COMPUTING CURRICULUM

Progression, vocabulary and precise curriculum end points • EYFS to Year 6 •

PURPOSE OF STUDY

Computing equips pupils to understand and change the digital world. It combines computer science, information technology and digital literacy so pupils can design programs, use technology purposefully, evaluate digital content and participate safely and responsibly online.

Curriculum aims

1. Understand algorithms, data and the principles of computation.
2. Analyse problems and create, test and refine programs.
3. Use digital tools to create, organise, store, manipulate and communicate information.
4. Become safe, responsible, discerning and creative users of technology.

Main focus and end-of-stage expectations

KEY STAGE 1	KEY STAGE 2
Pupils understand simple algorithms, create and debug programs, use logical reasoning and use technology purposefully. They recognise common uses of IT and learn how to keep personal information safe.	Pupils design and debug programs with sequence, selection and repetition; work with variables, networks and data; select digital tools for a purpose; and evaluate content and online behaviour critically.
Explain that an algorithm is a precise sequence of instructions. Create, run and debug a simple program using logical reasoning. Use digital tools purposefully to create, organise and communicate content. Recognise how technology is used and explain basic rules for safe use.	Design, write and refine programs using sequence, selection, repetition and variables. Explain how networks, search and data representation support digital systems. Select and combine software to collect, analyse, create and present content. Evaluate digital information and act safely, respectfully and responsibly online.

COMPUTING CURRICULUM

The progression model: what becomes more complex from EYFS to Year 6

Substantive and disciplinary progression

STRAND	EYFS	KEY STAGE 1	LOWER KEY STAGE 2	UPPER KEY STAGE 2
Computational thinking	follow and create simple sequences	decompose tasks and predict outcomes	design algorithms using selection or repetition	abstract, generalise and evaluate alternative solutions
Programming	sequence commands and correct simple errors	create, test and debug purposeful programs	use variables, selection and repetition	design modular programs and explain debugging decisions
Data and information	sort and represent familiar information	collect, organise and interpret data	select structures and identify patterns	evaluate data quality and choose effective representations
Digital literacy	use technology safely and purposefully	recognise responsible choices and seek help	evaluate content and protect information	judge reliability, manage privacy and act responsibly

Vocabulary golden thread

EYFS foundations	instruction • sequence • device • data
Key Stage 1	algorithm • program • debug • input
Lower Key Stage 2	decomposition • selection • repetition • variable
Upper Key Stage 2	abstraction • simulation • network • reliability

ASSESSMENT EVIDENCE

A program, digital outcome or annotated algorithm plus an explanation of testing, debugging and safe choices.

Vocabulary is cumulative: later-stage terms do not replace earlier language. Pupils continue to retrieve and apply established concepts with increasing precision in new contexts.

COMPUTING CURRICULUM

Online safety • Great Leighs teaching resources

EDUCATION FOR A CONNECTED WORLD FRAMEWORK

Great Leighs E-Safety Curriculum
Taken from 'Education for a Connected World Framework'
The eight aspects of online education:
1 Self-image and Identity This strand explores the differences between online and offline identity beginning with self-awareness, shaping online identities and media influence in propagating stereotypes. It identifies effective routes for reporting and support and explores the impact of online technologies on self-image and behaviour.
2. Online relationships This strand explores how technology shapes communication styles and identifies strategies for positive relationships in online communities. It offers opportunities to discuss relationships, respecting, giving and denying consent and behaviours that may lead to harm and how positive online interaction can empower and amplify voice.
3. Online reputation This strand explores the concept of reputation and how others may use online information to make judgements. It offers opportunities to develop strategies to manage personal digital content effectively and capitalise on technology's capacity to create effective positive profiles.
4. Online bullying This strand explores bullying and other online aggression and how technology impacts those issues. It offers strategies for effective reporting and intervention and considers how bullying and other aggressive behaviour relates to legislation
5. Managing online information This strand explores how online information is found, viewed and interpreted. It offers strategies for effective searching, critical evaluation of data, the recognition of risks and the management of online threats and challenges. It explores how online threats can pose risks to our physical safety as well as online safety. It also covers learning relevant to ethical publishing.
6. Health, wellbeing and lifestyle This strand explores the impact that technology has on health, well-being and lifestyle e.g. mood, sleep, body health and relationships. It also includes understanding negative behaviours and issues amplified and sustained by online technologies and the strategies for dealing with them.
7. Privacy and security This strand explores how personal online information can be used, stored, processed and shared. It offers both behavioural and technical strategies to limit impact on privacy and protect data and systems against compromise
8. Copyright and ownership This strand explores the concept of ownership of online content. It explores strategies for protecting personal content and crediting the rights of others as well as addressing potential consequences of illegal access, download and distribution

SOURCE-PLAN RESOURCES

Resources for teaching the objectives
https://www.thinkuknow.co.uk/
https://www.childnet.com/
https://www.antibullyingpro.com/
https://dotcomcharity.co.uk/
https://sites.google.com/lgfl.net/national-grid-for-learning/digisafe?authuser=0
https://www.internetmatters.org/schools-esafety/
https://learning.nspcc.org.uk/
https://parentzone.org.uk/beinternetlegends/schools
https://pshe-association.org.uk/https://swgfl.org.uk/resources/
https://saferinternet.org.uk/
https://www.bbc.com/ownit
https://www.childline.org.uk/

The objectives below are a planned progression in responsible use, safety and security. They should be taught in context, revisited when relevant and evidenced through age-appropriate explanation and safe decision-making.

COMPUTING CURRICULUM

EYFS • online safety objectives from the Great Leighs plan

STRAND	PLANNED OBJECTIVES
Self-image and Identity	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	recognise some ways in which the internet can be used to communicate. give examples of how I (might) use technology to communicate with people I know.
Online reputation	identify ways that I can put information on the internet.
Online bullying	describe ways that some people can be unkind online. offer examples of how this can make others feel.
Managing online information	talk about how to use the internet as a way of finding information online. identify devices I could use to access information on the internet.
Health, wellbeing and lifestyle	identify rules that help keep us safe and healthy in and beyond the home when using technology. give some simple examples of these rules.
Privacy and security	identify some simple examples of my personal information (e.g. name, address, birthday, age, location). describe who would be trustworthy to share this information with; I can explain why they are trusted.
Copyright and ownership	know that work I create belongs to me. I can name my work so that others know it belongs to me.

ASSESSMENT AND SAFEGUARDING

Check that pupils can explain and apply the taught response in a safe hypothetical context. Personal disclosure is not required; follow the school's safeguarding procedures if a concern arises.

