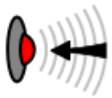
Year 4 Computing – Data logging

Vocabulary

Data	Information collected about something	
Sensor	A device that measures something in the environment	
Data logger	A device that collects and stores data from sensors over time	
Measurement	The act of finding out a value using a device or tool	
Record	To capture and save data for later use	
Collect	To gather information or data from sensors	
Analyse	To look at data carefully to find patterns	
Environment	The surrounding conditions where measurements are taken	
Variable	Something that can change or be measured	
Calibration	Adjusting a sensor to make sure it measures accurately	

Knowledge

Data Logging:

Data logging is when we use technology to collect information (data) automatically. Instead of writing results down by hand, a computer or data logger records it for us. This makes it quicker and more accurate.

Using sensors:

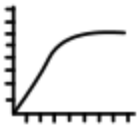
A **sensor** is a special tool that measures something around us, like temperature, light, or sound. Sensors send the information to a computer or data logger, which saves it.

Collecting and recording data:

Data loggers can be set to **record** information at regular times. This is called a logging interval. For example, they could record the temperature every minute. This means we can collect data **over time** without needing to be there.

Understanding data:

Once data is collected, we can look for patterns. We might see a trend, such as the classroom getting warmer during the day. Data can be shown on a graph to make it easier to understand.



Continuous and discrete data:

Sometimes, data is recorded all the time (continuous), like temperature. Other times, it's recorded at separate moments (discrete), like checking the weather once an hour.

Why use data loggers?

Data loggers help us because they are accurate, quick, and can collect information while we do other things. They are often used in science experiments, weather stations, or even in cars and hospitals.

Quizzing

Ask your partner the questions below. Can they find the correct answer on the right-hand side?

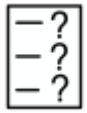
What is the device that collects and stores information called?	To measure information from the environment
How often a data logger records information is called?	Looking carefully for patterns and trends
Why do we use sensors in data logging?	Records and store information from sensors
What is the main advantage of a data logger?	Graph
What does analysing data mean?	Data logger
What does a data logger do?	The surrounding conditions
What is the environment in data logging?	Continuous
What is data called that is collected at regular times?	It can collect accurate data over time automatically
What can be created using the information collected?	The logging interval

Quiz at home

Ask your adult to look at the KO.

Quiz them using the vocabulary and knowledge section or the quiz questions.

- Can they beat your score?
- Can they score more than 5? 10?
- Compete with your adult in the elimination quiz. Take it in turn to ask each other questions. The first person to get a question wrong is out.

BIG Questions

1. Why are computers better at recording data than humans?
2. How do sensors help us collect more accurate results?
3. Why is it important to set the **logging interval** carefully?
4. How can scientists use data logging in their jobs?

Beat the adult

Your teacher can give **10 facts** in **1 minute** about this topic.

How many can you give to your partner?

Word scramble

Unscramble the key vocabulary from this topic below. You can create your own at the bottom

