



Computing

Curriculum Overview

Masefield Primary School



Computing

Computing Careers



“The computer was born to solve problems that did not exist before,”
- Bill Gates

Computing National Curriculum in England

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

Aims

The national curriculum for computing aims to ensure that all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology

Attainment targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Subject content

Key stage 1

Pupils should be taught to:

- 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.

Key stage 2

Pupils should be taught to:

- 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 concerns about content and contact.

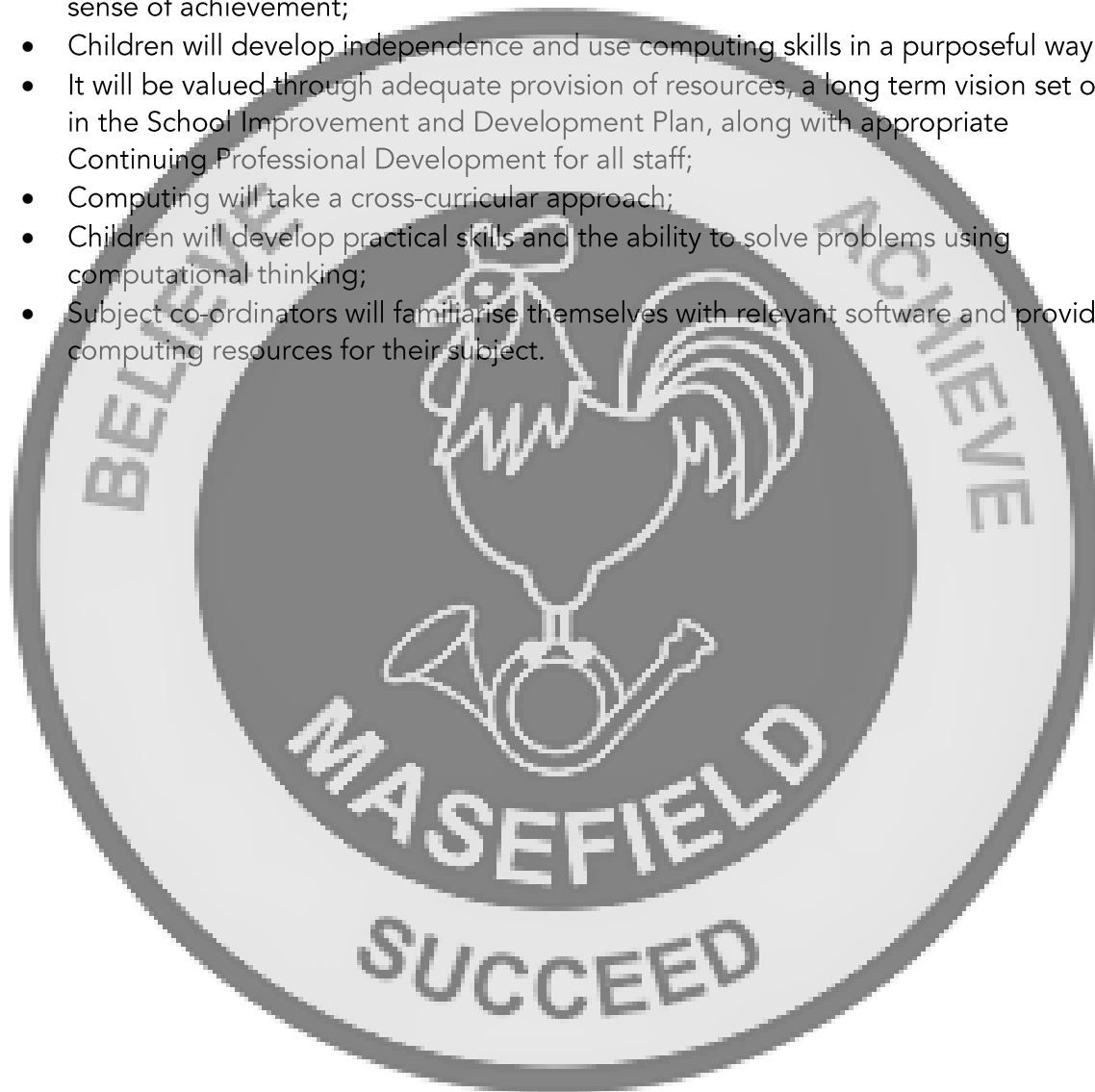
Statement of Intent for Computing

At Masefield, we reflect the National Curriculum's belief that high-quality Computing education provides the foundations for understanding the world through the specific disciplines of Computer Science, Information Technology and Digital Literacy. Technology has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena and the world.

The school's long term plan for Computing sets out the content of teaching within in each year group. This is supported by the school's Computing progression document which demonstrates learning outcomes within each strand of development within a Computing unit. The Computing Procedures document outlines how Computing specifically relates to our Teaching and Learning Delivery Model here at Masefield. Short term planning details how this content is developed over a series of lessons within the unit of work.

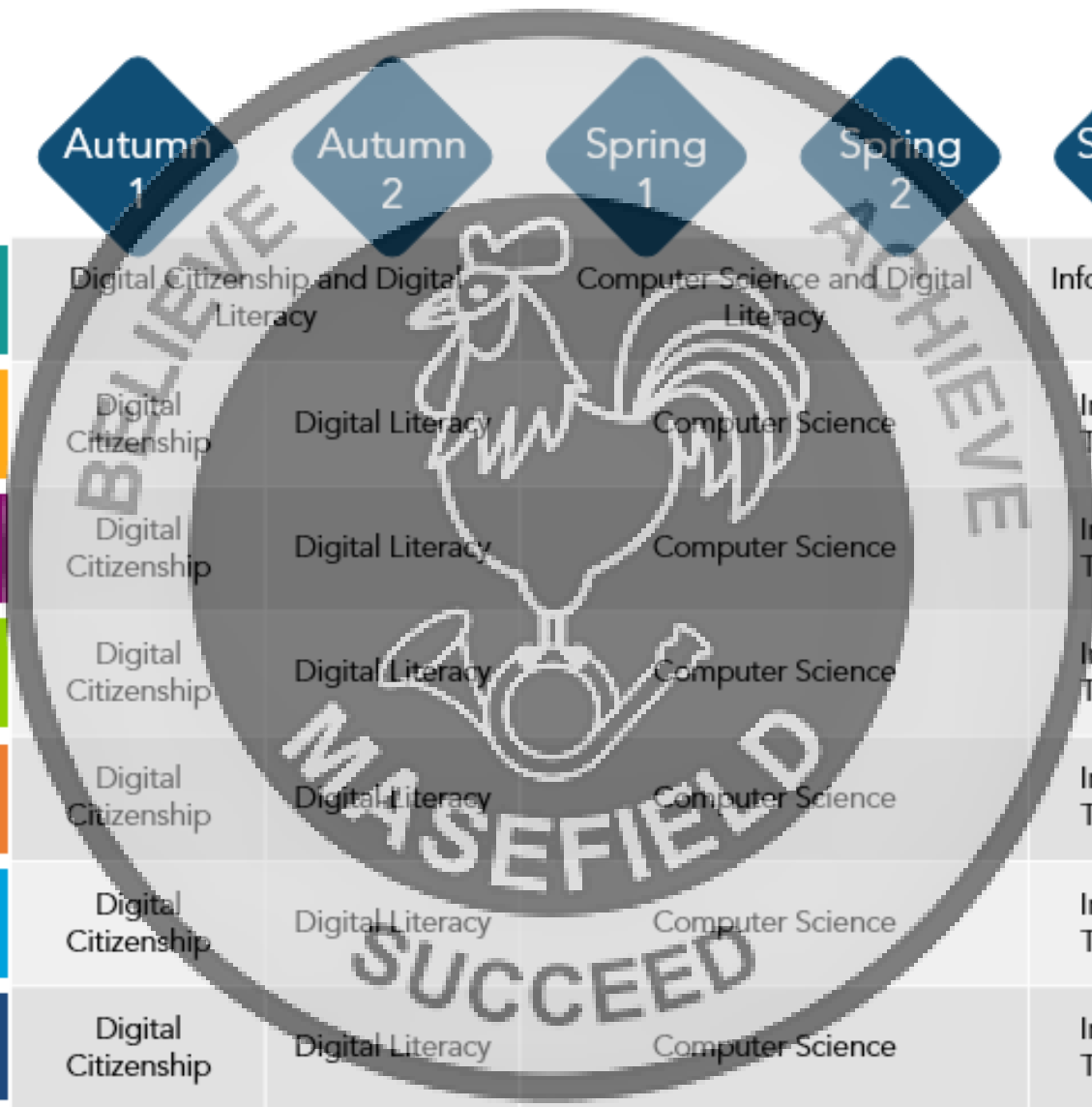
At Masefield computing is an integral part of our school and our aim is that:

- Children will enjoy computing and will tackle applications with confidence and a sense of achievement;
- Children will develop independence and use computing skills in a purposeful way;
- It will be valued through adequate provision of resources, a long term vision set out in the School Improvement and Development Plan, along with appropriate Continuing Professional Development for all staff;
- Computing will take a cross-curricular approach;
- Children will develop practical skills and the ability to solve problems using computational thinking;
- Subject co-ordinators will familiarise themselves with relevant software and provide computing resources for their subject.



Long-term Overview for Computing

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Early Years	Digital Citizenship and Digital Literacy		Computer Science and Digital Literacy		Information Technology and Digital Literacy	
Year One	Digital Citizenship	Digital Literacy	Computer Science		Information Technology	Digital Literacy (Consolidation Project)
Year Two	Digital Citizenship	Digital Literacy	Computer Science		Information Technology	Digital Literacy (Consolidation Project)
Year Three	Digital Citizenship	Digital Literacy	Computer Science		Information Technology	Digital Literacy (Consolidation Project)
Year Four	Digital Citizenship	Digital Literacy	Computer Science		Information Technology	Digital Literacy (Consolidation Project)
Year Five	Digital Citizenship	Digital Literacy	Computer Science		Information Technology	Digital Literacy (Consolidation Project)
Year Six	Digital Citizenship	Digital Literacy	Computer Science		Information Technology	Digital Literacy (Consolidation Project)



Strands within our Computing Curriculum

Digital Citizenship

Children need to examine the consequences of their online activity—both good and bad. When teaching Digital Citizenship it is vital that we thoroughly embed the principles of staying safe online and then move onto web content and how they interact with it. It is important to use real world examples with our children to ensure that their learning is relevant to their life experiences.

There are five key aspects of online education, adopted and incorporated from the Education for a Connected World framework, focalised within the teaching of Digital Citizenship at Masefield.

These are:

- Self-image and Identity
- Online relationships
- Online reputation
- Online bullying
- Health, wellbeing and lifestyle

Digital Literacy

Digital Literacy is essentially how to use a whole host of different software. Having high levels of Digital Literacy enables us to decide which software we need to complete any given task, how to transfer skills and ultimately, be confident when using software. The essential component of digital literacy when it comes to the field of pedagogy is deep learning; of which there are six core skills:

- Collaboration
- Creativity
- Critical thinking
- Citizenship
- Character
- Communication

Computer Science

Computer Science has been deemed as important to the school curriculum because of its potential to teach children Computational Thinking or how to think. Computational Thinking can teach students how to be successful with design, logical reasoning, problem solving and resilience - all valuable well beyond the computer science classroom.

The ability to create and adapt new technologies distinguishes computer science from computer literacy.

