

From Molecules to Organisms: Structures and Processes: Grades 9-12

Adopted 2013

From Molecules to Organisms: Structures and Processes HS-LS1

HS-LS1-1. Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells. HS-LS1-1

HS-LS1-2. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms. HS-LS1-2

HS-LS1-3. Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis. HS-LS1-3

HS-LS1-4. Use a model to illustrate the role of cellular division (mitosis) and differentiation in producing and maintaining complex organisms. HS-LS1-4

HS-LS1-5. Use a model to illustrate how photosynthesis transforms light energy into stored chemical energy. HS-LS1-5

HS-LS1-6. Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules. HS-LS1-6

HS-LS1-7. Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy. HS-LS1-7