

4th Grade Science Placemat

Motion and Design

4.PS2.A.1 - Make observations and/or measurements of an object's motion to provide evidence that a patterns can be used to predict future motion	4.PS2.A.2 - Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object	4.PS2.B.1 - Plan and conduct a fair test to compare and contrast the forces (measured by a spring scale in Newtons) required to overcome friction when an object moves over different surfaces (i.e. rough/smooth)	4.PS2.B.2 - Predict how changes in either the amount of force applied to an object or the mass of the object affects the motion (speed and direction) of the object.	4.PS3.A.1 - Use evidence to construct an explanation relating the speed of an object to the energy of that object	4.PS3.B.1 - Provide evidence to construct an explanation of an energy transformation	4.PS3.B.2 - Apply scientific ideas to design, test, and refine a device that converts energy from one form to another	4.PS3.C.1 - Use models to explain that simple machines changes the amount of effort force and/or direction of force	4.PS4.A.1 - Develop a model of waves to describe patterns in terms of amplitude or wavelength and that waves can cause objects to move
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Land

2.ESS2.A.1 - Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land	4.ESS2.A.1 - Plan and conduct scientific investigations or simulations to provide evidence how natural processes shape Earth's surfaces	4.ESS1.C.1 - Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation from changes in a landscape over time	4.ESS2.B.1 - Analyze and interpret data from maps to describe patterns of Earth's features
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Water

5.ESS2.A.1 - Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact	5.ESS3.C.1 - Obtain and combine information about ways individuals communities use science ideas to protect the Earth's resources and environment	2.ESS2.B.1 - Develop a model to represent the shapes and kinds of land and bodies of water in an area	4.ESS3.A.1 - Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans	5.ESS2.C.1 - Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth
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Design Inquiry

4.ETS1.A.1 - Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost	4.ETS1.B.1 - 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	4.ETS1.C.1 - 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
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