Learning Organiser: Computing systems and networks – Connecting Computers

This unit covers digital devices, focusing on inputs, processes, outputs, and comparing them to non-digital devices. It also introduces computer networks, including key components and the benefits of device connectivity.

What do we know?

- **Know how** to recognise common uses of information technology beyond school
- **Know why** individuals, systems and society interact with computer systems
- **Know that** networks can be used to retrieve and share information and come with associated risks

1. How does a digital device work?
Introduce the concept of input, process, output and using secure passwords.

2. What parts make up a digital device?
Develop knowledge and apply it to devices and parts of devices that they will be familiar with.

3. How do digital devices help us?
Use programs in conjunction with inputs and outputs on a digital device.

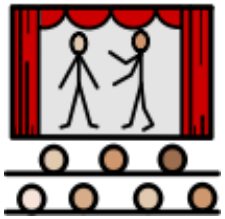
4. How am I connected?
Introduce the concept of connections and moving information between connected devices.

5. How are computers connected?
Introduce key network components, including a server and wireless access points.

6. What does our school network look like?
Further develop their understanding of computer networks

Vocabulary

Input
Process
Output
Device
Secure
Passwords
Digital
Non-digital
network



Forever Facts

- **Know that** digital devices accept inputs and produce outputs.
- **Know why** digital devices can change the way that we work.
- **Know how** devices in networks are connected and the benefits of the devices.

Big Ideas-

Where will it go?

Showcase

Create a piece of work a digital device, and non-digital device. Compare and contrast between the two.

Learning Organiser: Data and Information- branching databases

In this unit: Learners will understand and create branching databases using yes/no questions to sort objects. They will develop both physical and digital versions, create an identification tool, and explore real-world applications.

1. We will use yes/no questions to identify and group objects.

2. We will use yes/no questions to group objects and arrange them in a tree structure based on attributes.

3. We will create a branching database, learners will select objects, group them using yes/no questions, and test the database to ensure it works.

4. We will create yes/no questions, compare databases, and understand the importance of ordering questions to evenly group objects

5. We can plan the structure of a branching database, we can create our own questions and ensure that we can uniquely identify objects. I can also make a real-life version of the branching database.

6. Making and testing my own dinosaur branching database (teacher could link to topic here instead)

Vocabulary
Attribute, value, table, Branching database, database, equal, even, separate

What do we know? *Yr 1unit*

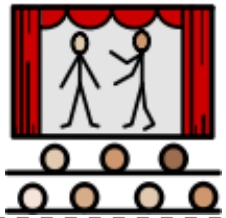
- **Know** that we can sort objects by putting them into groups.
- **Know why** we group objects so that it is easier to count
- **Know how** to label basic objects based on their properties.

Forever Facts

- **Know that a branching database can be used to sort objects according to attributes**
- **Know why ordering questions carefully is important in creating a database**
- **Know how to create their own simple branching database**

Big Ideas-

E safety and Using Technology



Where will it go?

Showcase

The children will present their own databases to the class and test their effectiveness

Learning Organiser: Programming: Sequencing sounds

In this unit: Using scratch, pupils will be introduced to a selection of motion, sound, and event blocks which they will use to create their own programs, featuring sequences. They will focus on all aspects of sequences. Learners also apply stages of program design through this unit.

1. We are getting to know scratch and the learning screen, its layout and how to navigate it.
2. We can program a sprite using command boxes and experiment with different motion blocks.
3. We can start a program in different ways and use a series of commands. We can predict the outcome of a set of commands.
4. We can use sound commands in out sequences.
5. We can combine motion and sound into a program, changing the sprite's costume and background
6. We can create our own musical instruments in scratch

Vocabulary
Programming
block
Sprite
Algorithm
Note
Chord
Sequence
Order
Code
run

What do we know?

Know how to create a simple set of commands to solve a problem

Know why it is important to use precise language in a program

Know that vocabulary is important when using a sequence of commands

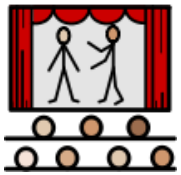
Year 2 unit quizzes using scratch Jr

Forever Facts

Know that scratch can be used to create an algorithm which acts on a sprite

Know why the order of commands is important to create the desired sequence.

