St. Stephen's School and Children's Centre
Learning for life

# Computing Overview
# Breadth of Study

St. Stephen's School and Children's Centre
Learning for life

## Staff Online Safety Expectations

- All staff are responsible for ensuring children know how to use technology safely and how to seek help if they feel uncomfortable about anything they encounter online.
- All staff should embed their Year Group's 'Golden Rule' as well as review the previous year's rules.
- Online safety should be discussed every time children use technology during their learning.
- Teachers should consider cross curricular links to Online Safety when teaching other subjects.

## Pupil Online Safety Golden Rules

Reception - I keep my personal information safe.
Year 1 - I know who to trust online.
Year 2 - I know that some things on the internet are dangerous.
Year 3 - I know how to have a positive digital footprint.
Year 4 - I know how to ask for help and report things online that make me uncomfortable.
Year 5 - I have healthy, respectful relationships online.
Year 6 - I know how to be a discerning consumer of information online.

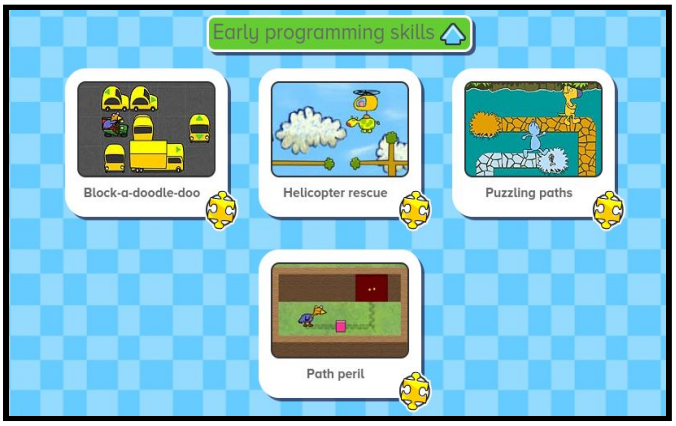
## Early Years Foundation Stage

**National Curriculum (EYFS Statutory Framework):**

**Technology:** Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.

**Coordinator Expectations:**

- **Computer Science:** BeeBots - Children can create a simple algorithm using BeeBot App. Children test their programming using a maze.
- **Information Technology:** Children use Busy Things to explore early IT skills including drawing and programming as well as mouse and keyboard control.





Unicef RRS Article 31: Every child has the right to relax, play and take part in a wide range of cultural and artistic activities.

Quizzing: Many games on Busy Things in particular can be used to QUIZ chn on their other areas of learning while also allowing them to develop digital literacy skills

## EYFS Online Safety

**Spring 1: Jesse and Friends** Online Safety Education Scheme, (Lesson 1 - Watching Videos)
**Golden Rule:** *I keep my personal information safe.*

Children understand what being online may look like, the different feelings we can experience online and how to identify adults who can help.
Children explain how something online might make someone feel worried or sad.
Children recognise different feelings.
Children identify up to four adults in their lives who can help if they have a problem online.

# Key Stage 1

## KS1 Online Safety Expectations

- I know that people sometimes behave differently online, including by pretending to be someone they are not.
- I know that the same principles apply to online relationships as to face-to-face relationships, including the importance of respect for others online including when we are anonymous.
- I know the rules and principles for keeping safe online, how to recognise risks, harmful content and contact, and how to report them.
- I know how information and data is shared and used online.
- I know that for most people the internet is an integral part of life and has many benefits.
- I know about the benefits of rationing time spent online, the risks of excessive time spent on electronic devices and the impact of positive and negative content online on their own and others' mental and physical wellbeing.
- I know how to consider the effect of their online actions on others and know how to recognise and display respectful behaviour online and the importance of keeping personal information private.
- I know where and how to report concerns and get support with issues online.

