Gather Reason Communicate

1st Grade GRC Lessons by Standard

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[Link to 2022 GRC Professional Development]

[CSSS Investigations Beyond the Classroom Guidance Document]

1st Grade GRC Lessons- Life Science

Standard	Link to Lesson	State	Lesson Topic	Phenomenon	Lesson Type	Lesson Notes
Life Science (LS) - From Molecules to Organisms, Heredity						
1-LS1-1 *Finding solutions to human problems by mimicking how plants or animals use their external parts to help them survive, grow, and meet their needs*	Burr Tools	UT	Designing tools that use structures that mimic plant structures	*Phenomenon: Cocklebur and Burdock's seedpods have structures that look like Velcro.*	GRC	The lesson engages students in defining a problem and then solving that problem. *Includes formative assessment*
1-LS1-1 *Finding solutions to human problems by mimicking how plants or animals use their external parts to help them survive, grow, and meet their needs*	Leaves Hold Their Shape *	HI	Designing Solutions Using Structure and Function 	*Phenomenon: Leaves are very thin and flat but they can hold themselves up.*	GRC Engage Explore Explain	The lesson engages students in applying a structure from Nature to solve a human problem. *Includes formative assessment*
1-LS1-1 *Finding solutions to human problems by mimicking how plants or animals use their external parts to help them survive, grow, and meet their needs*	What Big Ears You Have	AR	Structure & Function 	*Phenomenon: Rabbits have very big ears.*	GRC PIP	Investigation engages students in building things to extend their senses. *Includes formative assessment*
	Taking Care		Animal Behavior	*Phenomenon: Many different*	GRC Engage	The lesson uses descriptions of how parents take care of

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1-LS1-2 *Animal behavior that helps young to survive*	of Baby *	HI	helps the young survive. 	*animals have similar ways to help their young.*	Explore Explain	their young. Students look for patterns among many animals and how they take care of young. *Includes formative assessment*
1-LS1-2 *Animal behavior that helps young to survive*	Mothers with 8 Arms Noho ʻana Makuahine	HI	Animal Behavior	*Phenomenon: Hawaiian octopus (he'e mauli) lays eggs and protects the eggs until they hatch.*	GRC Engage Explore Explain	The lesson focuses on two species that take care of their young. *Includes formative assessment*
1-LS3-1 *Young plants and animals are like, but not exactly like, their parents*	Baby Looks Like Mom	UT	Young animals look like parents 	*Phenomenon: The kittens look like the mother cat.*	GRC Evaluate	This lesson is a performance task for heredity. It has a nice reading. NEED a Teacher-Author to Finish the Lesson *Includes formative assessment*
1-LS3-1 *Young plants and animals are like, but not exactly like, their parents*	Young Grass Looks Like Old Grass *	HI	Young plants 	*Phenomenon: Some seeds sprout and have two leaves while others may have one leaf.*	GRC Engage Explore Explain	This lesson requires several weeks to complete the growing of plants. Best done in late fall. *Includes formative assessment*

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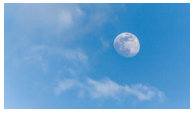
Earth and Space Science (ESS) - Earth's Place in the Universe						
1-ESS1-1 *The motion of the sun, moon, and stars have predictable patterns.*	Sun's Relationship to My Shadow *	HI	Using chalk outlines on the playground to investigate the sun's predictable motion	*Phenomenon: The size of my shadow changes throughout the day.*	GRC	This lesson has students drawing outlines of their shadows and predicting the motion of the sun. *Includes formative assessment*
1-ESS1-1 *The motion of the sun, moon, and stars have predictable patterns.*	Moving Morning Moon *	HI	Observing the Moon During the Morning 	*Phenomenon: Some mornings, I can see the moon moving across the sky.*	GRC	This lesson has students making models of change in the position of the moon over time. *Includes formative assessment*
1-ESS1-1 *The motion of the sun, moon, and stars have predictable patterns*	Star Patterns *	HI	Observing Stars 	*Phenomenon: Stars appear to move in predictable patterns.*	GRC	This investigation has students observing the motion of stars. *Includes formative assessment*
1-ESS1-2 *Daylight and time of year*	Sunrise, Sunset, and Seasons *	UT	Seasonal changes in the length of daylight	*Phenomenon: The time of sunrises and sunset changes from one day to the next day.*	GRC	Students collect observations once a week for four weeks and use a class data chart. *Includes formative assessment*
1- ESS1-2 *Daylight and time of year*	Sunset and Seasons *	CT	Seasonal Change in Hours of Daylight	*Phenomenon: We have less time to play after school because it gets dark so early.*	GRC	Students observe Fall and Spring. *Includes formative assessment*

