



Grades 6–8

3.1.6-8.A Life Science: Structure, Function, and Information Processing

Students who demonstrate understanding can conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells.

Clarifying Statement: Emphasis is on developing evidence that living things are made of cells, distinguishing between living and non-living things, and understanding that living things may be made of one cell or many and varied cells.

Assessment Boundary: N/A

Science and Engineering Practices (SEP)	Disciplinary Core Ideas (DCI)	Crosscutting Concepts (CCC)
Planning and Carrying Out Investigations Planning and carrying out investigations in 6-8 builds on K-5 experiences and progresses to include investigations that use multiple variables and provide evidence to support explanations or solutions. <ul style="list-style-type: none"> Conduct an investigation and evaluate the experimental design to produce data to serve as the basis for evidence that can meet the goals of the investigation. 	Structure and Function <ul style="list-style-type: none"> All living things are made up of cells, which is the smallest unit that can be said to be alive. An organism may consist of one single cell (unicellular) or many different numbers and types of cells (multicellular). 	Scale, Proportion, and Quantity <ul style="list-style-type: none"> Phenomena that can be observed at one scale may not be observable at another scale. <hr/> Connections to Engineering, Technology, and Applications of Science Interdependence of Science, Engineering, and Technology <ul style="list-style-type: none"> Engineering advances have led to important discoveries in virtually every field of science, and scientific discoveries have led to the development of entire industries and engineered systems.

Pennsylvania Context: N/A

PA Career Ready Skills: Interact with others demonstrating respect, cooperation, and acceptance.

Connections to Other Standards Content and Practices

Standard Source	Possible Connections to Other Standard(s) or Practice(s)
Agriculture (AFNR)	CS.02.02.01.a: Identify and summarize the components within AFNR systems (e.g., Animal Systems: health, nutrition, genetics, etc.; Natural Resources Systems: soil, water, etc.).
Science, Environmental Literacy and Sustainability (NAAEE)	5-8 Strand 1.C. Collecting information: Learners locate and collect quantitative and qualitative information about the environment and environmental topics, using a range of methods and sources. They explain why they used selected information collection methods.



Standard Source	Possible Connections to Other Standard(s) or Practice(s)
PA Core Standards: ELA	CC.3.6.6-8.F: Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
PA Core Standards and Practices: Math	CC.2.2.6.B.3: Represent and analyze quantitative relationships between dependent and independent variables. CC.2.4.6.B.1: Demonstrate an understanding of statistical variability by displaying, analyzing, and summarizing distributions. CC.2.4.7.B.1: Draw inferences about populations based on random sampling concepts. CC.2.4.7.B.3: Investigate chance processes and develop, use, and evaluate probability models.
PA Standards: Social Studies	N/A
Educational Technology (ISTE)	1.4. Innovative Designer: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.
Technology and Engineering (ITEEA)	STEL-3G: Explain how knowledge gained from other content areas affects the development of technological products and systems.