

Grade 3

Unit 2: Forces

New Jersey Student Learning Standards

Established: 2016-2017

Revised: 2018-2019

Revised: 2019-2020

Revised: 2020-2021

Revised: 2022-2023

| Trimester | | Unit Title | Recommended Instructional Days |
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| 1 | | Unit 2: Forces | 30 Days |
| NJSLS - Science: Title | NJSLS - Science: Performance Expectations | Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences to Explore NJSL-S within Unit | |
| Physical Science | 3-PS2-1 3-PS2-3 3-PS2-4 | | |
| FOUNDATION Disciplinary: Core Idea | FOUNDATION Disciplinary: Statement | | |
| <ul style="list-style-type: none"> Forces and Motion Types of Interactions | Understand that objects in contact exert forces on each other and those forces have both strength and a direction. Electric and magnetic forces do not require contact. | Essential Question/s: <ul style="list-style-type: none"> What are forces? What are some types of forces? What forces act from a distance? | |
| FOUNDATION Science and Engineering Practices: Core Idea | FOUNDATION Science and Engineering Practices: Statement | Activity Description: <ul style="list-style-type: none"> “Balanced Forces”- Unit Project “Playground Pushes and Pulls-Hands-On Activity (Lesson 1) Required Performance Task - “How Forces Affect Motion-Hands-On Activity (Lesson 1) See Below “How Does Friction Affect Force?” - Extra Hands-On Activity (Lesson 1) “Sliding Along”- Hands-On Activity (Lesson 2) “Exploring Forces” - Extra Hands-On Activity (Lesson 2) “Compass”- Hands-On Activity (Lesson 3) “Build an Electromagnet”- Hands-On Activity (Lesson 3) “Can You Create More Static Electricity?” - Extra Hands-On Activity (Lesson 3) “Launch a Roller Coaster!” - You Solve It-Design a Solution to a | |
| <ul style="list-style-type: none"> Asking Questions and Defining Problems Planning and Carrying Out Investigations Engaging in Argument from Evidence Obtaining, Evaluating, and Communicating Information | Ask questions based on cause-and-effect relationships in order to plan and conduct an investigation to produce data that serves as a basis to answer a question and support an argument. | | |
| FOUNDATION Crosscutting Concepts: | FOUNDATION Crosscutting Concepts: | | |

| Core Idea | Statement | | | | | | | | | | |
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| <ul style="list-style-type: none"> ● Cause and Effect ● Interdependence of Science, Engineering, and Technology | Define cause and effect relationships and understand that scientific discoveries about the natural world often lead to new and improved technologies, developed through the design process. | <p>Problem: Virtual Lab TECH</p> <ul style="list-style-type: none"> ● Take It Further: Discover More - Careers in Engineering (SE & TE) ● BrainPop Video on Pushes and pulls- Pushes and Pulls <p>Amistad Law/Diversity & Inclusion</p> <p>Take if Further - SE 103: Conduct a research study on Christine Darden who was the first African American woman at NASA's Langley Research Center to be promoted into the Senior Executive Service, the top rank in the federal civil service.</p> <p>Interdisciplinary Connections - Mathematics: MP.2- Reason abstractly and quantitatively MP.5- Use appropriate tools strategically. 3.NF.A.3- Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. 3.OA.D.8- Solve problems involving the four operations, and identify and explain patterns in arithmetic. 3.MD.A.2- Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).</p> <p style="text-align: center;">Science Dimensions/Go Math Correlations</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">HMH Science Dimensions Math Content</th> <th style="text-align: center;">HMH Science Dimensions Pages</th> <th style="text-align: center;">Go Math Aligned Lessons</th> </tr> </thead> <tbody> <tr> <td>Lesson 1: Bar Graphs, Solve Problems Using Data, Relate Fractions and Whole Numbers, Measuring Length</td> <td style="text-align: center;">Pages 67F; 76; 77-78</td> <td style="text-align: center;">Lessons 2.5; 2.6; 8.6; 10.6</td> </tr> <tr> <td>Lesson 2: Count Equal Groups</td> <td style="text-align: center;">Pages 93</td> <td style="text-align: center;">Lessons 3.1</td> </tr> </tbody> </table> | HMH Science Dimensions Math Content | HMH Science Dimensions Pages | Go Math Aligned Lessons | Lesson 1: Bar Graphs, Solve Problems Using Data, Relate Fractions and Whole Numbers, Measuring Length | Pages 67F; 76; 77-78 | Lessons 2.5; 2.6; 8.6; 10.6 | Lesson 2: Count Equal Groups | Pages 93 | Lessons 3.1 |
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| Lesson 2: Count Equal Groups | Pages 93 | Lessons 3.1 | | | | | | | | | |
| Social and Emotional Learning: Competencies | Social and Emotional Learning: Sub-Competencies | | | | | | | | | | |
| <ul style="list-style-type: none"> ● Self-Awareness ● Self-Management ● Social Awareness ● Responsible Decision-Making ● Relationship Skills | <ul style="list-style-type: none"> ● Recognize the importance of self-confidence in handling daily tasks and challenges ● Recognize the skills needed to establish and achieve personal and educational goals ● Demonstrate an understanding of the need for mutual respect when viewpoints differ ● Develop, implement, and model effective problem-solving and critical thinking skills ● Utilize positive communication and social skills to interact effectively with others | | | | | | | | | | |

