Fundamental Knowledge Map: Computing

EDALE RISE
Primary & Nursery School

Fundamental Knowledge Map: Computing

This document captures the fundamental knowledge, both substantive and disciplinary, taught in Design & Technology at Edale Rise. The units taught at Edale Rise explore more material than this document demonstrates; however, this document states the most fundamental knowledge a child will be able to demonstrate if they are secure in the unit taught.

The purpose of this document is to ensure that:

A. Teachers know exactly what children should be know or be able to do by the end of the unit
B. Teachers know what knowledge should be prioritised for retrieval within and between units and years
C. Teachers know what prior-knowledge should be assessed for before proceeding with subsequent units
D. Leaders know exactly what knowledge children should be able to articulate during monitoring exercises

For more information regarding the content covered in each unit, please see the **long-term plan** available on the school website or request a meeting with a member of the curriculum team.

Computing: Y1

Digital Literacy	Information Technology	Computer Science
Pupils who are **secure** will be able to: • Use the internet with adult support to access information, use applications or communicate with others. • Know that they should ask for permission before doing something online. • Explain why its important to be kind and respectful online. • Recognise that there may be things or people online that could make someone feel sad, embarrassed or upset. • Explain when and how they would speak to a trusted adult if they needed help. • Use a range of digital tools in order to create digital artwork.	Pupils who are **secure** will be able to: • Identify and name different technological devices in the classroom, such as iPads and interactive whiteboards. • Use a keyboard and mouse or a touchscreen to complete simple tasks such as opening applications or drawing using digital tools. • Sort, label and group digital/non-digital objects.	Pupils who are **secure** will be able to: • Begin to use basic commands in simple sequences of code. - Begin to explore rotation commands. - Begin to explore the 'pick up' function. - Begin to explore the use of loops. - Begin to explore the use of functions. • Begin to debug simple sequences of code.

Computing: Y2

Digital Literacy	Information Technology	Computer Science
Pupils who are **secure** will be able to: • Use keywords in search engines and navigate simple webpages. • Explain that some information found online may not be real or true. • Explain that passwords can be used to protect information, accounts or devices and understand that they need to keep these private. • Explain what online bullying is and describe ways in which a victim could get help. • Capture photos using digital devices and use editing tools to improve images. • Explain that digital photographs can be edited or created and that some may not be real.	Pupils who are **secure** will be able to: • Explain how technology is used for good in their life, including public places like shops, hospitals and libraries.	Pupils who are **secure** will be able to: • Apply the use of basic commands in simple sequences of code. - Use the 'pick up' tool. - Use rotation commands. - Use loops. - Use functions. • Debug simple sequences of code.

Computing: Y3

Digital Literacy	Information Technology	Computer Science
Pupils who are **secure** will be able to: • Explain what it means to know somebody online and why that can be different to knowing them offline. • Explain why it's important to be careful about who you trust online and the kinds of information you wouldn't share. • Explain why spending too much time online could have a negative impact on somebody. • Explain why some online activities have age restrictions. • Know the difference between a belief, an opinion and a fact and give examples of how and where each might be found online. • Demonstrate how to use key words to find information through search engines. • Use an application to create a stop-frame animation sequence.	Pupils who are **secure** will be able to: • Create branching databases using yes/no questions.	Pupils who are **secure** will be able to: • Develop the use of a range of commands in sequences of code. - Efficiently use the 'pick up' tool. - Efficiently use rotation commands. - Efficiently use loops. - Efficiently use functions. • Debug sequences of code.

Computing: Y4

Digital Literacy	Information Technology	Computer Science
Pupils who are **secure** will be able to: • Describe ways in which somebody could be bullied online through a range of media (eg – image, video, text, chat) • Explain why people need to think carefully about the content they post online and how it might affect others. • Explain that internet use is never fully private and is monitored. • Explain that content online is always owned by somebody and that they might need permission to use it.	Pupils who are **secure** will be able to: • Explain that the internet is one huge network and that the World Wide Web is part of that. • Evaluate online content, considering its reliability, accuracy and honesty. • Explain that digital devices use sensors to measure and collect data. • Collect data digitally. • Analyse data collected over long periods of time.	Pupils who are **secure** will be able to: • Develop the use of a range of commands in more advanced sequences of code. - Efficiently use nested loops. - Efficiently use more advanced functions. - Begin to explore the use of 'If statements'. • Debug more advanced sequences of code.

Computing: Y5

Digital Literacy	Information Technology	Computer Science
Pupils who are **secure** will be able to: • Describe ways in which technology can affect health and wellbeing both positively and negatively. • Describe some strategies or advice around promoting health and wellbeing with regard to technology. • Identify ways in which the internet may draw our attention to content for different reasons (eg – pop-ups or targeted ads). • Evaluate the trustworthiness of information online and describe how 'fake news' may impact on someone's wellbeing. • Search for information about an individual online and summarise their findings. • Understand that judgements we make about individuals based on online information may not always be correct.	Pupils who are **secure** will be able to: • Explain that our inputs influence the output generated by a digital device. • Explain how search results are ranked and how to most efficiently search on a variety of web browsers. • Use a digital database in order to answer questions about data. • Create graphs and/or charts using data from a digital database.	Pupils who are **secure** will be able to: • Apply the use of a range of commands in complex sequences of code. - Efficiently use more advanced nested loops alongside more advanced functions. - Use repeated loops. - Use 'If statements'. • Debug complex sequences of code. • Begin to track variables in sequences of code.

Computing: Y6

Digital Literacy	Information Technology	Computer Science
Pupils who are **secure** will be able to: • Describe effective ways to create and manage passwords. • Explain what to do if a password is lost or stolen. • Describe how things shared online can have unintended consequences. • Explain what a VPN is and why they may be used. • Explain why representation is important online. • Explain that search engines can be used to find online content which can be reused by others. • Create a variety of digital 3D models using CAD tools.	Pupils who are **secure** will be able to: • Use spreadsheets to organize and efficiently format data. • Use formulas to create calculated data.	Pupils who are **secure** will be able to: • Problem solve using a range of commands in complex sequences of code. - Use 'repeat until' functions. - Use more advanced 'If statements'. - Use 'While loops'. • Confidently debug complex sequences of code. • Use variables in sequences of code. • Track variables in complex sequences of code.