Computing Enquiry Questions and Assessment Checkpoints

2023/2024 EYFS	Spring 1&2	Summer 1	Summer 2
Lead Enquiry Question (Composite Outcome)	**Computer Science:** What are the changes in our bodies?	**Digital Literacy**: How do we stay safe online?	**Digital Literacy:** What is my personal information in real life and online?
Component Questions (components to be explored throughout the unit)	CQ1: What are the important parts of the body? CQ2: What are the important parts of the body? CQ3: How can my body move in a pattern? CQ4: How can we focus on the important parts of a pattern?	CQ1: How can I say 'no' or 'stop' to someone? CQ2: How can I say 'no' or 'stop' to someone online? CQ3: How do we put information online? CQ4: How can people be unkind?	CQ1: Why do devices need the internet? CQ2: How can we find information online? CQ3: How do we stay safe with technology? CQ4: What is my personal information? CQ5: What work belongs to me? CQ6: What work belongs to others?
Assessment Checkpoint	Children who are secure will be able to: ✓ Logic – build on prior knowledge to form ideas. ✓ Pattern – Recognise similarities and differences. ✓ Abstraction – focus on what is important. ✓ Decomposition – break down tasks into smaller parts. ✓ Algorithms – recognise a sequence of instructions. ✓ Debugging – find and fix errors or bugs in a source. <u>Expressive Arts and Design</u> -Return to and build on their previous learning, refining ideas and developing their ability to represent them. <u>Understanding the world</u> - Begin to make sense of their own life-story and family's history.	Children who are secure will be able to: ✓ Online and offline know how to say 'no' or 'stop'. ✓ Know different ways to communicate online. ✓ Know how to put information online. ✓ Describe ways people can be unkind. <u>Personal, Social and Emotional Development</u> • 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'.	Children who are **secure** will be able to: ✓ Know what devices connect to the internet. ✓ Know how to find information online. ✓ Know rules to stay safe with technology. ✓ Know what personal information is. ✓ Know that work belongs to me and others. <u>Personal, Social and Emotional Development</u> • 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'

	- Continue developing positive attitudes about the differences between people. - Talk about members of their immediate family and community. - Comment on images of familiar situations in the past. <u>Mathematics</u> Begin to describe a sequence of events, real or fictional, using words such as ✓ 'first', 'then...'		

Computing Enquiry Questions and Assessment Checkpoints

2023/2024 Year 1	Spring 1	Spring 2	Summer 1	Summer 2
Lead Enquiry Question (Composite Outcome)	**Coding:** On the Move – How can we code objects to move?	**Coding:** Simple Inputs – What is a click and start event?	**Digital Literacy:** How do we stay secure and safe online?	**Computer Science & Information Technology** What is an algorithm and why are they useful?
Component Questions (components to be explored throughout the unit)	CQ1: How can we write code to make objects move? CQ2: How can we code objects to move in different directions? CQ3: How can we create click events? CQ4: How can we make multiple movement click events?	CQ1: How can we use start events make an object move? CQ2: How can we create a click event? CQ3: How can we combine click events? CQ4: How can an object react to click events and start events?	CQ1: Why do we have to ask permission to share information? CQ2: What information should we share online? CQ3: How and why do we save work? CQ4: What does copywrite mean? CQ5: How can we communicate online?	CQ1: What is an algorithm? CQ2: How can we use decomposition with sequences? CQ3: What makes a pattern? CQ4: Can we program an algorithm? CQ5: How can we bring a picture to life? (Animation) CQ6: How can we edit and add to an animation?
Assessment Checkpoint	Children who are **secure** will be able to: ✓ **Code -** Control Specify the nature of events (such as a single event or a loop). ✓ **Code -** Events Specify user inputs (such as clicks) to control events.	Children who are **secure** will be able to: ✓ Explain that Code tells an object an **action** to perform. ✓ Understand these **actions** are known as **events.** ✓ Use code to run control events. ✓ Specify the nature of events (such as a single event or a loop). ✓ Specify user inputs (such as clicks) to control events.	Children who are **secure** will be able to: ✓ Know to ask permission and what information to share online. ✓ Why there is a need to save work and rules of copyright. ✓ Use a range of applications and devices in order to communicate ideas, work and messages.	Children who are **secure** will be able to: ✓ Identify the key parts of a sequence. ✓ Create a precise set of instructions. ✓ Identify and explain patterns. ✓ To export a video from a device. ✓ Use animation and draw tools in an application.

