

Examine how people use data to develop scientific explanations

examine how people use data to develop scientific explanations

Learning intention

- examine how people use data to develop scientific explanations

Teach and model

- investigating the stories of people who used multiple observations to develop scientific explanations, such as 17th-century entomologist and naturalist Maria Sibylla...
- exploring how farmers use soil tests to monitor and manage the health of farms
- investigate how 18th-century physicists such as Jean Ingenhousz and Sir Benjamin Thompson collected data on conduction of heat to determine the best conductors or...

Check understanding

- Explain the main idea in examine how people use data to develop scientific explanations using an example.
- Show the idea in a second way: with words, a model, a diagram or symbols.
- Apply the idea to a short unfamiliar situation and justify the result.

Teaching cautions

- Ask the student to explain their choice, not only state an answer.
- Check that key vocabulary is understood in a new example.
- Mix representations so the skill is transferred rather than copied.

Quick lesson sequence

- Connect to prior knowledge and introduce the key vocabulary.
- Model one clear example, then solve a second example together.
- Finish with an independent check and a short student explanation.