

10TH GRADE SCIENCE SCOPE AND SEQUENCE

EARLY FIRST QUARTER

Life Sciences

- B. Explain the characteristics of life as indicated by cellular processes and describe the process of cell division and development.
- D. Explain the flow of energy and the cycling of matter through biological and ecological systems (cellular, organismal and ecological).
- F. Explain the structure and function of ecosystems and relate how ecosystems change over time.

Science and Technology

- A. Explain the ways in which the processes of technological design respond to the needs of society.
- B. Explain that science and technology are interdependent; each drives the other.

Scientific Inquiry

- A. Participate in and apply the processes of scientific investigation to create models and to design, conduct, evaluate and communicate the results of these investigations.

Scientific Ways of Knowing

- A. Explain that scientific knowledge must be based on evidence, be predictive, logical, subject to modification and limited to the natural world.
- B. Explain how scientific inquiry is guided by knowledge, observations, ideas and questions.
- C. Describe the ethical practices and guidelines in which science operates.
- D. Recognize that scientific literacy is part of being a knowledgeable citizen.

LATE FIRST QUARTER

Earth and Space Sciences

- D. Describe the finite nature of Earth's resources and those human activities that can conserve or deplete Earth's resources.

Life Sciences

- G. Describe how human activities can impact the status of natural systems.

Science and Technology

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EARLY SECOND QUARTER

Life Sciences

- A. Explain that cells are the basic unit of structure and function of living organisms, that once life originated all cells come from pre-existing cells, and that there are a variety of cell types.
- B. Explain the characteristics of life as indicated by cellular processes and describe the process of cell division and development.

Science and Technology

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LATE SECOND QUARTER

Life Sciences

- C. Explain the genetic mechanisms and molecular basis of inheritance.

Science and Technology

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10TH GRADE SCIENCE SCOPE AND SEQUENCE

EARLY THIRD QUARTER

Earth and Space Sciences

- C. Explain the 4.5 billion-year-history of Earth and the 4 billion-year-history of life on Earth based on observable scientific evidence in the geologic record.
- F. Summarize the historical development of scientific theories and ideas, and describe emerging issues in the study of Earth and space sciences.

Science and Technology

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- B. Explain that science and technology are interdependent; each drives the other.

Scientific Inquiry

- A. Participate in and apply the processes of scientific investigation to create models and to design, conduct, evaluate and communicate the results of these investigations.

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LATE THIRD QUARTER

Life Sciences

- H. Describe a foundation of biological evolution as the change in gene frequency of a population over time. Explain the historical and current scientific developments, mechanisms and processes of biological evolution.
- J. Summarize the historical development of scientific theories and ideas, and describe emerging issues in the study of life sciences.

Science and Technology

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- B. Explain that science and technology are interdependent; each drives the other.

Scientific Inquiry

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Scientific Ways of Knowing

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- C. Describe the ethical practices and guidelines in which science operates.
- D. Recognize that scientific literacy is part of being a knowledgeable citizen.

EARLY FOURTH QUARTER

Life Sciences

- H. Describe a foundation of biological evolution as the change in gene frequency of a population over time. Explain the historical and current scientific developments, mechanisms and processes of biological evolution.
- I. Explain how natural selection and other evolutionary mechanisms account for the unity and diversity of past and present life forms.

Science and Technology

- A. Explain the ways in which the processes of technological design respond to the needs of society.
- B. Explain that science and technology are interdependent; each drives the other.

Scientific Inquiry

- A. Participate in and apply the processes of scientific investigation to create models and to design, conduct, evaluate and communicate the results of these investigations.

Scientific Ways of Knowing

- A. Explain that scientific knowledge must be based on evidence, be predictive, logical, subject to modification and limited to the natural world.
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LATE FOURTH QUARTER

Life Sciences

- E. Explain how evolutionary relationships contribute to an understanding of the unity and diversity of life.

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