Year 1

| Autumn | Spring | Summer |
|---|---|---|
| **National curriculum**<br>**Pupils should be taught to:**<br>• Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions<br>• Create and debug simple programs<br>• Use logical reasoning to predict the behaviour of simple programs | **National curriculum**<br>**Pupils should be taught to:**<br>• Recognise common uses of information technology beyond school<br>• 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 | **National curriculum**<br>**Pupils should be taught to:**<br>• Use technology purposefully to create, organise, store, manipulate and retrieve digital content |
| **Co-ordinator expectations:**<br><br>**Autumn 1**<br>**Computer Basics**<br>(Kapow 'Getting Started' Topic)<br>• Children understand that computers are used for a purpose.<br>• Children use computers purposefully, logging in using their own credentials.<br>• Children develop confident mouse skills, learning how to drag, drop, click and control their cursor to create works of art (inspired by Kandinsky) and self-portraits.<br>**Mouse Games**:Primary Games Arena - Fun Curriculum Games<br>• Children develop their keyboard skills, including speed and fluency of typing.<br>**Keyboard Games**: Dance Mat Typing<br><br>**Autumn 2**<br>**Programming: Bee Bots**<br>(Kapow Programming: Beebots" Topic)<br>• Children use Bee Bots to navigate an area and construct simple algorithms, through the story of the Three Little Pigs.<br>• Children explore its functions creating a video to explain its capabilities.<br>• Children undertake an unplugged activity, creating a world for Bee-Bots to explain and programming their Bee-Bot to tell a story.<br>  | **Co-ordinator expectations**<br><br>**Spring 1**<br>**Online Safety: Hector's World**<br><br>**Unicef RRS Article 16:** Every child has the right to privacy. The law should protect the child's private, family and home life, including protecting children from unlawful attacks that harm their reputation.<br>• Children know what personal information is, who it should be shared with and how it can be used.<br>• Children know how to protect themselves and their personal information.<br>• Children know how to assess if a person is trustworthy.<br>• Children can identify when they feel unsafe when using technology.<br>• Children know how to report, seek advice or help when they feel unsafe when using technology.<br><br>**Spring 2**<br>**Data: Introduction to Data**<br>(Kapow 'Introduction to Data' Topic)<br>• Children learn what data is and the different ways that it can be represented both with and without a computer.<br>• Children develop their understanding of why data is useful, how it can be used and ways in which it can be gathered and recorded by both humans and computers. | **Co-ordinator expectations**<br><br>**Summer 1**<br>**Multimedia Project: Photo Story**<br>**'Golden Rule' link:** I know who to trust online. **Be Internet Secure**<br>(Kapow 'Digital Imagery' Topic)<br>**Unicef RRS Article 12:** Every child has the right to express their views, feelings and wishes in all matters affecting them, and to have their views considered and taken seriously.<br>• Chn use their creativity and imagination to plan a miniature adventure story and capture it using their developing photography skills.<br>• Children learn to enhance their photos using a range of editing tools as well as searching for and adding other images to their project, resulting in a high quality photo collage showcase.<br><br>**Quizzing**: Chn use their knowledge of Online Safety gained in Sp1 to create their ideas for their digital media project.<br><br>**Summer 2**<br>**Skills Showcase: Rocket to the Moon**<br>(Kapow 'Rocket to the Moon' Topic)<br>**Unicef RRS Article 31:** Every child has the right to relax, play and take part in a wide range of cultural and artistic activities.<br>• Through designing, building and testing their own rockets, children develop their keyboard and mouse skills.<br>• They create a digital list of materials using drawing software and recording data.<br>• Children develop their computational skills through sequencing and debugging a set of instructions. |

