

FUNDAMENTAL SCIENCE CONCEPTS

INQUIRY

- How can I use the scientific processes to learn what I want to know?
- How can I test my ideas about the world?

WHAT ARE THINGS MADE OF?

ATOMS: All matter on Earth is made of about 100 different types of atoms (elements). Atoms combine in different, but predictable ways to form molecules, chemicals, and the wide array of materials that exist.

CELLS: Cells are the basic units of all living organisms. All organisms are made of cells which are structurally and functionally similar.

RADIATION: Electromagnetic radiation, including visible light, pervades the Universe.

HOW DO SYSTEMS INTERACT AND CHANGE?

System Change: Changes in a system are caused by interactions. Complex systems change and/or evolve according to a small set of relatively simple rules.

Forces: Parts of systems interact with each other through forces. The behavior of matter and systems is driven by forces.

Energy: Energy exists in many different forms and can be transferred, transformed, and stored.

Conservation of Mass and Energy:

Mass & energy cannot be created nor destroyed only transforms.

Variation:

Populations of species evolve in response to environmental changes. Genetic variations and natural selection enable life systems to evolve in response to many environmental changes.