Information Technology

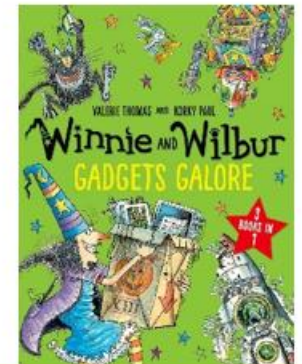
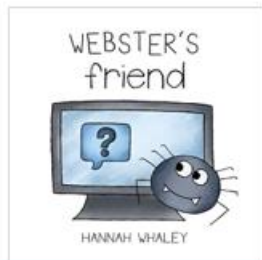
This is how we interact with technology using existing hardware. We need to teach children how to navigate around a variety of devices, type, save work, find and move files. In addition, they need to understand the internet and the web, use search engines, understand networks and generally be efficient and independent users of a range of technologies.

There are three key aspects of online education, adopted and incorporated from the Education for a Connected World framework, focalised within the teaching of Information Technology at Masefield. These are:

- Managing online information
- Privacy and security
- Copyright and ownership

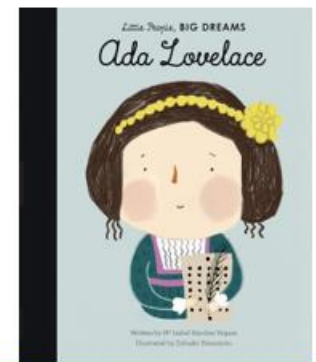
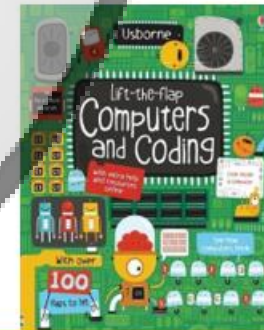
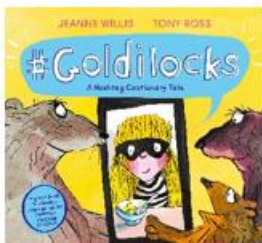
Computing Literature Spine

To support the teaching of Computing here at Masfield, we have developed a collection of books that all children in our school are to experience and enjoy. We aim to immerse our children in a range of texts, specifically chosen by our staff to ensure that children hear the best stories read aloud to them by their teachers for pleasure, to excite and inspire our children and support the development of knowledge and skills in Computing.



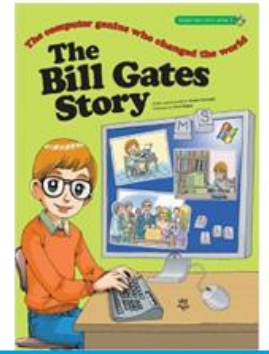
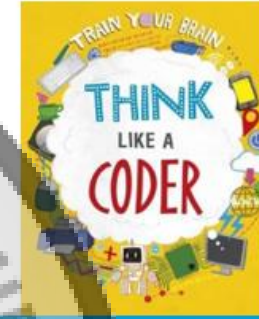
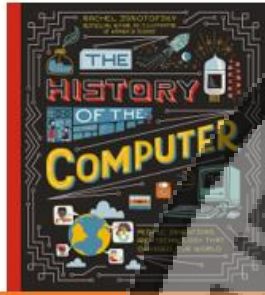
Early Years Foundation Stage

Year One



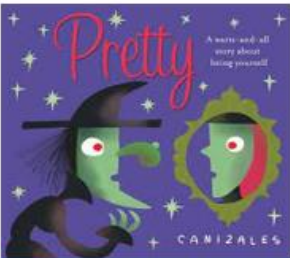
Year Two

Year Three



Year Four

Year Five



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Year Six

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Knowing More and Remembering More in Computing

At Masefield, we recognise the importance of retrieval practice in making learning more efficient. Retrieval practice allows our teachers to identify and address gaps in knowledge and check for misunderstandings, whilst simultaneously allowing children to make and strengthen connections between their knowledge and providing firmer foundations for future learning. In Computing, all teachers follow these agreed procedures to support the consolidation of prior learning and the incremental development of new learning:

The beginning of every unit

In order to assess prior knowledge, the teacher will present the children with the previous years' LbQ question set for that strand. For example, a Year 2 teacher would run the Year 1 Digital Citizenship LbQ question set before teaching the Year 2 Digital Citizenship unit.

This low stakes quiz allows children the opportunity to recall and strengthen relevant prior knowledge which then can be built upon over the upcoming lessons. This also allows teachers the opportunity to identify and address any gaps in prior knowledge or misconceptions so that they can accurately adapt their teaching to ensure that children build a strong knowledge of the required content.

The beginning of every lesson

At the beginning of every lesson, the teacher will refer back to the previous lesson within the sequence of learning. This provides children the opportunity to recall prior knowledge and make connections between this and the new learning in the current lesson.

After the completion of the Digital Citizenship unit, children will also be presented with and discuss a question which directly relates back to the learning from this unit. This is to ensure the online safety concepts that we teach are continually reviewed and embedded, best preparing our children for life in an online world.

The end of each unit

At the end of each unit, the teacher will present the children with the LbQ question set for that unit. This is a low stakes quiz which will assess the children's knowledge of the required content in each unit.

This allows children yet another opportunity to recall and strengthen their learning from this unit. It also provides teachers with a clear picture of children's understanding, which will inform their summative assessments for the unit. This allows the teacher another opportunity to address gaps in knowledge or misconceptions.

The end of each half-term

On Knowledge Day, at the end of each half-term, the teacher will present the children with the LbQ question sets for all the Computing units taught so far that year. These a low stakes quizzes will assess the children's knowledge of the required content in each unit.

This allows children multiple further opportunities to recall and strengthen their learning from previous units. It also provides teachers with a clear picture of children's understanding and how their knowledge and skills are developing incrementally. It allows them multiple further opportunities to address gaps in knowledge or misconceptions.

Digital Citizenship

Context for study:

This unit is an introduction to Digital Citizenship. For the first time, children will begin to explore their digital footprint. They will consider how they can express their feelings about a situation, online or offline, and how their actions can make other people feel. They will also consider simple rules to help keep themselves safe and healthy when using technology.

This is a precursor to the Year 1 Digital Citizenship unit where children will explore when and how to get help with issues they face online, explain the need to be considerate of other's feelings when interacting online and explain rules to keep themselves safe and happy in more detail.

Link to Masefield's Literature Spine:



Webster's Friend
Hannah Whaley

Components (Sequence of Learning):

- DC.EYFS.1 I can talk about my digital footprint.

Self-image and identity

- DC.EYFS.2 I can recognise, online or offline, that anyone can say 'no' / 'please stop' / 'I'll tell' / 'I'll ask' to somebody who makes them feel sad, uncomfortable, embarrassed or upset.

Online Relationships

- DC.EYFS.3 I can recognise some ways in which the internet can be used to communicate.
- DC.EYFS.4 I can give examples of how I (might) use technology to communicate with people I know.

Online Reputation

- DC.EYFS.5 I can identify ways that I can put information on the internet.

Online Bullying

- DC.EYFS.6 I can describe ways that some people can be unkind online.
- DC.EYFS.7 I can offer examples of how this can make others feel.

Health, wellbeing and lifestyle

- DC.EYFS.8 I can identify rules that help keep us safe and healthy in and beyond the home when using technology.
- DC.EYFS.9 I can give some simple examples of these rules.

New vocabulary for this unit:

Digital citizen, world wide web, health and wellbeing, digital footprint.

Key resources for this unit:

[Project Evolve](#) for Early Years Foundation Stage.

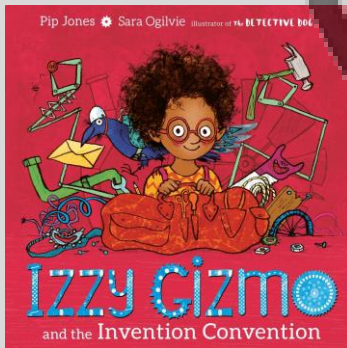
Computer Science

Context for study:

This unit is an introduction to Computer Science. For the first time, children will begin to explore algorithms. They will create simple algorithms for a BeeBot or remote control toy. They will name and explore technology in the everyday environment. They will begin to understand cause and effect by clicking using a laptop.

This is a precursor to the Year 1 Computer Science unit where children will begin to give and follow simple instructions one at a time. They will plan, create and debug algorithms when programming a BeeBot or similar remote control toy.

Link to Masefield's Literature Spine:



Izzy Gizmo and the Invention Convention
Pip Jones

Components (Sequence of Learning):

- CS.EYFS.1 I can name items we control in the everyday environment.
- CS.EYFS.2 I can use every day technology.
- CS.EYFS.3 I can explore on screen activities by clicking (cause and effect).
- CS.EYFS.4 I know that an algorithm is a set of instructions that can solve a problem.
- CS.EYFS.5 I can create a simple algorithm for a BeeBot or remote control toy.

New vocabulary for this unit: Algorithm.

Key resources for this unit:

Real life technology throughout continuous provision;
BeeBots and mats;
Remote control toys;
Unplugged activities.

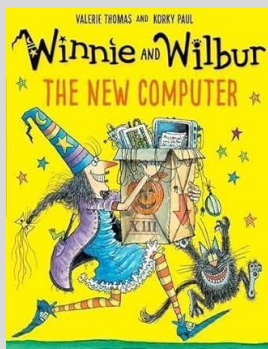
Information Technology

Context for study:

This unit is an introduction to Information Technology. For the first time, children will consider how they may access information online. They will identify simple examples of personal information and explain who they can share this with. They will also explore the concept of ownership and understand that work they create belongs to them.

This is a precursor to the Year 1 Information Technology unit where children will explore further ways to access online information (such as voice activated searching). They will learn about the use of passwords to protect their personal information and be able to explain why work they create belongs to them.

Link to Masefield's Literature Spine:



Winnie and Wilbur: The New Computer
Valerie Thomas

Components (Sequence of Learning):

Managing online information:

- IT.EYFS.1 I can talk about how to use the internet as a way of finding information online.
- IT.EYFS.2 I can identify devices I could use to access information on the internet.

Privacy and Security:

- IT.EYFS.3 I can identify some simple examples of my personal information (e.g. name, address, birthday, age, location).
- IT.EYFS.4 I can describe who would be trustworthy to share this information with; I can explain why they are trusted.

Copyright and ownership:

- IT.EYFS.5 I know that work I create belongs to me.
- IT.EYFS.6 I can name my work so that others know it belongs to me.

New vocabulary for this unit:

Internet, world wide web, personal information.

Key resources for this unit:

[Project Evolve](#) for Early Years Foundation Stage.

Digital Literacy

Context for study:

This unit is an introduction to Digital Literacy. Throughout the year, children will begin to explore software and online apps. They will identify important keys on the keyboard and use the mouse to navigate around the screen.

This is a precursor to the Year 1 Digital Literacy unit where children will begin to input text and type simple sentences using the correct format (e.g. using a capital letter, spaces and punctuation). They will explore options for formatting their work and begin to use keyboard shortcuts to change the style of text.

Digital Literacy in the Early Years Foundation Stage:

The teaching of Digital Literacy in the Early Years Foundation Stage is met through activities within continuous provision. Children have access to a range of technologies, including but not limited to:

- Laptops;
- iPads;
- Small world resources such as cameras, keyboards, telephones and audio recording devices.