Year 2

| Autumn | Spring | Summer |
|---|---|---|
| **National curriculum**<br><br>**Pupils should be taught to:**<br><br>• Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions<br>• Create and debug simple programs<br>• Use logical reasoning to predict the behaviour of simple programs | **National curriculum**<br><br>**Pupils should be taught to:**<br><br>• Recognise common uses of information technology beyond school<br>• 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 | **National curriculum**<br><br>**Pupils should be taught to:**<br><br>• Use technology purposefully to create, organise, store, manipulate and retrieve digital content |
| **Co-ordinator expectations:**<br><br>**Autumn 1**<br>**Computer Basics: What is a Computer?**<br>(Kapow 'What is a Computer?" Topic)<br><br>• Children explore exactly what a computer is, identifying and learning how inputs and outputs work, how computers are used in the wider world and designing their own computerised invention.<br>• Word Processing: Using Google Docs to write simple messages to friends (Link to RSE Relationships online).<br><br>Quizzing: Each week children should recap the technical vocabulary they have encountered previously ( See Computing Vocabulary List for technical definitions).<br><br>**Autumn 2**<br>**Programming: Scratch Jr**<br>(Kapow 'Scratch Jr" Topic)<br><br>• Children explore what 'blocks' do by carrying out an informative cycle of predict > test > review.<br>• Children programme a familiar story and an animation of an animal.<br>• Children make their own musical instruments and follow an algorithm to record a joke.<br><br>Quizzing: Chn compare how the Scratch Jr programming blocks and system is similar to the Bee Bot Programming they learned in Year 1.<br><br>  | **Co-ordinator expectations:**<br><br>**Spring 1**<br>**Online Safety: Lee and Kim +**<br>**Online Smartie the Penguin Learning Book**<br><br>**Unicef RRS Article 16:** Every child has the right to privacy. The law should protect the child's private, family and home life, including protecting children from unlawful attacks that harm their reputation.<br><br>• Children understand what personal information is and how to identify trusted adults who can help.<br>• Children understand that personal information should not be shared and they have the right to say 'no'.<br>• Children understand behaviours others value both online and off.<br>• Children understand what a password is,, what makes a good password and why we have them.<br>• Children understand that not everything on the internet is true.<br>• Children know that some websites can be dangerous to your computer and know how to report them.<br><br>**Spring 2**<br>**Data: International Space Station**<br>(Kapow 'International Space Station' Topic)<br><br>• Children build on their understanding of how computers sense the world around us.<br>• Children learn how data is collected, used and displayed to keep astronauts safe onboard the ISS | **Co-ordinator expectations:**<br><br>**Summer 1**<br>**Multimedia Project: Stop Motion**<br>**'Golden Rules' link:** I know that some things on the internet are dangerous.<br>(Kapow 'Stop Motion' Topic)<br><br>**Unicef RRS Article 29:** Education must develop every child's talents and abilities to the full. It must encourage the child's respect for their parents, their own and other cultures and the environment.<br><br>• Children discuss all they have learned about online safety both this year and in previous years and use their ideas as the basis of their projects, with a focus on their 'Golden Rule'..<br>• Children create simple animations, storyboarding their ideas then decomposing it into small parts of action.<br>• Children capture their story using stop motion animation software.<br><br>Quizzing: Chn use their knowledge of Online Safety gained in Spring 1 to create their ideas for their digital media project.<br><br>**Summer 2**<br>**Skills Showcase: Algorithms and Debugging**<br>(Kapow 'Algorithms and Debugging' Topic)<br><br>**Unicef RRS Article 31:** Every child has the right to relax, play and take part in a wide range of cultural and artistic activities.<br><br>• Children complete both plugged and unplugged activities to develop their understanding of;<br>• What algorithms are, how to program them and how they can be developed to be more efficient, introducing pupils to loops.<br><br>Quizzing: Chn have a computing vocabulary quiz throughout this unit to both recap and retain the coding language they have learned throughout Autumn 2, Spring 2 and Summer 2. |

# Key Stage 2

## KS2 Online Safety Expectations

- I know that people sometimes behave differently online, including by pretending to be someone they are not.
- I know that the same principles apply to online relationships as to face-to-face relationships, including the importance of respect for others online including when we are anonymous.
- I know the rules and principles for keeping safe online, how to recognise risks, harmful content and contact, and how to report them.
- I know how to critically consider their online friendships and sources of information including awareness of the risks associated with people they have never met.
- I know how information and data is shared and used online.
- I know that for most people the internet is an integral part of life and has many benefits.
- I know about the benefits of rationing time spent online, the risks of excessive time spent on electronic devices and the impact of positive and negative content online on their own and others' mental and physical wellbeing.
- I know how to consider the effect of their online actions on others and know how to recognise and display respectful behaviour online and the importance of keeping personal information private.
- I know why social media, some computer games and online gaming, for example, are age restricted.
- I know that the internet can also be a negative place where online abuse, trolling, bullying and harassment can take place, which can have a negative impact on mental health.
- I know how to be a discerning consumer of information online including understanding that information, including that from search engines, is ranked, selected and targeted.
- I know where and how to report concerns and get support with issues online.