COMPUTING CURRICULUM

Year 1 • online safety objectives from the Great Leighs plan

STRAND	PLANNED OBJECTIVES
Self-image and Identity	recognise that there may be people online who could make someone feel sad, embarrassed or upset. 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 and how they can help
Online relationships	give examples of when I should ask permission to do something online and explain why this is important. use the internet with adult support to communicate with people I know (e.g. video call apps or services). explain why it is important to be considerate and kind to people online and to respect their choices. explain why things one person finds funny or sad online may not always be seen in the same way by others
Online reputation	recognise that information can stay online and could be copied. describe what information I should not put online without asking a trusted adult first.
Online bullying	describe how to behave online in ways that do not upset others and can give examples.
Managing online information	give simple examples of how to find information using digital technologies, e.g. search engines, voice activated searching). know / understand that we can encounter a range of things online including things we like and don't like as well as things which are real or make believe / a joke. know how to get help from a trusted adult if we see content that makes us feel sad, uncomfortable worried or frightened.
Health, wellbeing and lifestyle	explain rules to keep myself safe when using technology both in and beyond the home.

COMPUTING CURRICULUM

Year 1 • online safety objectives from the Great Leighs plan

STRAND	PLANNED OBJECTIVES
Privacy and security	explain that passwords are used to protect information, accounts and devices. recognise more detailed examples of information that is personal to someone (e.g where someone lives and goes to school, family names). 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	explain why work I create using technology belongs to me. say why it belongs to me (e.g. 'I designed it' or 'I filmed it''). save my work under a suitable title / name so that others know it belongs to me (e.g. filename, name on content). understand that work created by others does not belong to me even if I save a copy.

ASSESSMENT AND SAFEGUARDING

Check that pupils can explain and apply the taught response in a safe hypothetical context. Personal disclosure is not required; follow the school's safeguarding procedures if a concern arises.

COMPUTING CURRICULUM

Year 2 • online safety objectives from the Great Leighs plan

STRAND	PLANNED OBJECTIVES
Self-image and Identity	explain how other people may look and act differently online and offline. give examples of issues online that might make someone feel sad, worried, uncomfortable or frightened; I can give examples of how they might get help.
Online relationships	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). explain who I should ask before sharing things about myself or others online. describe different ways to ask for, give, or deny my permission online and can identify who can help me if I am not sure. explain why I have a right to say 'no' or 'I will have to ask someone'. I can explain who can help me if I feel under pressure to agree to something I am unsure about or don't want to do. identify who can help me if something happens online without my consent. explain how it may make others feel if I do not ask their permission or ignore their answers before sharing something about them online explain why I should always ask a trusted adult before clicking 'yes', 'agree' or 'accept' online.
Online reputation	explain how information put online about someone can last for a long time. describe how anyone's online information could be seen by others. know who to talk to if something has been put online without consent or if it is incorrect.
Online bullying	explain what bullying is, how people may bully others and how bullying can make someone feel. explain why anyone who experiences bullying is not to blame. talk about how anyone experiencing bullying can get help.

COMPUTING CURRICULUM

Year 2 • online safety objectives from the Great Leighs plan

STRAND	PLANNED OBJECTIVES
Managing online information	use simple keywords in search engines. demonstrate how to navigate a simple webpage to get to information I need (e.g. home, forward, back buttons; links, tabs and sections). explain what voice activated searching is and how it might be used, and know it is not a real person (e.g. Alexa, Google Now, Siri). explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real'. explain why some information I find online may not be real or true
Health, wellbeing and lifestyle	explain simple guidance for using technology in different environments and settings e.g. accessing online technologies in public places and the home environment say how those rules / guides can help anyone accessing online technologies.
Privacy and security	explain how passwords can be used to protect information, accounts and devices. explain and give examples of what is meant by 'private' and 'keeping things private'. describe and explain some rules for keeping personal information private (e.g. creating and protecting passwords). 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	recognise that content on the internet may belong to other people. describe why other people's work belongs to them.

ASSESSMENT AND SAFEGUARDING

Check that pupils can explain and apply the taught response in a safe hypothetical context. Personal disclosure is not required; follow the school's safeguarding procedures if a concern arises.

COMPUTING CURRICULUM

Year 3 • online safety objectives from the Great Leighs plan

STRAND	PLANNED OBJECTIVES
Self-image and Identity	explain what is meant by the term 'identity'. explain how people can represent themselves in different ways online. explain ways in which someone might change their identity depending on what they are doing online (e.g. gaming; using an avatar; social media) and why
Online relationships	describe ways people who have similar likes and interests can get together online. explain what it means to 'know someone' online and why this might be different from knowing someone offline. 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. explain why someone may change their mind about trusting anyone with something if they feel nervous, uncomfortable or worried explain how someone's feelings can be hurt by what is said or written online. explain the importance of giving and gaining permission before sharing things online; how the principles of sharing online is the same as sharing offline e.g. sharing images and videos.
Online reputation	explain how to search for information about others online. give examples of what anyone may or may not be willing to share about themselves online. I can explain the need to be careful before sharing anything personal. explain who someone can ask if they are unsure about putting something online.
Online bullying	describe appropriate ways to behave towards other people online and why this is important. give examples of how bullying behaviour could appear online and how someone can get support.
Managing online information	demonstrate how to use key phrases in search engines to gather accurate information online. explain what autocomplete is and how to choose the best suggestion.

COMPUTING CURRICULUM

Year 3 • online safety objectives from the Great Leighs plan

STRAND	PLANNED OBJECTIVES
Health, wellbeing and lifestyle	explain how the internet can be used to sell and buy things. 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 etc. explain that not all opinions shared may be accepted as true or fair by others (e.g. monsters under the bed). describe and demonstrate how we can get help from a trusted adult if we see content that makes us feel sad, uncomfortable worried or frightened.
	explain why spending too much time using technology can sometimes have a negative impact on anyone, e.g. mood, sleep, body, relationships; I can give some examples of both positive and negative activities where it is easy to spend a lot of time engaged (e.g. doing homework, games, films, videos). explain why some online activities have age restrictions, why it is important to follow them and know who I can talk to if others pressure me to watch or do something online that makes me feel uncomfortable (e.g. age restricted gaming or web sites).
Privacy and security	describe simple strategies for creating and keeping passwords private. give reasons why someone should only share information with people they choose to and can trust. I can explain that if they are not sure or feel pressured then they should tell a trusted adult. describe how connected devices can collect and share anyone’s information with others.
Copyright and ownership	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.

ASSESSMENT AND SAFEGUARDING

Check that pupils can explain and apply the taught response in a safe hypothetical context. Personal disclosure is not required; follow the school's safeguarding procedures if a concern arises.