Components (Sequence of Learning):

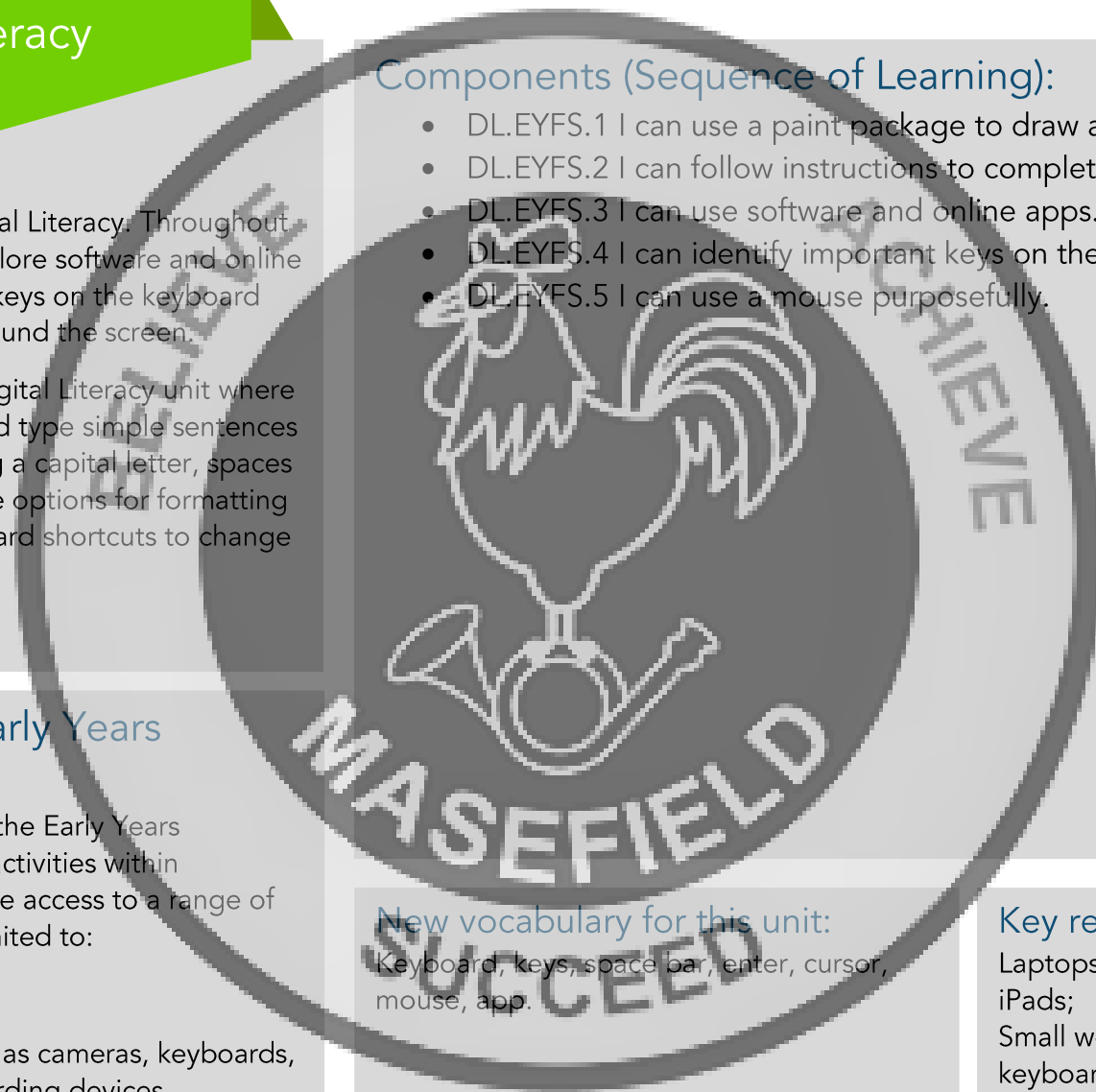
- DL.EYFS.1 I can use a paint package to draw a picture.
- DL.EYFS.2 I can follow instructions to complete online activities.
- DL.EYFS.3 I can use software and online apps.
- DL.EYFS.4 I can identify important keys on the keyboard.
- DL.EYFS.5 I can use a mouse purposefully.

New vocabulary for this unit:

Keyboard, keys, space bar, enter, cursor, mouse, app.

Key resources for this unit:

Laptops;
iPads;
Small world resources such as cameras, keyboards, telephones and audio recording devices.



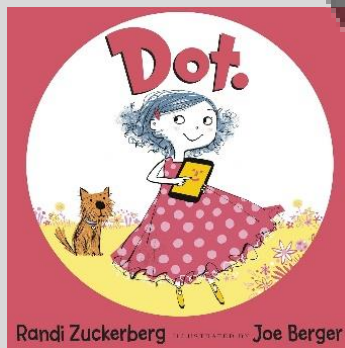
Digital Citizenship

Context for study:

In Reception, children began to explore their digital footprint for the first time. They considered how they can express their feelings about a situation, online or offline, and how their actions can make other people feel. They have considered simple rules to help keep themselves safe and healthy when using technology.

This unit is a precursor to the Year 2 Digital Citizenship unit where children will explain why they should ask the advice of a trusted adult when using technology, explain how information they put online can stay online for a long time and explore how online bullying looks and the impact this can have.

Link to Masefield's Literature Spine:



Dot
Randi Zuckerberg

Components (Sequence of Learning):

- DC1.1 I can talk about my digital footprint.

Self-image and identity

- DC1.2 I can recognise that there may be people online who could make me feel sad, embarrassed or upset.
- DC1.3 If something happens that makes me feel sad, worried, uncomfortable or frightened I can give examples of when and how to speak to an adult I can trust.

Online relationships

- DC1.4 I can give examples of when I should ask permission to do something online and explain why this is important.
- DC1.5 I can explain why it is important to be considerate and kind to people online and to respect their choices.

Online reputation

- DC1.6 I recognise that information can stay online and could be copied.

Online bullying

- DC1.7 I can describe how to behave online in ways that do not upset others and can give examples.

Health, wellbeing and lifestyle

- DC1.8 I can explain rules to keep us safe when we are using technology both in and beyond the home.

Previously taught vocabulary for this unit:

Digital citizen, world wide web, health and wellbeing, digital footprint.

New vocabulary for this unit:

Online bullying.

Key resources for this unit:

[Project Evolve](#) for Year One.

Digital Literacy

Context for study:

In Reception, children will have had the opportunity to explore some software packages and simple paint programs such as PurpleMash 2Paint. They should now be able to identify simple keys on the keyboard and use the mouse/mousepad to move the cursor around the screen.

This unit is a precursor to the Year 2 Digital Literacy unit where pupils will explore further options to format their documents and begin to apply their skills to other software packages.

Cross curricular links in Digital Literacy:

Of all four curriculum strands, Digital Literacy is where cross curricular links are most likely to be seen. Although Computing is taught as a discrete subject, naturally, links are made to other areas of the curriculum but this does not dilute the quality and entitlement of high quality Computing instruction.

In Year 1, this may involve typing up a piece of written work completed in another subject. This is beneficial for children in reducing cognitive overload as it shifts the focus from thinking about what to type to practising the typing skills taught in this unit of work.

Components (Sequence of Learning):

- DL1.1 I can input text and images using a simple publishing program.
- DL1.2 I can type a simple sentence on the screen, making use of a word bank.
- DL1.3 I can format my typing in a number of ways (size, colour, font).
- DL1.4 I know the main keys for typing e.g. shift, space bar, full stop.
- DL1.5 I can type simple sentences using the correct format (Capital letters, space and full stop).
- DL1.6 I know how to make text bold, use italics and text alignment.
- DL1.7 I can use simple keyboard shortcuts (Ctrl + B, I, U to edit my text style).
- DL1.8 I can move to different places in the text using the arrow keys or mouse.
- DL1.9 I can use the 'undo' icon to fix a mistake.

Previously taught vocabulary for this unit:

Keyboard, keys, space bar, enter, cursor, mouse, app.

New vocabulary for this unit:

Digital literacy, caps lock, shift, document, insert.

Key resources for this unit:

Microsoft Word;
PurpleMash 2Publish.

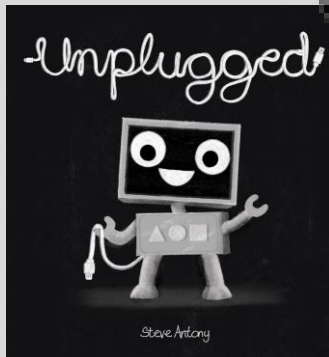
Computer Science (Consolidation)

Context for study:

This unit provides children the opportunity to revisit and consolidate Computer Science learning from the previous academic year. They will recall their understanding of algorithms. They will create simple algorithms for a BeeBot or remote control toy. They will name and explore technology in the everyday environment. They will begin to understand cause and effect by clicking using a laptop.

This is a precursor to the following Year 1 Computer Science unit where children will begin to give and follow simple instructions one at a time. They will plan, create and debug algorithms when programming a BeeBot or similar remote control toy.

Link to Masefield's Literature Spine:



Unplugged
Steve Antony

Components (Sequence of Learning):

- CS.EYFS.1 I can name items we control in the everyday environment.
- CS.EYFS.2 I can use every day technology.
- CS.EYFS.3 I can explore on screen activities – by clicking (cause and effect).
- CS.EYFS.4 I know that an algorithm is a set of instructions that can solve a problem.
- CS.EYFS.5 I can create a simple algorithm for a BeeBot/Blue-Bot or remote control toy.

Previously taught vocabulary
for this unit:
Algorithm.

Key resources for this unit:
Real life technology throughout
continuous provision;
BeeBots and mats;
Remote control toys;
Unplugged activities.

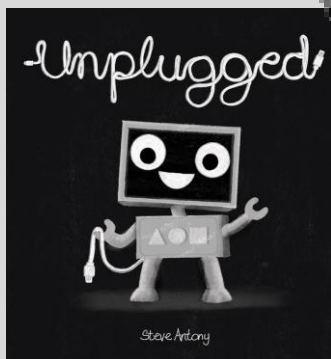
Computer Science (New learning)

Context for study:

Previously, children began to explore algorithms. They have created simple algorithms for a BeeBot or remote control toy. They will be able to name and explore technology in the everyday environment. They will have begun to understand cause and effect by clicking using a laptop.

This is a precursor to the Year 2 Computer Science unit where children will explore the difference between an algorithm and a program, understand that programs require an event to run, create programs that contains several commands for a device or software programme and independently debug a program.

Link to Masefield's Literature Spine:



Unplugged
Steve Antony

Focus Element

The focus element in Computer Science for this unit is algorithms.

Components (Sequence of Learning):

- CS1.1 I can tell you what an algorithm is.
- CS1.2 I can plan a simple algorithm.
- CS1.3 I can give and follow commands, which include straight / turning commands – one at a time.
- CS1.4 I can debug a simple algorithm that is causing an unexpected outcome.
- CS1.5 I can break an algorithm down into smaller parts (decomposing/ chunking).
- CS1.6 I can predict if a simple algorithm will work.

Previously taught vocabulary for this unit:

Algorithm.

New vocabulary for this unit:

Debugging, computer science, computational thinking.

Key resources for this unit:

BeeBots and mats;
Remote control toys;
Unplugged activities.

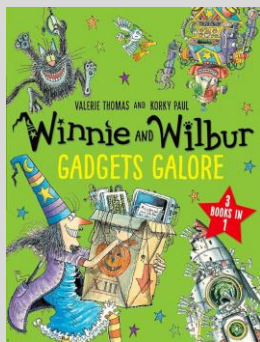
Information Technology

Context for study:

Previously, children have considered how they may access information online. They have identified simple examples of personal information and explained who they can share this with. They will have explored the concept of ownership and understand that work they create belongs to them.

