

Many Planets, One Earth

Astronomers have discovered dozens of planets orbiting other stars, and space probes have explored many parts of our solar system, but so far scientists have only discovered one place in the universe where conditions are suitable for complex life forms: Earth.

The science practices that are used to investigate and experiment are necessary to the safe work in lab science. Everything is made of tiny particles of materials and some chemical reactions release energy others store energy.

Earth has a particular place in our solar system, galaxy and universe. Much of what we know about the solar system and beyond is comes from observations made possible by engineered technology. Engineered technology has enables these advances. The repeating patterns observed from earth are explained by the structure of the parts and their function.

Earth is the “goldilocks” planet with just right conditions for life. Earth’s long history tells a story of constant change. All living things are made up of cells, which is the smallest unit that can be said to be alive. Cells are the foundation of life with structures that have specific functions. Life began with single celled organisms and developed over a long period from prokaryotes to eukaryotes. More complex life forms followed. Technology has enabled scientists to see cells and their parts as evidence of the structure and function of this basis for life.

Fossils and their location in the layers of the lithosphere reveal information used to construct the story. Scientists find evidence in today's geologic records for events that took place millions or even billions of years ago. Most of what we know about our planet's history is based on studies of the stratigraphic record—rock layers and fossil remains embedded in them. Geologists have some basic rules for determining relative ages of rock layers. For example, older beds lie below younger beds in undisturbed formations, an intruding rock is younger than the layers it intrudes into, and faults are younger than the beds they cut across. Fossil records are used to determine relative age.

Waves in transmission and in communication because these are on a base 2 or binary model. Their uses extend beyond the scientific and into engineering communication. Everyday uses have grown from signals and Morse code to current uses: cell phones, digital signals for microwaves, TV, radio, computer program coding, and using light for communication.