COMPUTING CURRICULUM

Year 4 • online safety objectives from the Great Leighs plan

STRAND	PLANNED OBJECTIVES
Self-image and Identity	explain how my online identity can be different to my offline identity. describe positive ways for someone to interact with others online and understand how this will positively impact on how others perceive them explain that others online can pretend to be someone else, including my friends, and can suggest reasons why they might do this
Online relationships	describe strategies for safe and fun experiences in a range of online social environments (e.g. livestreaming, gaming platforms). give examples of how to be respectful to others online and describe how to recognise healthy and unhealthy online behaviours 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	describe how to find out information about others by searching online explain ways that some of the information about anyone online could have been created, copied or shared by others.
Online bullying	recognise when someone is upset, hurt or angry online. describe ways people can be bullied through a range of media (e.g. image, video, text, chat). 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).
Managing online information	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. 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). describe some of the methods used to encourage people to buy things online (e.g. advertising offers; in-app purchases, pop-ups) and can recognise some of these when they appear online. explain why lots of people sharing the same opinions or beliefs online do not make those opinions or beliefs true.

COMPUTING CURRICULUM

Year 4 • online safety objectives from the Great Leighs plan

STRAND	PLANNED OBJECTIVES
Health, wellbeing and lifestyle	explain that technology can be designed to act like or impersonate living things (e.g. bots) and describe what the benefits and the risks might be. 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. explain how using technology can be a distraction from other things, in both a positive and negative way. identify times or situations when someone may need to limit the amount of time they use technology e.g. I can suggest strategies to help with limiting this time.
Privacy and security	describe strategies for keeping personal information private, depending on context. explain that internet use is never fully private and is monitored, e.g. adult supervision. describe how some online services may seek consent to store information about me; I know how to respond appropriately and who I can ask if I am not sure. know what the digital age of consent is and the impact this has on online services asking for consent.
Copyright and ownership	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. I can give some simple examples of content which I must not use without permission from the owner, e.g. videos, music, images.

ASSESSMENT AND SAFEGUARDING

Check that pupils can explain and apply the taught response in a safe hypothetical context. Personal disclosure is not required; follow the school's safeguarding procedures if a concern arises.

COMPUTING CURRICULUM

Year 5 • online safety objectives from the Great Leighs plan

STRAND	PLANNED OBJECTIVES
Self-image and Identity	explain how identity online can be copied, modified or altered. demonstrate how to make responsible choices about having an online identity, depending on context.
Online relationships	can give examples of technologyspecific forms of communication (e.g. emojis, memes and GIFs). explain that there are some people I communicate with online who may want to do me or my friends harm. I can recognise that this is not my / our fault. describe some of the ways people may be involved in online communities and describe how they might collaborate constructively with others and make positive contributions. (e.g. gaming communities or social media groups). explain how someone can get help if they are having problems and identify when to tell a trusted adult. demonstrate how to support others (including those who are having difficulties) online
Online reputation	search for information about an individual online and summarise the information found. 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	recognise online bullying can be different to bullying in the physical world and can describe some of those differences. describe how what one person perceives as playful joking and teasing (including 'banter') might be experienced by others as bullying. explain how anyone can get help if they are being bullied online and identify when to tell a trusted adult identify a range of ways to report concerns and access support both in school and at home about online bullying. explain how to block abusive users. describe the helpline services which can help people experiencing bullying, and how to access them (e.g. Childline or The Mix).
Managing online information	explain the benefits and limitations of using different types of search technologies e.g. voice-activation search engine.

COMPUTING CURRICULUM

Year 5 • online safety objectives from the Great Leighs plan

STRAND	PLANNED OBJECTIVES
Health, wellbeing and lifestyle	explain how some technology can limit the information I aim presented with e.g. voice-activated searching giving one result. explain what is meant by ‘being sceptical’; I can give examples of when and why it is important to be ‘sceptical’. evaluate digital content and can explain how to make choices about what is trustworthy e.g. differentiating between adverts and search results. explain key concepts including: information, reviews, fact, opinion, belief, validity, reliability and evidence. identify ways the internet can draw us to information for different agendas, e.g. website notifications, pop-ups, targeted ads.
	describe ways technology can affect health and well-being both positively (e.g. mindfulness apps) and negatively. describe some strategies, tips or advice to promote health and wellbeing with regards to technology. 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. explain how and why some apps and games may request or take payment for additional content (e.g. in-app purchases, lootboxes) and explain the importance of seeking permission from a trusted adult before purchasing.
Privacy and security	explain what a strong password is and demonstrate how to create one. explain how many free apps or services may read and share private information (e.g. friends, contacts, likes, images, videos, voice, messages, geolocation) with others. explain what app permissions are and can give some examples.
Copyright and ownership	I can assess and justify when it is acceptable to use the work of others. I can give examples of content that is permitted to be reused and know how this content can be found online.

ASSESSMENT AND SAFEGUARDING

Check that pupils can explain and apply the taught response in a safe hypothetical context. Personal disclosure is not required; follow the school's safeguarding procedures if a concern arises.

COMPUTING CURRICULUM

Year 6 • online safety objectives from the Great Leighs plan

STRAND	PLANNED OBJECTIVES
Self-image and Identity	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 describe issues online that could make anyone feel sad, worried, uncomfortable or frightened. I know and can give examples of how to get help, both on and offline. explain the importance of asking until I get the help needed.
Online relationships	explain how sharing something online may have an impact either positively or negatively. 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. describe how things shared privately online can have unintended consequences for others. e.g. screen-grabs. explain that taking or sharing inappropriate images of someone (e.g. embarrassing images), even if they say it is okay, may have an impact for the sharer and others; and who can help if someone is worried about this.
Online reputation	explain the ways in which anyone can develop a positive online reputation. explain strategies anyone can use to protect their 'digital personality' and online reputation, including degrees of anonymity
Online bullying	describe how to capture bullying content as evidence (e.g screen-grab, URL, profile) to share with others who can help me. explain how someone would report online bullying in different contexts.
Managing online information	explain how search engines work and how results are selected and ranked. explain how to use search technologies effectively. describe how some online information can be opinion and can offer examples. 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. 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). understand the concept of persuasive design and how it can be used to influences peoples' choices.

