

Computing Data Logging

Overview

Data is made up of raw numbers or facts. When we look at that data carefully and make sense of it, it becomes information. There are many ways to collect and record data, including by using data loggers. A data logger is a tool, often linked to logging software, that can automatically collect information such as temperature, light, or sound levels. Once the data is collected, we can study it to spot patterns and use it to answer research questions.



Data Recording

One way of collecting data is by writing it down, but some data loggers can record information automatically and be downloaded later. Data loggers can also be linked to a computer, where special software helps record and display the results. A big advantage of this is that computers can take readings on their own, so nobody has to sit and watch for long periods of time. You can even set the logger to measure at different times or intervals. The software can then quickly turn the data into charts and graphs, which saves lots of time.



Pictograms and block diagrams

Data collected over time can help us answer useful questions. For example, looking at the class register can show how often children attend school. Before we start collecting data, it's important to think about which questions we want to answer.

Sensors

Our senses (sight, hearing, smell, taste, touch) help us detect things in the world around us. Computers also have sensors, which act like their "senses." Examples include:

Microphone – detects sound

Camera – detects light

Touchscreen – detects touch



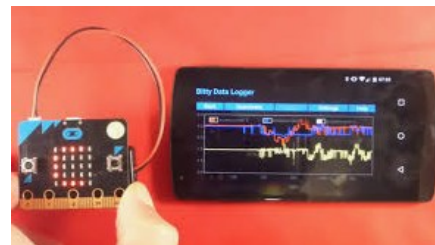
Data Loggers

Data loggers are special devices with sensors built in. They can automatically record different types of data, such as:

Heat sensor – measures temperature

Light sensor – measures brightness

Sound sensor – measures noise



Analysing Data

Storing and Sharing Data

When scientists collect data, they often save it so it can be looked at and studied later. The data can also be shared so other scientists can use it too.

Presenting Data

Tables and graphs help us show data in a way that is easy to read and understand. This makes it easier to spot trends and patterns in the information.

Key Questions

Name one tool that can automatically collect data.

A data logger.

What types of data can a data logger record?

Temperature, light, and sound levels.

What is one advantage of using computers and data loggers?

They can take readings automatically.

What does it mean to set a logger to measure at intervals?

It means the logger records data at specific times repeatedly.

Name three examples of sensors on computers.

Microphone (sound), camera (light), touchscreen (touch)

Key Vocabulary