RIDES & The Next Generation Science Standards Quick Guide

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| **Kindergarten** | **Weather & Climate** | 2.3 Eat A Rock  2.9 Water Erosion and Pollution |
|  | **Effects of Sunlight on Earth’s Surface** | 1.5 Solar Math: Solar Cars  3.7 Studying & Making Crystals |
|  | **Identify Needs of Plants & Animals** | 2.5 Butterfly Camouflage |
|  | **Plants & Animals can Change Their Environment** | 2.5 Butterfly Camouflage |
|  | **Human Impact on Environment** | 1.21 Fuel Consumption & Newton’s  2nd Law of Motion  2.1 All Aboard  2.8 Do Oil & Water Mix?  2.9 Water Erosion and Pollution  4.7 Designing A Spaghetti Bridge  4.8 Bridges  4.9 Civil Engineering |
|  | **Force & Motion** | 1.5 Potential & Kinetic Energy  1.19 Pendulum Problem  1.20 Newton’s Marbles  1.21 Fuel Consumption & Newton’s  2nd Law of Motion  1.23 Balloon Rockets  1.24 Force & Rubber Band Airplanes  1.25 Shoot for the Sky  1.26 Book Drop  1.28 Crash Test  2.2 Slippery When Wet  2.4 Soap Boats  2.21 Energy & Propulsion  4.2 Clay Car Races  4.3 Toy Cars  4.5 Designing Paper Airplanes  4.6 Design A Boat Challenge |
| **Grade 1** | **Waves: Light & Sound** | 1.10 Seismic Science  1.16 Traveling Sounds |
|  | **Patterns in Sun, Moon and Stars** | 3.7 Studying & Making Crystals  (patterns) |
|  | **Seasons: Relate Daylight to Time of Year** |  |
|  | **Variation & Inheritance of Traits** | 2.5 Butterfly Camouflage |
|  | **How Parents Help Offspring Survive** | 2.5 Butterfly Camouflage |
|  | **How Plants & Animals Meet Needs** |  |
| **Grade 2** | **Describe & Classify Properties of Materials** | 2.3 Eat A Rock  2.6 Water Cohesiveness  2.7 Color Changing Milk  2.8 Do Oil & Water Mix?  2.12 Curious Cubes  3.5 Classification Using Rocks |
|  | **Heating or Cooling substances may be Reversible** | 2.3 Eat A Rock  3.5 Classification Using Rocks |
|  | **Identify Where Water is Found on Earth** |  |
|  | **Modeling Landforms** | 3.5 Classification Using Rocks |
|  | **Processes that Shape the Earth** | 2.9 Water Erosion and Pollution  3.5 Classification Using Rocks |
|  | **Diversity of Life in Different Habitats** |  |
|  | **Plant Growth Investigations** |  |
|  | **Modeling Seed Dispersal & Pollination** |  |
| **Grade 3** | **Forces & Motion** | 1.5 Potential & Kinetic Energy  1.19 Pendulum Problem  1.20 Newton’s Marbles  1.21 Fuel Consumption & Newton’s  2nd Law of Motion  1.23 Balloon Rockets  1.24 Force & Rubber Band Airplanes  1.25 Shoot for the Sky  1.26 Book Drop  1.28 Crash Test  2.2 Slippery When Wet  4.2 Clay Car Races  4.3 Toy Cars  4.5 Designing Paper Airplanes  4.6 Design A Boat Challenge |
|  | **Electricity & Magnetism** | 1.4 Magnetic Travel  1.6 Marbles in Motion  2.4 Soap Boats  3.5 Classification Using Rocks  STEM conference activity: Simple  Circuits |
|  | **Seasons & Weather** | 1.14 Ice Cream & Thermal Energy  (water cycle extension) |
|  | **Climates in Different Regions of the World** |  |
|  | **Interdependent Relationships & Ecosystems** |  |
|  | **Fossils Provide Evidence of Past Life** | 3.5 Classification Using Rocks |
|  | **Plant & Animal Life Cycles & Reproduction** | 2.5 Butterfly Camouflage |
|  | **Inherited Characteristics & Variation** | 2.5 Butterfly Camouflage |
|  | **Adaptation: Change Over Time** | 2.5 Butterfly Camouflage |
| **Grade 4** | **Energy: Forms, Storage, Conversion & Transfer**  **Properties of Waves** | 1.5 Potential & Kinetic Energy  1.9 Slinky Science  1.11 The Domino Chain Reaction  1.12 Domino Speed/Distance  Lab  1.14 Ice Cream & Thermal Energy  1.17 Speaker Power  1.18 Pinwheel Power  1.19 Pendulum Problem  1.23 Balloon Rockets  1.24 Force & Rubber Band Airplanes  1.25 Shoot for the Sky  1.28 Crash Test  2.3 Eat A Rock  2.19 Food: Fuel for Humans  2.21 Energy & Propulsion  4.2 Clay Car Races |
|  | **Light & Vision** | 3.7 Studying & Making Crystals |