This is a precursor to the Year 2 Information Technology unit where children will explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real' and explain how passwords can be used to protect information, accounts and devices.

Link to Masefield's Literature Spine:



Winnie and Wilbur: Gadgets Galore
Valerie Thomas

Focus Element

The focus element in Information Technology for this unit is using the internet.

Computing Pioneer

The Computing Pioneers that pupils will study are Jack Kilby and Robert Noyce.

Components (Sequence of Learning):

Managing online information:

- IT1.1 I can give simple examples of how to find information (e.g. search engine, browsers, voice activated searching).
- IT1.2 I know how to get help from a trusted adult if we see content that makes us feel sad, uncomfortable worried or frightened.

Privacy and security:

- IT1.3 I can explain how passwords can be used to protect information and devices.
- IT1.4 I can recognise more detailed examples of information that is personal to someone (e.g. where I live, my family's names, where I go to school).
- IT1.5 I can explain why it is important to always ask a trusted adult before sharing any personal information online, belonging to myself or others.

Copyright and ownership:

- IT1.6 I can explain why work I create using technology belongs to me (e.g. 'it is my idea' or 'I designed it').
- IT1.7 I can save my work under a suitable name so that others know it belongs to me (e.g. filename, name on content).

Previously taught vocabulary for this unit:

Internet, world wide web, personal information.

New vocabulary for this unit:

Information technology, ownership.

Key resources for this unit:

[Project Evolve](#) for Year One.

Digital Literacy (Consolidation Project)

Context for study:

This unit provides opportunity for children to revise and consolidate their previous learning in Digital Literacy.

This unit is a precursor to the Year 2 Digital Literacy unit where pupils will explore further options to format their documents and begin to apply their skills to other software packages.

Consolidation Project:

The consolidation project allows children the opportunity to revise and build upon their previous learning in Digital Literacy in Autumn 2 and previous academic years. This will take a cross curricular approach and allows children to showcase their learning from other subjects, whilst providing further active practice of their skills in Digital Literacy.

Components (Sequence of Learning):

- DL1.1 I can input text and images using a simple publishing program.
- DL1.2 I can type a simple sentence on the screen, making use of a word bank.
- DL1.3 I can format my typing in a number of ways (size, colour, font).
- DL1.4 I know the main keys for typing e.g. shift, space bar, full stop.
- DL1.5 I can type simple sentences using the correct format (Capital letters, space and full stop).
- DL1.6 I know how to make text bold, use italics and text alignment.
- DL1.7 I can use simple keyboard shortcuts (Ctrl + B, I, U to edit my text style).
- DL1.8 I can move to different places in the text using the arrow keys or mouse.
- DL1.9 I can use the 'undo' icon to fix a mistake.

Previously taught vocabulary for this unit:

Keyboard, keys, space bar, enter, cursor, mouse, app, digital literacy, caps lock, shift, document, insert.

Key resources for this unit:

Microsoft Word;
PurpleMash 2Publish.

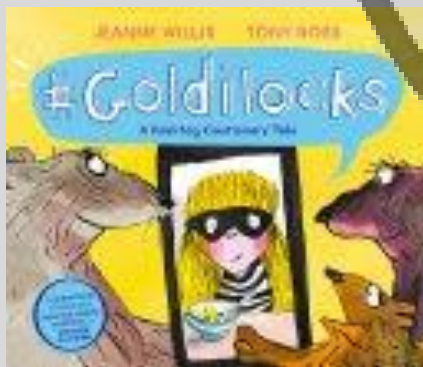
Digital Citizenship

Context for study:

Previously, children have explored when and how to get help with issues they face online, explained the need to be considerate of other's feelings when interacting online and explained rules to keep themselves safe and happy online.

This unit is a precursor to the Year 3 Digital Citizenship unit where children will explain what is meant by 'trusting someone online', why this is different from 'liking someone online', and why it is important to be careful about who to trust online including what information and content they are trusted with. They will explain the need to be careful before sharing anything personal.

Link to Masefield's Literature Spine:



#Goldilocks
Jeanne Willis

Components (Sequence of Learning):

- DC2.1 I can talk about my digital footprint.

Self-image and identity

- DC2.2 I can explain how other people may look and act differently online and offline.
- DC2.3 I can give examples of issues online that might make me feel sad, worried, uncomfortable or frightened; I can give examples of how I might get help.

Online relationships

- DL2.4 I can give examples of how someone might use technology to communicate with others they don't also know offline and explain why this might be risky. (e.g. email, online gaming, a pen-pal in another school / country).
- DL2.5 I can explain why I have a right to say 'no' or 'I will have to ask someone'.
- DL2.6 I can explain why I should always ask a trusted adult before clicking 'yes', 'agree' or 'accept' online.

Online reputation

- DL2.7 I can explain how information put online about me can last for a long time.

Online bullying

- DL2.8 I can explain what bullying is, how people may bully others and how bullying can make someone feel.
- DL2.9 I can give examples of bullying behaviour and how it could look online.

Health, wellbeing and lifestyle

- DL2.10 I can explain simple guidance for using technology in different environments and settings, e.g. accessing online technologies in public places and the home environment.

Previously taught vocabulary for this unit:

Digital citizen, world wide web, health and wellbeing, digital footprint, online bullying.

New vocabulary for this unit:

Online reputation.

Key resources for this unit:

[Project Evolve](#) for Year Two.

Digital Literacy

Context for study:

Previously, children will have begun to input text and type simple sentences using the correct format (e.g. using a capital letter, spaces and punctuation). They will have explored options for formatting their work and begin to use keyboard shortcuts to change the style of text.

This is a precursor to the Year 3 Digital Literacy unit where children will type an increased number of sentences into a document, use the format tab to format their work and use keyboard shortcuts to re-order text across various platforms.

Cross curricular links in Digital Literacy:

Of all four curriculum strands, Digital Literacy is where cross curricular links are most likely to be seen. Although Computing is taught as a discrete subject, naturally, links are made to other areas of the curriculum but this does not dilute the quality and entitlement of high quality Computing instruction.

In Year 2, this may involve creating a presentation on content covered in other topics. This is beneficial for children in reducing cognitive overload as it shifts the focus from thinking about what to type to practising the typing skills taught in this unit of work.

Components (Sequence of Learning):

- DL2.1 I can use spell checker to check my work.
- DL2.2 I can use the return/enter key to insert relevant line breaks.
- DL2.3 I can save an image from the internet rather than using copy and paste.
- DL2.4 I can add a page border.
- DL2.5 I can insert a basic table.
- DL2.6 I can select the page orientation that would best suit my work. e.g. portrait to landscape.
- DL2.7 I can transfer these skills into PowerPoint.

Previously taught vocabulary for this unit:

Keyboard, keys, space bar, enter, cursor, mouse, app, digital literacy, caps lock, shift, document, insert.

New vocabulary for this unit:

exclamation mark, question mark, table, row, column, border.

Key resources for this unit:

Microsoft Word;
Microsoft PowerPoint;
PurpleMash 2Publish;
PurpleMash Unit 2.8.

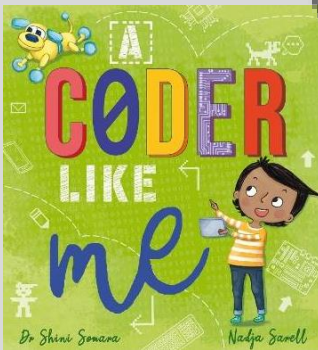
Computer Science (Consolidation)

Context for study:

This unit provides children the opportunity to revisit and consolidate Computer Science learning from the previous academic year. Children will begin to give and follow simple instructions one at a time. They will plan, create and debug algorithms when programming a BeeBot or similar remote control toy.

This is a precursor to the Year 2 Computer Science unit where children will differentiate between algorithms and programs, as well as make use of events to start their program running.

Link to Masefield's Literature Spine:



A Coder Like Me
Dr Shini Somara

Focus Element

The focus element in Computer Science for this unit is algorithms.

Components (Sequence of Learning):

- CS1.1 I can tell you what an algorithm is.
- CS1.2 I can plan a simple algorithm.
- CS1.3 I can give and follow commands, which include straight / turning commands – one at a time.
- CS1.4 I can debug a simple algorithm that is causing an unexpected outcome.
- CS1.5 I can break an algorithm down into smaller parts (decomposing/ chunking).
- CS1.6 I can predict if a simple algorithm will work.

Previously taught vocabulary for this unit:

Algorithm, debugging, computer science, computational thinking.

Key resources for this unit:

BeeBots and mats;
Remote control toys;
Unplugged activities.

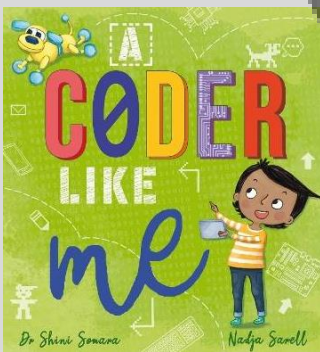
Computer Science (New learning)

Context for study:

Previously, children will have begun to give and follow simple instructions one at a time. They will have planned, created and debugged algorithms when programming a BeeBot or similar remote control toy.

This is a precursor to the Year 3 Computer Science unit where children will begin to explore how sequencing will impact the running of a program.

Link to Masefield's Literature Spine:



A Coder Like Me
Dr Shini Somara

Focus Element

The focus elements in Computer Science for this unit are programs and events.

Components (Sequence of Learning):

- CS2.1 I can tell you what a program is.
- CS2.2 I can tell you what an event is.
- CS2.3 I know programs need an event to begin.
- CS2.4 I can give and follow instructions, which include direction and turning command – several in order.
- CS2.5 I know that computers need precise instructions.
- CS2.6 I can plan use logical reasoning to predict outcomes.
- CS2.7 I can create a program that contains several commands for a device or software programme.
- CS2.8 I can debug a program independently that has caused an unexpected outcome.
- CS2.9 I can use different events to start my programs – timing / on click / on button press.

Previously taught vocabulary for this unit:

Algorithm, debugging, computer science, computational thinking.

New vocabulary for this unit:

Program, event.

Key Resources for this unit:

BeeBots and mats;
Remote control toys;
ScratchJr;
Unplugged activities.

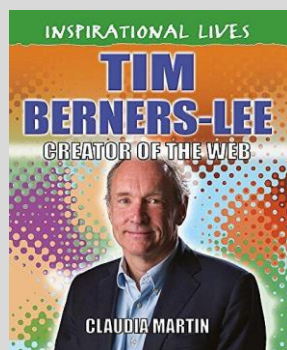
Information Technology

Context for study:

Previously, children will have explored further ways to access online information (such as voice activated searching). They will have learnt about the use of passwords to protect their personal information and should be able to explain why work they create belongs to them.

This is a precursor to the Year 3 Information Technology unit where children will begin to describe simple strategies for creating and keeping passwords private, and explain why copying someone else's work from the internet without permission isn't fair.

Link to Masefield's Literature Spine:



Inspirational Lives: Tim Berners-Lee
Claudia Martin

Focus Element

The focus element in Information Technology for this unit is effective searching.

Computing Pioneer

The Computing Pioneer that pupils will study is Tim Berners-Lee.