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| | | <p>Lesson 3: Problem Solving Multiplication; Multiply with 5 and 10; Organize Data in Tables; Number Patterns</p> | <p>Pages 116; 123; 124</p> | <p>Lesson 3.4, 4.2; 2.1; 1.1</p> |
| <p>Assessments (Formative) <i>To show evidence of meeting the standard/s, students will successfully engage within:</i></p> | | <p>Assessments (Summative) <i>To show evidence of meeting the standard/s, students will successfully complete:</i></p> | | |
| <p><u>Formative Assessments:</u></p> <ul style="list-style-type: none"> Apply what you know; Lesson check; Self check; Evidence notebooks | | <p><u>Benchmarks:</u></p> <ul style="list-style-type: none"> District Assessment 1 <p><u>Summative Assessments:</u></p> <ul style="list-style-type: none"> End of lesson quizzes; End of unit assessment <p><u>Alternative:</u> - Performance Assessment (back of assessment guide) Lab Practical</p> <p><u>Suggested Writing Prompts:</u></p> <ol style="list-style-type: none"> Read the RadWorks article “Famous Scientist Sir Isaac Newton.” In your evidence notebook, write about his discovery of gravity and how it affects your everyday life. What would happen if there was no gravity on Earth? | | |

| Differentiated Student Access to Content: Teaching and Learning <i>Resources/Materials</i> | | | |
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| Core Resources | Alternate Core Resources <i>IEP/504/At-Risk/ESL</i> | ELL Core Resources | Gifted & Talented Core Resources |
| <ul style="list-style-type: none"> ● Evidence Notebook ● Equipment Kit ● On Level Readers ● Online Simulations ● Dimensions TE ● Dimensions SE | <p>In addition to Core Resources:</p> <ul style="list-style-type: none"> ● Extra Support Readers ● Science and Engineering Practices Online Handbook | <p>In addition to Core Resources:</p> <ul style="list-style-type: none"> ● Science Thesaurus ● Extra Support Readers ● Science and Engineering Practices Online Handbook | <p>In addition to Core Resources:</p> <ul style="list-style-type: none"> ● Enrichment Readers |
| Supplemental Resources | | | |
| <p>Technology:</p> <ul style="list-style-type: none"> ● Chromebook ● SMARTBoard <p>Ed Science Platform:</p> <ul style="list-style-type: none"> ● Digital Assessments ● Digital Performance Tasks ● You Solve It Simulations ● Google Expeditions ● Student eBook ● Video-Based Projects ● Science Tools ● Online Glossary ● National Geographic | | | |
| Differentiated Student Access to Content: Recommended <i>Strategies & Techniques</i> | | | |
| Core Resources | Alternate Core Resources | ELL Core Resources | Gifted & Talented Core |