		✓ Add text strings, show and hide objects and change the features of an object.		

2023/2024 Year 2	Spring 1	Spring 2	Summer 1	Summer 2
Lead Enquiry Question (Composite Outcome)	**Digital Literacy:** How does what is posted online affect everyone?	**Coding:** Buttons and instructions -	**Digital Literacy:** What online is private and how does it stay private?	**Computer Science & Information Technology**
Component Questions (components to be explored throughout the unit)	CQ1: Why do items stay online when they are posted? CQ2: What are the differences between 'made up' and 'real'. CQ3: Why do we have different settings for devices at home and in public?	CQ1: How can buttons be used to control an object? CQ2: How can we code different buttons to have different actions?	CQ1: What are passwords and how do we use them? CQ2: what does 'private' mean online? CQ3: What risks could be online? CQ4: Why does my age matter online?	CQ1: How can we use algorithms? CQ2: How can we apply algorithms? CQ3: How can we select sounds and control when they are heard? CQ4: How can we control the duration and volume of sounds? CQ5: How can we collect data? CQ6: How can we sort and present data?
Assessment Checkpoint	Children who are secure will be able to:	Children who are secure will be able to: ✓ Know there are different types of input.	Children who are secure will be able to:	Children who are secure will be able to: ✓ Say that algorithms are followed exactly.

Computing Enquiry Questions and Assessment Checkpoints

	✓ Know that items posted online will stay up and can be view by others. ✓ Understand that there are differences between 'made up' and 'real'. ✓ Know there are different settings for devices at home or in public places. ✓ Connect Understand online risks and the age rules for sites.	✓ Know that buttons in a program are also a type of input. ✓ Understand different inputs means the computer responds with a different output. ✓ Code – Looks Add text strings, show and hide objects and change the features of an object. ✓ Code – Motion Control motion by specifying the number of steps to travel, direction and turn. ✓ Code – Sensing Create conditions for actions by waiting for a user input (such as responses to questions like: What is your name?).	✓ Know passwords are private as well as personal information. ✓ Recognise that online content has an owner and is not free to use. ✓ Connect Understand online risks and the age rules for sites.	✓ How to manipulate sound and timings. ✓ Collect data and represent it accurately. ✓ Code - Sound Select sounds and control when they are heard, their duration and volume. ✓ Code - Control Specify the nature of events (such as a single event or a loop). ✓ Collect Use simple databases to record information in areas across the curriculum.

2023/2024 Year 3	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Lead Enquiry Question (Composite Outcome)	**Digital Literacy:** What information is shared online?	**Coding: Conditional Events (Selection):**	**Digital Literacy:** What risks are there with data online?	**Computer Science & Information Technology** What code can be used to trigger events?
Component Questions (components to be explored throughout the unit)	CQ1: What can we share online?	CQ1: How can we use more than one conditional hit in code?	CQ1: Why is data private? CQ2: How do companies store our data?	CQ1: why is decomposition useful?

