				ΡK					ł	<					G	1			G2		G3			G4	G5	G6
Number	Next Generaton Science Standards Framework	Free Explore	Counting	Letters	Make 10	Race	Letters	Measurings	Addition	Subtractionsr	Challenge	Traffic Jam	Line Dance	Motors	Gears	Pulleys	Dancing Birds	Spinning Top	Drumming Monkey	Ride Challenge	Amazing Adventure Story	Vehicle Challenge	Soccer	Burglar Alarm Challenge	NXT Introduction	Dragster Challenge
Practices 1.1	Asking questions	х	х	х	х	х	х	X	х	х	х	х	Х	Х	х	х	х	х	х	х	Х	х	х	Х	Х	x
1.2	Developing and using models	^	Ê	Ê	Ê	Ê	Ê	Ê	Ê	<u> </u>	Ê	~	^	x	x	x	x	x	X	x	X	X	x	x	x	x
1.3	Planning and carrying out investigations		x	x	x	x	x	x	x	x	x	х	x	x	x	x	x	x	x	x	x	x	x	x	X	x
1.4	Analyzing and interpreting data		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	x	X	x	x
1.5	Using mathematics, Informational and Computer Technology, and computational thinking		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
1.6	Constructing explanations and designing solutions		x	x	x	x	x	x	x	x	x	х	x	x	x	x	x	x	x	x	x	х	x	х	х	x
1.7	Engaging in argument from evidence		х	х	х	х	х	x	x	х	х	х	х	х	х	х	х	х	х	х	х	Х	х	х	Х	х
1.8	Obtaining, evaluating, and communicating information		x	x	x	x	x	x	x	x	x	х	x	х	х	х	х	х	х	х	х	х	x	х	х	x
Cross-cutting	g Concepts																									
21	Patterns		х	х	х	0	х	х	х	х	х	х	х	Х	х	х	х	х	х	х	х	Х	х	х	х	х
22	Cause and effect: Mechanism and explanation		x	x	x	0	x	x	x	x	x	х	x	x	x	х	х	х	х	x	х	х	x	х	x	x
23	Scale, proportion, and quantity		x	x	x	0	x	x	x	x		х	x													x
24	Systems and system models										0		0	0	0	0	х	х	х	х	0	0	х	х	х	х
25	Energy and matter: Flows, cycles, and conservation													0	0	0	0	0	0	0	0	0	0	0	0	0
26	Structure and function													0	0	0	0	0	0	0	0	0	0	0	0	0
27	Stability and change													0	0	0	0	0	0	0	0	0	0	0	0	0
Performance	Expectation: Physical Science																									
K-PS2-1	Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.						o	o	o	o	o	0	o									x				
K-PS2-2	Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.*									x		0	o									x				
1-PS4-1	Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.													0	0	0	0									
2-PS1-1	Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.																	0	0	0						
2-PS1-2	Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.*																	0	0	0		x				
2-PS1-3	Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object.																	0	0	0		x				
3-PS2-1	Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.																				0	0				
3-PS2-2	Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.																				0	x				

