



# HENRY COUNTY SCHOOLS

Better Together.



## 7th GRADE

| SCIENCE |

 **HENRY**  
Teaching & Learning Standards





# Teaching & Learning Standards

**Science**

**7th Grade**

*Collaboration, Communication, Creativity, and Critical Thinking skills are embedded within the language of the Henry Teaching and Learning Standards*

**HCS Graduate Learner Outcome** *As a Henry County graduate, I will apply scientific and engineering practices to understand and analyze the structural similarities of organisms and how they can be compared scientifically.*

GA Standard Code

**S7L1 Obtain, evaluate, and communicate information to investigate the diversity of living organisms and how they can be compared scientifically.**

S7L1a Develop and defend a model that categorizes organisms based on common characteristics.

S7L1b Evaluate historical models of how organisms were classified based on physical characteristics and how that led to the six kingdom system (currently archaea, bacteria, protists, fungi, plants, and animals).

**HCS Graduate Learner Outcome** *As a Henry County graduate, I will apply scientific and engineering practices to understand and analyze molecular, structural, and chemical biology as they relate to biological systems and each level of organization from cells to organ systems.*

GA Standard Code

**S7L2 Obtain, evaluate, and communicate information to describe how cell structures, cells, tissues, organs, and organ systems interact to maintain the basic needs of organisms.**

S7L2a Develop a model and construct an explanation of how cell structures (specifically the nucleus, cytoplasm, cell membrane, cell wall, chloroplasts, lysosome, and mitochondria) contribute to the function of the cell as a system in obtaining nutrients in order to grow, reproduce, make needed materials, and process waste.

S7L2b Develop and use a conceptual model of how cells are organized into tissues, tissues into organs, organs into systems, and systems into organisms.

S7L2c Construct an argument that systems of the body (Cardiovascular, Excretory, Digestive, Respiratory, Muscular, Nervous, and Immune) interact with one another to carry out life processes.

**HCS Graduate Learner Outcome** *As a Henry County graduate, I will apply scientific and engineering practices to understand and analyze the relationship between genetics, adaptation, and biodiversity.*

GA Standard Code

**S7L3 Obtain, evaluate, and communicate information to explain how organisms reproduce either sexually or asexually and transfer genetic information to determine the traits of their offspring.**

S7L3a Construct an explanation supported with scientific evidence of the role of genes and chromosomes in the process of inheriting a specific trait.

- S7L3b Develop and use a model to describe how asexual reproduction can result in offspring with identical genetic information while sexual reproduction results in genetic variation.
- S7L3c Ask questions to gather and synthesize information about the ways humans influence the inheritance of desired traits in organisms through selective breeding.

**S7L5 Obtain, evaluate, and communicate information from multiple sources to explain the theory of evolution of living organisms through inherited characteristics.**

- S7L5a Use mathematical representations to evaluate explanations of how natural selection leads to changes in specific traits of populations over successive generations.
- S7L5b Construct an explanation based on evidence that describes how genetic variation and environmental factors influence the probability of survival and reproduction of a species.
- S7L5c Analyze and interpret data for patterns in the fossil record that document the existence, diversity, and extinction of organisms and their relationships to modern organisms.

HCS Graduate  
Learner Outcome

***As a Henry County graduate, I will apply scientific and engineering practices to understand and analyze the characteristics, functions, and behavioral interactions within an ecosystem.***

GA Standard Code

**S7L4 Obtain, evaluate, and communicate information to examine the interdependence of organisms with one another and their environments.**

- S7L4a Construct an explanation for the patterns of interactions observed in different ecosystems in terms of the relationships among and between organisms and abiotic components of the ecosystem.
- S7L4b Develop a model to describe the cycling of matter and the flow of energy among biotic and abiotic components of an ecosystem.
- S7L4c Analyze and interpret data to provide evidence for how resource availability, disease, climate, and human activity affect individual organisms, populations, communities, and ecosystems.
- S7L4d Ask questions to gather and synthesize information from multiple sources to differentiate between Earth's major terrestrial biomes (i.e., tropical rain forest, savanna, temperate forest, desert, grassland, taiga, and tundra) and aquatic ecosystems (i.e., freshwater, estuaries, and marine).