors to a blog, carefully considering their responses to blog posts to ensure that they are always respectful (Unit 6.4 Lesson 4. Point 12). Pupils understand the implications of inappropriate use of the blog. **Exceeding**: Pupils understand why there is an approval process for any posts and understand the issues surrounding inappropriate posts and cyberbullying (Unit 6.4 Lesson 4. Point 6). Pupils demonstrating greater depth, understand that 2Blog is an introduction to the world of blogging and is a way for the user to become a content creator on the internet. As such the content included in their blog carefully considers the end user (Throughout Unit). They understand the implications of inappropriate use of the blog and how this relates to the real world.

Appendix C:
Deeper learning Deeper Learning Ideas for Computing

Bloom's Taxonomy Questions

Using the tables below create deeper learning next steps and questions to support deeper learning in computing. These will all vary depending on the pupil, lesson outcomes, year group and the skills taught within the lesson but as a starting point use these to help with questions.

Using the pyramid choose one of the words to form a deeper learning question for the children. These will vary all depending on the child, lesson outcomes and the skills taught within the lesson but as a starting point use the question words and question stems to support with this.

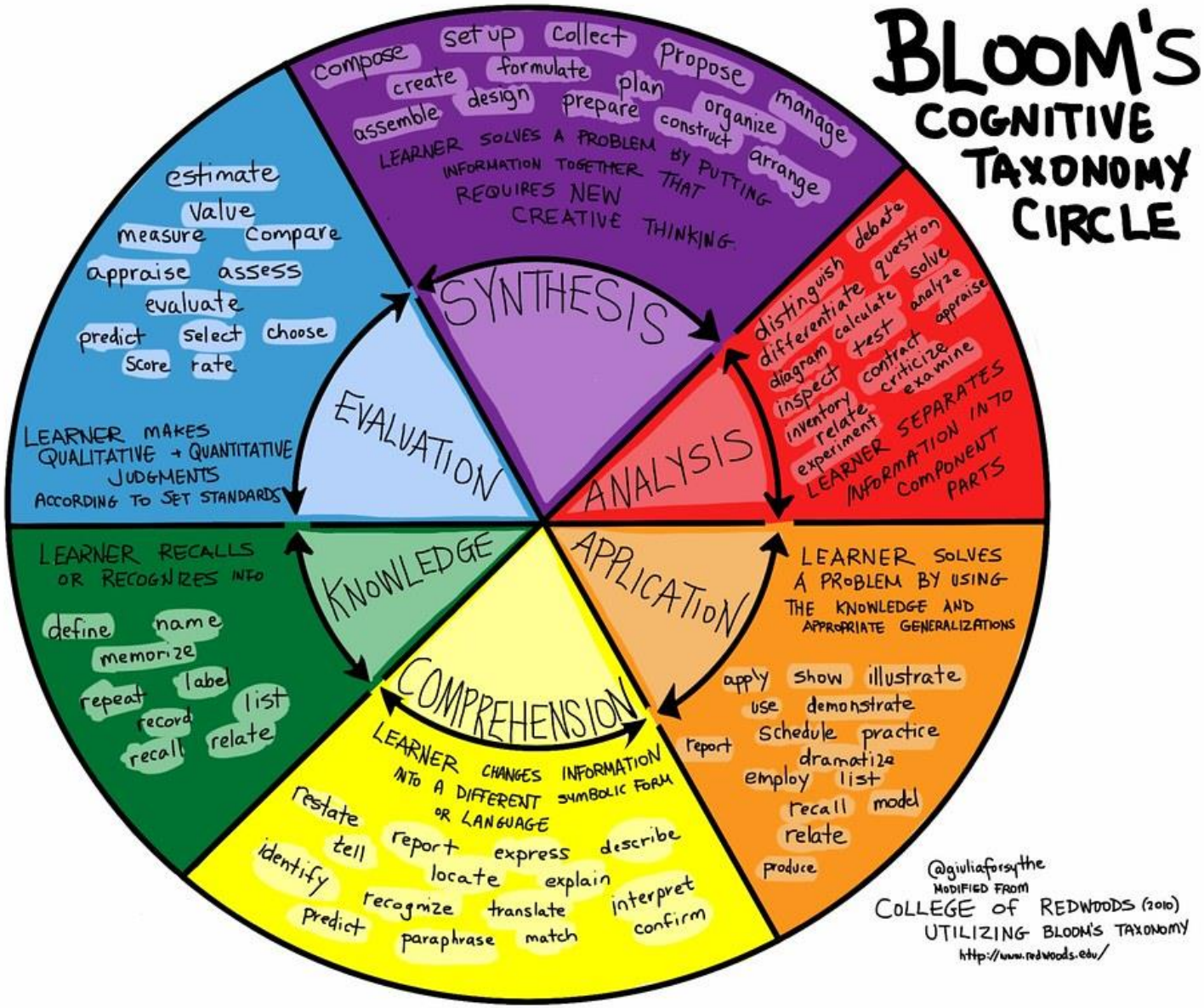
Here are a few ideas with an example to support with creating questions or next steps to develop the children's deeper thinking of computing.

