Pennsylvania
Science, Technology & Engineering and Environmental Literacy & Sustainability Standards (STEEL)

Grade 2

Adopted 2022

Life Science 3.1

Structure and Function

na1. Not applicable at this level. 3.1.2.NA1

Growth and Development of Organisms

na2. Not applicable at this level. 3.1.2.NA2

Organization for Matter and Energy Flow in Organisms

na3. Not applicable at this level. 3.1.2.NA3

Information Processing

na4. Not applicable at this level. 3.1.2.NA4

Interdependent Relationships in Ecosystems

A. Plan and conduct an investigation to determine if plants need sunlight and water to grow. 3.1.2.A

B. Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants. 3.1.2.B

Cycles of Matter and Energy Transfer in Ecosystems

na5. Not applicable at this level. 3.1.2.NA5

Ecosystem Dynamics, Functioning, and Resilience

na6. Not applicable at this level. 3.1.2.NA6

Social Interactions and Group Behavior

na7. Not applicable at this level. 3.1.2.NA7

Inheritance of Traits

na8. Not applicable at this level. 3.1.2.NA8

Variation of Traits

na9. Not applicable at this level. 3.1.2.NA9

Evidence of Common Ancestry and Diversity

na10. Not applicable at this level. 3.1.2.NA10

Natural Selection

na11. Not applicable at this level. 3.1.2.NA11

Adaptation

na12. Not applicable at this level. 3.1.2.NA12

Biodiversity and Humans

C. Make observations of plants and animals to compare the diversity of life in different habitats. 3.1.2.C

Physical Science 3.2

Structure and Properties of Matter

A. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties. 3.2.2.A

B. Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose. 3.2.2.B

C. Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object. 3.2.2.C

Chemical Reactions

D. Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot. 3.2.2.D

Nuclear Processes

na1. Not applicable at this level. 3.2.2.NA1

Forces and Motion

na2. Not applicable at this level. 3.2.2.NA2

Types of Interactions

na3. Not applicable at this level. 3.2.2.NA3

Definitions of Energy

na4. Not applicable at this level. 3.2.2.NA4

Conservation of Energy and Energy Transfer

na5. Not applicable at this level. 3.2.2.NA5

Relationship Between Energy and Forces

na6. Not applicable at this level. 3.2.2.NA6

Energy in Chemical Processes and Everyday Life

na7. Not applicable at this level. 3.2.2.NA7

Wave Properties

na8. Not applicable at this level. 3.2.2.NA8

Electromagnetic Radiation

na9. Not applicable at this level. 3.2.2.NA9

Information Technologies and Instrumentation

na10. Not applicable at this level. 3.2.2.NA10

Earth and Space Science 3.3

The Universe and Its Stars

na1. Not applicable at this level. 3.3.2.NA1

Earth and the Solar System

na2. Not applicable at this level. 3.3.2.NA2

The History of Planet Earth

A. Use information from several sources to provide evidence that Earth events can occur quickly or slowly. 3.3.2.A

Earth Materials and Systems

B. Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land. 3.3.2.B

Plate Tectonics and Large-Scale System Interactions

C. Develop a model to represent the shapes and kinds of land and bodies of water in an area. 3.3.2.C

The Roles of Water in Earth's Surface Processes

D. Obtain information to identify where water is found on Earth and that it can be solid or liquid. 3.3.2.D

Weather and Climate

na3. Not applicable at this level. 3.3.2.NA3

Biogeology

na4. Not applicable at this level. 3.3.2.NA4

Natural Resources

na5. Not applicable at this level. 3.3.2.NA5

Natural Hazards

na6. Not applicable at this level. 3.3.2.NA6

Human Impact on Earth Systems

na7. Not applicable at this level. 3.3.2.NA7

Environmental Literacy & Sustainability 3.4

Agricultural Systems

A. Categorize ways people harvest, redistribute, and use natural resources. 3.4.K-2.A

Environment and Society

B. Examine how people from different cultures and communities, including one's own, interact and express their beliefs about nature. 3.4.K-2.B

Watersheds and Wetlands

na1. Refer to other standards in this document to build a learning progression. 3.4.K-2.NA1

Investigating Environmental Issues

na2. Refer to other standards in this document to build a learning progression. 3.4.K-2.NA2

Environmental Experiences

C. Explain ways that places differ in their physical characteristics, their meaning, and their value and/or importance. 3.4.K-2.C

Evaluating Solutions

na3. Refer to other standards in this document to build a learning progression. 3.4.K-2.NA3

Environmental Sustainability

D. Plan and carry out an investigation to address an issue in the local environment and community. 3.4.K-2.D

Environmental Stewardship

na4. Refer to other standards in this document to build a learning progression. 3.4.K-2.NA4

Environmental Justice

na5. Refer to other standards in this document to build a learning progression. 3.4.K-2.NA5

Technology & Engineering 3.5

Applying, Maintaining, and Assessing Technological Products and Systems

A. Identify and use everyday symbols. 3.5.K-2.A

B. Describe qualities of everyday products. 3.5.K-2.B

C. Explain ways that technology helps with everyday tasks. 3.5.K-2.C

D. Select ways to reduce, reuse, and recycle resources in daily life. 3.5.K-2.D

E. Illustrate helpful and harmful effects of technology. 3.5.K-2.E

F. Investigate the use of technologies in the home and community. 3.5.K-2.F

G. Explain the tools and techniques that people use to help them do things. 3.5.K-2.G

H. Explain the needs and wants of individuals and societies. 3.5.K-2.H

I. Compare simple technologies to evaluate their impacts. 3.5.K-2.I

J. Design new technologies that could improve their daily lives. 3.5.K-2.J

K. Safely use tools to complete tasks. 3.5.K-2.K

L. Explore how technologies are developed to meet individual and societal needs and wants. 3.5.K-2.L

Design and Design Thinking in Technology and Engineering Education

M. Demonstrate essential skills of the engineering design process. 3.5.K-2.M

N. Analyze how things work. 3.5.K-2.N

O. Illustrate that there are different solutions to a design and that none are perfect. 3.5.K-2.O

P. Discuss that all designs have different characteristics that can be described. 3.5.K-2.P

Q. Apply skills necessary for making in design. 3.5.K-2.Q

R. Draw connections between technology and human experience 3.5.K-2.R

S. Apply design concepts, principles, and processes through play and exploration 3.5.K-2.S

T. Demonstrate that designs have requirements. 3.5.K-2.T

U. Explain that design is a response to wants and needs 3.5.K-2.U

Integration of Knowledge, Technologies, and Practices

V. Explain that materials are selected for use because they possess desirable properties and characteristics. 3.5.K-2.V

W. Apply concepts and skills from technology and engineering activities that reinforce concepts and skills across multiple areas. 3.5.K-2.W

X. Develop a plan in order to complete a task. 3.5.K-2.X

Nature and Characteristics of Technology and Engineering

Y. Discuss how the way people live and work has changed throughout history because of technology. 3.5.K-2.Y

Z. Illustrate how systems have parts or components that work together to accomplish a goal. 3.5.K-2.Z

AA. Demonstrate that creating can be done by anyone. 3.5.K-2.AA

BB. Compare the natural world and human-made world. 3.5.K-2.BB

CC. Discuss the roles of scientists, engineers, technologists, and others who work with technology. 3.5.K-2.CC

DD. Collaborate effectively as a member of a team. 3.5.K-2.DD