

READ FIRST

YEAR 4: DATA LOGGING

CURRICULUM MILESTONES

I can use a digital device to collect data automatically

I can choose how often to collect data samples

Recommended apps:

[Arduino Science Journal app](#) allows for sound and light monitoring, as well as a number of others. (This app alone will complete everything in the unit).

See [short video intro here](#) for using the app.

[Decibel X](#) monitors pitch and volume of sound.

[Lux Light Meter Pro](#) will monitor light intensity.

WHY THIS? WHY NOW?

CURRICULUM SEQUENCING AND ASSESSMENT

This unit should be taught after the year 2 unit on Pictograms and the year 3 unit on Branching Databases. It lays foundations for further learning surround Data & Information in years 5 and 6.

This unit also makes clear links between Computing and Science/Maths, and feeds into the Computer Science knowledge that is needed as children start to use programmable hardware.

This unit has clear links into Science, though learning will also cross over into Maths.

If your school does not have access to standalone data loggers, or they are old / incompatible, there are good and free alternatives that run through tablets computers such as iPads. (See recommended apps to the left and [short intro video here](#)). It is our opinion that using the iPad route is a better option than investing in outdated data loggers that bring extra unnecessary complexity to proceedings. However, some of the slides in this unit feature such data loggers – there is no harm in discussing them with children.

If you wish to take the cross-curricular aspect further into Science, it may be worth looking at the [Arduino Science Journal website](#) since it contains experiment ideas that might be useful. If using the Arduino website, you may find that some of the below approaches provide a direct crossover into Science (or Maths) areas that you are covering. References to smartphones can be replaced by use of tablet devices.

[Sound – click here](#), Sound Safari is an open and easy module
[Light – click here](#),

[Motion – uses a smartphone for experiments](#)

[Electricity – quite involved units with circuitry](#) and you will need extra equipment, though children will certainly gain a lot and enjoy the processes.

EASY ACCESS TIPS: LESSON 1

Contains some useful introductory materials on why data logging is employed and what some of the practical uses might be.

EASY ACCESS TIPS: LESSON 2

It is worth revising the input / output terminology in relation to data logging – though point labouring over these points since they are covered elsewhere. The activity whereby children record data in different parts of the classroom is a good way to introduce use of the devices

You may wish to move away from the structure of lessons 3-6 if you are incorporating data logging within your own Science lessons.

EASY ACCESS TIPS: LESSON 3

Lesson 3 has a great activity whereby children act as data loggers while watching a video of the sun rising and temperature changing.

EASY ACCESS TIPS: LESSON 4

The tasks in this activity can be completed as a class from the front screen or by sharing the powerpoint to children and walking them through it. Questioning and discussion will provide plenty of learning within this lesson, and it doesn't matter that you may not have TTS Data Loggers.

EASY ACCESS TIPS: LESSON 5&6

These two lessons could be covered together as one. Children will need guidance as they plan data collection activities that are practical and achievable. Using iPads will allow data to be viewed as graphs on screen – they may not need to transfer data elsewhere.