

The Process of Science

- Science is the study of the natural world. Biology is the study of life
- **Hypothesis** – A tentative explanation for some specific phenomena that can be tested with an experiment. Scientists submit their work for publication after **peer review**.
- A **theory** is an explanation for a major phenomenon. It is the result of testing many hypotheses with many experiments.
- **Controlled experiments** are performed to help scientists make sure that everything in an experiment is working as it should. Scientists know what the result of a controlled experiment should be and use it to compare to the results of the actual experiment.

Themes in Biology

- Living things display certain properties— order, growth, evolution, etc. Non-living things display some of these properties.
- Structure is related to function
- Information flows within living things
- Life involved transformations between energy and matter. * Energy flows through and ecosystem (or organism) but matter (nutrients) are recycled.
- There is a hierarchy of interactions in living things, from the biosphere down to atoms and molecules.
- Living things evolve. Living things pass on information to the next generation. If there are any changes (mistakes) in that information, that is evolution.