1		_		1	1																					ı —
	Ask questions to determine cause and																									
	effect relationships of electric or																				ο	0				
	magnetic interactions between two																									
3-PS2-3	objects not in contact with each other.																									
	Use evidence to construct an explanation																									
1 500 1	relating the speed of an object to the																					0	0			
4-PS3-1	energy of that object.																									
	Make observations to provide evidence																									
	that energy can be transferred from																						x			
	place to place by sound, light, heat, and																						^			
4-PS3-2	electric currents.																									
	Ask questions and predict outcomes																									
	about the changes in energy that occur																						0			
4-PS3-3	when objects collide.																									
	Apply scientific ideas to design, test, and																									
	refine a device that converts energy from																			x		x		0		x
4-PS3-4	one form to another.*																									
	Plan an investigation to provide evidence																									
	that the change in an object's motion																					x				0
	depends on the sum of the forces on the																									ľ
MS-PS2-2	object and the mass of the object.																									
1010-1 02-2	Ask questions about data to determine	<u> </u>																		_						
	the factors that affect the strength of																									0
MS-PS2-3	electric and magnetic forces.	—																								
	Construct and interpret graphical																									
	displays of data to describe the																									
	relationships of kinetic energy to the																									0
	mass of an object and to the speed of an																									
MS-PS3-1	object.																									
Performance	Expectation: Earth and Space Science																									
	Construct an argument supported by																									
	evidence for how plants and animals						-					-								-						
	(including humans) can change the						0	0	0	0	0	0	0							0		0				0
K-ESS2-1	environment to meet their needs.																									
Connections	to the Nature of Science																									
	Science Models, Laws, Mechanisms,																									
	and Theories Explain Natural													0	0	0	0	0	0	0	ο	0	0	0	0	0
	Phenomena													-		-		-	-	-	-		-	-	-	-
	Scientific Investigations Use a Variety of																			_						
	Methods		0	0	0	0	0	0	0	0	0	0	0	х	X	X	X	х	х	X	х	х	X	X	х	X
	Scientific Knowledge is Based on																									
	Empirical Evidence		x	x	x	x	x	х	x	x	x	х	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Engineering	Empirical Evidence		x	x	x	x	x	x	x	x	x	х	x	x	x	x	x	x	x			x	x	x	x	x
Engineering	Design		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			x	x	x	x	x
Engineering	Design Ask questions, make observations, and		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			x	x	x	x	x
	Design Ask questions, make observations, and gather information about a situation		x	x	x	x	x	x	x	x	x	х	x	x	x	x	x	x	x			x	x	x	x	x
	Design Ask questions, make observations, and gather information about a situation people want to change to define a simple	x																		x			x	x	x	x
	Design Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the	X	x	x		x x		x x		x x			x x				x		x x	x		x	x	x	x	x
	Design Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object	X																		x			x	x	x	x
	Design Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.	X																		x			x	x	x	x
	Design Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. Develop a simple sketch, drawing, or	X																		x			x	x	x	x
	Design Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. Develop a simple sketch, drawing, or physical model to illustrate how the	X									x									x			x	x	×	x
K-2-ETS1-1	Design Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as	X																		x			x	x	×	x
K-2-ETS1-1	Design Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.	X									x									x			x	x	×	x
K-2-ETS1-1	Design Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as	X									x									x			x	x	×	x
K-2-ETS1-1	Design Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.	X									x			x	x	x	x	x	x	x x x			x	x	x	x
K-2-ETS1-1	Design Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. Analyze data from tests of two objects	X									x									x			x	x	x	x
K-2-ETS1-1 K-2-ETS1-2	Design Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. Analyze data from tests of two objects designed to solve the same problem to	X									x			x	x	x	x	x	x	x x x			x	×	x	x
K-2-ETS1-1 K-2-ETS1-2	Design Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.	X									x			x	x	x	x	x	x	x x x			x	×	x	x
K-2-ETS1-1 K-2-ETS1-2	Design Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs. Define a simple design problem	X									x			x	x	x	x	x	x	x x x			x	x	x	x
K-2-ETS1-1 K-2-ETS1-2	Design Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs. Define a simple design problem reflecting a need or a want that includes	X									x			x	x	x	x	x	x	x x x			x	x	x	x
K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3	Design Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs. Define a simple design problem reflecting a need or a want that includes specified criteria for success and	X									x			x	x	x	x	x	x	x x x o	x		x		x	x
K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3	Design Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.	X									x			x	x	x	x	x	x	x x x o	x		x		x	x
K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3	Design Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost. Generate and compare multiple possible										x			x	x	x	x	x	x	x x x o	x		x		x	x
K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3	Design Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost. Generate and compare multiple possible solutions to a problem based on how well										x			x	x	x	x	x	x	x x x o	x				x	x
K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3 3-5-ETS1-1	Design Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost. Generate and compare multiple possible										x			x	x	x	x	x	x	x x x o x	x			x	x	x

	Plan and carry out fair tests in which variables are controlled and failure points																									
																				х	х	x		x		x
	are considered to identify aspects of a																									
3-5-E151-3	model or prototype that can be improved. Define the criteria and constraints of a																								<u> </u>	
	design problem with sufficient precision																									
	to ensure a successful solution, taking																									
	into account relevant scientific principles																			х		X			x	X
	and potential impacts on people and the																									
	natural environment that may limit																									
MS-ETS1-1	possible solutions.																								<u> </u>	
	Evaluate competing design solutions																									
	using a systematic process to determine																			x		x			x	x
	how well they meet the criteria and																									
	constraints of the problem.																									
	Analyze data from tests to determine																									
	similarities and differences among																									
	several design solutions to identify the																									x
	best characteristics of each that can be																									
	combined into a new solution to better																									
MS-ETS1-3	meet the criteria for success.																									
	Develop a model to generate data for																									
	iterative testing and modification of a																			0		0				0
	proposed object, tool, or process such																			-						
	that an optimal design can be achieved.																									
Disciplinary (Core Ideas																									
	Matter and its interactions																									
	Motion and stability: Forces and	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	interactions																									
PS3	Energy	0	0	0	0	0	0	0	0	0	0	0	0	х	X	х	Х	х	х	Х	Х	Х	х	х	х	х
PS4	Waves and their applications in technologies for information transfer													0	0	0	0	0	0	0	о	0	0	0	0	0
LS1	From molecules to organisms																									
LS2	Ecosystems																									
_	Heredity																									
LS4	Biological evolution																									
ESS1	Earth's place in the universe																									
ESS2	•																									
	Earth's systems																								<u> </u>	
ESS3	Earth and human activity																									

X = addresses standard

o = partially addresses standard