Progression Statement: Computing

Introduction:

This progression statement document outlines the expected learning outcomes and end points for Primary Computing using the NCCE Teach Computing framework, via a 3-year rolling programme at Instow Community Primary School and Pre-school. The document outlines the expected learning outcomes for each year group and includes end points that students are expected to achieve by the end of each year group.

Reception:

By the end of Reception, children should be able to:

- Recognise and use a range of technology in their environment, including touchscreens, computers, and simple toys with buttons or switches.
- Use technology for a range of purposes, such as playing simple games, exploring digital media, and creating basic drawings or paintings.

Year 1:

By the end of Year 1, children should be able to:

- Understand the concepts of algorithms, decomposition, and debugging.
- Use simple programming languages or tools to write and debug programs that achieve specific goals, such as drawing shapes or making a character move.
- Recognise a range of digital media formats, such as images, sound, and video, and know how to create and save their own examples.

Year 2:

By the end of Year 2, children should be able to:

- Understand the importance of staying safe online, including protecting their personal information, recognising potential risks, and using technology responsibly.
- Use programming languages or tools to write more complex programs that involve loops, branching, and variables, and be able to debug them effectively.
- Understand basic principles of data representation, such as binary code, and use digital tools to manipulate and organise data.

Year 3:

By the end of Year 3, children should be able to:

- Understand the concepts of abstraction, logical reasoning, and decomposition, and use them to solve programming challenges.

- Use programming languages or tools to create interactive games or quizzes, and debug them effectively.
- Understand how the internet works and use search engines and other digital tools to find and evaluate information.

Year 4:

By the end of Year 4, children should be able to:

- Understand the basic principles of computer networks and communication, including protocols, IP addresses, and domain names.
- Use programming languages or tools to create more complex games or simulations, and debug them effectively.
- Understand how to use spreadsheets and databases to manipulate and analyse data, and know how to present data in different formats.

Year 5:

By the end of Year 5, children should be able to:

- Understand the principles of computational thinking and how it can be used to solve real-world problems.
- Use programming languages or tools to create more complex programs, such as mobile apps or web pages, and debug them effectively.
- Understand how encryption and other security measures can be used to protect data and communications.

Year 6:

By the end of Year 6, children should be able to:

- Understand the impact of computing on society and be able to discuss ethical, legal, and environmental issues related to technology.
- Use programming languages or tools to create projects that involve multiple components, such as user interfaces, databases, and network communication, and debug them effectively.
- Understand the principles of artificial intelligence and machine learning, and be able to use simple tools to create basic examples.

Conclusion:

This progression statement document provides a framework for the expected learning outcomes and end points for Primary Computing using the NCCE Teach Computing framework, tailored to Instow Community Primary School and Pre-school. By the end of each year group, students should have achieved the specified end points and be ready to progress to the next level of their computing education.