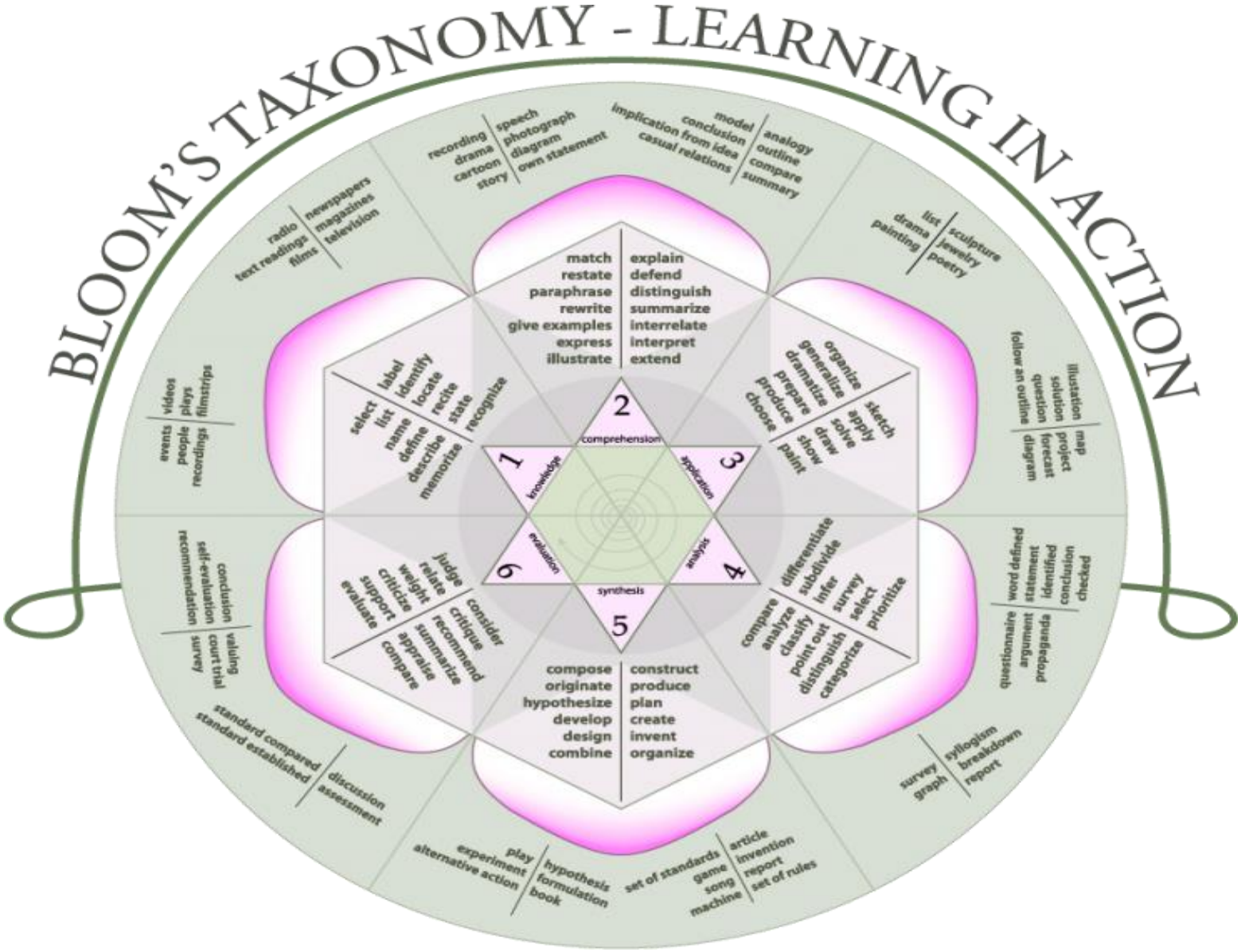
- Odd one out- Show a mouse, key board and a ipad. Which is the odd one out?
- Sometimes, always, never- If I was unsure about something, I saw on the internet I would report it to an adult?
- True or False- I can click any button on a beebot and it will move forward.
- Convince me (Convince me that I need to be safe on the internet)
- Statements- I can take a picture of anyone and put it on the computer
- Prove it- Prove that algorithms need to be put in the correct order.
- What's the same/difference?
- Statements- Josie thinks all technology needs the internet to work. Do you agree/disagree? Why? Give examples.