COMPUTING CURRICULUM

Year 6 • online safety objectives from the Great Leighs plan

STRAND	PLANNED OBJECTIVES
Health, wellbeing and lifestyle	describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental warnings) and describe their purpose. recognise and can discuss the pressures that technology can place on someone and how / when they could manage this. recognise features of persuasive design and how they are used to keep users engaged (current and future use). 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).
Privacy and security	describe effective ways people can manage passwords (e.g. storing them securely or saving them in the browser). explain what to do if a password is shared, lost or stolen. describe how and why people should keep their software and apps up to date, e.g. auto updates. describe simple ways to increase privacy on apps and services that provide privacy settings. describe ways in which some online content targets people to gain money or information illegally; describe strategies to help me identify such content (e.g. scams, phishing). I know that online services have terms and conditions that govern their use.
Copyright and ownership	demonstrate the use of search tools to find and access online content which can be reused by others. demonstrate how to make references to and acknowledge sources I have used from the internet.

ASSESSMENT AND SAFEGUARDING

Check that pupils can explain and apply the taught response in a safe hypothetical context. Personal disclosure is not required; follow the school's safeguarding procedures if a concern arises.

COMPUTING CURRICULUM

EYFS • curriculum sequence, vocabulary and assessable end points

PROGRESSION FOCUS

Computational thinking — follow and create simple sequences; Programming — sequence commands and correct simple errors; Data and information — sort and represent familiar information; Digital literacy — use technology safely and purposefully

EYFS PRINCIPLE

Learning is secured through purposeful play, explicit teaching, talk, stories, observation, making and investigation. These foundations connect directly to the subject curriculum that follows; they are not a miniature Key Stage 1 programme.

AUTUMN	SPRING	SUMMER

Autumn foundations

Personal, Social and Emotional Development:

Teaching objectives

• Remember rules without needing an adult to remind them.
• Physical Development.
• Match their developing physical skills to tasks and activities in the setting.
• Understanding the World.
• Explore how things work.

Essential knowledge — by the end of this unit, pupils will know…

• The key computing concepts, technical vocabulary and safe-use expectations taught through Personal, Social and Emotional Development:.
• Understanding the World.
• Remember rules without needing an adult to remind them.
• Physical Development.

Computing application — by the end of this unit, pupils will be able to…

• Explore how things work.

Essential vocabulary

personal • social • emotional • development • remember • rules • without • needing

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Term-to-term coherence

Builds on: the preceding curriculum foundations. Prepares for: Technology around us.

Spring foundations

Personal, Social and Emotional Development:

Teaching objectives

• Show resilience and perseverance in the face of a challenge.
• Know and talk about the different factors that support their overall health and wellbeing: sensible amounts of 'screen time'.
• Physical Development.
• Develop their small motor skills so that they can use a range of tools competently, safely and confidently.
• Expressive Arts and Design.
• Explore, use and refine a variety of artistic effects to express their ideas and feelings.

Essential knowledge — by the end of this unit, pupils will know…

• The key computing concepts, technical vocabulary and safe-use expectations taught through Personal, Social and Emotional Development:.
• Know and talk about the different factors that support their overall health and wellbeing: sensible amounts of 'screen time'.
• Show resilience and perseverance in the face of a challenge.
• Physical Development.

Computing application — by the end of this unit, pupils will be able to…

• Develop their small motor skills so that they can use a range of tools competently, safely and confidently.
• Explore, use and refine a variety of artistic effects to express their ideas and feelings.

Essential vocabulary

personal • social • emotional • development • show • resilience • perseverance • face

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Term-to-term coherence

Builds on: the preceding curriculum foundations. Prepares for: Programming A – Moving A Robot.

Summer foundations

Personal, Social and Emotional Development (Managing Self):

Teaching objectives

• Be confident to try new activities and show independence, resilience and perseverance in the face of challenge.
• Explain the reasons for rules, know right from wrong and try to behave accordingly.
• Expressive Arts and Design (Creating with Materials).
• Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

Essential knowledge — by the end of this unit, pupils will know…

• The key computing concepts, technical vocabulary and safe-use expectations taught through Personal, Social and Emotional Development (Managing Self):.
• Explain the reasons for rules, know right from wrong and try to behave accordingly.
• Be confident to try new activities and show independence, resilience and perseverance in the face of challenge.
• Expressive Arts and Design (Creating with Materials).

Computing application — by the end of this unit, pupils will be able to…

• Explain the reasons for rules, know right from wrong and try to behave accordingly.
• Expressive Arts and Design (Creating with Materials).
• Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

Essential vocabulary

personal • social • emotional • development • managing • self • confident • activities

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Term-to-term coherence

Builds on: the preceding curriculum foundations. Prepares for: Digital Writing.

COMPUTING CURRICULUM

Year 1 • curriculum sequence, vocabulary and assessable end points

PROGRESSION FOCUS

Computational thinking — decompose tasks and predict outcomes; Programming — create, test and debug purposeful programs; Data and information — collect, organise and interpret data; Digital literacy — recognise responsible choices and seek help

AUTUMN

Technology around us

Technology around us

Teaching objectives

- Identify technology.
- Identify a computer and its main parts.
- Use a mouse in different ways.
- Use a keyboard to type on a computer.
- Use the keyboard to edit text.
- Create rules for using technology responsibly.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Technology around us.
- Identify technology.
- Identify a computer and its main parts.
- Use a mouse in different ways.

Computing application — by the end of this unit, pupils will be able to…

- Use a mouse in different ways.
- Use a keyboard to type on a computer.
- Use the keyboard to edit text.

Essential vocabulary

technology • around • computer • main • parts • mouse • ways • keyboard

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Creating Media – Digital Painting

Teaching objectives

- Describe what different freehand tools do.
- Use the shape tool and the line tools.
- Make careful choices when painting a digital picture.
- Explain why I chose the tools I used.
- Use a computer on my own to paint a picture.
- Compare painting a picture on a computer and on paper.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Creating Media – Digital Painting.
- Describe what different freehand tools do.
- Explain why I chose the tools I used.

SPRING

Programming A – Moving A Robot

Programming A – Moving A Robot

Teaching objectives

- Explain what a given command will do.
- Act out a given word.
- Combine forwards and backwards commands to make a sequence.
- Combine four direction commands to make sequences.
- Plan a simple program.
- Find more than one solution to a problem.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Programming A – Moving A Robot.
- Explain what a given command will do.
- Act out a given word.
- Combine forwards and backwards commands to make a sequence.

Computing application — by the end of this unit, pupils will be able to…

- Plan a simple program.

Essential vocabulary

programming • moving • robot • what • given • command • will • word

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Grouping Data

Teaching objectives

- Label objects.
- Identify that objects can be counted.
- Describe objects in different ways.
- Count objects with the same properties.
- Compare groups of objects.
- Answer questions about groups of objects.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Grouping Data.
- Identify that objects can be counted.
- Describe objects in different ways.

