Medium Term Plan: Supporting Implementation of LTP/Progression Grid

Subject: Computing – Connecting Computers	Year: A – Phase 2 – Unit 1/5

NC/PoS:
- Understand computer networks, including the internet, and the services they provide for communication and collaboration.
- Recognise how digital devices interact within networks.

Prior Learning (what pupils already know and can do)
- Familiarity with digital and non-digital devices from earlier units (e.g., "Technology Around Us" in KS1).

End Points (what pupils MUST know and remember)
- Understand and explain the input-process-output model of digital devices.
- Identify components of computer networks and their roles.
- Recognise the benefits of connected devices in a network.

Key Vocabulary
Input, output, process, device, network, server, switch, wireless access point.

Recommended Resources:
- Hardware: Digital devices, network hardware (e.g., switches, access points).
- Software: Basic painting software for comparisons in Lesson 3.
- Other Resources: Visual aids for network components and layouts.

Unplugged activities provide possible opportunities for the children to record.

Curriculum Connections:
- Maths: Logical problem solving and practical application of patterns.
- Science: Systems and processes for understanding technology.

Career Opportunities:
- Network Engineer: Building and maintaining computer networks.
- IT Technician: Managing networked devices and hardware.

Session 1: How Does a Digital Device Work?

Objective: To explain the input-process-output model.
Digital Activity: Use a digital device to demonstrate input (keyboard), process (software), and output (monitor).
Unplugged Activity: Role-play as components in the input-process-output cycle (e.g. passing notes through "processers").

Key Vocabulary: Input, output, process.

Session 2: What Parts Make Up a Digital Device?

Objective: To identify input and output devices.
Digital Activity: Use real digital devices to classify components as input or output.
Unplugged Activity: Label parts of a printed diagram showing digital devices (e.g. keyboards, screens).

Key Vocabulary: Device, input, output.

Session 3: How Do Digital Devices Help Us?

Objective: To compare digital and non-digital tools for tasks.
Digital Activity: Create a digital drawing using painting software.
Unplugged Activity: Create a non-digital drawing using paper and pencils; compare results.

Key Vocabulary: Digital, non-digital, compare.

Session 4: How Am I Connected?

Objective: To explain the concept of computer networks.

Digital Activity: Use a network simulation tool to model connections between devices.
Unplugged Activity: Simulate data transfer between devices using string to represent connections.

Key Vocabulary: Network, connection, message.

Session 5: How Are Computers Connected?

Objective: To identify network components and their functions.
Digital Activity: Explore a virtual network setup to understand switches, servers, and wireless access points.
Unplugged Activity: Match network components with their descriptions using flashcards.

Key Vocabulary: Switch, server, wireless access point.

Session 6: What Does Our School Network Look Like?

Objective: To recognize the physical components of the school network.
Digital Activity: Tour the school network, identifying components like switches and access points.
Unplugged Activity: Draw and label a diagram of the school's network infrastructure.

Key Vocabulary: Network, infrastructure, device.

Future learning this content supports:
- Exploring the internet as a network of networks in subsequent units.
- Application of network principles in digital collaboration projects.