Sample Question Stems Based on Revised Bloom's Taxonomy

Remember	Understand	Apply
Who? Where? Which one? What? How? Why? How much? How many? When? What does it mean? What happened after? What is the best one? Can you name all the …? Who spoke to …? Which is true or false?	What does this mean? Which are the facts? State in your own words. Is this the same as …? Give an example. Select the best definition. Condense this paragraph. What would happen if …? Explain why . . . What expectations are there? Read the graph (table). What are they saying? This represents . . . What seems to be …? Is it valid that …? What seems likely? Show in a graph, table. Which statements support …? What restrictions would you add? Outline . . . What could have happened next? Can you clarify. . .? Can you illustrate . . . ? Does everyone think in the way that … does?	Predict what would happen if … Choose the best statements that apply. Judge the effects of … What would result …? Tell what would happen if … Tell how, when, where, why. Tell how much change there would be if … Identify the results of … Write in your own words … How would you explain …? Write a brief outline … What do you think could have happened next? Who do you think…? What was the main idea …? Clarify why … Illustrate the … Does everyone act in the way that … does? Draw a story map. Explain why a character acted in the way that he did. Do you know of another instance where …? Can you group by characteristics such as …? Which factors would you change if …? What questions would you ask of …? From the information given, can you develop a set of instructions about …?
Analyze	**Evaluate**	**Create**
What is the function of …? What's fact? Opinion? What assumptions …? What statement is relevant? What motive is there? What conclusions? What does the author believe? What does the author assume? State the point of view of … What ideas apply? What ideas justify the conclusion? What's the relationship between …? The least essential statements are … What's the main idea? Theme? What literary form is used? What persuasive technique is used? Determine the point of view, bias, values, or intent underlying presented material. Which events could not have happened? If … happened, what might the ending have been? How is … similar to …? What do you see as other possible outcomes? Why did … changes occur? Can you explain what must have happened when …? What were some of the motives behind …? What was the turning point? What are some of the problems of …? Can you distinguish between …?	What fallacies, consistencies, inconsistencies appear? Which is more important, moral, better, logical, valid, appropriate? Find the errors. Is there a better solution to …? Judge the value of … What do you think about …? Can you defend your position about …? Do you think … is a good or bad thing? How would you have handled …? What changes to … would you recommend? Do you believe …? How would you feel if …? How effective are …? What are the consequences of …? What influence will … have on our lives? What are the pros and cons of …? Why is … of value? What are the alternatives? Who will gain and who will lose?	Can you design a … to …? Can you see a possible solution to …? If you had access to all resources, how would you deal with …? Why don't you devise your own way to …? What would happen if? How many ways can you …? Can you create new and unusual uses for …? Can you develop a proposal which would …? How would you test …? Propose an alternative. How else would you …? State a rule.