SUMMER

Digital Writing

Digital Writing

Teaching objectives

- Use a computer to write.
- Add and remove text on a computer.
- Identify that the look of text can be changed on a computer.
- Make careful choices when changing text.
- Explain why I used the tools that I chose.
- Compare typing on a computer to writing on paper.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Digital Writing.
- Identify that the look of text can be changed on a computer.
- Explain why I used the tools that I chose.
- Compare typing on a computer to writing on paper.

Computing application — by the end of this unit, pupils will be able to…

- Use a computer to write.
- Make careful choices when changing text.

Essential vocabulary

digital • writing • computer • write • remove • text • look • changed

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Programming B – Programming Animations

Teaching objectives

- Choose a command for a given purpose.
- Show that a series of commands can be joined together.
- Identify the effect of changing a value.
- Explain that each sprite has its own instructions.
- Design the parts of a project.
- Use my algorithm to create a program.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Programming B – Programming Animations.
- Identify the effect of changing a value.
- Explain that each sprite has its own instructions.
- Choose a command for a given purpose.

Computing application — by the end of this unit, pupils will be able to…

- Design the parts of a project.
- Use my algorithm to create a program.

Essential vocabulary

programming • animations • choose • command • given • purpose • show • series

COMPUTING CURRICULUM

Year 1 • curriculum sequence, vocabulary and assessable end points

PROGRESSION FOCUS

Computational thinking — decompose tasks and predict outcomes; Programming — create, test and debug purposeful programs; Data and information — collect, organise and interpret data; Digital literacy — recognise responsible choices and seek help

AUTUMN	SPRING	SUMMER
• Compare painting a picture on a computer and on paper. **Computing application — by the end of this unit, pupils will be able to…** • Use the shape tool and the line tools. • Make careful choices when painting a digital picture. • Use a computer on my own to paint a picture. **Essential vocabulary** creating • media • digital • painting • describe • what • freehand • tools **End-of-unit evidence** Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use. **Term-to-term coherence** Builds on: Computer science foundations. Prepares for: IT Around Us.	• Compare groups of objects. **Computing application — by the end of this unit, pupils will be able to…** • Count objects with the same properties. • Compare groups of objects. • Answer questions about groups of objects. **Essential vocabulary** grouping • data • label • objects • counted • describe • ways • count **End-of-unit evidence** Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use. **Term-to-term coherence** Builds on: the preceding curriculum foundations. Prepares for: Programming A – Robot Algorithms.	**End-of-unit evidence** Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use. **Term-to-term coherence** Builds on: the preceding curriculum foundations. Prepares for: Digital Music.

COMPUTING CURRICULUM

Year 2 • curriculum sequence, vocabulary and assessable end points

PROGRESSION FOCUS

Computational thinking — decompose tasks and predict outcomes; Programming — create, test and debug purposeful programs; Data and information — collect, organise and interpret data; Digital literacy — recognise responsible choices and seek help

AUTUMN

IT Around Us

IT Around Us

Teaching objectives

- Recognise the uses and features of information technology.
- Identify the uses of information technology in the school.
- Identify information technology beyond school.
- Explain how information technology helps us.
- Explain how to use information technology safely.
- Recognise that choices are made when using information technology.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through IT Around Us.
- Recognise the uses and features of information technology.
- Identify the uses of information technology in the school.
- Identify information technology beyond school.

Computing application — by the end of this unit, pupils will be able to…

- Explain how information technology helps us.
- Explain how to use information technology safely.
- Recognise that choices are made when using information technology.

Essential vocabulary

around • recognise • uses • features • information • technology • school • beyond

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Digital Photography

Teaching objectives

- Use a digital device to take a photograph.
- Make choices when taking a photograph.
- Describe what makes a good photograph.
- Decide how photographs can be improved.
- Use tools to change an image.
- Recognise that photos can be changed.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Digital Photography.
- Describe what makes a good photograph.

SPRING

Programming A – Robot Algorithms

Programming A – Robot Algorithms

Teaching objectives

- Describe a series of instructions as a sequence.
- Explain what happens when we change the order of instructions.
- Use logical reasoning to predict the outcome of a program.
- Explain that programming projects can have code and artwork.
- Design an algorithm.
- Create and debug a program that I have written.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Programming A – Robot Algorithms.
- Describe a series of instructions as a sequence.
- Explain what happens when we change the order of instructions.
- Explain that programming projects can have code and artwork.

Computing application — by the end of this unit, pupils will be able to…

- Use logical reasoning to predict the outcome of a program.
- Design an algorithm.
- Create and debug a program that I have written.

Essential vocabulary

programming • robot • algorithms • describe • series • instructions • sequence • what

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Pictograms

Teaching objectives

- Recognise that we can count and compare objects using tally charts.
- Recognise that objects can be represented as pictures.
- Create a pictogram.
- Select objects by attribute and make comparisons.
- Recognise that people can be described by attributes.
- Explain that we can present information using a computer.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-

SUMMER

Digital Music

Digital Music

Teaching objectives

- Say how music can make us feel.
- Identify that there are patterns in music.
- Experiment with sound using a computer.
- Use a computer to create a musical pattern.
- Create music for a purpose.
- Review and refine our computer work.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Digital Music.
- Identify that there are patterns in music.
- Say how music can make us feel.
- Experiment with sound using a computer.

Computing application — by the end of this unit, pupils will be able to…

- Use a computer to create a musical pattern.
- Create music for a purpose.

Essential vocabulary

digital • music • make • feel • there • patterns • experiment • sound

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Programming B – Programming Quizzes

Teaching objectives

- Explain that a sequence of commands has a start.
- Explain that a sequence of commands has an outcome.
- Create a program using a given design.
- Change a given design.
- Create a program using my own design.
- Decide how my project can be improved.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Programming B – Programming Quizzes.
- Explain that a sequence of commands has a start.
- Explain that a sequence of commands has an outcome.
- Create a program using a given design.

Computing application — by the end of this unit, pupils will be able to…

- Create a program using a given design.
- Create a program using my own design.

