Data Logging

Data loggers are a great cross-curricular resource. They allow pupils to capture information, compare and analyse data. They are perfect for using in schools, making science experiments simple, easily repeatable and give pupils data in real-time. Incorporating data loggers into the science curriculum can help pupils to develop computing and technology skills, participating like real scientists.

New Log-Box Data Logger SC10193

- Able to record temperature, light, sound and pulse.
- Three probes can be connected to take accurate measurements.
- Easy to use and a handy size to use in school or to take on trips.
- Able to adjust to different countries units of measurement.

Try these ideas with your log box and sensors. If you have any brilliant suggestions on ways to use them then please get in touch. We'd love to hear from you.

Use the light sensor to investigate which fabric is the most transparent or most reflective? Test how many layers of paper is needed to block out light from a torch.

Use the sound sensor to investigate which musical instrument is the quietest, loudest, lowest, highest?

Use the temperature sensor to investigate who has the warmest hands or to find the coolest place in school to keep the lunchboxes?

Calculate heart rate measuring the effect of exercise. Record pulse for sitting, walking, jogging, jumping, running.

Set up fun weather science experiments and record temperatures.

Find out how your body temperature changes during exercise.

Hide data loggers around school to collect data. Show the graphs to the children and get them to guess where the data loggers are to create the data.

Find the noisiest, quietest, hottest, coldest, darkest, lightest places around school.

Find out which cup will keep your tea hot for the longest.

Explore change over time testing which batteries power a torch for the longest, how light levels change in the classroom over the day, finding the best light levels for growing a plant?

A fab resource for any Eco work. Try measuring light levels around school, testing use of draft excluders, or monitoring noise levels.

KS1 Curriculum (5-7 years)

Examples:

Year 1 Seasonal Changes - *Monitor daily temperature and brightness of light throughout the day. Use coloured cellophane filters to find the best colour for making sunglasses for teddy.*

Year 2 Plants- *Monitor how plants need light and a suitable temperature to grow healthy and strong.*

'Pupils should seek answers to questions through collecting, analysing and presenting data.'

Skills

- Observing closely, using simple equipment.
- Using their observations and ideas to suggest answers to questions.
- Gathering and recording data to help in answering questions.

Lower KS2 Curriculum (7-9 years)

'They should learn how to use new equipment, such as data loggers, appropriately. They should collect data from their own observations and measurements, using notes, simple tables, and standard units, and help to make decisions about how to record and analyse this data. With help, pupils should look for changes, patterns, similarities, and differences in their data to draw simple conclusions and answer questions. With support, they should identify new questions arising from the data, making predictions for new values within or beyond the data they have collected and finding ways of improving what they have already done.'

Skills

- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.
- setting up simple practical enquiries, comparative, and fair tests.

Examples:

Year 3 Light- *Find out how much light will pass through different materials. Set the scenario of a person who works nights and needs sleep during the day. Use knowledge of opaque materials and find the best curtains for them to be able to sleep well.*

Year 4 Sound- *Carry out a sound survey and test different materials to measure noise levels.*

Upper KS2 Curriculum (9-11 Years)

Skills

- taking measurements, using a range of scientific equipment, with increasing accuracy and precision.
- taking repeat readings when appropriate and recording data and results with increasing complexity.

'*They should make their own decisions about what observations to make, what measurements to use and how long to make them for, and whether to repeat them; choose the most appropriate equipment to make measurements and explain how to use it accurately. They should decide how to record data from a choice of familiar approaches; look for different causal relationships in their data and identify evidence that refutes or supports their ideas. They should use their results to identify when further tests and observations might be needed; recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact.*'

Examples:

Year 5 Animals, including humans- *Take pulse readings and use to describe functions of the heart and the importance of exercise.*

Year 6 Living Things, Evolution- *Identify how animals and plants adapt to suit their environment. Investigate why some animals have blubber.*

These are just some ways your data logger can be used across the curriculum. They are a digital device that can collect data over time and store it. The information can be read directly from the screen or viewed on a computer. Software enables pupils to display data in different ways and create graphs, charts and tables.

Pupils can be given the opportunity to use the data loggers inside and outside to collect the information they need to answer a range of questions.

The new Log-Box Data Logger SC10193 has built-in sensors to monitor sound, light, temperature as well as featuring a pulse meter! It also has the option of connecting 3 external temperature probes which are great for comparison exercises.