Computing Enquiry Questions and Assessment Checkpoints

	CQ2: Are there differences between 'belief', 'opinion' and 'fact'? CQ3: How do websites gather information online? CQ4: Can there be negative impacts of too much technology.	CQ2: How can we use conditional hits for specific instructions? CQ3: How can conditional hits make different things happen? CQ4: How can we use several conditional hits in a sequence of code?	CQ3: Why can we not copy other people's work online? CQ4: What risks are there in online communications? CQ5: How do online services work?	CQ2: When would you use abstraction? CQ3: How do I find an error in an algorithm and correct it? CQ4: what is a coding 'condition'? CQ5: How can we code to 'trigger' an event? CQ6: How can we control events and objects?
Assessment Checkpoint	Children who are secure will be able to: ✓ Say what is ok to share online. ✓ Know that there are differences between a 'belief', 'opinion' and 'fact'. ✓ Know how website gather information online. ✓ Explain that there can be negative impacts of too much technology. ✓ Connect • Give examples of the risks posed by online communications. • Understand how online services work.	Children who are secure will be able to: ✓ Understand sometimes the computer needs to make a decision. ✓ Know that condition means something needs to be true for the action to happen. ✓ Use 'if' or 'when' can specify a trigger. ✓ This is known as 'selection'. ✓ Code - Events • Specify conditions to trigger events. ✓ Code - Motion • Use specified screen coordinates to control movement ✓ Code - Control • Use IF THEN conditions to control events or objects. ✓ Communicate	Children who are secure will be able to: ✓ Know why data is kept private and how companies and devices store it. ✓ Explain why copying other people's work from online is not fair. ✓ Connect • Give examples of the risks posed by online communications. • Understand how online services work.	Children who are secure will be able to: ✓ Understand the concept of abstraction. ✓ Explain the meaning of decomposition. ✓ Use Logical reasoning to explain their decisions. ✓ Sometimes the computer needs to make a decision. ✓ Condition means something needs to be true for the action to happen. ✓ Use 'if' or 'when' can specify a trigger. ✓ This is known as 'selection'. ✓ Code - Events • Specify conditions to trigger events. ✓ Code - Control • Use IF THEN conditions to control events or objects.

Computing Enquiry Questions and Assessment Checkpoints

		• Use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally		

2023/2024 Year 4	Spring 1	Spring 2	Summer 1	Summer 2
Lead Enquiry Question (Composite Outcome)	**Digital Literacy:** What information about people is online and how can this affect us?	**Coding**: Repetition and Loops -	**Digital Literacy:** What is digital consent and how does this affect copyright?	**Computer Science & Information Technology** How can we recognise patterns in data we have collected?
Component Questions (components to be explored throughout the unit)	CQ1: What information about people can be searched? CQ2: How can we search online? CQ3: How do we know what is accurate and reliable online? CQ4: What are the positives about being online for my health and wellbeing? CQ5: What are the negatives about being online for my health and wellbeing?	CQ1: How can we code using repetition? CQ2: Why are repetition loops useful? CQ3: How can I use more than one repetition loop? CQ4: How can I simplify complex instructions? CQ5: How can I link loops, variables and if statements in code?	CQ1: What are internet services? CQ2: What is consent? CQ3: What is digital consent? CQ4: Who can store my data online? CQ5: What online material is free to use?	CQ1: How can we recognise patterns? CQ2: How does an online network work? CQ3: how do multiple devices work on a network? CQ4: How can motion trigger an event? CQ5: How can we collect and share data?

Computing Enquiry Questions and Assessment Checkpoints

Assessment Checkpoint	Children who are **secure** will be able to: ✓ Know that information about people online can be searched, created and copied by others. ✓ Search online to find accurate and reliable information. ✓ Explain there are positive and negative effects of technology on health and wellbeing. ✓ **Connect** • Give examples of the risks posed by online communications. • Understand how online services work.	Children who are **secure** will be able to: ✓ Know that programmers use numbers to change an object's **properties.** ✓ Understand this could be **co-ordinate position, direction** or **speed.** ✓ **Code -** Motion Use specified screen coordinates to control movement. ✓ **Code -** Events Specify conditions to trigger events. ✓ **Code -** Control Use IF THEN conditions to control events or objects. ✓ **Communicate** Use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally.	Children who are **secure** will be able to: ✓ Know that internet services need consent to store data. ✓ Explain what digital consent is. ✓ Understand that material on the internet has ownership and is not always free to use. ✓ **Connect** • Understand how online services work. • Understand the term 'copyright'.	Children who are **secure** will be able to: ✓ Recognise patterns. ✓ Understand the roles of different devices on networks. ✓ Know that motion sensors can trigger events that are already sequences. ✓ **Code -** Sensing Create conditions for actions by sensing proximity or by waiting for a user input (such as proximity to a specified colour or a line or responses to questions). ✓ **Collect** Devise and construct databases using applications designed for this purpose in areas across the curriculum.