## Year 3

### Autumn

**National curriculum**

**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

**Co-ordinator expectations**

**Autumn 1**
**Computer Basics: Journey inside a computer**
(Kapow 'Journey inside a computer' Topic)

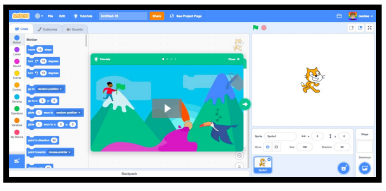
- Children learn about the different parts of a computer through role-play and develop their understanding of how they follow instructions.
- Typing Club to improve speed and fluency of typing.

Quizzing: Each week children should recap the technical vocabulary they have encountered previously ( See Computing Vocabulary List for technical definitions).

**Autumn 2**
**Programming: Scratch**
(Kapow 'Scratch' Topic)

- Using scratch, with its block-based approach to coding, pupils learn to tell stories and create simple games.

Quizzing: Chn compare how the Scratch programming blocks and system is similar to the Scratch Jr Programming they learned in Year 1.



### Spring

**National curriculum**

**Pupils should be taught to:**
- 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

**Co-ordinator expectations**

**Spring 1**
**Online Safety: Be Internet Legends**
**Be Sharp: Think Before You Share**

**Unicef RRS Article 16:** Every child has the right to privacy. The law should protect the child's private, family and home life, including protecting children from unlawful attacks that harm their reputation.

Golden Rule: Children know what it means to have a positive digital footprint.

- Children explain what it means to have a positive digital footprint, and why it is important.
- Children can explain things someone can do to build a positive digital footprint.

**Outcome:** Children create a 'digital marketing campaign' to share the message of their online safety rule.

SEND Online Safety: Know your friends with Josh and Sue:
- Being kind online
- How nasty comments make others feel sad.
- Sharing online
- Contact from strangers
- Seeking help

**Spring 2**
**Top Trumps Databases**
(Kapow 'Top Trumps Databases' Topic)

- Developing their understanding of data and databases, children play with and create their own Top Trumps cards learning how to interpret information by ordering and filtering.

### Summer

**National curriculum**

**Pupils should be taught to:**
- Use technology purposefully to create, organise, store, manipulate and retrieve digital content

**Co-ordinator expectations**

**Summer 1**
**Multimedia Project: Book Trailer**
**'Golden Rules' link:** I know how to have a positive digital footprint.
(Kapow 'Digital Literacy' Topic)
**Unicef RRS Article 29:** Education must develop every child's talents and abilities to the full. It must encourage the child's respect for their parents, their own and other cultures and the environment.

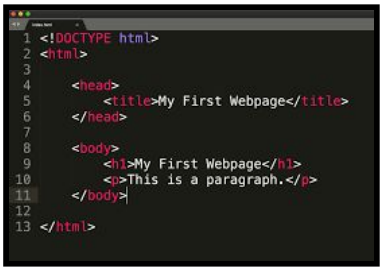
- Children discuss all they have learned about online safety both this year and in previous years and use their ideas as the basis of their projects, with a focus on their 'Golden Rule'.
- Children create a book trailer, storyboarding their trailers before then filming and editing their videos, adding effects such as transitions, music, voice and text.

Quizzing: Chn use their knowledge of Online Safety gained in Spring 1 to create their ideas for their digital media project.

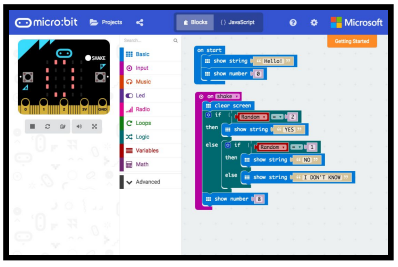
**Summer 2**
**Skills Showcase:Networks**
(Kapow 'Top Trumps Databases' Topic)
**Unicef RRS Article 29:** Education must develop every child's talents and abilities to the full.