Components (Sequence of Learning):

Managing online information

- IT2.1 I can use simple keywords in search engines.
- IT2.2 I can demonstrate how to navigate a simple webpage to get to information I need (e.g. home, forward, back buttons; links, tabs and sections).
- IT2.3 I can explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real'.

Privacy and security

- IT2.4 I can explain how passwords can be used to protect information, accounts and devices.
- IT2.5 I can explain and give examples of what is meant by 'private' and 'keeping things private'.
- IT2.6 I can explain how some people may have devices in their homes connected to the internet and give examples (e.g. lights, fridges, toys, televisions).

Copyright and ownership

- IT2.7 I can recognise that content on the internet may belong to other people.

Previously taught vocabulary for this unit:

Personal information, internet, world wide web, information technology, ownership.

New vocabulary for this unit:

Communication, privacy.

Key resources for this unit:
[Project Evolve](#) for Year Two.

Digital Literacy (Consolidation Project)

Context for study:

This unit provides opportunity for children to revise and consolidate their previous learning in Digital Literacy.

This unit is a precursor to the Year 3 Digital Literacy unit where pupils will explore a range of formatting options and shortcuts across Microsoft Word and Microsoft PowerPoint, they will use a variety of table tools in both packages and they will create folders to organise saved work.

Consolidation Project:

The consolidation project allows children the opportunity to revise and build upon their previous learning in Digital Literacy in Autumn 2 and previous academic years. This will take a cross curricular approach and allows children to showcase their learning from other subjects, whilst providing further active practice of their skills in Digital Literacy.

Components (Sequence of Learning):

- DL2.1 I can use spell checker to check my work.
- DL2.2 I can use the return/enter key to insert relevant line breaks.
- DL2.3 I can save an image from the internet rather than using copy and paste.
- DL2.4 I can add a page border.
- DL2.5 I can insert a basic table.
- DL2.6 I can select the page orientation that would best suit my work. e.g. portrait to landscape.
- DL2.7 I can transfer these skills into PowerPoint.

Previously taught vocabulary for this unit:

Keyboard, keys, space bar, enter, cursor, mouse, app, digital literacy, caps lock, shift, document, insert, exclamation mark, question mark, table, row, column, border.

Key resources for this unit:

Microsoft Word;
Microsoft PowerPoint;
PurpleMash 2Type.

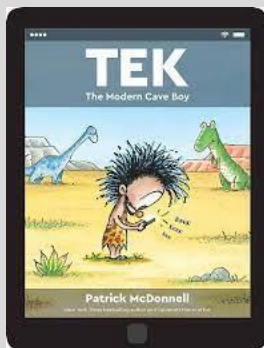
Digital Citizenship

Context for study:

Previously, children will have explained why they should ask the advice of a trusted adult when using technology, explained how information they put online can stay online for a long time and explored how online bullying looks and the impact this can have.

This unit is a precursor to the Year 4 Digital Citizenship unit where children will explain that others online can pretend to be someone else, including their friends, and can suggest reasons why they might do this. They will explain how content shared online may feel unimportant to one person but may be important to others thoughts and beliefs.

Link to Masefield's Literature Spine:



Tek: The Modern Cave Boy
Patrick McDonnell

Components (Sequence of Learning):

- DC4.1 I can talk about my digital footprint
- Self-image and identity
- DC4.2 I can explain how my online identity can be different to my offline identity
 - DC4.3 I can explain that others online can pretend to be someone else, including my friends, and can suggest reasons why they might do this
- Online relationships
- DC4.4 I can give examples of how to be respectful to others online and describe how to recognise healthy and unhealthy online behaviours
 - DC4.5 I can explain how content shared online may feel unimportant to one person but may be important to other people's thoughts feelings and beliefs
- Online reputation
- DC4.6 I can describe how to find out information about others by searching online
- Online bullying
- DC4.7 I can describe ways people can be bullied through a range of media (e.g. image, video, text, chat)
 - DC4.8 I can explain why people need to think carefully about how content they post might affect others, their feelings and how it may affect how others feel about them (their reputation)
- Health, wellbeing and lifestyle
- DC4.9 I can explain how using technology can be a distraction from other things, in both a positive and negative way

Previously taught vocabulary for this unit:

Digital citizen, world wide web, health and wellbeing, digital footprint, identity, online bullying, online reputation.

New vocabulary for this unit:

Self-image.

Key resources for this unit:

[Project Evolve](#) for Year Three.

Digital Literacy

Context for study:

Previously, children will have explored further options to format their documents and have begun to apply their skills to numerous software packages, including Word and PowerPoint.

This unit is a precursor to the Year 4 Digital Literacy unit where children will transfer their word processing skills into a range of software packages. Children will begin to explore Excel, entering basic mathematical formula as well as using Excel to create a graph and deciding on the most appropriate form of graph for a data set.

Cross curricular links in Digital Literacy:

Of all four curriculum strands, Digital Literacy is where cross curricular links are most likely to be seen. Although Computing is taught as a discrete subject, naturally, links are made to other areas of the curriculum but this does not dilute the quality and entitlement of high quality Computing instruction.

In Year 3, this may involve creating a presentation on content covered in other topics. This is beneficial for children in reducing cognitive overload as it shifts the focus from thinking about what to type to practising the typing skills taught in this unit of work.

Components (Sequence of Learning):

- DL3.1 I can type a number of sentences using the keyboard
- DL3.2 I can use tab to indent paragraphs
- DL3.3 I can use cut, copy and paste to re-order text
- DL3.4 I can use keyboard shortcuts e.g. Ctrl + V, X, C to re-order text.
- DL3.5 I can use bullet points, speech bubbles, auto shapes and text boxes
- DL3.6 I can format wrapping/layout of text boxes and images in word
- DL3.7 I can format images - move, rotate and re-size shapes
- DL3.8 I can use the format tab to alter word art to enhance my work
- DL3.9 I can use a variety of table tools (merge cells, fill, columns etc.)
- DL3.10 I can explain the difference between save and save as
- DL3.11 I can create a folder to save my work in
- DL3.12 I can give a file a name to identify it
- DL3.13 I can transfer these skills into PowerPoint

Previously taught vocabulary for this unit:

Keyboard, keys, space bar, enter, cursor, mouse, app, digital literacy, caps lock, shift, document, insert, exclamation mark, question mark, table, row, column, border.

New vocabulary for this unit:

Layout, audience, background, shortcut, formatting.

Key Resources for this unit:

Purple Mash Unit 3.9.

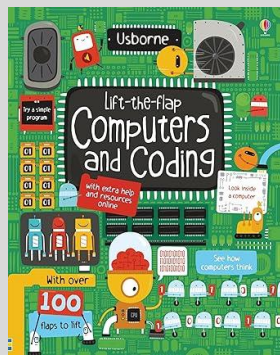
Computer Science (Consolidation)

Context for study:

This unit provides children the opportunity to revisit and consolidate Computer Science learning from the previous academic year. Children will explore the difference between an algorithm and a program, understand that programs require an event to run, create programs that contains several commands for a device or software programme and independently debug a program.

This is a precursor to the Year 3 Computer Science unit where children will begin to explore how sequencing will impact the running of a program.

Link to Masefield's Literature Spine:



Computers and Coding
Rosie Dickins

Focus Element

The focus elements in Computer Science for this unit are programs and events.

Components (Sequence of Learning):

- CS2.1 I can tell you what a program is.
- CS2.2 I can tell you what an event is.
- CS2.3 I know programs need an event to begin.
- CS2.4 I can give and follow instructions, which include direction and turning command – several in order.
- CS2.5 I know that computers need precise instructions.
- CS2.6 I can plan use logical reasoning to predict outcomes.
- CS2.7 I can create a program that contains several commands for a device or software programme.
- CS2.8 I can debug a program independently that has caused an unexpected outcome.
- CS2.9 I can use different events to start my programs – timing / on click / on button press.

Previously taught vocabulary for this unit:

Algorithm, debugging, computer science, computational thinking, decompose, program, event blocks.

Key Resources for this unit:

BeeBots and mats;
Remote control toys;
ScratchJr;
Unplugged activities.

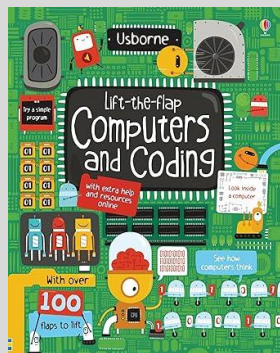
Computer Science (New learning)

Context for study:

Previously, children will have explored the difference between an algorithm and a program, understood that programs require an event to run, created programs that contain several commands for a device or software programme and independently debug a program.

This is a precursor to the Year 4 Computer Science Unit where children will begin to explore repeats and loops in a program, understanding what a repeat is used for, using these independently and explaining why it is important to use the repeat function in a particular place in their sequence.

Link to Masefield's Literature Spine:



Computers and Coding
Rosie Dickins

Focus Element

The focus elements in Computer Science for this unit is sequencing.

Components (Sequence of Learning):

- CS3.1 I know that a sequence is a list of instructions in a particular order
- CS3.2 I know that if I change the sequence I may change the outcome of the program
- CS3.3 I can solve problems by decomposing them into smaller parts
- CS3.4 I can detect and debug errors in my sequence
- CS3.5 I can use and edit a pre-written program to achieve a specific outcome
- CS3.6 I can use logical reasoning to explain what will happen next
- CS3.7 I can predict how a change in a sequence may impact on the outcome of a program

Previously taught vocabulary for this unit:

Algorithm, debugging, computer science, computational thinking, decompose, program, event blocks.

New vocabulary for this unit:

Sequence, input, output.

Key Resources for this unit:

CSFirst.

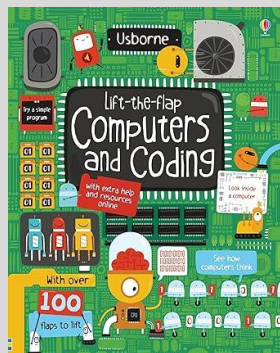
Information Technology

Context for study:

Previously, children will have explained the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real' and explained how passwords can be used to protect information, accounts and devices.

This unit is a precursor to the Year 4 Information Technology unit where children will analyse information to make a judgement about probable accuracy, describe how to search for information within a wide group of technologies and begin to discuss the digital age of consent and the impact this has on online services.

Link to Masfield's Literature Spine:



Little People Big Dreams: Ada Lovelace
Maria Isabel Sanchez Vegara

Focus Element

The focus element in Information Technology for this unit is online communications.

Computing Pioneer

The Computing Pioneer that pupils will study is Ada Lovelace and Charles Babbage.

Components (Sequence of Learning):

Managing online information

- IT3.1 I can demonstrate how to use key phrases in search engines to gather accurate information online.
- IT3.2 I can explain the difference between a 'belief', an 'opinion' and a 'fact' and can give examples of how and where they might be shared online, e.g. in videos, memes, posts, news stories

Privacy and security

- IT3.3 I can describe simple strategies for creating and keeping passwords private
- IT3.4 I can give reasons why someone should only share information with people they choose to and can trust
- IT3.5 I can explain that if they are not sure or feel pressured then they should tell a trusted adult.

Copyright and ownership

- IT3.6 I can explain why copying someone else's work from the internet without permission isn't fair and can explain what problems this might cause.

Previously taught vocabulary for this unit:

Personal information, internet, world wide web, information technology, ownership, communication, privacy.

New vocabulary for this unit:

Copyright, security, collaboration.

Key Resources for this unit:

[Project Evolve](#) for Year Three.