2023/2024 Year 5	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Lead Enquiry Question (Composite Outcome)	**Digital Literacy:** Who can influence us online and how do companies do this?	**Coding**: Random number and simulations – How can random numbers help create an interactive game?	**Digital Literacy:** Why do apps request permissions and some request payments too?	**Computer Science & Information Technology**

Computing Enquiry Questions and Assessment Checkpoints

Component Questions (components to be explored throughout the unit)	CQ1: How can we search individuals online? CQ2: What is a 'false' perspective online? CQ3: How do companies 'boost' their own products to consumers? CQ4: What is 'promoted' content? CQ5: Who can influence us online?	CQ1: What are 'random numbers' in coding? CQ2: Why is the 'x' and 'y' axis important to objects? CQ3: How can we make objects move to specific places? CQ4: How can 'hit events' include randomisation? CQ5: How can we create a 'range' to control random numbers? CQ6: How can I control the edges of my screen?	CQ1: How can technology improve our health and wellbeing? CQ2: How can technology be a detriment our health and wellbeing? CQ3: Why do some apps request payments? CQ4: How do some apps request payments? CQ5: What permissions do apps have from us? CQ6: When can I use other people's work or content?	CQ1: What is abstraction and why is it useful? CQ2: Why are sequences important in computing? CQ3: How can we create an own animation? CQ4: How can we edit an animation? CQ5: How can motion trigger an event? CQ6: How can we collect and share data?
Assessment Checkpoint	Children who are secure will be able to: ✓ That there are ways to search about individuals online and this may create a 'false' perspective of them. ✓ Know the benefits and limitations of using online searches including voice. ✓ Have an understanding of how content can be 'boosted' or 'promoted' by companies, vloggers and influencers. ✓ Connect • Give examples of the risks of online communities and demonstrate knowledge of how	Children who are secure will be able to: ✓ Explain how variables are useful for more than just keeping track of time or tallying a score. ✓ Know that variables can be combined with conditional events and can also be used to create Boolean expressions. ✓ Know that Boolean expressions are like 'true or false' type questions that you can ask the computer. ✓ Code - Operators • Operators	Children who are secure will be able to: ✓ Find different ways technology can improve or be a detriment to our health and well-being. ✓ How some apps or games request payments. ✓ That apps have permissions and they read our device's data. ✓ Assess and justify when to use other's work. ✓ Connect • Give examples of the risks of online communities and demonstrate knowledge of how	Children who are **secure** will be able to: ✓ Understand the term 'abstraction'. ✓ Recognise sequences. ✓ Recognise patterns. ✓ Use apps to record video. ✓ Use apps to edit and sequence video. ✓ Understand the roles of different devices on networks. ✓ Know that motion sensors can trigger events that are already sequences. ✓ **Code -** Sensing

	to minimise risk and report problems. • Understand the effect of online comments and show responsibility and sensitivity when online.	• Use the Boolean operators () < (), () = (), () > (), () and (), () or (), Not () to define conditions. • Use the Reporter operators () + (), () - (), () * (), () / () to perform calculations. ✓ <u>Communicate</u> • Choose the most suitable applications and devices for the purposes of communication. • Use many of the advanced features in order to create high quality, professional or efficient communications. ✓ <u>Connect</u> • Collaborate with others online on sites approved and moderated by teachers.	to minimise risk and report problems. • Understand and demonstrate knowledge that it is illegal to download copyrighted material, including music or games, without express written permission, from the copyright holder. • Understand the effect of online comments and show responsibility and sensitivity when online.	Create conditions for actions by sensing proximity or by waiting for a user input (such as proximity to a specified colour or a line or responses to questions). ✓ **<u>Collect</u>** Devise and construct databases using applications designed for this purpose in areas across the curriculum.