- Children are introduced to the concept of networks, allowing them to better understand how devices communicate. From identifying components, children learn how information is shared and deepen their understanding by exploring lots of examples of real world networks.
- Children build this conceptual understanding and develop their other computing skills by creating an animation, video, poster and map

Year 4

| Autumn | Spring | Summer |
|---|---|---|
| **National curriculum**<br><br>**Pupils should be taught to:**<br><br>• Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions<br>• Create and debug simple programs<br>• Use logical reasoning to predict the behaviour of simple programs | **National curriculum**<br><br>**Pupils should be taught to:**<br><br>• Recognise common uses of information technology beyond school<br>• 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 | **National curriculum**<br><br>**Pupils should be taught to:**<br><br>• Use technology purposefully to create, organise, store, manipulate and retrieve digital content |
| **Co-ordinator expectations**<br><br>**Autumn 1**<br>**Computer Basics: Collaborative Learning**<br>(Kapow 'Collaborative Learning' Topic)<br><br>• Children learn to work collaboratively in a responsible way using tools including Google Docs and Sheets.<br><br>Quizzing: Each week children should recap the technical vocabulary they have encountered previously ( See Computing Vocabulary List for technical definitions).<br><br>**Autumn 2**<br>**Programming: HTML**<br>(Kapow 'HTML' Topic)<br><br>**Unicef RRS Article 17:** Every child has the right to reliable information from a variety of sources, and the government should encourage the media to provide information that children can understand. Governments must help protect children from materials that could harm them.<br><br>• Children learn about the markup language behind a webpage; becoming familiar with HTML tags, changing HTML to CSS code to alter images and 'remixing' a website's text and images to create a fake news story<br><br>Quizzing: Chn compare how the Lego Wedo programming blocks and system is similar to the Scratch Programming they learned in Year 1.<br><br>  <br> | **Co-ordinator expectations**<br><br>**Spring 1**<br>**Online Safety: Be Internet Legends**<br>**Be Secure: Protect Your Stuff**<br><br>**Unicef RRS Article 16:** Every child has the right to privacy. The law should protect the child's private, family and home life, including protecting children from unlawful attacks that harm their reputation.<br><br>Golden Rule: I know how to ask for help and report things online that make me uncomfortable.<br><br>• Children explain why it's important to keep personal information private online.<br>• Children describe ways to keep personal information private online using safety tools and privacy settings.<br>• Children describe how to find and ask for help if someone feels unsafe online.<br><br>**Outcome:** Children create a 'digital marketing campaign' to share the message of their online safety rule.<br><br>SEND Online Safety: Know your friends with Josh and Sue:<br>• Being kind online<br>• How nasty comments make others feel sad.<br>• Sharing online<br>• Contact from strangers<br>• Seeking help<br><br>**Spring 2**<br>**Data: How the Internet Works**<br>(Kapow 'How the Internet Works' Topic)<br><br>**Unicef RRS Article 17:** Every child has the right to reliable information from a variety of sources, and the government should encourage the media to provide information that children can understand. Governments must help protect children from materials that could harm them.<br><br>• Children understand that, though we use the internet every day, 30 years ago it didn't exist.<br>• Children learn how data is transferred around the world using the World Wide Web.<br><br>Quizzing: Chn consider where else in History they have learned that people do not enjoy the same rights and privileges that we have today. | **Co-ordinator expectations**<br><br>**Summer 1**<br>**Multimedia Skills Project: Website Design**<br>**'Golden Rules' link:** I know how to ask for help and report things online that make me uncomfortable.<br><br>**Unicef RRS Article 12:** Every child has the right to express their views, feelings and wishes in all matters affecting them, and to have their views considered and taken seriously.<br><br>(Kapow 'Website Design' Topic)<br><br>• Children discuss all they have learned about online safety both this year and in previous years and use their ideas as the basis of their projects, with a focus on their 'Golden Rule'.<br>• Pupils design and create their own websites, considering content and style as well as understanding the importance of working collaboratively.<br><br>Quizzing: Chn use their knowledge of Online Safety gained in Spring 1 to create their ideas for their digital media project.<br><br>**Summer 2**<br>**Skills Showcase: Computational Thinking**<br>(Kapow 'Computational Thinking' Topic)<br><br>**Unicef RRS Article 29:** Education must develop every child's talents and abilities to the full. It must encourage the child's respect for their parents, their own and other cultures and the environment.<br><br>• Children use their skills and understanding of computers to solve problems.<br>• They learn the four skill areas needed to solve problems effectively: abstraction, algorithm design, decomposition and pattern recognition.<br>• Pupils explore and apply these skills in a range of plugged and unplugged activities before being challenged to complete an independent programming challenge.<br><br>Quizzing: Chn have a computing vocabulary quiz throughout this unit to both recap and retain the coding language they have learned throughout Autumn 2, Spring 2 and Summer 2. |