Digital Literacy (Consolidation Project)

Context for study:

This unit provides opportunity for children to revise and consolidate their previous learning in Digital Literacy.

This unit is a precursor to the Year 4 Digital Literacy unit where children will transfer their word processing skills into a range of software packages. Children will begin to explore Excel, entering basic mathematical formula as well as using Excel to create a graph and deciding on the most appropriate form of graph for a data set.

Consolidation Project:

The consolidation project allows children the opportunity to revise and build upon their previous learning in Digital Literacy in Autumn 2 and previous academic years. This will take a cross curricular approach and allows children to showcase their learning from other subjects, whilst providing further active practice of their skills in Digital Literacy.

Components (Sequence of Learning):

- DL3.1 I can type a number of sentences using the keyboard
- DL3.2 I can use tab to indent paragraphs
- DL3.3 I can use cut, copy and paste to re-order text
- DL3.4 I can use keyboard shortcuts e.g. Ctrl + V, X, C to re-order text.
- DL3.5 I can use bullet points, speech bubbles, auto shapes and text boxes
- DL3.6 I can format wrapping/layout of text boxes and images in word
- DL3.7 I can format images - move, rotate and re-size shapes
- DL3.8 I can use the format tab to alter word art to enhance my work
- DL3.9 I can use a variety of table tools (merge cells, fill, columns etc.)
- DL3.10 I can explain the difference between save and save as
- DL3.11 I can create a folder to save my work in
- DL3.12 I can give a file a name to identify it
- DL3.13 I can transfer these skills into PowerPoint

Previously taught vocabulary for this unit:

Keyboard, keys, space bar, enter, cursor, mouse, app, digital literacy, caps lock, shift, document, insert, exclamation mark, question mark, table, row, column, border, layout, audience, background, shortcut, formatting.

Key Resources for this unit:

PurpleMash Unit 3.9.

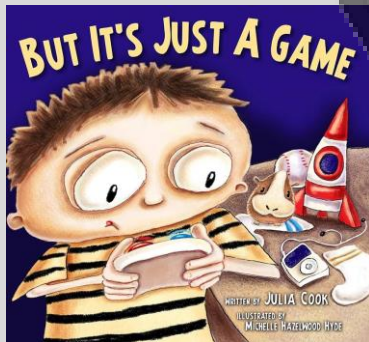
Digital Citizenship

Context for study:

Previously, children will have explained what is meant by 'trusting someone online', why this is different from 'liking someone online', and why it is important to be careful about who to trust online including what information and content they are trusted with. They will have explained the need to be careful before sharing anything personal.

This is a precursor to the Year 5 Digital Citizenship unit where children will demonstrate responsible choices about their online identity, describe ways that information about anyone online can be used by others to make judgments about an individual and why these may be incorrect, and describe ways technology can affect health and wellbeing both positively and negatively.

Link to Masefield's Literature Spine:



But It's Just A Game
Julia Cook

Components (Sequence of Learning):

- DC4.1 I can talk about my digital footprint
- Self-image and identity
- DC4.2 I can explain how my online identity can be different to my offline identity
 - DC4.3 I can explain that others online can pretend to be someone else, including my friends, and can suggest reasons why they might do this
- Online relationships
- DC4.4 I can give examples of how to be respectful to others online and describe how to recognise healthy and unhealthy online behaviours
 - DC4.5 I can explain how content shared online may feel unimportant to one person but may be important to other people's thoughts feelings and beliefs
- Online reputation
- DC4.6 I can describe how to find out information about others by searching online
- Online bullying
- DC4.7 I can describe ways people can be bullied through a range of media (e.g. image, video, text, chat)
 - DC4.8 I can explain why people need to think carefully about how content they post might affect others, their feelings and how it may affect how others feel about them (their reputation)
- Health, wellbeing and lifestyle
- DC4.9 I can explain how using technology can be a distraction from other things, in both a positive and negative way

Previously taught vocabulary for this unit:

Digital citizen, world wide web, health and wellbeing, digital footprint, identity, online bullying, online reputation, self-image.

Key Resources for this unit:

[Project Evolve](#) for Year Four.

Digital Literacy

Context for study:

Previously, children will have had opportunity to type an increased number of sentences into a document, use the format tab to format their work and use keyboard shortcuts to re-order text across various platforms.

This unit is a precursor to the Year 5 Digital Literacy unit where children will begin to explore the use of databases and how to create them. Pupils will explore how to search for and sort information in databases.

Cross curricular links in Digital Literacy:

Of all four curriculum strands, Digital Literacy is where cross curricular links are most likely to be seen. Although Computing is taught as a discrete subject, naturally, links are made to other areas of the curriculum but this does not dilute the quality and entitlement of high quality Computing instruction.

In Year 4, this may involve creating a PowerPoint related to their learning in the foundation subjects or an Excel spreadsheet related to their maths learning. This is beneficial for children in reducing cognitive overload as it shifts the focus from thinking about what to type to practising the typing skills taught in this unit of work.

Components (Sequence of Learning):

- DL4.1 I can transfer my word processing skills into other multimedia packages e.g. PowerPoint
- DL4.2 I can include imported images, hyperlinks and the use of sounds recorded
- DL4.3 I can enter a basic mathematical formula into Excel
- DL4.4 I can add basic mathematical formulas
- DL4.5 I can use SUM to calculate the total of a set of numbers in a range of cells
- DL4.6 I can change the look of a spreadsheet by using different formats e.g. text styles, colour, number format inc, currency and date, row and column heights
- DL4.7 I can insert and delete columns and rows in a spreadsheet
- DL4.8 I can use spreadsheets to create a graph
- DL4.9 I can decide on the most appropriate form of graph for a data set and give reasons for my choice
- DL4.10 I can interpret graphs of data collected from sensors.

Previously taught vocabulary for this unit:

Keyboard, keys, space bar, enter, cursor, mouse, app, digital literacy, caps lock, shift, document, insert, exclamation mark, question mark, table, row, column, border.

New vocabulary for this unit:

Layout, audience, background, shortcut, formatting, Spreadsheet, formula, SUM, AutoSum, sort, filter.

Key Resources for this unit:

PurpleMash Unit 4.3;
Microsoft PowerPoint;
Microsoft Excel.

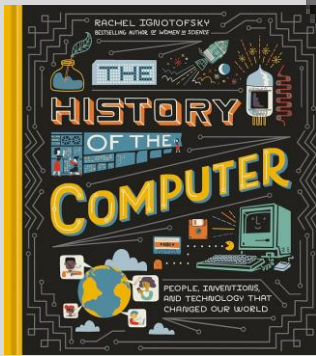
Computer Science (Consolidation)

Context for study:

This unit provides children the opportunity to revisit and consolidate Computer Science learning from the previous academic year. Children will explore how sequencing will impact the running of a program.

This is a precursor to the Year 4 Computer Science Unit where children will begin to explore repeats and loops in a program, understanding what a repeat is used for, using these independently and explaining why it is important to use the repeat function in a particular place in their sequence.

Link to Masefield's Literature Spine:



The History of the Computer
Rachel Ignatofsky

Focus Element

The focus elements in Computer Science for this unit is sequencing.

Components (Sequence of Learning):

- CS3.1 I know that a sequence is a list of instructions in a particular order
- CS3.2 I know that if I change the sequence I may change the outcome of the program
- CS3.3 I can solve problems by decomposing them into smaller parts
- CS3.4 I can detect and debug errors in my sequence
- CS3.5 I can use and edit a pre-written program to achieve a specific outcome
- CS3.6 I can use logical reasoning to explain what will happen next
- CS3.7 I can predict how a change in a sequence may impact on the outcome of a program

Previously taught vocabulary for this unit:

Algorithm, debugging, computer science, computational thinking, decompose, program, event blocks, sequence, input, output.

Key Resources for this unit:

CSFirst.

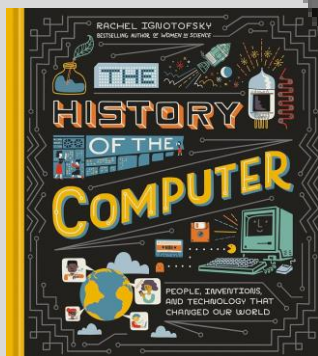
Computer Science (New Learning)

Context for study:

Previously, children will have explored how sequencing will impact the running of a program. They will be able to explain how a change in a sequence will impact the outcome of a program.

This a precursor to the Year 5 Computer Science Unit where children will explore conditionals/selection and plan and write a program using the commands sequence, repetition and selection or condition ('if...then'). This will enable pupils to create a game where the user must make a choice.

Link to Masefield's Literature Spine:



The History of the Computer
Rachel Ignotofsky

Focus Element

- The focus elements in Computer Science for this unit is repeats and loops.

Components (Sequence of Learning):

- CS4.1 I know what a repeat is
- CS4.2 I know that a repeat is used to repeat a set of instructions
- CS4.3 I can use repeats in programs confidently
- CS4.4 I can independently select repeat and sequence code to make my own program
- CS4.5 I can detect and debug errors in algorithms and programs.
- CS4.6 I can transfer my coding skills between software
- CS4.7 I can explain why it is important to use the repeat function in a particular place in my sequence

Previously taught vocabulary for this unit:
Algorithm, debugging, computer science, computational thinking, decompose, program, event blocks, sequence, input, output.

New vocabulary for this unit:
Repeat, loops, abstraction.

Key Resources for this unit:

CSFirst.

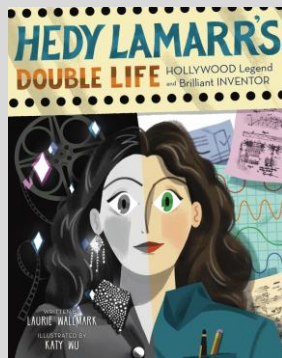
Information Technology

Context for study:

Previously, children will have begun to describe simple strategies for creating and keeping passwords private, and begun to explain why copying someone else's work from the internet without permission isn't fair.

This is a precursor to the Year 5 Information Technology Unit where children explain what is meant by being sceptical and give examples of when and why it is important to be sceptical. They will be able to explain what a strong password is and demonstrate how to create one and explain what app permissions are, giving some examples of these.

Link to Masefield's Literature Spine:



Hedy Lamarr's Double Life
Laurie Wallwork

Focus Element

- The focus element in Information Technology for this unit is online communications.

Computing Pioneer

- The Computing Pioneer that pupils will study is Hedy Lamarr.

Components (Sequence of Learning):

Managing online information

- IT4.1 I can analyse information to make a judgement about probable accuracy and I understand why it is important to make my own decisions regarding content and that my decisions are respected by others
- IT4.2 I can describe how to search for information within a wide group of technologies and make a judgement about the probable accuracy (e.g. social media, image sites, video sites)
- IT4.3 I can explain what is meant by fake news e.g. why some people will create stories or alter photographs and put them online to pretend something is true when it isn't

Privacy and security

- IT4.4 I can describe strategies for keeping personal information private, depending on context
- IT4.5 I know what the digital age of consent is and the impact this has on online services asking for consent

Copyright and ownership

- IT4.6 When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it.
- IT4.7 I can give some simple examples of content which I must not use without permission from the owner, e.g. videos, music, images.

Previously taught vocabulary for this unit:

Personal information, internet, world wide web, information technology, ownership, communication, privacy, copyright, security, collaboration.

New vocabulary for this unit:

Networks.

Key Resources for this unit:

[Project Evolve](#) for Year Four.