slyanae	
tolcelc	
taad	
ivmnenenrot	
neeuammeerts	
rcoder	
seorsn	
bvailare	

Creative Tasks

1. Measure the sound levels in each room in your house. Which is the quietest and loudest?

2. Measure the height of a plant daily for two weeks.

3. Track how many cups of water you drink each day for a week. Create a colourful chart with the results.

Graph challenge

1. A device that measures information like temperature or light is a _____

2. A picture that shows information using bars or lines in a _____

3. Data collected all the time without stopping is _____ data.

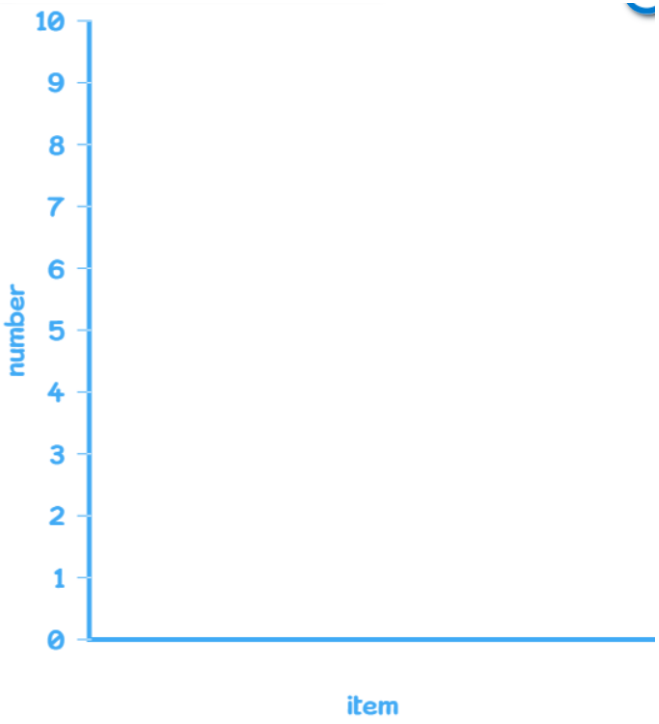
Continuous Sensor Graph

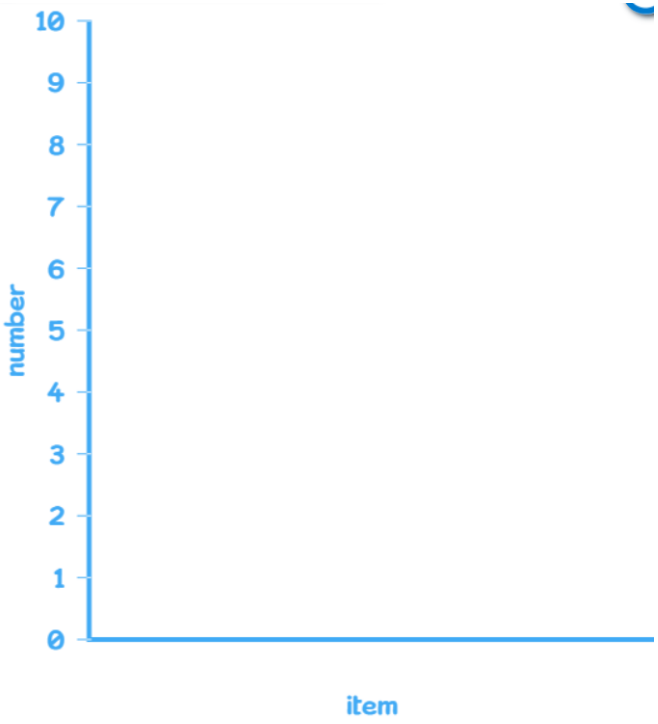
Enquiry			
Data collection			

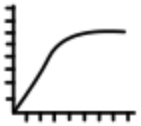
Collect data (e.g., classroom noise levels, playground temperature).

Create two different graphs (bar chart and line graph) to show your results.

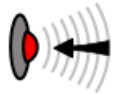
Decide which one shows the information more clearly.





Knowledge	Knowledge
Data Logging: Data logging is when we use technology to [ ] **(data) automatically**. Instead of writing results down by hand, a computer or data logger records it for us. This makes it [ ] and more accurate. **Using sensors:** A [ ] is a special tool that measures something around us, like [ ], **light, or sound**. Sensors send the information to a computer or data logger, which saves it. **Collecting and recording data:** Data loggers can be set to [ ] **information at** [ ] **times**. This is called a [ ]. For example, they could record the temperature every minute. This means we can collect data [ ], without needing to be there.  **Understanding data:** Once data is collected, we can **look for** [ ]. We might see a [ ], such as the classroom getting warmer during the day. Data can be shown on a [ ], to make it easier to understand.  **Continuous and discrete data:** Sometimes, data is recorded [ ] (continuous), like temperature. Other times, it's recorded at **separate moments** ([ ]), like checking the weather once an hour. **Why use data loggers?** Data loggers help us because they are [ ], **quick, and can** [ ] **information while we do other things**. They are often used in science experiments, [ ], or even in cars and hospitals.	**Data logging:** **Using sensors:** **Collecting and recording data:** **Understanding data:** **Continuous and discrete data:**

Write the definition for each of the following words		
Vocabulary		
Data		
Sensor		
Data logger		
Measurement		
Record		
Collect		
Analyse		
Environment		
Variable		
Calibration		

Write the vocabulary word for each definition		
Vocabulary		
	Information collected about something	
	A device that measures something in the environment	
	A device that collects and stores data from sensors over time	
	The act of finding out a value using a device or tool	
	To capture and save data for later use	
	To gather information or data from sensors	
	To look at data carefully to find patterns	
	The surrounding conditions where measurements are taken	
	Something that can change or be measured	
	Adjusting a sensor to make sure it measures accurately	