Learning Organiser: Computing networks and communication- communication and collaboration

This unit covers how data is transferred over the internet, online communication and collaboration, and responsible online behaviour, including what to share and reporting inappropriate content.

1. **Internet and addresses**: data is transferred using agreed methods, internet devices have addresses, and computers use these addresses to access websites

2.**Data Packets:** I can explain that data is transferred over networks in packets, identify the main parts of a data packet, and understand that all internet data is sent in packets.

3. **Working together**: I can explain that sharing information online facilitates collaboration by accessing shared files, sending information in various ways, and sharing different types of media over the internet

4. **Shared working**: I can explain how the internet enables effective collaboration in various public and private ways.

5.**How we communicate:** I can identify various communication methods, explain how people communicate online, and choose the best method for specific purposes.

6. **Communicating responsibly:** I can compare online communication methods, decide when to share information, understand that online communication may not be private, and know how to report inappropriate content.

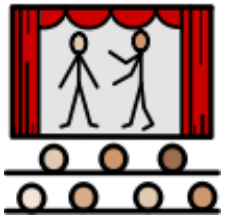
Vocabulary
protocol, data, address, Internet Protocol (IP) address, Domain Name Server (DNS) packet

What do we know?

Know that searches can be influenced by algorithms online

Know why it is important to keep personal information safe online

Know how information is communicated between devices and systems



Big Ideas-

Forever Facts

Know that shared working help collaboration and how to create and save a shared document

Know why it is important to understand how private and public information is shared

Know how computers share information and what IP addresses are

Where will it go?

Showcase

Using a shared, cloud-based document, create a group pop upon e safety – how to report inappropriate content

Learning Organiser: Introduction to spreadsheets

This unit teaches learners to organize data in spreadsheets, use formulas for calculations, and format data. They will apply formulas, plan an event, create charts, and evaluate their results.

1. To collect and create a data set in a spreadsheet

2. I can explain what data is and choose and apply the correct format for a cell.

3. I can explain which data types can be used in calculations, construct formulas in a spreadsheet, and recognize that changing inputs affects outputs.

4. I can calculate data, create formulas with cell ranges, and duplicate formulas across multiple cells.

5. I can use a well-organized spreadsheet with formulas to plan an event and answer questions

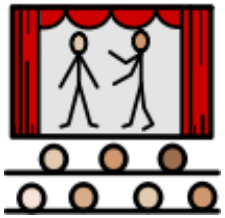
6. I can create charts and decide when to use them or a table for data.

Vocabulary

Cell
Format
Data
Formula
Range
Duplicate
Sigma
Data set

What do we know?

- Know that there are databases that are programmes used to organise data.
- Know why databases are used to collect, analyse, evaluate and present information.
- Know how to present data from a database to answer a question.



Big Ideas-

Forever Facts

Know that a spreadsheet can be used to manipulate and calculate with data

Know why spreadsheets are useful when working with data

Know how to create a formula within a spreadsheet

Where will it go?

Showcase

Planning a Christmas party using a given budget for the class

Learning Organiser: To use microbits -inputs and outputs

In this unit: This unit builds from the introductory unit in Year 5. Children will learn how to use a variety of inputs and outputs on the microbits and using the make code software

1. We can make a compass bearing
2. We can make a thermometer
3. We can teleport a duck
4. I can make disco lights sound to a rhythm
5. We can use a tilt sensor to create an alarm for my water bottle
6. We can create a program to test our times tables

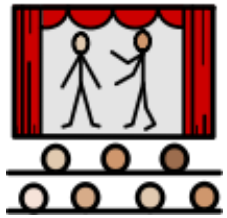
Vocabulary
Tilt
Sensor
Input
Bearing
Output
Random
Makecode
Variable

What do we know?

Know that sequence, selection, and repetition in programs determine the outcome of that program.

Know why if, then or else statements are used in a program.

Know how to design, write and debug programs that accomplish specific goals.



Big Ideas-

Programming

Forever Facts

Know that inputs can be used to cause a response and output

Know why sensors can be used to fulfil certain jobs

Know how to use Makecode to transfer an algorithm to the microbit

Where will it go?