Digital Literacy

Context for study:

This unit provides opportunity for children to revise and consolidate their previous learning in Digital Literacy.

This unit is a precursor to the Year 5 Digital Literacy unit where children will begin to explore the use of databases and how to create them. Pupils will explore how to search for and sort information in databases.

Consolidation Project:

The consolidation project allows children the opportunity to revise and build upon their previous learning in Digital Literacy in Autumn 2 and previous academic years. This will take a cross curricular approach and allows children to showcase their learning from other subjects, whilst providing further active practice of their skills in Digital Literacy.

Components (Sequence of Learning):

- DL4.1 I can transfer my word processing skills into other multimedia packages e.g. PowerPoint
- DL4.2 I can include imported images, hyperlinks and the use of sounds recorded
- DL4.3 I can enter a basic mathematical formula into Excel
- DL4.4 I can add basic mathematical formulas
- DL4.5 I can use SUM to calculate the total of a set of numbers in a range of cells
- DL4.6 I can change the look of a spreadsheet by using different formats e.g. text styles, colour, number format inc, currency and date, row and column heights
- DL4.7 I can insert and delete columns and rows in a spreadsheet
- DL4.8 I can use spreadsheets to create a graph
- DL4.9 I can decide on the most appropriate form of graph for a data set and give reasons for my choice
- DL4.10 I can interpret graphs of data collected from sensors.

Previously taught vocabulary for this unit:

Keyboard, keys, space bar, enter, cursor, mouse, app, digital literacy, caps lock, shift, document, insert, exclamation mark, question mark, table, row, column, border, layout, audience, background, shortcut, formatting, Spreadsheet, formula, SUM, AutoSum, sort, filter.

Key Resources for this unit:

PurpleMash Unit 4.3;
Microsoft PowerPoint;
Microsoft Excel.

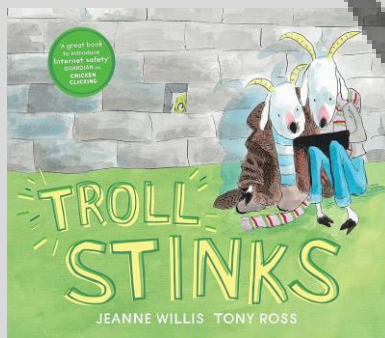
Digital Citizenship

Context for study:

Previously, children will have explored the idea that others online can pretend to be someone else, including their friends, and can suggest reasons why they might do this. They will explain how content shared online may feel unimportant to one person but may be important to others thoughts and beliefs.

This is a precursor to the Year 6 Digital Citizenship unit where children will identify and critically evaluate online content relating to gender, race, religion, disability, culture and other groups, and explain why it is important to challenge and reject inappropriate representations online.

Link to Masefield's Literature Spine:



Troll Stinks
Jeanne Willis

Components (Sequence of Learning):

- DC5.1 I can talk about my digital footprint

Self-image and identity

- DC5.2 I can demonstrate responsible choices about my online identity, depending on context
- DC5.3 I can explain how identity online can be copied, modified or altered

Online relationships

- DC5.4 I can explain how someone can get help if they are having problems and identify when to tell a trusted adult

Online reputation

- DC5.5 I can describe ways that information about anyone online can be used by others to make judgments about an individual and why these may be incorrect

Online bullying

- DC5.6 I can recognise online bullying can be different to bullying in the physical world and can describe some of those differences
- DC5.7 I can describe the helpline services which can help people experiencing bullying, and how to access them (e.g. Childline/CEOP/ The Mix)

Health, wellbeing and lifestyle

- DC5.8 I can describe ways technology can affect health and well-being both positively (e.g. mindfulness apps) and negatively
- DC5.9 I can describe some strategies, tips or advice to promote health and well-being with regards to technology
- DC5.10 I recognise the benefits and risks of accessing information about health and well-being online and how we should balance this with talking to trusted adults and professionals

Previously taught vocabulary for this unit:

Digital citizen, world wide web, health and wellbeing, digital footprint, identity, online bullying, online reputation, self-image.

Key Resources for this unit:

[Project Evolve](#) for Year Five.

Digital Literacy

Context for study:

Previously, children will have transferred their word processing skills into a range of software packages. Children will have begun to explore Excel, entering basic mathematical formula as well as using Excel to create a graph and deciding on the most appropriate form of graph for a data set.

This a precursor to the Year 6 Digital Literacy Unit where children will use skills they have learnt across multiple application programs and can choose, select and use a combination of software to present their work.

Cross curricular links in Digital Literacy:

Of all four curriculum strands, Digital Literacy is where cross curricular links are most likely to be seen. Although Computing is taught as a discrete subject, naturally, links are made to other areas of the curriculum but this does not dilute the quality and entitlement of high quality Computing instruction.

In Year 5, this may involve creating an Excel spreadsheet related to their maths learning or data collected during a science experiment. This is beneficial for children in reducing cognitive overload as it shifts the focus from thinking about what to type to practising the typing skills taught in this unit of work.

Components (Sequence of Learning):

- DL5.1 I can select appropriate tools to add emphasis and effect to my work
- DL5.2 I can explain why I have chosen my layout and formatting
- DL5.3 I can review and edit my work and talk about the changes I made
- DL5.4 I can explain why my work is suitable for the audience
- DL5.5 I can create a database structure of my own and enter the data
- DL5.6 I can prepare a data collection form and collect quality information
- DL5.7 I can use databases to create a graph
- DL5.8 I can select the most appropriate form of graph for a data set giving reasons for my choice
- DL5.9 I can interpret graphs of data collected from a variety of sources

Previously taught vocabulary for this unit:

Keyboard, keys, space bar, enter, cursor, mouse, app, digital literacy, caps lock, shift, document, insert, exclamation mark, question mark, table, row, column, border, layout, audience, background, shortcut, formatting, Spreadsheet, formula, SUM, AutoSum, sort, filter.

New Vocabulary for this unit:

Database, record, field, abstraction.

Key Resources for this unit:

PurpleMash Units 5.3 and 5.4;
Microsoft Excel.

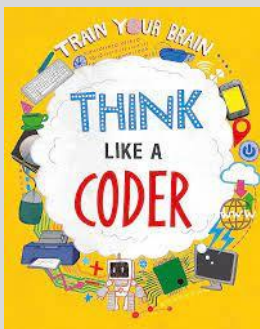
Computer Science (Consolidation)

Context for study:

This unit provides children the opportunity to revisit and consolidate Computer Science learning from the previous academic year. Children will explore how repeats and loops are used in a program and can independently use these within their program.

This a precursor to the Year 5 Computer Science Unit where children will explore conditionals/selection and plan and write a program using the commands sequence, repetition and selection or condition ('if...then'). This will enable pupils to create a game where the user must make a choice.

Link to Masefield's Literature Spine:



Think Like a Coder
Alex Woolf

Focus Element

- The focus elements in Computer Science for this unit is repeats and loops.

Components (Sequence of Learning):

- CS4.1 I know what a repeat is
- CS4.2 I know that a repeat is used to repeat a set of instructions
- CS4.3 I can use repeats in programs confidently
- CS4.4 I can independently select repeat and sequence code to make my own program
- CS4.5 I can detect and debug errors in algorithms and programs.
- CS4.6 I can transfer my coding skills between software
- CS4.7 I can explain why it is important to use the repeat function in a particular place in my sequence

Previously taught vocabulary for this unit:
Algorithm, debugging, computer science, computational thinking, decompose, program, event blocks, sequence, input, output, repeat, loops, abstraction.

Key Resources for this unit:

CSFirst.

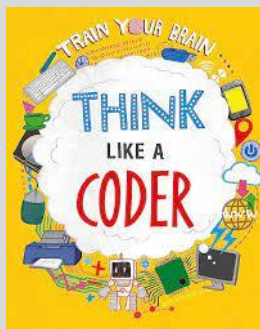
Computer Science (New Learning)

Context for study:

Previously, children will have begun to explore repeats and loops in a program, understanding what a repeat is used for, using these independently and explaining why it is important to use the repeat function in a particular place in their sequence.

This is a precursor to the Year 6 Computer Science unit where children will confidently use events, repeats, selection and variables in a variety of programming software. They will learn to decompose a problem and methodically create a program to solve it, testing and adapting as they go.

Link to Masefield's Literature Spine:



Think Like a Coder
Alex Woolf

Focus Element

- The focus elements in Computer Science for this unit is conditionals and selection.

Components (Sequence of Learning):

- CS5.1 I can tell you what a conditional / selection is
- CS5.2 I can plan algorithm and the write a program using the commands, sequence, repetition and selection or condition ('if...then')
- CS5.3 I can detect and debug errors in more complex algorithms and programs
- CS5.4 I can use selection to create games in which the user must make a choice
- CS5.5 I can use my skills and understanding of conditional / selection in more than 2 programs

Previously taught vocabulary for this unit:
Algorithm, debugging, computer science, computational thinking, decompose, program, event blocks, sequence, input, output, repeat, loops, abstraction

New vocabulary for this unit:
Selection, conditional.

Key Resources for this unit:

CSFirst.

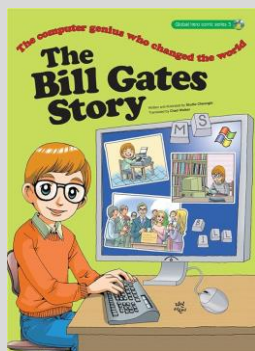
Information Technology

Context for study:

Previously, children will have analysed information to make a judgement about probable accuracy, describe how to search for information within a wide group of technologies and begin to discuss the digital age of consent and the impact this has on online services.

This is a precursor to the Year 6 Information Technology Unit where children will explain how and why some people may present 'opinions' as 'facts' and why the popularity of an opinion or the personalities of those promoting it does not necessarily make it true, fair or perhaps even legal.

Link to Masfield's Literature Spine:



The Bill Gates Story
Studio Cheongbi

Focus Element

- The focus element in Information Technology for this unit is online communications.

Computing Pioneer

- The Computing Pioneer that pupils will study is Bill Gates and Grace Hopper.

Components (Sequence of Learning):

- IT5.1 I know what an operating system is and why it important
- IT5.2 I can identify the key internal parts of a computer – RAM, memory, processor and motherboard and describe what each part does

Managing online information

- IT5.3 I can explain what is meant by 'being sceptical'; I can give examples of when and why it is important to be 'sceptical'
- IT5.4 I can evaluate digital content and can explain how to make choices about what is trustworthy e.g. differentiating between adverts and search results
- IT5.5 I can explain key concepts including: information, reviews, fact, opinion, belief, validity, reliability and evidence

Privacy and security

- IT5.6 I can explain what a strong password is and demonstrate how to create one
- IT5.7 I can explain what app permissions are and can give some examples

Copyright and ownership

- IT5.8 I can assess and justify when it is acceptable to use the work of others
- IT5.9 I can give examples of content that is permitted to be reused and know how this content can be found online.

Previously taught vocabulary for this unit:

Personal information, internet, world wide web, information technology, ownership, communication, privacy, copyright, security, collaboration, networks.

New vocabulary for this unit:

Sceptical, evaluate, search engine.

Key Resources for this unit:

[Project Evolve](#) for Year Five.

Digital Literacy

Context for study:

This unit provides opportunity for children to revise and consolidate their previous learning in Digital Literacy.

This a precursor to the Year 6 Digital Literacy Unit where children will use skills they have learnt across multiple application programs and can choose, select and use a combination of software to present their work.