Year 5

| Autumn | Spring | Summer |
|---|---|---|
| **National curriculum**<br><br>**Pupils should be taught to:**<br><br>• Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions<br>• Create and debug simple programs<br>• Use logical reasoning to predict the behaviour of simple programs | **National curriculum**<br><br>**Pupils should be taught to:**<br><br>• Recognise common uses of information technology beyond school<br>• 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 | **National curriculum**<br><br>**Pupils should be taught to:**<br><br>• Use technology purposefully to create, organise, store, manipulate and retrieve digital content |
| **Co-ordinator expectations**<br><br>**Autumn 1**<br>**Computer Basics: Search Engines**<br>(Kapow 'Search Engines' Topic)<br><br>• Children learn to quickly and accurately find information and become independent learners.<br>• They develop their searching skills and learn to identify trustworthy sources.<br>• Typing Club to improve speed and fluency of typing.<br><br>Quizzing: Each week children should recap the technical vocabulary they have encountered previously ( See Computing Vocabulary List for technical definitions).<br><br>**Autumn 2**<br>**Programming: Micro:bit**<br>(Kapow 'Micro:bit' Topic)<br><br>• Children programme a small device called a mico:bit to display animations or messages on its simple LED display using block coding.<br><br>Quizzing: Chn compare how the Micro:bit programming blocks and system is similar to the Lego Wedo Programming they learned in Year 1.<br><br>  | **Co-ordinator expectations**<br><br>**Spring 1**<br>**Online Safety: Be Internet Legends**<br>**Be Kind: Respect Each Other**<br><br>**Unicef RRS Article 17:** Every child has the right to reliable information from a variety of sources, and the government should encourage the media to provide information that children can understand. Governments must help protect children from materials that could harm them.<br><br>Golden Rule: I have healthy respectful relationships online.<br><br>• Children demonstrate ways to build positive and healthy online relationships and friendships.<br>• Children describe strategies they can use to respond to hurtful online behaviour, in ways that keep them safe and healthy.<br>• Children identify sources of support that can help friends and peers if they are experiencing hurtful behaviour online.<br><br>SEND Online Safety: Know your friends with Josh and Sue:<br>• Being kind online<br>• How nasty comments make others feel sad.<br>• Sharing online<br>• Contact from strangers<br>• Seeking help<br><br>**Spring 2**<br>**Data: Mars Rover 1**<br>(Kapow 'Mars Rover 1' Topic)<br><br>• Pupils explore inputs and outputs as well as Binary numbers to understand how the Mars Rover transmits and receives data and how scientists are able to control it to explore another planet. | **Co-ordinator expectations**<br><br>**Summer 1**<br>**Multimedia Skills Project: Sonic Pi**<br>**'Golden Rules' link:** I have healthy, respectful relationships online.<br>(Kapow 'Sonic Pi' Topic)<br><br>**Unicef RRS Article 12:** Every child has the right to express their views, feelings and wishes in all matters affecting them, and to have their views considered and taken seriously.<br><br>• Children discuss all they have learned about online safety both this year and in previous years and use their ideas as the basis of their projects, with a focus on their 'Golden Rule'.<br>• Children compose music using code through Sonic Pi.<br>• Children import samples, add drum beats and compose simple tunes culminating in a 'Battle of the Bands' using live loops of music.<br><br>Quizzing: Chn use their knowledge of Online Safety gained in Spring 1 to create their ideas for their digital media project.<br><br>**Summer 2**<br>**Skills Showcase: Mars Rover 2**<br>(Kapow 'Mars Rover 2' Topic)<br><br>**Unicef RRS Article 29:** Education must develop every child's talents and abilities to the full. It must encourage the child's respect for their parents, their own and other cultures and the environment.<br><br>• Children learn how the Mars Rover is able to send images all the way back to Earth and experiment with online CAD software to design new tyres for it.<br><br>Quizzing: Chn have a computing vocabulary quiz throughout this unit to both recap and retain the coding language they have learned throughout Autumn 2, Spring 2 and Summer 2. |

