Year 6 – Summer – DT – Pupil Knowledge Organiser

What do I already know?	What am I learning now?
- An electric power system is a network of components use to supply, transfer, and use electric power. - Switches control the flow of electricity by opening/closing a circuit. - Different switches include: Push-to-Make, Push-to-Break, Slide and Toggle. - Algorithms are a set of clear, step-by-step instructions that tell a computer or device exactly what to do.	1. What is a micro:bit and what can it do? 2. How can we make a micro:bit respond to inputs? 3. How can we use a micro:bit to count steps? 4. How can we design a pedometer to meet a need? 5. How can we make a working pedometer? 6. How well does our pedometer meet the design brief?

Key Knowledge: Electrical Systems		Design, Make, Evaluate	Key Vocabulary	

Key Knowledge: Electrical Systems

Micro:bits use inputs (e.g. buttons, sensors) and outputs (e.g. LEDs, sound).

They are used in real products, such as alarms, timers and games.

An accelerometer detects movement and can be used to trigger outputs.

The micro:bit's accelerometer can be used to detect steps.

Real-life pedometers are designed to be small, wearable and easy to read.

The pedometer should display the step count clearly.

Accuracy and durability matter for a real-world product.

Computer programming can control how a micro:bit behaves.

Code must be uploaded to the micro:bit for it to function.

A loop can be used in code to keep the pedometer running.

Design, Make, Evaluate

In Design and Technology, we follow a process:

design — Develop a design specification based on in-depth research.

make — Accurately assemble, join and combine materials and components.

evaluate — Learn from existing products.

Critically assess the success of a product, based on the design specification and the views of others.

Key Vocabulary

Term	Definition
micro:bit	A small, programmable computer that can control lights, sounds, and sensors.
microcontroller	A tiny computer inside a device that can be programmed to do specific jobs.
input	A way of giving a command to a device, like pressing a button or moving it.
output	What the device does in response, like showing something on a screen or making a sound.
accelerometer	A sensor that can detect movement or shaking.
pedometer	A device that counts how many steps you take by sensing movement.
program	The process of inputting an algorithm.
code	The language we write to give instructions to the micro:bit.
loop	A coding tool that repeats a set of instructions over and over.
component	A small part of a bigger system, like a sensor or a screen.