See **Sources**, p. 10 of Bloom sub-section in Section 5: Thinking


BLOOM'S
COGNITIVE
TAXONOMY
CIRCLE
SYNTHESIS
compose
set up
collect
propose
manage
create
formulate
plan
assemble
design
prepare
organize
construct
arrange
LEARNER SOLVES A PROBLEM BY PUTTING INFORMATION TOGETHER THAT REQUIRES NEW CREATIVE THINKING
ANALYSIS
distinguish
debate
differentiate
question
diagram
calculate
solve
inspect
test
analyze
inventory
contract
appraise
relate
criticize
experiment
examine
LEARNER SEPARATES INFORMATION INTO COMPONENT PARTS
EVALUATION
estimate
value
measure
compare
appraise
assess
evaluate
predict
select
choose
score
rate
LEARNER MAKES QUALITATIVE + QUANTITATIVE JUDGMENTS ACCORDING TO SET STANDARDS
KNOWLEDGE
LEARNER RECALLS OR RECOGNIZES INFO
define
name
memorize
repeat
label
record
list
recall
relate
COMPREHENSION
LEARNER CHANGES INFORMATION INTO A DIFFERENT SYMBOLIC FORM OR LANGUAGE
restate
tell
report
express
describe
identify
locate
explain
recognize
translate
interpret
predict
paraphrase
match
confirm
APPLICATION
LEARNER SOLVES A PROBLEM BY USING THE KNOWLEDGE AND APPROPRIATE GENERALIZATIONS
apply
show
illustrate
use
demonstrate
report
schedule
practice
dramatize
employ
list
recall
model
relate
produce
@giuliaforsythe
MODIFIED FROM
COLLEGE of REDWOODS (2010)
UTILIZING BLOOM'S TAXONOMY
http://www.redwoods.edu/


BLOOM'S TAXONOMY - LEARNING IN ACTION
1
knowledge
2
comprehension
3
application
4
analysis
5
synthesis
6
evaluation
match
restate
paraphrase
rewrite
give examples
express
illustrate
explain
defend
distinguish
summarize
interrelate
interpret
extend
compose
originate
hypothesize
develop
design
combine
construct
produce
plan
create
invent
organize
recording
drama
cartoon
story
speech
photograph
diagram
own statement
model
conclusion
implication from idea
casual relations
analogy
outline
compare
summary
list
drama
painting
sculpture
jewelry
poetry
illustation
solution
question
follow an outline
map
project
forecast
diagram
word defined
statement
identified
conclusion
checked
questionnaire
argument
propaganda
syllogism
breakdown
report
survey
graph
article
invention
report
set of rules
set of standards
game
song
machine
play
experiment
alternative action
hypothesis
formulation
book
standard compared
standard established
discussion
assessment
conclusion
self-evaluation
recommendation
valuing
court trial
survey
radio
text readings
films
newspapers
magazines
television
videos
plays
filmstrips
events
people
recordings
label
identify
locate
recite
state
recognize
select
list
name
define
describe
memorize
organize
generalize
dramatize
prepare
produce
choose
sketch
apply
solve
draw
show
paint
differentiate
subdivide
infer
survey
select
prioritize
compare
analyze
classify
point out
distinguish
categorize
judge
relate
weight
criticize
support
evaluate
consider
critique
recommend
summarize
appraise
compare