Consolidation Project:

The consolidation project allows children the opportunity to revise and build upon their previous learning in Digital Literacy in Autumn 2 and previous academic years. This will take a cross curricular approach and allows children to showcase their learning from other subjects, whilst providing further active practice of their skills in Digital Literacy.

Components (Sequence of Learning):

- DL5.1 I can select appropriate tools to add emphasis and effect to my work
- DL5.2 I can explain why I have chosen my layout and formatting
- DL5.3 I can review and edit my work and talk about the changes I made
- DL5.4 I can explain why my work is suitable for the audience
- DL5.5 I can create a database structure of my own and enter the data
- DL5.6 I can prepare a data collection form and collect quality information
- DL5.7 I can use databases to create a graph
- DL5.8 I can select the most appropriate form of graph for a data set giving reasons for my choice
- DL5.9 I can interpret graphs of data collected from a variety of sources

Previously taught vocabulary for this unit:

Keyboard, keys, space bar, enter, cursor, mouse, app, digital literacy, caps lock, shift, document, insert, exclamation mark, question mark, table, row, column, border, layout, audience, background, shortcut, formatting, Spreadsheet, formula, SUM, AutoSum, sort, filter, database, record, field, abstraction.

Key Resources for this unit:

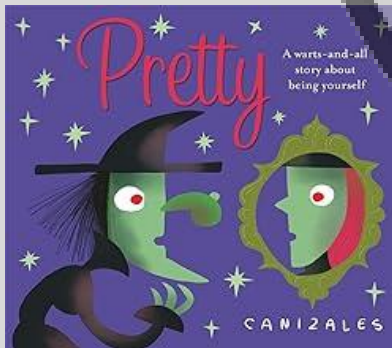
PurpleMash Units 5.3 and 5.4;
Microsoft Excel.

Digital Citizenship

Context for study:

Previously, children will have demonstrated responsible choices about their online identity, described ways that information about anyone online can be used by others to make judgments about an individual and why these may be incorrect, and described ways technology can affect health and wellbeing both positively and negatively.

Link to Masefield's Literature Spine:



Pretty
Canizales

Components (Sequence of Learning):

- DC6.1 I can talk about my digital footprint

Self-image and identity

- DC6.2 I can talk about the importance of asking until I get the help needed
- DC6.3 I can describe issues online that could make anyone feel sad, worried, uncomfortable or frightened and explain how to get help if this happens.
- DC6.4 I can identify and critically evaluate online content relating to gender, race, religion, disability, culture and other groups, and explain why it is important to challenge and reject inappropriate representations online.

Online relationships

- DC6.5 I can explain how sharing something online may have an impact either positively or negatively
- DC6.6 I can describe how to be kind and show respect for others online including the importance of respecting boundaries regarding what is shared about them online and how to support them if others do not

Online reputation

- DC6.7 I can explain strategies anyone can use to protect their 'digital personality' and online reputation, including degrees of anonymity

Online bullying

- DC6.8 I can describe how to capture bullying content as evidence (e.g. screen-grab, URL, profile) to share with others who can help me

Health, wellbeing and lifestyle

- DC6.9 I can describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental warnings) and describe their purpose
- DC6.10 I can assess and action different strategies to limit the impact of technology on health (e.g. night-shift mode, regular breaks, correct posture, sleep, diet and exercise)

Previously taught vocabulary for this unit:

Digital citizen, world wide web, health and wellbeing, digital footprint, identity, online bullying, online reputation, self-image.

Key Resources for this unit:

[Project Evolve](#) for Year Six.

Digital Literacy

Context for study:

Previously, children will have begun to explore the use of databases and how to create them. Pupils will explore how to search for and sort information in databases.

Cross curricular links in Digital Literacy:

Of all four curriculum strands, Digital Literacy is where cross curricular links are most likely to be seen. Although Computing is taught as a discrete subject, naturally, links are made to other areas of the curriculum but this does not dilute the quality and entitlement of high quality Computing instruction.

In Year 6, this may involve creating different types of documents based on their learning across the curriculum. This is beneficial for children in reducing cognitive overload as it shifts the focus from thinking about what to type to practising the typing skills taught in this unit of work.

Components (Sequence of Learning):

I can use skills I have learnt across multiple application programs, including:

- DL6.1 I can choose, select and use a combination of software to present my work
- DL6.2 I can select appropriate tools to add emphasis and effect to my work
- DL6.3 I can explain why I have chosen my layout and formatting
- DL6.4 I can review and edit my work and talk about the changes I made
- DL6.5 I can consider whether my work is suitable for the audience
- DL6.6 I can draft and redraft my work by deleting, inserting and replacing text
- DL6.7 I can interpret graphs of data collected from a variety of sources

Previously taught vocabulary for this unit:

Keyboard, keys, space bar, enter, cursor, mouse, app, digital literacy, caps lock, shift, document, insert, exclamation mark, question mark, table, row, column, border, layout, audience, background, shortcut, formatting, Spreadsheet, formula, SUM, AutoSum, sort, filter, database, record, field, abstraction.

Key Resources for this unit:

Microsoft PowerPoint;
Microsoft Word;
Microsoft Excel.

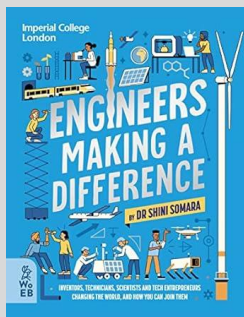
Computer Science (Consolidation)

Context for study:

This unit provides children the opportunity to revisit and consolidate Computer Science learning from the previous academic year. Children will plan and write a program using the commands sequence, repetition and selection or condition ('if...then').

This is a precursor to the Year 6 Computer Science unit where children will confidently use events, repeats, selection and variables in a variety of programming software. They will learn to decompose a problem and methodically create a program to solve it, testing and adapting as they go.

Link to Masefield's Literature Spine:



Engineers Making a Difference
Dr Shini Somara

Focus Element

- The focus elements in Computer Science for this unit is conditionals and selection.

Components (Sequence of Learning):

- CS5.1 I can tell you what a conditional / selection is
- CS5.2 I can plan algorithm and write a program using the commands, sequence, repetition and selection or condition ('if...then')
- CS5.3 I can detect and debug errors in more complex algorithms and programs
- CS5.4 I can use selection to create games in which the user must make a choice
- CS5.5 I can use my skills and understanding of conditional / selection in more than 2 programs

Previously taught vocabulary for this unit:
Algorithm, debugging, computer science, computational thinking, decompose, program, event blocks, sequence, input, output, repeat, loops, abstraction, selection, conditional.

Key Resources for this unit:

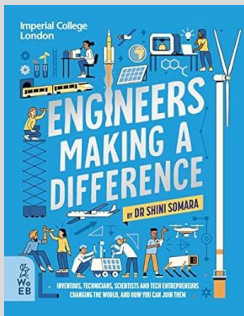
CSFirst

Computer Science (New Learning)

Context for study:

Previously, children will planned and written a program using the commands sequence, repetition and selection or condition ('if...then'). This will enable pupils to create a game where the user must make a choice.

Link to Masefield's Literature Spine:



Engineers Making a Difference
Dr Shini Somara

Focus Element

- The focus elements in Computer Science for this unit is variables.

Components (Sequence of Learning):

- CS6.1 I can explain what a variable is
- CS6.2 I can confidently use events, repeats, selection and variables
- CS6.3 I can use a variable in a variety of programming software
- CS6.4 I can confidently decompose a problem and methodically create a program to solve it, testing and adapting as I go
- CS6.5 I can evaluate the effectiveness of my programming and suggest improvements
- CS6.6 I confidently use the Blockly programming language

Previously taught vocabulary for this unit:
Algorithm, debugging, computer science, computational thinking, decompose, program, event blocks, sequence, input, output, repeat, loops, abstraction, selection, conditional.

New vocabulary for this unit:
Variables.

Key Resources for this unit:

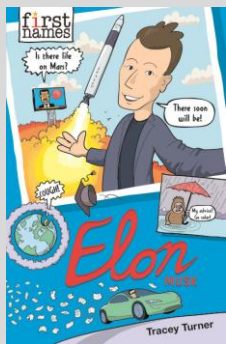
CSFirst

Information Technology

Context for study:

Previously, children will have explained what is meant by being sceptical and given examples of when and why it is important to be sceptical. They have explained what a strong password is and demonstrated how to create one and explained what app permissions are, giving some examples of these.

Link to Masfield's Literature Spine:



Elon Musk
Tracey Turner

Focus Element

- The focus element in Information Technology for this unit is online communications.

Computing Pioneer

- The Computing Pioneer that pupils will study is Bill Gates and Grace Hopper.

Components (Sequence of Learning):

Managing online information

- IT6.1 I can explain how search engines work and how results are selected and ranked
- IT6.2 I can explain how to use search technologies effectively
- IT6.3 I can explain how and why some people may present 'opinions' as 'facts'; why the popularity of an opinion or the personalities of those promoting it does not necessarily make it true, fair or perhaps even legal
- IT6.4 I can describe how some online information can be opinion and can offer examples
- IT6.5 I can define the terms 'influence', 'manipulation' and 'persuasion' and explain how someone might encounter these online (e.g. advertising and 'ad targeting' and targeting for fake news)

Privacy and security

- IT6.6 I can describe how and why people should keep their software and apps up to date, e.g. auto updates
- IT6.7 I can describe simple ways to increase privacy on apps and services that provide privacy settings
- IT6.8 I can describe ways in which some online content targets people to gain money or information illegally; I can describe strategies to help me identify such content (e.g. scams, phishing)

Copyright and ownership

- IT6.9 I can demonstrate how to make references to and acknowledge sources I have used from the internet

Previously taught vocabulary for this unit:

Personal information, internet, world wide web, information technology, ownership, communication, privacy, copyright, security, collaboration, networks, sceptical, evaluate, search engine.

New vocabulary for this unit:

Cyber-crime, influence, manipulation, persuasion.

Key Resources for this unit:

[Project Evolve](#) for Year Six.

Digital Literacy

Context for study:

This unit provides opportunity for children to revise and consolidate their previous learning in Digital Literacy.

Previously, children will have chosen, selected and used a combination of software to present their work. They will have selected appropriate tools to add emphasis and effect to their work and explain why I have chosen my layout and formatting.

Consolidation Project:

The consolidation project allows children the opportunity to revise and build upon their previous learning in Digital Literacy in Autumn 2 and previous academic years. This will take a cross curricular approach and allows children to showcase their learning from other subjects, whilst providing further active practice of their skills in Digital Literacy.

Components (Sequence of Learning):

I can use skills I have learnt across multiple application programs, including:

- DL6.1 I can choose, select and use a combination of software to present my work
- DL6.2 I can select appropriate tools to add emphasis and effect to my work
- DL6.3 I can explain why I have chosen my layout and formatting
- DL6.4 I can review and edit my work and talk about the changes I made
- DL6.5 I can consider whether my work is suitable for the audience
- DL6.6 I can draft and redraft my work by deleting, inserting and replacing text
- DL6.7 I can interpret graphs of data collected from a variety of sources

Previously taught vocabulary for this unit:

Keyboard, keys, space bar, enter, cursor, mouse, app, digital literacy, caps lock, shift, document, insert, exclamation mark, question mark, table, row, column, border, layout, audience, background, shortcut, formatting, Spreadsheet, formula, SUM, AutoSum, sort, filter, database, record, field, abstraction.

Key Resources for this unit:

Microsoft PowerPoint;
Microsoft Word;
Microsoft Excel.