West Virginia Science

Grade 4

Adopted 2022

Physical Science DOMAIN

Energy

1. Use evidence to construct an explanation relating the speed of an object to the energy of that object. S.4.1
2. Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents. S.4.2
3. Ask questions and predict outcomes about the changes in energy that occur when objects collide. S.4.3
4. Apply scientific ideas to design, test, and refine a device that converts energy from one form to another. S.4.4

Waves: Waves and Information

5. Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move. S.4.5
6. Generate and compare multiple solutions that use patterns to transfer information. S.4.6

Life Science DOMAIN

Structure, Function, and Information Processing

7. Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen. S.4.7
8. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. S.4.8
9. Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways. S.4.9

Earth and Space Science DOMAIN

Earth's Systems: Processes that Shape the Earth

10. Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time. S.4.10
11. Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago. S.4.11
12. Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation. S.4.12
13. Analyze and interpret data from maps to describe patterns of Earth's geological features. S.4.13

Engineering, Technology, and Applications of Science DOMAIN

Engineering Design

14. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost. EDS.4.14
15. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. EDS.4.15
16. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved. EDS.4.16