The Padagogy Wheel V4.1

http://tinyurl.com/posterV4

App Selection Criteria

Remembering Criteria

Remembering: Apps that fit into the "remembering" stage improve the user's ability to define terms, identify facts, and recall and locate information. Many educational apps fall into the "remembering" phase of learning. They ask users to select an answer out of a line-up, find matches, and sequence content or input answers

Understanding Criteria

Understanding: Apps that fit into this "understanding" stage provide opportunities for students to explain ideas or concepts. Understanding apps step away from the selection of a "right" answer and introduce a more open-ended format for students to summarise content and translate meaning.

Applying Criteria

Applying: Apps that fit into the applying stage provide opportunities for students to demonstrate their ability to implement learned procedures and methods. They also highlight the ability to apply concepts in unfamiliar circumstances.

Analyzing Criteria

Analysing: Apps that fit into the "analysing" stage improve the user's ability to differentiate between the relevant and irrelevant, determine relationships, and recognise the organisation of content..

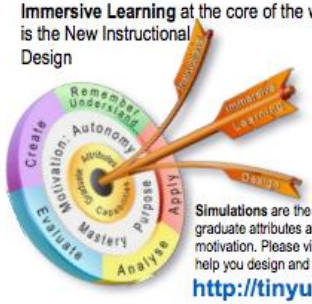
Evaluating Criteria

Evaluating: Apps that fit into the "evaluating" stage improve the user's ability to judge material or methods based on criteria set by themselves or external sources. They help students judge content reliability, accuracy, quality, effectiveness, and reach informed decisions.

Creating Criteria

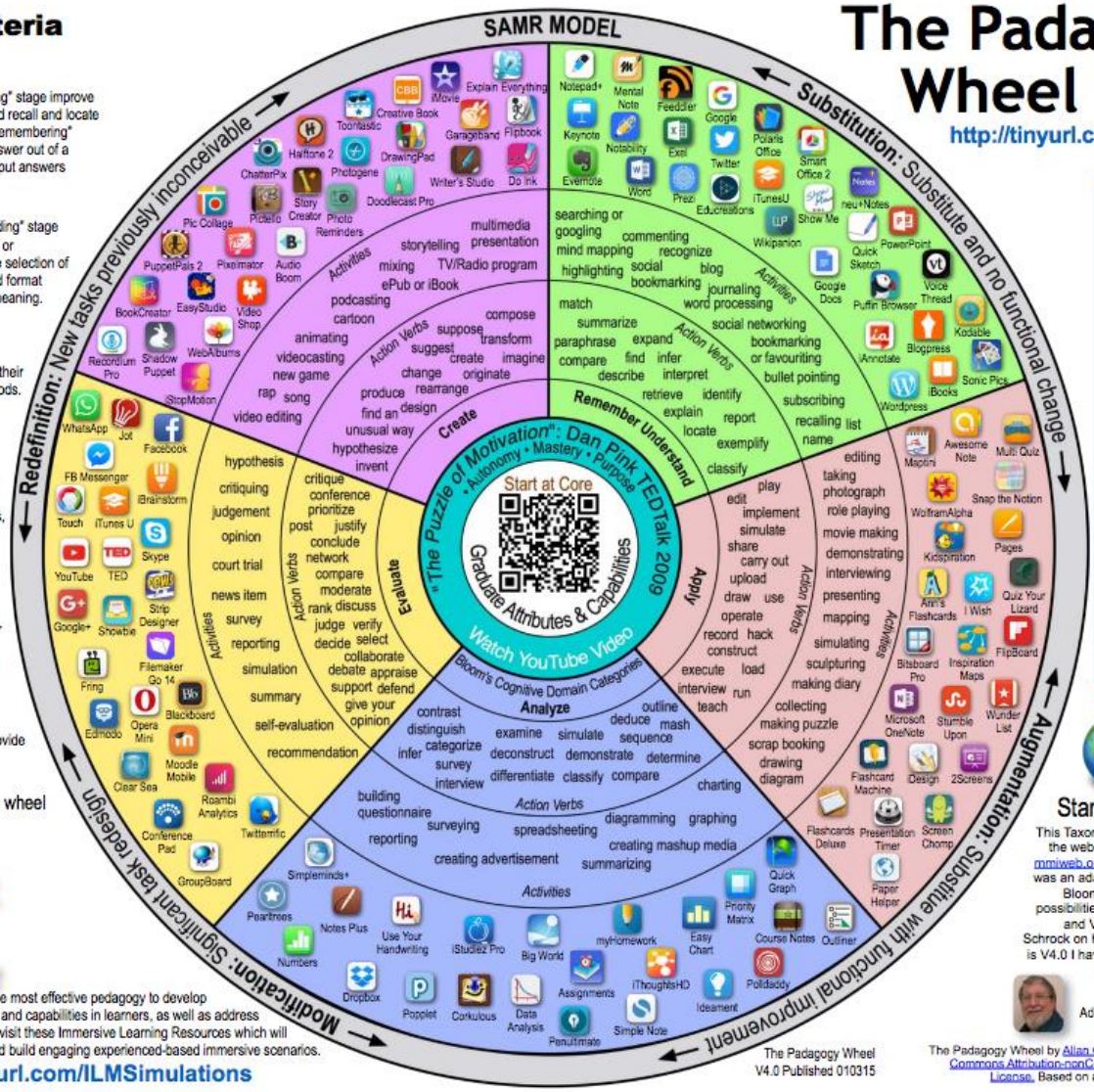
Creating: Apps that fit into the "creating" stage provide opportunities for students generate ideas, design plans, and produce products.