Essential vocabulary

programming • quizzes • sequence • commands • start • outcome • create • program

COMPUTING CURRICULUM

Year 2 • curriculum sequence, vocabulary and assessable end points

PROGRESSION FOCUS

Computational thinking — decompose tasks and predict outcomes; Programming — create, test and debug purposeful programs; Data and information — collect, organise and interpret data; Digital literacy — recognise responsible choices and seek help

AUTUMN	SPRING	SUMMER
• Recognise that photos can be changed. • Use a digital device to take a photograph. **Computing application — by the end of this unit, pupils will be able to…** • Use a digital device to take a photograph. • Make choices when taking a photograph. • Use tools to change an image. **Essential vocabulary** digital • photography • device • take • photograph • make • choices • when **End-of-unit evidence** Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use. **Term-to-term coherence** Builds on: Technology around us. Prepares for: Connecting Computers.	use expectations taught through Pictograms. • Recognise that we can count and compare objects using tally charts. • Recognise that objects can be represented as pictures. • Recognise that people can be described by attributes. **Computing application — by the end of this unit, pupils will be able to…** • Create a pictogram. • Select objects by attribute and make comparisons. **Essential vocabulary** pictograms • recognise • count • compare • objects • tally • charts • represented **End-of-unit evidence** Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use. **Term-to-term coherence** Builds on: Programming A – Moving A Robot. Prepares for: Sequencing Sounds.	**End-of-unit evidence** Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use. **Term-to-term coherence** Builds on: Digital Writing. Prepares for: Desktop Publishing.

COMPUTING CURRICULUM

Year 3 • curriculum sequence, vocabulary and assessable end points

PROGRESSION FOCUS

Computational thinking — design algorithms using selection or repetition; Programming — use variables, selection and repetition; Data and information — select structures and identify patterns; Digital literacy — evaluate content and protect information

AUTUMN

Connecting Computers

Connecting Computers

Teaching objectives

- Explain how digital devices function.
- Identify input and output devices.
- Recognise how digital devices can change the way we work.
- Explain how a computer network can be used to share information.
- Explore how digital devices can be connected.
- Recognise the physical components of a network.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Connecting Computers.
- Explain how digital devices function.
- Identify input and output devices.
- Recognise how digital devices can change the way we work.

Computing application — by the end of this unit, pupils will be able to…

- Explore how digital devices can be connected.

Essential vocabulary

connecting • computers • digital • devices • function • input • output • recognise

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Stop Frame Animation

Teaching objectives

- Explain that animation is a sequence of drawings or photographs.
- Relate animated movement with a sequence of images.
- Plan an animation.
- Identify the need to work consistently and carefully.
- Review and improve an animation.
- Evaluate the impact of adding other media to an animation.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Stop Frame Animation.
- Explain that animation is a sequence of drawings or photographs.
- Identify the need to work consistently and carefully.

SPRING

Sequencing Sounds

Sequencing Sounds

Teaching objectives

- Explore a new programming environment.
- Identify that commands have an outcome.
- Explain that a program has a start.
- Recognise that a sequence of commands can have an order.
- Change the appearance of my project.
- Create a project from a task description.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Sequencing Sounds.
- Identify that commands have an outcome.
- Explain that a program has a start.
- Recognise that a sequence of commands can have an order.

Computing application — by the end of this unit, pupils will be able to…

- Explore a new programming environment.
- Create a project from a task description.

Essential vocabulary

sequencing • sounds • programming • environment • commands • have • outcome • program

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Branching Databases

Teaching objectives

- Create questions with yes/no answers.
- Identify the attributes needed to collect data about an object.
- Create a branching database.
- Explain why it is helpful for a database to be well structured.
- Plan the structure of a branching database.
- Independently create an identification tool.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Branching Databases.
- Identify the attributes needed to collect data about an object.
- Explain why it is helpful for a database to be well structured.
- Create questions with yes/no answers.

Computing application — by the end of this unit, pupils will

SUMMER

Desktop Publishing

Algorithms

Teaching objectives

- Creating Media.
- Design & Development.
- Effective Use of Tools.
- Programming.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Algorithms.
- Creating Media.
- Design & Development.
- Effective Use of Tools.

Computing application — by the end of this unit, pupils will be able to…

- Design & Development.

Essential vocabulary

algorithms • creating • media • design • development • effective • tools • programming

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Design & Development

Teaching objectives

- Data & Information.
- Effective Use of Tools.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Design & Development.
- Data & Information.
- Effective Use of Tools.

Computing application — by the end of this unit, pupils will be able to…

- Data & Information.
- Effective Use of Tools.

Essential vocabulary

design • development • data • information • effective • tools • algorithm • program

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Term-to-term coherence

Builds on: Digital Music. Prepares for: Photo Editing.

COMPUTING CURRICULUM

Year 3 • curriculum sequence, vocabulary and assessable end points

PROGRESSION FOCUS

Computational thinking — design algorithms using selection or repetition; Programming — use variables, selection and repetition; Data and information — select structures and identify patterns; Digital literacy — evaluate content and protect information

AUTUMN	SPRING	SUMMER
• Relate animated movement with a sequence of images. **Computing application — by the end of this unit, pupils will be able to…** • Plan an animation. • Evaluate the impact of adding other media to an animation. **Essential vocabulary** stop • frame • animation • sequence • drawings • photographs • relate • animated **End-of-unit evidence** Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use. **Term-to-term coherence** Builds on: IT Around Us. Prepares for: The Internet.	**be able to…** • Create questions with yes/no answers. • Create a branching database. • Plan the structure of a branching database. **Essential vocabulary** branching • databases • create • questions • answers • attributes • needed • collect **End-of-unit evidence** Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use. **Term-to-term coherence** Builds on: Programming A – Robot Algorithms. Prepares for: Repetition in Shapes.	

COMPUTING CURRICULUM

Year 4 • curriculum sequence, vocabulary and assessable end points

PROGRESSION FOCUS

Computational thinking — design algorithms using selection or repetition; Programming — use variables, selection and repetition; Data and information — select structures and identify patterns; Digital literacy — evaluate content and protect information

AUTUMN

The Internet

The Internet

Teaching objectives

- Describe how networks physically connect to other networks.
- Recognise how networked devices make up the internet.
- Outline how websites can be shared via the World Wide Web (WWW).
- Describe how content can be added and accessed on the World Wide Web (WWW).
- Recognise how the content of the WWW is created by people.
- Evaluate the consequences of unreliable content.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through The Internet.
- Describe how networks physically connect to other networks.
- Recognise how networked devices make up the internet.
- Describe how content can be added and accessed on the World Wide Web (WWW).

Computing application — by the end of this unit, pupils will be able to…

- Evaluate the consequences of unreliable content.

Essential vocabulary

internet • describe • networks • physically • connect • other • recognise • networked

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Audio Production

Teaching objectives

- Identify that sound can be recorded.
- Explain that audio recordings can be edited.
- Recognise the different parts of creating a podcast project.
- Apply audio editing skills independently.
- Combine audio to enhance my podcast project.
- Evaluate the effective use of audio.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Audio Production.
- Identify that sound can be recorded.
- Explain that audio recordings can be edited.

