

Connecting to the Next Generation Science Standards

<p>Standard HS-LS1-2. From Molecules to Organisms: Structures and Processes</p> <p>The chart below makes one set of connections between the instruction outlined in this article and the NGSS. Other valid connections are likely; however, space restrictions prevent us from listing all possibilities.</p>	
Dimensions	Classroom Connections
<p>Science and Engineering Practice Developing and Using Models</p> <p>A practice of both science and engineering is to use and construct models as helpful tools for representing ideas and explanations. These tools include diagrams, drawings, physical replicas, mathematical representations, analogies, and computer simulations.</p>	<p>Students model the spread of viruses and the effect of vaccination on the spread of viruses.</p>
<p>Disciplinary Core Ideas HS-LS1-2. From Molecules to Organisms: Structures and Processes</p> <p>Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.</p> <p>HS-ETS1-4 Engineering Design</p> <p>Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem</p>	<p>Students use computer models to simulate the spread of viruses and articulate factors that contribute to the spread of infection.</p> <p>Students describe how vaccines and the immune system protect humans from viruses.</p>
<p>Crosscutting Concept Systems and System Models</p> <p>Systems may interact with other systems; they may have sub-systems and be a part of larger complex systems.</p>	<p>Students use models to investigate the spread of disease at different scales.</p>
<p><i>Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms. [Clarification Statement: Emphasis is on functions at the organism system level such as nutrient uptake, water delivery, and organism movement in response to neural stimuli. An example of an interacting system could be an artery depending on the proper function of elastic tissue and smooth muscle to regulate and deliver the proper amount of blood within the circulatory system.] [Assessment Boundary: Assessment does not include interactions and functions at the molecular or chemical reaction level.]</i></p>	

Connections to the *Common Core State Standards* (NGAC and CCSSO 2010)

ELA

SL.11-12.5 Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest. (HS-LS1-2)