Immersive Learning at the core of the wheel is the New Instructional Design



Simulations are the most effective pedagogy to develop graduate attributes and capabilities in learners, as well as address motivation. Please visit these Immersive Learning Resources which will help you design and build engaging experienced-based immersive scenarios.

http://tinyurl.com/ILMSimulations



Getting the best use out of the Padagogy Wheel

Use it as a series of prompts or interconnected gears to check your teaching from planning to implementation

The Attributes Gear: This is the core of learning design. You must constantly revisit things like ethics, responsibility and citizenship. Ask yourself the question what will a graduate from this learning experience 'look like' i.e. what is it that makes others see them as successful? Ask 'how does everything I do support these attributes and capabilities?'

The Motivation Gear: Ask yourself 'How does everything I build and teach give the learner autonomy, mastery and purpose?'

The Blooms Gear: Helps you design learning objectives that achieve higher order thinking. Try to get at least one learning objective from each category. Only after this are you ready for technology enhancement.

The Technology Gear: Ask 'How can this serve your pedagogy'? Apps are only suggestions, look for better ones & combine more that one in a learning sequence.

The SAMR Model Gear: This is "How are you going to use the technologies you have chosen"?

I would like to thank Tobias Rodomark for the idea of the gears. Tobias is a teacher & works for the State Institute for School Development Baden-Württemberg (LS), Germany

Allan Carrington

The Padagogy Wheel First Language Project: 21 languages are planned for 2016. For the latest languages see bit.ly/languageproject

Standing on the Shoulders of Giants

This Taxonomy wheel, without the apps, was first discovered on the website of Paul Hopkin's educational consultancy website mmiweb.org.uk That wheel was produced by Sharon Artley and was an adaption of Kathwohl and Anderson's (2001) adaption of Bloom (1956). The idea to further adapt it for the pedagogy possibilities with mobile devices, in particular the iPad, For V2.0 and V3.0 I have to acknowledge the creative work of Kathy Schrock on her website Bloomin' Apps For the major revision that is V4.0 I have to thank the team of ADEs who created APPitic the App Lists for Education Project which has now closed

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