

SCIENTIFIC INQUIRY OR THE SCIENTIFIC METHOD

Make an observation

Ask a question

Form a hypothesis that answers the question

Make a prediction based on the hypothesis

Do an experiment to test the prediction

Analyze the results

Hypothesis is CORRECT

Hypothesis is INCORRECT

Report results

Try again...

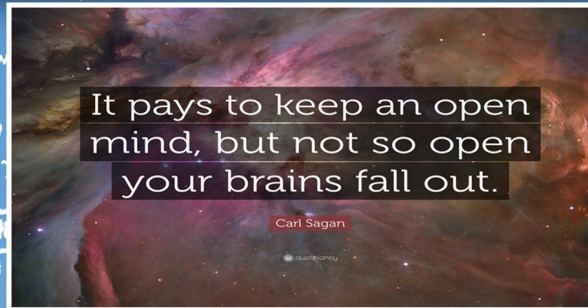
A Rough Guide to TYPES OF SCIENTIFIC EVIDENCE

Being able to evaluate the evidence behind a claim is important, but scientific evidence comes in a variety of forms. Here, the different types of scientific evidence are ranked and described, particularly those relevant to health and medicinal claims.



Note that in certain cases, some of these types of evidence may not be possible to procure, for ethical or other reasons.

© COMPOUND INTEREST 2015 - WWW.COMPOUNDCHEM.COM | @COMPOUNDCHEM
Shared under a Creative Commons Attribution-NonCommercial-NoDerivatives licence.



A LITTLE ABOUT YOUR PRESENTER

Born on the Southwest side of Chicago, William Pack got his first job in a magic shop at the age of 11. He is an award winning magician and storyteller, Victorian séance re-enactor, former card cheat, ex-casino surveillance, occasional author, and historian. His natural comedy and astonishing sleight of hand has made him a popular choice for banquet and party entertainment. Available for Corporate and Private events.



- ♣ PROFESSIONAL
- ♦ MEMORABLE
- ♥ ENTERTAINING
- ♠ FUN

WILLIAM PACK

MORE THAN MAGIC

Fermat's Library
@fermatlibrary

Here's a useful counterintuitive fact: one 18 inch pizza has more 'pizza' than two 12 inch pizzas

Area = $\pi(18/2)^2 = 254 \text{ in}^2$ Area = $2\pi(12/2)^2 = 226 \text{ in}^2$

Law

Describes **how** something in nature behaves but **not why**.

Example: Isaac Newton's Law of Universal Gravitation predicts the motion of objects under the force of Gravity, but doesn't explain why objects move that way.

Theory

A theory is a proposed explanation that has been extensively tested and based on many observations.

Example: Einstein's general theory of relativity explains gravity as a distortion of space (or more precisely, spacetime) caused by the presence of matter or energy. A massive object generates a gravitational field by warping the geometry of the surrounding spacetime.

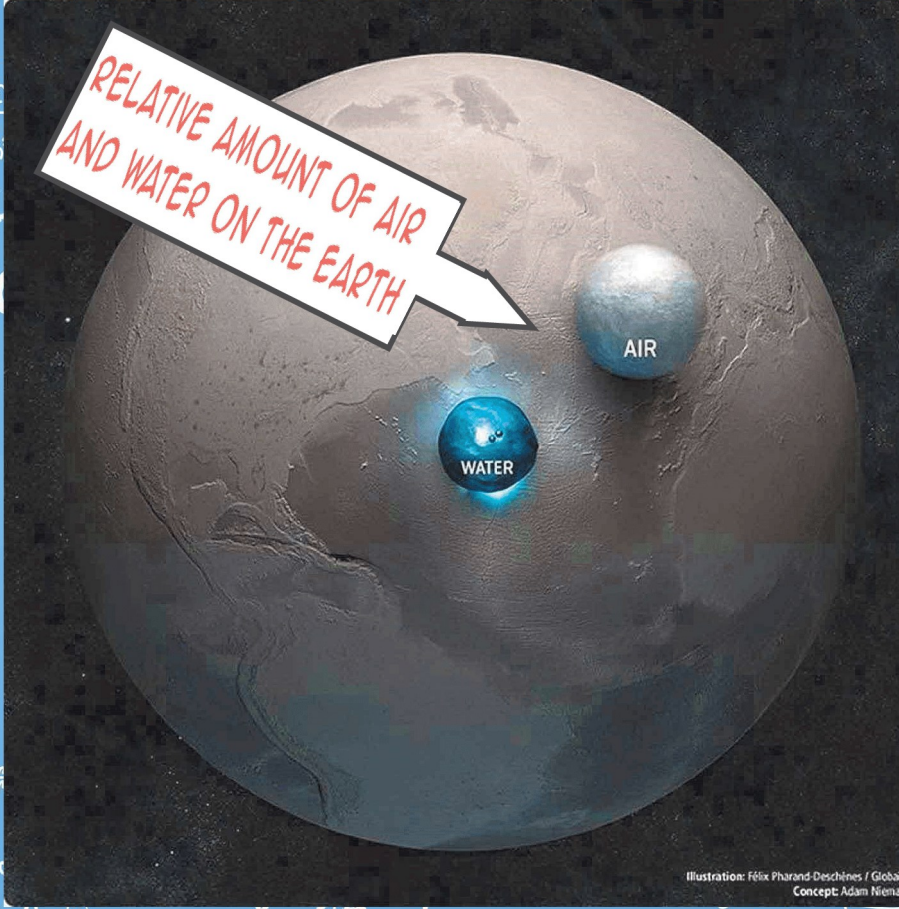
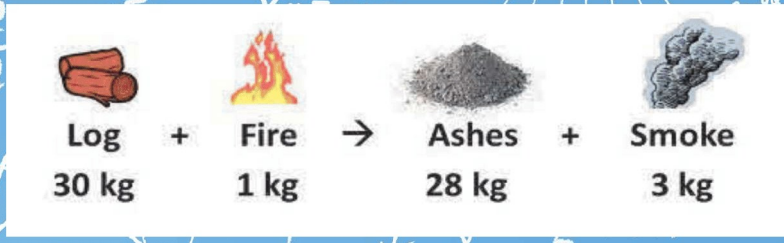


Illustration: Félix Pharrand Deschênes / Globaba
Concept: Adam Nieman

THE LAW OF THE CONSERVATION OF MASS

MASS IS NEITHER CREATED NOR DESTROYED BY ORDINARY CHEMICAL REACTIONS OR PHYSICAL TRANSFORMATIONS.

STARTS AND ENDS WITH THE SAME AMOUNT.
EXAMPLE:



Good Science

- Testable
- Replicable
- Refutable
- Falsifiable

BAD SCIENCE

1. Check the source
2. Widespread Scientific Criticism
3. Unqualified people
4. Look for exaggeration
5. Data does not support claims
6. Evidence is anecdotal
7. Conflict of Interest
8. False Balance