|  | **Patterns to Transfer Information** | 1.7 Volume of Irregular Objects  1.8 Marbles & Cylinders |
|  | **Internal/External Structures of Plants & Animals Senses/Brain Roles in Receiving/Processing Information** |  |
|  | **Rock Formation & Fossils** | 3.5 Classification Using Rocks |
|  | **Erosion & Weathering** | 2.3 Eat A Rock  2.9 Water Erosion and Pollution  3.5 Classification Using Rocks |
|  | **Analyzing & Interpreting Maps** | 3.9 Garage Sale Topography  3.10 Using Maps to Calculate gas  Mileage  3.11 Creating a Schoolyard Map |
|  | **Impact of Earth Processes on Humans** |  |
| **Grade 5** | **All Matter is Made up of Small Particles** | 2.3 Eat A Rock  2.10 Splash of Color  2.13 Floating Oranges |
|  | **Identifying Materials Based on Properties** | 2.8 Do Oil & Water Mix?  3.7 Studying & Making Crystals |
|  | **Measuring & Graphing Quantitative Data Regarding Conservation of Matter** | 2.13 Floating Oranges  3.5 Classification Using Rocks  4.6 Design A Boat Challenge |
|  | **Chemical Reactions** | 2.8 Do Oil & Water Mix?  2.12 Curious Cubes  3.7 Studying & Making Crystals |
|  | **Earth’s Gravitational Pull is Down** | 1.22 Drop, Drop, What is Gravity?  4.4 Creating A Wrecking Ball  4.5 Designing Paper Airplanes  4.6 Design A Boat Challenge  (Using the Triple Beam Balance Scale) |
|  | **Identifying Patterns in the Earth/Sun Relationship** |  |
|  | **Interactions Between Earth’s Systems** |  |
|  | **Water Distribution & Sources** |  |
|  | **Plants Get Materials for Growth from Water/Air** |  |
|  | **Energy in Food Comes from the Sun** | 2.19 Food: Fuel for Humans  2.20 Exercise & Energy |
|  | **Decomposers & Ecosystems** |  |
|  | **Protecting Earth’s Resources** | 4.7 Designing A Spaghetti Bridge  4.8 Bridges  4.9 Civil Engineering |
| **Middle School** | **Matter & Its Interactions** | 2.13 Floating Oranges  3.5 Classification Using Rocks  4.6 Design A Boat Challenge  2.3 Eat A Rock |
|  | **Motion & Stability: Forces & Interactions** | 1.5 Potential & Kinetic Energy  1.19 Pendulum Problem  1.20 Newton’s Marbles  1.21 Fuel Consumption & Newton’s  2nd Law of Motion  1.23 Balloon Rockets  1.24 Force & Rubber Band Airplanes  1.25 Shoot for the Sky  1.26 Book Drop  1.28 Crash Test  2.2 Slippery When Wet  4.2 Clay Car Races  4.3 Toy Cars  4.5 Designing Paper Airplanes  4.6 Design A Boat Challenge |
|  | **Energy** | 1.5 Potential & Kinetic Energy  1.11 The Domino Chain Reaction  1.12 Domino Speed/Distance  Lab  1.14 Ice Cream & Thermal Energy  1.19 Pendulum Problem  1.20 Newton’s Marbles  1.21 Fuel Consumption & Newton’s  2nd Law of Motion  1.23 Balloon Rockets  1.24 Force & Rubber Band Airplanes  1.25 Shoot for the Sky  1.26 Book Drop  1.28 Crash Test  2.2 Slippery When Wet  4.2 Clay Car Races  4.3 Toy Cars  4.5 Designing Paper Airplanes  4.6 Design A Boat Challenge |
|  | **Waves & Their Applications in Technologies for Information Transfer** | 1.10 Seismic Science  1.16 Traveling Sounds  STEM conference activity: Simple Circuits |
|  | **From Molecules to Organisms: Structures & Processes** | 2.4 Soap Boats |
|  | **Ecosystems: Interactions, Energy, and Dynamics** | 2.8 Do Oil & Water Mix?  2.9 Water Erosion and Pollution |
|  | **Heredity: Inheritance and Variation of Traits** | 2.5 Butterfly Camouflage |
|  | **Biological Evolution: Unity and Diversity** | 2.5 Butterfly Camouflage |
|  | **Earth’s Place in the Universe** |  |
|  | **Earth’s Systems** |  |
|  | **Earth & Human Activity** | 1.21 Fuel Consumption & Newton’s  2nd Law of Motion  2.1 All Aboard  4.7 Designing A Spaghetti Bridge  4.8 Bridges  4.9 Civil Engineering |
|  | **Engineering Design** | 1.23 Balloon Rockets  1.24 Force & Rubber Band Airplanes  1.25 Shoot for the Sky  4.2 Clay Car Races  4.5 Designing Paper Airplanes  4.6 Design A Boat Challenge  4.7 Designing A Spaghetti Bridge  4.8 Bridges  4.9 Civil Engineering |
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