**Knowledge Progression for** 

Computer Science and

**Computational Thinking** 

Year 6

Year 5

Create or select music for use in their coded game

Use selection and repetition in their coded game

Correct errors in their game

Improve their game based on the feedback they receive

Add instructions to their game

Compare and contrast Morse and semaphore with the internet

Explain the algorithm for the Caesar cipher

Decrypt messages using a general substitution cipher with an unknown key using frequency analysis

Year 6

Record algorithms for random, linear and binary search

Record an algorithm for sorting

Record an algorithm for testing e.g. prime number of common factors

Correct mistakes in commands typed in Python (or other text language)

Draw a graph to show the locations in a text-based adventure

Spot and correct syntax errors in Python (or other text language)

print commands

Use variables and if / elif / else selection in Python

Define multiple procedures in Python, correctly

observing the syntax rules

Choose randomly from a Python list

Year 7

Experiment with commands using Python including the for and rangecommands

Experiment with line-breaks and text blocks in Python print commands

Explain what a procedure is

Explain what a library is in Python

Vocabulary

Python

Selection

While True

Variable

Algorithm

Random

Library

Command

# **Knowledge Progression for**

Digital Literacy and Online Safety

Year 6

#### Year 5

Appreciate the importance of using encryption to keep information private and the need for strong passwords and https: to protect their identity.

They can act responsibly when creating web pages or writing blog posts.

Can understand the difference between acceptable and unacceptable behaviour when using digital technology.

Recognise that online behaviour can have real life negative effects on other people.

Understand that some people get paid to endorse products online.

Develop a discerning attitude to online content so that they can confidently reach their own conclusions.

Begin to understand how to manage their online areputation

### Year 6

Can discuss likely and potential consequences of their actions when using digital technology in a range of contexts

Can identify some principles underpinning acceptable behaviour when using technologies in a range of contexts.

Know about reporting buttons within websites and apps.

Understand the negative consequences of sharing nude selfies and learn that, sending, sharing and storing inappropriate images of Under-18s is a crime.

Develop confidence in saying no when they are posed with a request for inappropriate and/or indecent images of themselves.

Understand the risks involved with online gaming, including exposure to inappropriate content, grooming, bullying, trolling and the use of bribery tactics.

### Vocabulary

Criminal age of responsibility

Consequences

Influencers

Endorsement

Report

Discerning

Online Reputation

# **Knowledge Progression for**

Information Technology

Year 6

#### Year 5

Create a tessellating pattern using simple and complex shapes with computer software or a website tool

Use repetition in a coding program to draw more complex geometric figures

Create a pattern using repeating, varied shapes

can explain how a search engine creates an index from a cached copy of the web and uses this to select and rank results.

Create, and comment on, blog posts

Add an image, audio or video to a blog post or web page they have created

Create complex, compound objects using SketchUp or other 3D Software application

### Year 6

Shoot high-quality video footage, and use advanced features of editing software

Refine their storyboarding

Appreciate the difference between media, project files and exported movies

Use search facilities in a range of online reference tools to research a location

Compare different routes to a location

Learn about GPS and how to tracked on an online map

Combine written text about a visit or location with images and video

Use collaborative software to plan and create content for pages

Use identified characteristics to reflect on their own work

Word-process text quickly and to a good standard

## Vocabulary

**Editing software** 

Media

**Export** 

**GPS** 

Collaborative