



Comparison of *Benchmarks* and *NSES* Ideas *NSES* Takes Further

- Assumption of order in the universe establishes the basis for cause-effect relationships and predictability
- Different terms, such as hypothesis, model, law, theory and paradigm, are used to describe various types of scientific explanations
- Steady state, balance, and homeostasis describe equilibrium states
- Gravitational attraction is an inverse-square law
- The strength of the electric force is proportional to the charges and inversely proportional to the square of the distance between them
- The energy of electromagnetic waves is delivered in packets whose magnitude is inversely proportional to the wavelength
- The periodic table is a consequence of the repeating pattern of outermost electrons and their permitted energies
- All energy can be considered as kinetic energy, potential energy, or energy contained by a field
- The subunits in the DNA polymer are of four kinds: A, G, C, and T
- Cells store released energy temporarily in phosphate bonds of a small high-energy compound called ATP
- Exponential growth of populations
- Strong (covalent) bonds are formed between atoms of organic molecules