| <i>IEP/504/At-Risk/ESL</i> | | | |
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| <ul style="list-style-type: none"> Deliver instruction utilizing varied learning styles including audio, visual, and tactile/kinesthetic Provide individual instruction as needed | <ul style="list-style-type: none"> Utilize a multi-sensory (VAKT) approach during instruction Provide alternate presentations of skills by varying the method (repetition, simple explanations, additional examples, modeling, etc.) Modify test content and/or format Allow students to retake test for additional credit, Provide additional times and preferential seating as needed, Review, restate and repeat directions Provide study guides, and/or break assignments into segments of shorter tasks | <ul style="list-style-type: none"> Extend time requirements Preferred seating Positive reinforcement Check often for understanding/review Oral/visual directions/prompts when necessary Supplemental materials including use of online bilingual dictionaries, and modified assessment and/or rubric. | <ul style="list-style-type: none"> Create an enhanced set of introductory activities Integrate active teaching/learning opportunities Incorporate authentic components Propose interest-based extension activities Connect student to related talent development opportunities |

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| NJSLS CAREER READINESS, LIFE LITERACIES & KEY SKILLS | Disciplinary Concept: <ol style="list-style-type: none"> Career Awareness & Planning Creativity and Innovation Critical Thinking & Problem-Solving Global & Cultural Awareness Information and Media Literacy Technology Literacy | |
| | Core Ideas: | <ul style="list-style-type: none"> An individual's passions, aptitude and skills can affect his/her |

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| | | <p>employment and earning potential.</p> <ul style="list-style-type: none"> ● Collaboration with individuals with diverse perspectives can result in new ways of thinking and/or innovative solutions ● Curiosity and a willingness to try new ideas (intellectual risk-taking) contributes to the development of creativity and innovation skills. ● The ability to solve problems effectively begins with gathering data, seeking resources, and applying critical thinking skills. ● Individuals from different cultures may have different points of view and experiences. ● Culture and geography can shape an individual's experiences and perspectives. ● Specific situations require the use of relevant sources of information. ● Different digital tools have different purposes. ● Collaborating digitally as a team can often develop a better artifact than an individual working alone. |
| | <p><i>Performance Expectation/s:</i></p> | <ul style="list-style-type: none"> ● 9.2.5.CAP.1: Evaluate personal likes and dislikes and identify careers that might be suited to personal likes. ● 9.2.5.CAP.3: Identify qualifications needed to pursue traditional and non-traditional careers and occupations. ● 9.2.5.CAP.4: Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements ● 9.4.5.CI.1: Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change |

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| | | <ul style="list-style-type: none">● 9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one’s thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a).● 9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).● 9.4.5.GCA.1: Analyze how culture shapes individual and community perspectives and points of view (e.g., 1.1.5.C2a, RL.5.9, 6.1.5.HistoryCC.8).● 9.4.5.IML.6: Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions (e.g., RI.5.7, 6.1.5.HistoryCC.7, 7.1.NM. IPRET.5).● 9.4.5.TL.3: Format a document using a word processing application to enhance text, change page formatting, and include appropriate images, graphics, or symbols.● 9.4.5.TL.5: Collaborate digitally to produce an artifact (e.g., 1.2.5.CR1d). |
| | Career Readiness, Life Literacies, & Key Skills Practices | |
| | <ul style="list-style-type: none">● Act as a responsible and contributing community member and employee.● Consider the environmental, social and economic impacts of decisions.● Demonstrate creativity and innovation.● Utilize critical thinking to make sense of problems and persevere in solving them.● Model integrity, ethical leadership and effective management.● Plan education and career paths aligned to personal goals.● Use technology to enhance productivity, increase collaboration and communicate effectively.● Work productively in teams while using cultural/global competence. | |

New Jersey Legislative Statutes and Administrative Code
 (place an "X" before each law/statute if/when present within the curriculum map)

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| X | Amistad Law: <i>N.J.S.A. 18A 52:16A-88</i> | | Holocaust Law: <i>N.J.S.A. 18A:35-28</i> | | LGBT and Disabilities Law: <i>N.J.S.A. 18A:35-4.35</i> | X | Diversity & Inclusion: <i>N.J.S.A. 18A:35-4.36a</i> | | Standards in Action: <i>Climate Change</i> |
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