West Virginia Science

Grade 6

Adopted 2022

Physical Science DOMAIN

Atoms and Elements

8. Develop models to describe the relationship between atoms and molecules. S.6.8
9. Utilize the periodic table as an informational tool to identify elements. S.6.9

Waves and Electromagnetic Radiation

10. Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave. S.6.10
11. Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials. S.6.11
12. Integrate qualitative scientific and technical information to support the claim that digitized signals are a more reliable way to encode and transmit information than analog signals. S.6.12

Life Science DOMAIN

Interdependent Relationships in Ecosystems

1. Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems. S.6.1
2. Evaluate competing design solutions for maintaining biodiversity and ecosystem services. S.6.2

Matter and Energy in Organisms and Ecosystems

3. 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. S.6.3
4. 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. S.6.4
5. Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem. S.6.5
6. Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem. S.6.6
7. Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations. S.6.7

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Ea Science DOMAIN

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13. Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons. S.6.13
14. Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system. S.6.14
15. Analyze and interpret data to determine scale properties of objects in the solar system. S.6.15

Weather and Climate

16. Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions. S.6.16
17. Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates. S.6.17
18. Ask questions to clarify evidence of the factors that have caused the change in global temperatures over the past century. S.6.18

Human Impacts

19. analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects. S.6.19

Engineering, Technology, and Applications of Science DOMAIN

Engineering Design

20. Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution. EDS.6.20
21. Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each. EDS.6.21