Year 6

| Autumn | Spring | Summer |
|---|---|---|
| **National curriculum**<br><br>**Pupils should be taught to:**<br><br>• Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions<br>• Create and debug simple programs<br>• Use logical reasoning to predict the behaviour of simple programs | **National curriculum**<br><br>**Pupils should be taught to:**<br><br>• Recognise common uses of information technology beyond school<br>• 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 | **National curriculum**<br><br>**Pupils should be taught to:**<br><br>• Use technology purposefully to create, organise, store, manipulate and retrieve digital content |
| **Co-ordinator expectations**<br><br>**Autumn 1**<br>**Computer Basics: Bletchley Park**<br>(Kapow 'Bletchley Park' Topic)<br><br>**Unicef RRS Article 16:** Every child has the right to privacy.The law should protect the child's private, family and home life, including protecting children from unlawful attacks that harm their reputation.<br><br>• Children learn about the history of Bletchley Park, including: Key historical figures, how the first modern computers were created as part of a WWII code breaking team.<br>• Children consider how computers have evolved over time.<br>• Children investigate secret codes and how they are created, exploring 'brute force' hacking and learning how to make passwords more secure.<br><br>Quizzing: Each week children should recap the technical vocabulary they have encountered previously ( See Computing Vocabulary List for technical definitions).<br><br>**Autumn 2**<br>**Programming: Intro to Python**<br>(Kapow 'Intro to Python' Topic)<br><br>• Building on their knowledge of coding from previous years, children are introduced to the text-based programming language Python, which is the language behind many apps and programs, such as Dropbox.<br><br>Quizzing: Chn compare how the Python programming blocks and system is similar to the Micro:Bit Programming they learned in Year 1.<br><br>  | **Co-ordinator expectations**<br><br>**Spring 1**<br>**Online Safety: Be Internet Legends**<br>**Be Alert: Check it's For Real**<br><br>**Unicef RRS Article 17:** Every child has the right to reliable information from a variety of sources, and the government should encourage the media to provide information that children can understand. Governments must help protect children from materials that could harm them.<br><br>Golden Rule: I know how to be a discerning consumer of information online.<br><br>• Children describe ways to critically evaluate what we see on social media.<br>• Children explain how social media can mislead or misrepresent reality.<br>• Children identify different types of online scams people our age may experience, including 'phishing'.<br>• Children identify sources of support for someone who is worried about anything online.<br><br>SEND Online Safety: Know your friends with Josh and Sue:<br>• Being kind online<br>• How nasty comments make others feel sad.<br>• Sharing online<br>• Contact from strangers<br>• Seeking help<br><br>**Spring 2**<br>**Data: Big Data**<br>(Kapow 'Big Data 1 & 2' Topics)<br><br>**Unicef RRS Article 16:** Every child has the right to privacy. The law should protect the child's private, family and home life, including protecting children from unlawful attacks that harm their reputation.<br><br>• Children learn how data is collected and stored by exploring barcodes, QR codes and RFID chips, and investigate how collecting big data can be used to help people in a variety of different scenarios.<br>• Children learn the difference between mobile data and WiFi and how data is transferred and use their understanding of big data to design their own smart school. | **Co-ordinator expectations**<br><br>**Summer 1**<br>**Multimedia Skills Project: Google Sites**<br><br>**'Golden Rules' link:** I know how to be a discerning consumer of information online<br><br>**Unicef RRS Article 12:** Every child has the right to express their views, feelings and wishes in all matters affecting them, and to have their views considered and taken seriously.<br><br>• Children discuss all they have learned about online safety both this year and in previous years and use their ideas as the basis of their projects, with a focus on their 'Golden Rule'.<br>• Children develop their understanding of HTML and use it to create a website.<br><br>Quizzing: Chn use their knowledge of Online Safety gained in Spring 1 to create their ideas for their digital media project.<br><br>**Summer 2 - Skills Showcase: Product Design**<br>(Kapow 'Skills Showcase' Topic)<br><br>**Unicef RRS Article 29:** Education must develop every child's talents and abilities to the full. It must encourage the child's respect for their parents, their own and other cultures and the environment.<br><br>• A cross curricular, DT and computing topic.<br>• Pupils consolidate their learning by designing a product. They evaluate, adap and debug code to make it suitable and efficient for their needs.<br>• Children use a software program to design their products and then create their own websites and video adverts to promote their inventions.<br>Quizzing: Chn have a computing vocabulary quiz throughout this unit to both recap and retain the coding language they have learned throughout Autumn 2, Spring 2 and Summer 2. |