2023/2024 Year 6	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Lead Enquiry Question (Composite Outcome)	**Digital Literacy:** How do we minimise and report risks online?	**Coding:** Objects and properties: How can we use the properties of objects to create games?	**Digital Literacy:** Why do people including companies want to control and access data?	**Computer Science & Information Technology:** How can we apply computing skills in the real world?

Computing Enquiry Questions and Assessment Checkpoints

Component Questions (components to be explored throughout the unit)	CQ1: What does influence mean? CQ2: What does manipulation mean? CQ3: What does persuasion mean? CQ4: How do I check the validity of information? CQ5: What is the difference between disinformation and misinformation? CQ6: What are the risks of online communities? CQ7: What can we do to minimise risks online? CQ8: How do we report and flag problems online?	CQ1: How can we use conditional events and co-ordinates to control objects? CQ2: how can we use object properties to set parameters? CQ3: How can co-ordinates be used to manipulate objects? CQ4: How can variables be used to control speed and direction? CQ5: How can you combine object properties, conditional events and variables in a game situation?	CQ1: What is persuasive design and why is it used? CQ2: What are the pressures we face online? CQ3: How can we manage our passwords correctly? CQ4: Why do people and companies want to gather data online? CQ5: Why is copyright important?	CQ1: What is the difference between the internet and the WWW? CQ2: What is logical reasoning and how can we apply it? CQ3: How can we collect reliable information and cross-reference sources? CQ4: How can we compile this information we have collected? CQ5: How can we present information in a digital form?
Assessment Checkpoint	Children who are secure will be able to: ✓ define terms “influence, manipulation and persuasion”. ✓ Analyse and evaluate the validity of facts. ✓ Understand the difference between disinformation and misinformation. ✓ <u>Connect</u> • Give examples of the risks of online communities and	Children who are secure will be able to: ✓ <u>Operators</u> • Use the Boolean operators: () < (), () = (), () > (), () and (), () or(), Not() to define conditions. • Use the Reporter operators: () + (), () - (), () * (), () / () to perform calculations. • Pick Random () to (), Join () (), Letter () of (), Length of (), () Mod () This reports the	Children who are secure will be able to: ✓ Recognise and understand the pressures of technology and persuasive design. ✓ Know that there are ways to manage passwords and that there are people online who want to gather data. ✓ Explain the importance of copyright. ✓ <u>Connect</u>	Children who are **secure** will be able to: ✓ Understand what the internet is. ✓ Understand the difference between the internet and the worldwide web. ✓ Solve problems using logical reasoning. ✓ Recognise patterns. ✓ Understand the roles of different devices on networks.

	demonstrate knowledge of how to minimise risk and report problems. • Understand the effect of online comments and show responsibility and sensitivity when online.	remainder, after a division calculation, Round (), () of (). ✓ <u>Communicate</u> • Choose the most suitable applications and devices for the purposes of communication. • Use many of the advanced features in order to create high quality, professional or efficient communications. <u>Connect</u> ✓ Collaborate with others online on sites approved and moderated by teachers.	• Give examples of the risks of online communities and demonstrate knowledge of how to minimise risk and report problems. • Understand and demonstrate knowledge that it is illegal to download copyrighted material, including music or games, without express written permission, from the copyright holder. • Understand the effect of online comments and show responsibility and sensitivity when online.	✓ <u>Connect</u> • Understand how simple networks are set up and used. ✓ <u>Code</u> • Sound – upload sounds from a file and edit them. Add effects such as fade in and out and control their implementation. • Draw - combine the use of pens with movements to create interesting effects. ✓ <u>Collect</u> select appropriate applications to devise, construct and manipulate data and present it in an effective and professional manner.