Year 7 Unit E-Safety

What previous learning am I building on?	What am I learning that is new?
- How to use computers safely. - How to interact with others using computers safely. - The awareness of cyberbullying.	By the end of this unit, I will: - Understand viruses, worms, phishing, trojan horse, spam. [vocabulary, concepts] - Know the dangers of using technology. [factual content] - Be able to assess risks, develop digital self-awareness [skills]

Learning Journey – lesson title and main activities

1 **Cyberbullying**
- Define cyberbullying and its impact
- Discuss ways to prevent and respond to cyberbullying
- Create a leaflet for Year 6 on cyberbullying awareness.

2 **Online Grooming**
- Understand what online grooming is and how it happens.
- Learn warning signs and how to protect yourself
- Add information about online grooming to leaflet

3 **Social Networking**
- Explore the benefits and risks of social media
- Learn about privacy settings, oversharing and online reputation
- Add information about social networking to leaflet

4 **Mobile Phones**
- Discuss mobile phone safety; scams, tracking and screen time.
- Learn about location sharing and data privacy.
- Add information about mobile phone safety to leaflet.

5 **Computer Security**
- Understand password safety, malware and phishing threats.
- Learn how to protect personal data online.
- Add information about computer security to leaflet.

6 **Assessment & reflection**
- Presentations
- Examination

How will I be assessed at the end of this unit?

- Completion of the E-Safety leaflet.
- Participation in discussions.
- Examination
- Reflection on personal digital habits and online safety practices

How will my literacy skills be developed?	What homework will I be set?	How can I learn more/stretch myself?	Where can I go for more help?
- Writing a clear and persuasive leaflet for younger students.	Satchel One Quizzes: Retrieval questions	Explore real cybercrime cases and their impact.	Computer Science teacher, online safety websites (ThinkUKnow, Childnet)

"[Enquiry question]"

[Year 7 Unit Scratch Programming]

What previous learning am I building on?	What am I learning that is new?
- Basic understanding of computers and software. - Logical thinking and problem-solving skills. - Previous experience with block-based coding. - Basic knowledge of instructions, sequences, and simple commands.	By the end of this unit, I will: - Understand basic programming concepts such as variables, loops and conditionals. - Know how to use Scratch to create interactive programs and games. - Be able to write, test and debug a Scratch program independently.

Learning Journey – lesson title and main activities

1 **Basics of Scratch**
- Introduction to the Scratch interface.
- Learning how to use sprites, backgrounds and blocks.
- Understanding sequencing and simple commands.
- Create a simple animation using movement and sounds.

2 **User feedback and Interaction**
- Exploring event-driven programming
- Using keyboard and mouse inputs in Scratch.
- Create a maze style game.

3 **Creating a simple game**
- Create a Points collecting style games.
- Using variables to track scores and game progress.

4 **Loops and conditionals**
- Planning a basic game: characters, movement and objectives.
- Understanding repeat loops.
- Using if-else conditions for decision making in programs.

5 **Further Development**
- Adding sound effects, animations and scoring systems.
- Exploring cloning and broadcasting messages in Scratch
- Improve and refine the games with extra features.

6 **Self-Assessment and Evaluating**
- Reviewing and testing the game.
- Identifying bugs and debugging the code.
- Peer feedback and self-evaluation.
- Present the final game and reflect on improvements.

How will I be assessed at the end of this unit?
- Completion of a Scratch project/game.
- Demonstrating understanding of loops, conditionals and variables.
- Participation in class discussions and debugging activities.
- Self-assessment and peer feedback on final projects.

How will my literacy skills be developed?	What homework will I be set?	How can I learn more/stretch myself?	Where can I go for more help?
Writing and explaining code using annotations	Satchel One Quizzes: Retrieval questions	Explore Python or other programming languages after mastering Scratch	Computer Science Teacher, investigate other existing Scratch projects

"[Enquiry question]"

[Year 7 Unit Hardware & Computer Systems]

What previous learning am I building on?	What am I learning that is new?
- Understanding basic computer components - Awareness of how computers help in daily life - Basic problem-solving skills in technology use	By the end of this unit, I will: - Understand key computer hardware components and their functions. - Know how data is processed and stored within a computer system. - Be able to identify and explain different types of computer systems.

Learning Journey – lesson title and main activities

1 **Human Computer**
- Understanding how computers process information like a human brain.
- Learn about inputs, processing, storage and outputs.
- Create a revision guide about the new information in PowerPoint.

2 **Software**
- Differentiate between system software and application software.
- Learn about operating systems, utilities and programs.
- Add new information to existing revision guide.

3 **Hardware**
- Identify internal and external hardware components
- Learn how different parts work together in a computer system.
- Add new information to existing revision guide.

4 **Algorithms**
- Introduction to algorithms and flowcharts.
- Learn sequencing and decision-making in computing.
- Create a simple flowchart to demonstrate a real-world process.

5 **ICT at Home & School**
- Explore how technology is used in daily life.
- Discuss advantages and disadvantages of ICT in education and home.
- Add new information to existing revision guide.

6 **Databases**
- Introduction to databases and their importance.
- Learn about tables, records and fields.
- Create a basic database to organise school data

7 **Assessment & reflection**
- Examination

How will I be assessed at the end of this unit?