Showcase

Create our own TTRS multiplication test using the microbit

Learning Organiser: Programming in games (scratch)

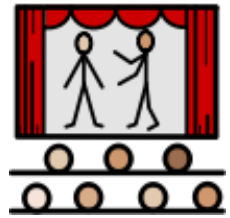
In this unit: Learners explore variables in programming through Scratch games. They experiment with variables, create a scoreboard, and design their own projects. Finally, they apply their knowledge to improve their Scratch games.

1. We understand variables and can create a simple game with a score
2. We understand how we can change the value and name of variables
3. We can use our knowledge of variables to change an existing game in scratch
4. We can plan our own games in scratch using variables
5. We can add our planned algorithms to our games and understand the importance of naming our variables
6. We can evaluate each others' games and suggest improvements

Vocabulary
Value
Variable
Algorithm
Code
Set
event

What do I already know?

- Know that sequence, selection, and repetition in programs determine the outcome of that program.
- Know why if, then or else statements are used in a program.
- Know how to design, write and debug programs that accomplish specific goals



Big Ideas-

Programming

Forever Facts

- **Know that** variables can be used within games algorithms
- **Know why** being specific in naming variables is important
- **Know how** to create a game with a variable

Where will it go?

Showcase

Pupils will create their own games to be played by others

Learning Organiser: Web page creation- using canva

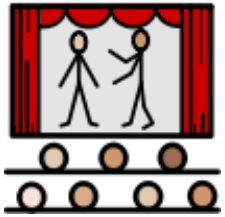
Including AI features

In this unit:

Learners will create websites for a specific purpose, learning what makes a good web page. Using Canva, they will design and evaluate their own site, focusing on copyright, fair use, appearance, and easy navigation.

1. We can explore different websites and evaluate them
2. We can use layout features to begin to design our own webpage
3. We understand the concept of copyright and fair use when using images from the internet. E-safety link
4. We can use canva to create our own home page- use AI features to create pictures and content
5. We can plan and create navigation paths through our websites and use hyperlinks
6. We understand the implications of creating links to other people's work

Vocabulary
HTML
Homepage
Header
Fair use
Copyright



What do we already know

Know that a range of tools can be used to modify a vector-based image

Know why vector based images are used by designers

Know how to use layers in drawings and how to group objects to edit them

Big Ideas-

Digital Literacy

Forever Facts

Know that a website must be planned carefully- looking at content and navigation

Know why it is important to consider ownership and copyright

Know how to use canva and AI to create content for websites

Where will it go?

Showcase

Children to create their own website- choose a hobby/ favourite star

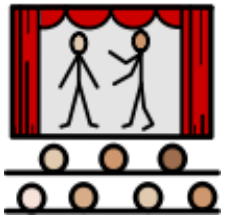
Learning Organiser: 3-D Modelling (Tinkercad)

In this unit:

Learners will learn to create 3D models on a computer by navigating 3D space, manipulating objects, and combining them to build a desk tidy. They will also explore grouping and ungrouping objects before planning and evaluating their own 3D building model.

1. We can add 3-D shapes to our drawing pad and manipulate these.
2. We can combine, lift and resize our shapes on the workplane to create new shapes
3. We can group and rotate objects to create our own 3-D name badge
4. We can create placeholders to make' holes' in an object.
5. We understand how architects use 3-D modelling to create plans of buildings
6. We can use Tinkercad to design our own building- link to curriculum- could link to being a garage for their motorised DT vehicle

Vocabulary
Workplane
Perspective
Placeholder
Handles
Resize
Lift
Group
Hollow



Know that a range of tools can be used to modify a vector-based image

Know why vector based images are used by designers

Know how to use layers in drawings and how to group objects to edit them

Big Ideas-

Digital Literacy

Forever Facts

Know that CAD can be used to work on designs in a simulated 3-d environment

Know why CAD is an important tool for designers

Know how to manipulate shapes to create a 3 structure

Where will it go?

Showcase

Children to design their own building using tinkercad