Accomack County Public Schools
2023-2024
Fifth Grade Science Pacing Guide (2018 Standards)

How do we use energy & matter to impact our place in the solar system?

QUARTER ONE								
Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9
4.1/5.1	**4.5**		**4.6**		**5.2**	**4.2**		**5.7**
The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations. Begin basic knowledge of the scientific process as well as identifying tools used in experiments. **4.1/ 5.1 should be incorporated throughout the school year in every unit.**	The student will investigate and understand that the planets have characteristics and a specific place in the solar system. Key ideas include: a) planets rotate on their axes and revolve around the sun; b) planets have characteristics and a specific order in the solar system; and c) the sizes of the sun and planets can be compared to one another.		The student will investigate and understand that there are relationships among Earth, the moon, and the sun. Key relationships include: a) the motions of Earth, the moon, and the sun; b) the causes for Earth's seasons; c) the causes for the four major phases of the moon and the relationship to the tide cycles; and d) the relative size, position, age and makeup of Earth, the moon, and the sun.		The student will investigate and understand that energy can take many forms. Key ideas include: a) energy is the ability to do work or to cause change; b) there are many different forms of energy; c) energy can be transformed; and d) energy is conserved.	The student will investigate and understand that plants and animals have structures that distinguish them from one another and play vital roles in their ability to survive. Key ideas include: a) the survival of plants and animals depends on photosynthesis; b) plants and animals have different structures and processes for obtaining energy; and c) plants and animals have different structures and processes for creating offspring.		The student will investigate and understand that matter has properties and interactions. Key ideas include: a) matter is composed of atoms; b) substances can be mixed together without changes in their physical properties; and c) energy has an effect on the phases of matter.
How does science impact our lives?	Where is our place in the solar system?		How do the sun & moon impact our place in the solar system?		How is energy transferred? Where does our energy come from?	How do plants obtain energy and reproduce?		Why does matter, matter?
Begin Scientific & Engineering Practices	3 Scientific & Engineering Practices		5 Scientific & Engineering Practices		2 Scientific & Engineering Practices	3 Scientific & Engineering Practices		4 Scientific & Engineering Practices

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QUARTER TWO								
Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9
4.3		**5.8**		**4.7**		**4.4**	**4.8**	
The student will investigate and understand that organisms, including humans, interact with one another and with the nonliving components in the ecosystem. Key ideas include: a) interrelationships exist in populations, communities, and ecosystems; b) food webs show the flow of energy within an ecosystem; c) changes in an organism's niche and habitat may occur at various stages in its life cycle; and d) classification can be used to identify organisms.		The student will investigate and understand that Earth constantly changes. Key ideas include: a) Earth's internal energy causes movement of material within the Earth; b) plate tectonics describe movement of the crust; c) the rock cycle models the transformation of rocks; d) processes such as weathering, erosion, and deposition change the surface of the Earth; and e) fossils and geologic patterns provide evidence of Earth's change.		The student will investigate and understand that the ocean environment has characteristics. Key characteristics include: a) geology of the ocean floor; b) physical properties and movement of ocean water; and c) interaction of organisms in the ocean.		The student will investigate and understand that weather conditions and phenomena affect ecosystems and can be predicted. Key ideas include: a) weather measurements create a record that can be used to make weather predictions; b) common and extreme weather events affect ecosystems; and c) long term seasonal weather trends determine the climate of a region. **4.4a should be incorporated daily/ weekly throughout the school year.**	The student will investigate and understand that Virginia has important natural resources. Key resources include: a) watersheds and water; b) plants and animals; c) minerals, rocks, and ores; and d) forests, soil, and land.	
How do animals and plants transfer matter and energy?		How does Earth's internal energy impact our place in the solar system?		How is the matter and energy of the ocean unique to our solar system?		How does the transfer of energy in the atmosphere impact Earth's ecosystems?	How are energy resources and matter in Virginia unique to our solar system?	
4 Scientific & Engineering Practices		6 Scientific & Engineering Practices		4 Scientific & Engineering Practices		3 Scientific & Engineering Practices	4 Scientific & Engineering Practices	

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QUARTER THREE								
Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9
5.9	**5.3**		**5.4**		**5.6**		**5.5**	
The student will investigate and understand that the conservation of energy resources is important. Key ideas include: a) some sources of energy are considered renewable and others and not; b) individuals and communities have means of conserving both energy and matter; and c) advances in technology improve the ability to transfer and transform energy.	The student will investigate and understand that there is a relationship between force and energy of moving objects. Key ideas include: a) moving objects have kinetic energy; b) motion is described by an object's direction and speed; c) changes in motion are related to net force and mass; d) when objects collide, the contact forces transfer energy and can change objects' motion; and e) friction is a force that opposes motion.		The student will investigate and understand that electricity is transmitted and used in daily life. Key ideas include: a) electricity flows easily through conductors but not insulators; b) electricity flows through closed circuits; c) static electricity can be generated by rubbing certain materials together; d) electrical energy can be transformed into radiant, mechanical, and thermal energy; and e) a current flowing through a wire creates a magnetic field.		The student will investigate and understand that visible light has certain characteristics and behaves in predictable ways. Key ideas include: a) visible light is radiant energy that moves in transverse waves; b) the visible spectrum includes light with different wavelengths; c) matter influences the path of light; and d) radiant energy can be transformed into thermal, mechanical, and electrical energy.		The student will investigate and understand that sound can be produced and transmitted. Key ideas include: a) sound is produced when an object or substance vibrates; b) sound is the transfer of energy; c) different media transmit sound differently; and d) sound waves have many uses and applications.	
Why is it important to conserve energy?	How does matter relate to energy?		How is energy transmitted and used in our daily life?		Does matter impact the energy of light?		Does matter impact the energy of sound?	
2 Scientific & Engineering Practices	6 Scientific & Engineering Practices		6 Scientific & Engineering Practices		4 Scientific & Engineering Practices		2 Scientific & Engineering Practices	

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How do we use energy & matter to impact our place in the solar system?

<table>
<tr><th colspan="9">QUARTER FOUR</th></tr>
<tr><td>Week 1</td><td>Week 2</td><td>Week 3</td><td>Week 4</td><td>Week 5</td><td>Week 6</td><td>Week 7</td><td>Week 8</td><td>Week 9</td></tr>
<tr><td colspan="6">Review</td><td>Summer Safety</td><td>Basic First Aid</td><td>Storm Safety</td></tr>
<tr><td colspan="6" rowspan="2">Science Fair

Pacing adjustment

Review all standards & Scientific & Engineering Practices

Review big question “How do we use energy & matter to impact our place in the solar system?”

SOL testing</td><td>Summer Safety

• Bike safety
• Water safety
• Sun safety</td><td>Basic First Aid

•First aid kits
•Basic first aid</td><td>Storm Safety

• Hurricane safety
• Thunderstorm safety
• Tornado safety
• Storm safety kits</td></tr>
<tr><td>How can I stay safe this summer?</td><td>How can I help in an emergency?</td><td>How can I stay safe in a storm?</td></tr>
</table>