

Readorium Alignment to Foss Kit-Magnetism and Electricity

Readorium Books By Standard	Magazine Articles (A) and Science Alive Videos (V) By Standard	Teacher Resource Center Classroom Strategy Lessons (CL) with Articles (A) by Standard
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NGSS: 4-PS3.A. Energy: Definitions of Energy: The faster a given object is moving, the more energy it possesses. (4-PS3-1)

<ul style="list-style-type: none"> • Amusement Park Physics • Olympic Champs: It's Not Just Luck – It's Physics! 		<ul style="list-style-type: none"> • Main Idea and Details (CL-2, A-1, The History of Flight) • Text Organization (CL-1, A-1, Satellites) • Text Organization (CL-1, A-2 Satellites in Outer Space) • Text Organization (CL-1, A-3 How Satellites Work)
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NGSS: 4-PS3.B Energy: conservation of Energy and Energy Transfer: Energy is present whenever there are moving objects, sound, light, or heat. When objects collide, energy can be transferred from one object to another, thereby changing their motion. In such collisions, some energy is typically also transferred to the surrounding air; as a result, the air gets heated and sound is produced. (4-PS3-2), (4-PS3-3)

Energy can also be transferred from place to place by electric currents, which can then be used locally to produce motion, sound, heat or light. The currents may have been produced to begin with by transforming the energy of motion into electrical energy. (4-PS3-2), (4-PS3-4)

<ul style="list-style-type: none"> • Good Vibes – Making Waves with Sound • Improving Lives with Assistive Technology • Making Movie Magic • On the Move with Transportation Technology • Powering Our Lives with Energy • Science of Music, The • 	<ul style="list-style-type: none"> • Computer's Best Friend (A) • Cool Beams! (A) • The Science of Movie Stunts (A) • The Water Cycle (A) • Why Are Some Hands More "Handy" Than Others? (A) • Aurora Borealis: The Glowing Lights (A) 	<ul style="list-style-type: none"> • Text Organization (CL-1, A-1, What is a Satellite?) • Text Organization (CL-1, A-2 Satellites in Outer Space) • Text Organization (CL-1, A-3 How Satellites Work)
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NGSS: 3-PS3.C. Energy: Relationship Between Energy and Forces: When objects collide, the contact forces transfer energy so as to change the objects' motions. (4-PS3-3)

<ul style="list-style-type: none"> • Good Vibes – Making Waves with Sound • Powering Our Lives with Energy • Amusement Park Physics • 		<ul style="list-style-type: none"> • Main Idea and Details (CL-2, A-1, The History of Flight) • Graphic Features (CL-2, A-1 War Machines-Siege Engines) • Questioning (CL-2, A1 Crazy Careers in Science)
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NGSS: 4-PS4.C Waves and Their Applications in Technologies for Information Transfer: Digitized information transmitted over long distances without significant degradation. High-tech devices, such as computers or cell phones, can receive and decode information-convert it from digitized form to voice-and vice versa (4-PS3-3)

<ul style="list-style-type: none"> • Computer Revolution, The • Exploring the Ocean’s Depths • Good Vibes • How We Learn • Technology Changes Medicine 	<ul style="list-style-type: none"> • Amazing Teen Scientist (A) • Computer's Best Friend (A) • The Brain! (A) • Why Some Hands are "Handier" Than Others? (A) • Raise Your Voice (A) 	<ul style="list-style-type: none"> • Inferring (CL-1, A-3 Why Is the Sky Blue?) • Text Organization (CL-1, A-1 What Is a Satellite?) • Questioning (CL-2, A1 Crazy Careers in Science)
<p>NGSS: 3-ETS1.A Engineering Design: Defining and Delimiting an Engineering Problem: Possible solutions to a problem are limited by available materials and resources (constraints). The success of a designed solution is determined by considering the desired features of a solution (criteria). Different proposals for solutions can be compared on the basis of how well each one meets the specified criteria for success or how well each takes the constraints into account. (3-5-ETS1-1) (secondary to 4-PS3-4)</p>		
<ul style="list-style-type: none"> • Computer Revolution • Deep Space • Earth’s Systems • Exploring the Ocean's Depths • Improving Lives with Assistive Technology • Living in Space • Making Movie Magic • Olympic Champs: It's Not Just Luck – It's Physics! • On the Move with Transportation Technology • Powering Our Lives with Energy • Technology Changes Medicine 	<ul style="list-style-type: none"> • The Science of Jelly Beans(A) • Amazing Teen Scientist (A) • The Science of Movie Stunts (A) • Cool Beams! (A) • Robotic Arms (V) • The SpelBots (V) 	<ul style="list-style-type: none"> • Word Learning (CL-1, A-1 Introduction to Archeology) • Word Learning (CL-1, A-2 How Archeologists Work) • Word Learning (CL-1, A-3 The Archeology Lab)
<p>NGSS: 3-ETS1.B Engineering Design: Developing Possible Solutions: Research on a problem should be carried out before beginning to design a solution. Testing a solution involves investigating how well it performs under a range of likely conditions. (3-5-ETS1-2)</p> <p>At whatever stage, communicating with peers about proposed solutions is an important part of the design process, and shared ideas can lead to improved designs. (3-5-ETS1-2)</p> <p>Tests are often designed to identify failure points or difficulties, which suggest the elements of the design that need to be improved. (3-5-ETS1-3)</p> <p>Testing a solution involves investigating how well it performs under a range of likely conditions. (secondary to 4-ESS3-2)</p>		
<ul style="list-style-type: none"> • Improving Lives with Assistive Technology • Living in Space • Olympic Champs: It's Not Just Luck – It's Physics! • On the Move with Transportation Technology • Powering Our Lives with Energy • Science - What's it All About? • Solving Crime with Forensics • Technology Changes Medicine 	<ul style="list-style-type: none"> • Amazing Teen Scientist (A) • A Computer's Best Friend (A) • Why Are Some Hands More "Handy" Than Others? (A) • Mysteries of the Common Cold (A) • Breathe Easier - Understanding Asthma (A) • All About Recycling(A) • Shrimp Farming: A Shocking Environment (A) 	<ul style="list-style-type: none"> • Graphic Features (CL-2, A-1 War Machines-Siege Engines)

NGSS: 3-ETS1.C. Engineering Design: Optimizing the Design Solution: Different solutions need to be tested in order to determine which of them best solves the problem, given the criteria and the constraints. (3-5-ETS1-3) (secondary to 4-PS4-3)

• Science - What's It All About?

- Biotechnology (A)
- Virtual Reality Scientists (V)
- Cancer: Cells Out of Control
- RoboBees (V)
- Twin Fascination(A)
- Robotic Arms (V)
- The SpelBots (V)