

Science – 7th Grade

1st Qtr

Basic Scientific Skills

Botany

MS-LS1-4. Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.

MS-LS1-7. Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

CCSS.ELA-LITERACY.RST.6-8.3

Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

CCSS.ELA-LITERACY.RST.6-8.4

Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 6-8 texts and topics*.

2nd Qtr

Cells

Genetics

MS-LS1-1. Conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells.

- MS-LS1-2.** **Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function.**
- MS-LS1-3.** **Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.**
- MS-LS1-5.** **Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.**
- MS-LS3-1.** **Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism.**
- MS-LS4-5.** **Gather and synthesize information about the technologies that have changed the way humans influence the inheritance of desired traits in organisms.**
- MS-LS4-6.** **Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time.**

CCSS.ELA-LITERACY.RST.6-8.6

Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.

CCSS.ELA-LITERACY.RST.6-8.7

Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

CCSS.ELA-LITERACY.RST.6-8.9

Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.

3rd Qtr

Bacteria/Viruses

Fungi/Protists

Invertebrate Animals

- MS-LS1-4.** **Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.**
- MS-LS2-2.** **Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.**
- MS-LS3-2.** **Develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation.**

CCSS.ELA-LITERACY.RST.6-8.5

Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.

4th Qtr

Cold Blooded Vertebrates
Warm Blooded Vertebrates
Ecology

MS-PS1-3. Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.

MS-LS1-4. Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.

MS-LS1-5. Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.

MS-LS1-6. Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.

MS-LS2-1. Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.

MS-LS2-2. Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.

MS-LS4-3. Analyze displays of pictorial data to compare patterns of similarities in the embryological development across multiple species to identify relationships not evident in the fully formed anatomy.

MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

MS-ESS3-4. Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.

MS-LS2-3. Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.

MS-LS2-4. Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

CCSS.ELA-LITERACY.RST.6-8.1

Cite specific textual evidence to support analysis of science and technical texts.

CCSS.ELA-LITERACY.RST.6-8.2

Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

CCSS.ELA-LITERACY.RST.6-8.8

Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.