SPRING

Repetition in Shapes

Repetition in Shapes

Teaching objectives

- Identify that accuracy in programming is important.
- Create a program in a text-based language.
- Explain what ‘repeat’ means.
- Modify a count-controlled loop to produce a given outcome.
- Decompose a task into small steps.
- Create a program that uses count-controlled loops to produce a given outcome.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Repetition in Shapes.
- Identify that accuracy in programming is important.
- Explain what ‘repeat’ means.
- Create a program in a text-based language.

Computing application — by the end of this unit, pupils will be able to…

- Create a program in a text-based language.
- Create a program that uses count-controlled loops to produce a given outcome.

Essential vocabulary

repetition • shapes • accuracy • programming • important • create • program • text-based

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Data Logging

Teaching objectives

- Explain that data gathered over time can be used to answer questions.
- Use a digital device to collect data automatically.
- Explain that a data logger collects ‘data points’ from sensors over time.
- Recognise how a computer can help us analyse data.
- Identify the data needed to answer questions.
- Use data from sensors to answer questions.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Data Logging.

SUMMER

Photo Editing

Algorithms

Teaching objectives

- Effective Use of Tools.
- Programming.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Algorithms.
- Effective Use of Tools.
- Programming.

Computing application — by the end of this unit, pupils will be able to…

- Effective Use of Tools.
- Programming.

Essential vocabulary

algorithms • effective • tools • programming • algorithm • program • input • output

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Computing Systems

Teaching objectives

- Data & Information.
- Effective Use of Tools.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Computing Systems.
- Data & Information.
- Effective Use of Tools.

Computing application — by the end of this unit, pupils will be able to…

- Data & Information.
- Effective Use of Tools.

Essential vocabulary

computing • systems • data • information • effective • tools • algorithm • program

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Term-to-term coherence

Builds on: Desktop Publishing. Prepares for: Intro to Vector Graphics.

COMPUTING CURRICULUM

Year 4 • curriculum sequence, vocabulary and assessable end points

PROGRESSION FOCUS

Computational thinking — design algorithms using selection or repetition; Programming — use variables, selection and repetition; Data and information — select structures and identify patterns; Digital literacy — evaluate content and protect information

AUTUMN	SPRING	SUMMER
• Recognise the different parts of creating a podcast project. **Computing application — by the end of this unit, pupils will be able to…** • Apply audio editing skills independently. • Evaluate the effective use of audio. **Essential vocabulary** audio • production • sound • recorded • recordings • edited • recognise • parts **End-of-unit evidence** Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use. **Term-to-term coherence** Builds on: Connecting Computers. Prepares for: Systems and searching.	• Explain that data gathered over time can be used to answer questions. • Explain that a data logger collects 'data points' from sensors over time. • Recognise how a computer can help us analyse data. **Computing application — by the end of this unit, pupils will be able to…** • Use a digital device to collect data automatically. • Use data from sensors to answer questions. **Essential vocabulary** data • logging • gathered • over • time • used • answer • questions **End-of-unit evidence** Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use. **Term-to-term coherence** Builds on: Sequencing Sounds. Prepares for: Selection in Physical Computing.	

COMPUTING CURRICULUM

Year 5 • curriculum sequence, vocabulary and assessable end points

PROGRESSION FOCUS

Computational thinking — abstract, generalise and evaluate alternative solutions; Programming — design modular programs and explain debugging decisions; Data and information — evaluate data quality and choose effective representations; Digital literacy — judge reliability, manage privacy and act responsibly

AUTUMN

Systems and searching

Systems and searching

Teaching objectives

- Explain that computers can be connected together to form systems.
- Recognise the role of computer systems in our lives.
- Experiment with search engines.
- Describe how search engines select results.
- Explain how search results are ranked.
- Recognise why the order of results is important, and to whom.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Systems and searching.
- Explain that computers can be connected together to form systems.
- Recognise the role of computer systems in our lives.
- Describe how search engines select results.

Computing application — by the end of this unit, pupils will be able to…

- Describe how search engines select results.
- Explain how search results are ranked.
- Recognise why the order of results is important, and to whom.

Essential vocabulary

systems • searching • computers • connected • together • form • recognise • role

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Video Production

Teaching objectives

- Explain what makes a video effective.
- Identify digital devices that can record video.
- Capture video using a range of techniques.
- Create a storyboard.
- Identify that video can be improved through reshooting and editing.
- Consider the impact of the choices made when making and sharing a video.

Essential knowledge — by the end of this unit, pupils will know…

SPRING

Selection in Physical Computing

Selection in Physical Computing

Teaching objectives

- Control a simple circuit connected to a computer.
- Write a program that includes count-controlled loops.
- Explain that a loop can stop when a condition is met.
- Explain that a loop can be used to repeatedly check whether a condition has been met.
- Design a physical project that includes selection.
- Create a program that controls a physical computing project.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Selection in Physical Computing.
- Explain that a loop can stop when a condition is met.
- Explain that a loop can be used to repeatedly check whether a condition has been met.
- Control a simple circuit connected to a computer.

Computing application — by the end of this unit, pupils will be able to…

- Write a program that includes count-controlled loops.
- Design a physical project that includes selection.
- Create a program that controls a physical computing project.

Essential vocabulary

selection • physical • computing • control • simple • circuit • connected • computer

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Flat file databases

Teaching objectives

- Use a form to record information.
- Compare paper and computer-based databases.
- Outline how you can answer questions by grouping and then sorting data.
- Explain that tools can be used to select specific data.
- Explain that computer programs can be used to compare data visually.
- Use a real-world database to answer questions.

Essential knowledge — by the end of this unit, pupils will

SUMMER

Intro to Vector Graphics

Intro to Vector Graphics

Teaching objectives

- Identify that drawing tools can be used to produce different outcomes.
- Create a vector drawing by combining shapes.
- Use tools to achieve a desired effect.
- Recognise that vector drawings consist of layers.
- Group objects to make them easier to work with.
- Apply what I have learned about vector drawings.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Intro to Vector Graphics.
- Identify that drawing tools can be used to produce different outcomes.
- Recognise that vector drawings consist of layers.
- Create a vector drawing by combining shapes.

Computing application — by the end of this unit, pupils will be able to…

- Create a vector drawing by combining shapes.
- Use tools to achieve a desired effect.
- Group objects to make them easier to work with.

