



ToK: Science

What is science and what isn't science?

- Boiling an egg
- Predicting the weather
- Mapping a mountain
- Drilling for oil
- Choosing a new camera
- Eating a salad
- Watering a potted plant

The Sciences

- Biology
- Chemistry
- Physics
- Environmental Systems (?)
- Design Tech (?)
- Geology (?)
- Computer Science (?)
- Psychology (?)
- Geography (?)
- Mathematics (?)
- History (?)

A body of knowledge?

Or... a way of thinking?

Does it matter?

- Science works, doesn't it?

Pragmatism rules O.K.

Karl Popper turns science upside down

- Here is my hypothesis
...



- Try to shoot it down!

“A theory which is not refutable by any conceivable event is nonscientific”

“Every genuine *test* of a theory is an attempt to falsify it”

Falsificationism

Thomas Kuhn's scientific revolutions

- Science progresses by leaps, when crisis point is reached in the current paradigm



–paradigms are “universally recognized scientific achievements that for a time provide model problems and solutions to a community of practitioners.”

Paradigm shifts

Is IB science real science?

What are the skills you are expected to show?



Is IB science real science?

- Planning (a) Focusing the test
- Planning (b) Methodology
- Data Collection
- Data Processing and Presentation
- Conclusion and Evaluation
- Manipulative skills
- Personal skills (a) Teamwork
- Personal skills (b) Motivation and ethics

Words to describe science

