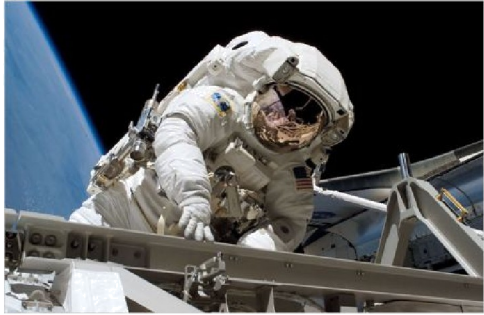


The Methods of Science



What is Science?

1. studies the _____
2. discovers _____
3. discovers nature's " _____ " about how things work
4. only deals with natural phenomena and natural causes

*excludes _____



Branches of Science

1. _____ (biology, microbiology, botany, evolution) - deals with living things
2. _____ (geology, meteorology) - earth, space, rocks, volcanoes, weather
3. _____ (chemistry, physics) - matter, energy, gravity, light, sound



Scientific Method

A step by step process where a scientist investigates a question by observing and performing experiments.

Step 1 - _____

Step 2 - _____
(has someone already investigated this?)

Step 3 - _____
-- a possible explanation or answer

Step 4 - _____

Experiments have 2 variables

_____ - what you change

_____ (dependent) - what you measure

If you want to test the affect of fertilizer, you would add fertilizer to a plant (independent variable) and measure how the plant grows (responding variable)

A _____ is something
you do nothing to, used to
compare your results

you will also have a plant that receives no fertilizer

Step 5 - _____

Organize data into charts or graphs that can be read by others

Step 6 - _____

Determine if hypothesis is supported or rejected
If hypothesis is not supported -

If hypothesis is supported -

Scientific Method in Action

1. What is the best material for insulation? Question.
2. Investigate materials (wool, down, leather)
3. Form a _____
4. Design and conduct _____.
5. Analyze _____
5. Draw _____

Modeling

Scientists sometimes use models to help
_____ phenomenon. The globe is a



_____ you are familiar with.

What are some other models?



~ Take 5 - Pick A Question and Design an Experiment

1. Will human urine repel sharks?
2. Does the color red make lizards more aggressive?
3. Will fish grow larger if placed in a larger tank?
4. Does exercise reduce your risk of heart attack?
5. Does aspirin keep cut flowers fresh longer?



A _____ is an explanation of WHY something happens.

It comes from many _____ and _____

Examples: _____

Theory of Evolution

A _____ tells you WHAT happens, like a rule

Examples: Law of Gravity

Law of _____

What does this have to do with the force between two galaxies?



TECHNOLOGY IS _____

We often think of technology as things like computers, but technology also includes things like _____ or steel

What are some other technologies?

Quiz Time: Methods of Science

You may use your notes!