Know how to create a simple algorithm using commands



Where will it go?

Showcase

Children use their skills to put on an online 'virtual' performance' using scratch

Big Ideas-

Programming

Learning Organiser: Events and actions in programs

This unit teaches learners about the connections between events and actions, building on sequencing. They learn to move a sprite in different directions and then to navigating a maze. Pupils learn to use Pen blocks to draw lines and modify their size and colour.

1. We can explain how a sprite moves in an existing project and know that actions can be used to do this in an existing program
2. We can change the size of our sprite and make it move in 4 different directions- we are thinking about how it could navigate a maze
3. We can use the pen extension block to draw lines with our sprite.
4. We can experiment with using different pen blocks
5. We can debug a program; finding the error and fixing it.
6. We can create our own mazes for our sprite to move around, using the pen trail to see where they

Vocabulary

Sprite
Extension
Pen
Debug
Algorithm
Event
Action
errors

What do we know?

- **Know that we can control technology by using commands**
- **Know why** vocabulary is important
- **Know how** to use a simple single step command

Programming

Big Ideas-

Forever Facts

- **Know that different effects can be used to manipulate the sprite, background and movements**
- **Know why an error has occurred and how to debug to solve it**
- **Know how to use extension blocks within scratch**

Where will it go?

Showcase

My maze challenge- create a maze using your programming skills

Learning Organiser: Stop-frame animation

Learners will use a range of techniques to create a stop-frame animation. They will apply those skills to create a story-based animation.

1. Can a picture move?
Simple animation techniques and create their own animations in the style of flip books (flick

2. Frame by frame
Develop knowledge from lesson 1 and apply it to make a stop-frame animation using a tablet.

3. What's the story?
Start to think like an animator creating a story map showing the characters, setting and events.

4. Picture perfect
Use tablets to carefully create stop-frame animations, paying attention to consistency.

5. Evaluate and make it great!
Evaluate their own animations to try and improve them.

6. Lights, camera, action!
Add other media and effects into their animations. such as music and text.

Vocabulary
Animation
Stop frame
Frame
Onion skinning
Animator
Sequence
Story map

What do we know?

Know that a range of tools can be used in a paint program to create a desired effect

Know why digital art is a useful media

Know how to use the fill, shape, undo functions and adjust tools to fit their need

Big Ideas- Digital Literacy

Digital Literacy

Forever Facts

Know that animation software can be used to combine images

Know why planning a storyboard carefully is important

Know how to use software to plan and make a simple animation

Where will it go?

Showcase

Children create their own animated sequence to share with class/ families based on the topic theme for the term

Learning Organiser: Desktop publishing (Powerpoint)

In this unit, we'll learn how to use text and images to convey messages. We'll use desktop publishing software to edit documents and make choices about font size, colour, and type. We'll also explore templates, orientation, and placeholders to create our own magazine cover template. Then, we'll add text and images to make our own pieces using the software. We'll look at different page layouts and consider why desktop publishing is used in the real world.

1. We can combine texts and images and understand how to use emojis respectfully.
2. We can edit text by changing font style, size, and colours to communicate more clearly
3. We can choose appropriate page settings and explain what 'page orientation' means. We can recognise placeholders and create our own templates
4. We can be editors, adding content to an existing template using powerpoint's search function
5. We can evaluate a range of different templates and understand why each one could be useful
6. We can evaluate the usefulness of desktop publishing and the importance of editing

Vocabulary
Desktop
Font
Template
Copy
Paste
Landscape, portrait, orientation, placeholder, layout, content

What do we know?

- **Know that** you can type letters on a computer
- **Know why** there are keys on a keyboard
- **Know how** to press keys on a keyboard

Digital Literacy

Forever Facts

- **Know that different templates can be used for different audiences and purposes**
- **Know why manipulating text and images can help good communication**
- **Know how to add text and images to templates**

Where will it go?

Showcase

Using powerpoint produce a themed magazine article based on the class topic- use share function to evaluate each others