- Class discussions and participation in activities.
- Quizzes on key hardware, software and ICT topics.
- Presentation on a real-world use of computer systems.

How will my literacy skills be developed?	What homework will I be set?	How can I learn more/stretch myself?	Where can I go for more help?
Learning technical terms related to computer architecture and data storage	Satchel One Quizzes: Retrieval questions	Explore how artificial intelligence and robotics work.	Computer Science teacher, teach-ICT, BBC bitesize, HowStuffWorks.

"[Enquiry question]"

[Year 7 Unit Python Programming]

What previous learning am I building on?	What am I learning that is new?
- Basic understanding of sequencing and problem-solving. - Logical thinking skills from Scratch or block-based coding - Familiarity with input/output concepts and basic mathematics	By the end of this unit, I will: - Understand key programming concepts, including variables, loops, functions and conditionals.

Learning Journey – lesson title and main activities

1 **Printing**
– Learn how to print text and numbers.
Calculations – Explore basic calculations.
Variables – Introduce variables to store data.
Input – Take user input
Selection – Introduce selection

2 **Iteration**
– Introduce loops.
Selection – Apply knowledge of selection statements
Boolean conditions – Learn about Boolean conditions

3 Turtle
– Introduction to turtle graphics for basic drawing.
Turtle Loops – Apply knowledge of loop statements.
Turtle functions – Learn how functions work.

4 **Random**
– Learn how to import and use libraries
Random Graphics - Apply turtle graphics to create random designs.

5 **Iteration**
– use loops to iterate through a list
Arrays – Learn about lists in python

6 **Random**
– Apply knowledge of random functions
Sorting algorithms – Explore sorting algorithms
Timers – Understand how timers work in Python

7 **IDE**
– Explore different IDEs
Input – Learn advanced input handling

How will I be assessed at the end of this unit?

- Writing and debugging a Python program.
- Participation in coding challenges and exercises.
- Quizzes on key programming concepts

How will my literacy skills be developed?	What homework will I be set?	How can I learn more/stretch myself?	Where can I go for more help?
Understand and using programming terminology correctly.	Satchel One Quizzes: Retrieval questions	Try creating a text-based adventure game in python	Computer Science teacher, w3schools, Code academy, python.org, replit

“[Enquiry question]”

[Year Unit Computer Networks]

What previous learning am I building on?	What am I learning that is new?
- Understanding basic computer components - Awareness of how computers communicate with each other. - Basic internet and Wi-Fi knowledge from everyday use	By the end of this unit, I will: - Understand what a network is and how it works. - Know the different types of networks - Be able to explain how data travels across networks

Learning Journey – lesson title and main activities

1 **What is a network**
- Define a network and explain its purpose
- Learn about wired vs wireless networks
- Create a presentation about the new information

2 **Topologies**
- Understand different types of network layouts
- Compare advantages and disadvantages of each topology
- Add new information to Presentation

3 **LANs & WANs**
- Differentiate between Local Area Networks and Wide Area Networks
- Learn how businesses and schools use networks.
- Add new information to Presentation.

4 **Data Packets**
- Understand how data is broken into packets and sent across networks.
- Learn about IP addresses, routers and switches.
- Add new information to Presentation.

5 **How data travels**
- Learn how the internet connects

How will I be assessed at the end of this unit?

- Presentation on assigned network topic
- Quizzes on network types, topologies and how data travels
- Participation in discussions and activities.

How will my literacy skills be developed?	What homework will I be set?	How can I learn more/stretch myself?	Where can I go for more help?
Learning technical terms like IP addresses, routers and protocols.	Satchel One Quizzes: Retrieval questions	Try using a network simulation tool like cisco packet tracer.	Computer Science teacher, Cisco Networking Academy.

"[Enquiry question]"

[Year 7 Unit Data Representation]

What previous learning am I building on?	What am I learning that is new?
- Understanding that computers use binary to store data - Basic knowledge of different file types - Familiarity with how digital devices process information	By the end of this unit, I will: - Understand how different types of data are represented digitally - Know how data compression works and why it is used. - Be able to explain the difference between vector and bitmap images and how text and sound are stored in a computer.

Learning Journey – lesson title and main activities

1 I**mage Data**
- Learn how images are represented using pixels and binary data.
- Understand bitmap images

2 **Compression**
- Explain why data compression is important
- Learn about lossy vs lossless compression

3 **Vector Image Data**
- Learn how vector graphics differ from bitmap images
- Understand how scaling does not affect quality in vector images

4 **Audio Data**
- Learn how sound is stored digitally using sampling rates and bit depth
- Compare different audio editor to change the bitrate of a could file and compare quality differences.

5 **Text Data**
- Understand how characters are represented using ASCII and Unicode
- Learn why Unicode is necessary for different languages and symbols.

How will I be assessed at the end of this unit?

- Quizzes on key data representation topics
- Practical exercises
- Class participation in discussions and activities

How will my literacy skills be developed?	What homework will I be set?	How can I learn more/stretch myself?	Where can I go for more help?
Understanding key computing terminology, Unicode, compression, pixels and sampling rates.	Satchel One Quizzes: Retrieval questions	Experiment with audio/image compression software to see quality differences.	Computer Science Teacher, BBC Bitesize, W3Schools.