Essential vocabulary

intro • vector • graphics • drawing • tools • used • produce • outcomes

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Selection in Quizzes

Teaching objectives

- Explain how selection is used in computer programs.
- Relate that a conditional statement connects a condition to an outcome.
- Explain how selection directs the flow of a program.
- Design a program which uses selection.
- Create a program which uses selection.
- Evaluate my program.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Selection in Quizzes.
- Explain how selection is used in computer programs.
- Explain how selection directs the flow of a program.
- Relate that a conditional statement connects a condition to an outcome.

Computing application — by the end of this unit, pupils will be able to…

- Design a program which uses selection.
- Create a program which uses selection.

COMPUTING CURRICULUM

Year 5 • curriculum sequence, vocabulary and assessable end points

PROGRESSION FOCUS

Computational thinking — abstract, generalise and evaluate alternative solutions; Programming — design modular programs and explain debugging decisions; Data and information — evaluate data quality and choose effective representations; Digital literacy — judge reliability, manage privacy and act responsibly

AUTUMN

• The key computing concepts, technical vocabulary and safe-use expectations taught through Video Production.
• Explain what makes a video effective.
• Identify digital devices that can record video.
• Identify that video can be improved through reshooting and editing.

Computing application — by the end of this unit, pupils will be able to…

• Create a storyboard.

Essential vocabulary

video • production • what • makes • effective • digital • devices • record

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Term-to-term coherence

Builds on: The Internet. Prepares for: Communication and collaboration.

SPRING

know…

• The key computing concepts, technical vocabulary and safe-use expectations taught through Flat file databases.
• Compare paper and computer-based databases.
• Explain that tools can be used to select specific data.
• Explain that computer programs can be used to compare data visually.

Computing application — by the end of this unit, pupils will be able to…

• Use a form to record information.
• Use a real-world database to answer questions.

Essential vocabulary

flat • file • databases • form • record • information • compare • paper

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Term-to-term coherence

Builds on: Repetition in Shapes. Prepares for: Variables in Games.

SUMMER

• Evaluate my program.

Essential vocabulary

selection • quizzes • used • computer • programs • relate • conditional • statement

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Term-to-term coherence

Builds on: Photo Editing. Prepares for: 3D Modelling.

COMPUTING CURRICULUM

Year 6 • curriculum sequence, vocabulary and assessable end points

PROGRESSION FOCUS

Computational thinking — abstract, generalise and evaluate alternative solutions; Programming — design modular programs and explain debugging decisions; Data and information — evaluate data quality and choose effective representations; Digital literacy — judge reliability, manage privacy and act responsibly

AUTUMN

Communication and collaboration

Communication and collaboration

Teaching objectives

- Explain the importance of internet addresses.
- Recognise how data is transferred across the internet.
- Explain how sharing information online can help people to work together.
- Evaluate different ways of working together online.
- Recognise how we communicate using technology.
- Evaluate different methods of online communication.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Communication and collaboration.
- Explain the importance of internet addresses.
- Recognise how data is transferred across the internet.
- Explain how sharing information online can help people to work together.

Computing application — by the end of this unit, pupils will be able to…

- Evaluate different ways of working together online.
- Evaluate different methods of online communication.

Essential vocabulary

communication • collaboration • importance • internet • addresses • recognise • data • transferred

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Web page creation

Teaching objectives

- Review an existing website and consider its structure.
- Plan the features of a web page.
- Consider the ownership and use of images (copyright).
- Recognise the need to preview pages.
- Outline the need for a navigation path.
- Recognise the implications of linking to content owned by other people.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-

SPRING

Variables in Games

Variables in Games

Teaching objectives

- Define a ‘variable’ as something that is changeable.
- Explain why a variable is used in a program.
- Choose how to improve a game by using variables.
- Design a project that builds on a given example.
- Use my design to create a project.
- Evaluate my project.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Variables in Games.
- Explain why a variable is used in a program.
- Define a ‘variable’ as something that is changeable.
- Choose how to improve a game by using variables.

Computing application — by the end of this unit, pupils will be able to…

- Design a project that builds on a given example.
- Use my design to create a project.
- Evaluate my project.

Essential vocabulary

variables • games • define • variable • something • changeable • used • program

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Spreadsheets

Teaching objectives

- Create a data set in a spreadsheet.
- Build a data set in a spreadsheet.
- Explain that formulas can be used to produce calculated data.
- Apply formulas to data.
- Create a spreadsheet to plan an event.
- Choose suitable ways to present data.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Spreadsheets.
- Explain that formulas can be used to produce calculated data.
- Create a data set in a spreadsheet.

SUMMER

3D Modelling

Design & Development

Teaching objectives

- Programming.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Design & Development.
- Programming.

Computing application — by the end of this unit, pupils will be able to…

- Programming.

Essential vocabulary

design • development • programming • algorithm • program • input • output • data

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Creating Media

Teaching objectives

- Data & Information.
- Effective Use of Tools.
- Programming.

Essential knowledge — by the end of this unit, pupils will know…

- The key computing concepts, technical vocabulary and safe-use expectations taught through Creating Media.
- Data & Information.
- Effective Use of Tools.
- Programming.

Computing application — by the end of this unit, pupils will be able to…

- Data & Information.
- Effective Use of Tools.
- Programming.

Essential vocabulary

creating • media • data • information • effective • tools • programming • algorithm

End-of-unit evidence

Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use.

Term-to-term coherence

Builds on: Intro to Vector Graphics. Prepares for: the next phase of subject learning.

COMPUTING CURRICULUM

Year 6 • curriculum sequence, vocabulary and assessable end points

PROGRESSION FOCUS

Computational thinking — abstract, generalise and evaluate alternative solutions; Programming — design modular programs and explain debugging decisions; Data and information — evaluate data quality and choose effective representations; Digital literacy — judge reliability, manage privacy and act responsibly

AUTUMN	SPRING	SUMMER
use expectations taught through Web page creation. • Recognise the need to preview pages. • Recognise the implications of linking to content owned by other people. • Review an existing website and consider its structure. **Computing application — by the end of this unit, pupils will be able to…** • Plan the features of a web page. **Essential vocabulary** page • creation • review • existing • website • consider • structure • plan **End-of-unit evidence** Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use. **Term-to-term coherence** Builds on: Systems and searching. Prepares for: the next phase of subject learning.	• Build a data set in a spreadsheet. **Computing application — by the end of this unit, pupils will be able to…** • Create a data set in a spreadsheet. • Apply formulas to data. • Create a spreadsheet to plan an event. **Essential vocabulary** spreadsheets • create • data • spreadsheet • build • formulas • used • produce **End-of-unit evidence** Create or explain a digital outcome, test it for purpose, correct identified problems and demonstrate safe, responsible use. **Term-to-term coherence** Builds on: Selection in Physical Computing. Prepares for: the next phase of subject learning.	