Data Logger

Data logging is an exciting way to engage students with real-world data and scientific concepts.

Skills and Learning	Resources
-To introduce students to the concept of data logging and how sensors collect information. -To enable students to use data loggers to collect and analyse data.	- Data Logger - Tablet or computer (to review data)

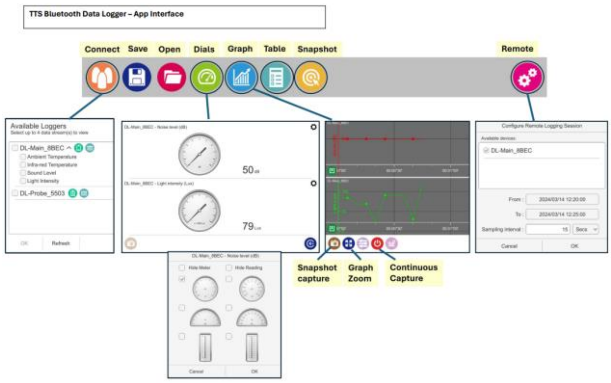
Key Vocabulary, Questions and Concepts	Assessment Opportunities
• **Data Collection-** Understanding how data is collected over time. • **Sensors-** Exploring special input devices (sensors) that monitor environment. • **Data Points and Sets-** Learning about individual data points and sets. • **Logging Intervals-** Understanding the frequency at which data is recorded.	• Pupils' ability to collect and analyse data using data loggers. • Participation in class discussions and posing thoughtful questions.

Introduce	**Introduction (10 minutes)** - Discuss with pupils why data is important and how it helps us understand the world. - Introduce the concept of data logging and its relevance in various fields (e.g., weather, ecology, and sports).

Learn and Explore	**Exploring Sensors (20 minutes)** - Explain that sensors are like our senses—they help computers perceive the environment. - Show examples of sensors (e.g., temperature sensors, light sensors, and motion sensors). - Discuss how sensors collect data continuously.

Hands-On Data Collection (30 minutes)

- Provide pupils with data loggers (physical or virtual).
- Set up a simple experiment (e.g., measuring room temperature over time).
- Pupils take turns collecting data using the data logger.
- Discuss the importance of consistent logging intervals.



Analysing Data (20 minutes)

- Use a computer or tablet to review the collected data.
- Plot data points on a graph.
- Discuss trends and patterns.

Pose Questions (15 minutes)

- Encourage students to think critically.
- Ask questions related to the data e.g. why did the temperature change at a certain time?
- Pupils record their questions they would like to find the answers to.
- In groups they set up data loggers to answer their questions for specific experiments.

Review and Reflect

Conclusion (10 minutes)

- Recap key concepts: sensors, data points, sets, and logging intervals.
-Discuss how data loggers enhance scientific investigations.