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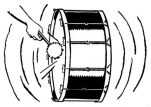
Physical Science (PS) -Waves and their Applications						
1-PS4-1 *Vibrating objects give off sound and sound can make objects vibrate*	Spoonful of Sound *	UT	Waves and Sound	*Phenomenon: You can cause a spoon hanging from a string to ring like a bell.*	GRC Engage Explore Explain	The lesson includes a read-aloud for the class discussion. *Includes formative assessment*
1-PS4-1 *Vibrating objects give off sound, and sound can make objects vibrate*	Good Vibrations	HI	Sound and Vibration 	*Phenomenon: Sometimes, I can feel loud sounds.*	GRC Engage Explore Explain	The lesson has a student reading *Includes formative assessment*
1-PS4-1 *Vibrating objects give off sound, and sound can make objects vibrate*	Loud Wrap *	HI	Sound causes things to Vibrate 	*Phenomenon: Loud sounds can cause small objects to move.*	GRC Elaborate Evaluate	The investigation is a follow-up to Spoonful of sound. *Includes formative assessment*
1-PS4-2 *Objects can only be seen when illuminated*	Seeing in the Dark	NY	Light and Seeing	***Phenomenon**: In a very dark room, I cannot see my hand in front of me.*	GRC Engage, Explore, Explain	The lesson engages students in an investigation and explanation. *Includes formative assessment*

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1-PS4-2 *Objects can only be seen when illuminated*	Now You See Me, Now You Don't *	HI	Cannot See Things in a dark room	***Phenomenon**: In a completely dark room, I cannot see anything until a light is turned on, but I can see some things with a little light.*	GRC Explore Explain	This lesson engages students in an investigation and explanation. *Includes formative assessment*
1-PS4-2 *Objects can only be seen when illuminated*	No Sneaky No Peeky	HI	Reflection of Light and Seeing Objects	***Phenomenon**: Gifts in a package cannot be seen until you open the wrapping*	GRC	This investigation is fun for young children. *Includes formative assessment*
1-PS4-3 *Objects in the path of light*	My Ear Lobe Glows *	HI	Investigation students plan	***Phenomenon:** When light shines on my ears, my lobes glow.*	GRC Engage Explore Explain	This lesson engages students in planning an investigation. *Includes formative assessment*
1-PS4-3 *Objects in the path of light*	Light Show *	HI	An Investigation	***Phenomenon**: I can see through the window but not through the door.*	GRC Engage Explore Explain	*Includes formative assessment*
1-PS4-4 *Using sound or light to communicate over a distance*	When the Bell Rings *	AR	Comparing Sound and Light	***Phenomenon**: When the school bell rings, we know it is time to come in from recess.* ***Engineering Challenge** - Design and build a device that uses light or sound to solve problems of communicating over a distance.*	GRC PIP	This investigation can also be used for 1-PS4-3 and has a hands-on investigation as well as using a teacher reading a student reading. *Includes formative assessment*
1-PS4-4 *Using sound or light to communicate over a distance*	Got the Beat *	HI	Engineer a device to send messages	***Phenomenon:** Messages can be sent from one place to another using a drum.*	GRC Engage Explore Explain	This lesson uses engineering as a major focus.

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				***Engineering Challenge**: Using sound to solve the problem of communicating over a distance.*		*Includes formative assessment* **Hawaii culture and place**
1-PS4-4 *Using sound or light to communicate over a distance*	Simon's Light Says *	HI	Engineer a way to communicate using codes. 	***Phenomenon:** Flashlights can be used to send messages from one place to another.* ***Engineering Challenge:** Using light to solve the problem of communicating over a distance.*	GRC Elaborate Evaluate	This lesson uses engineering to focus on using light to communicate. *Includes formative assessment*
1-PS4-4 *Using sound or light to communicate over a distance*	Talking with the Mirror, Mirror	AR	Communicating with Light	***Phenomenon: The reflection of a mirror can be seen over large distances.***	GRC PIP	A fun lesson that integrates well with LA. *Includes formative assessment*
MN Specific Lesson MN 1P.4.2.2.1	Ganawendan: Structures for Shelter	MN	Natural Materials for Building Structures 	***Phenomenon**: People are able to build and live in shelters to meet their needs.*	GRC PIP	The lesson is Unique to MN science standards. *Includes formative assessment*

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*This table provides a **crosswalk** of the above lessons, NGSS and 1st grade Utah Science and Engineering Education Standards **(SEEdStandards)***

Salt Lake City School District Alignment of SEEd Standards Crosswalk

Utah SEEd	NGSS	SEEd Standards Core Idea
1.1.1	1-ESS1-1	Predictable patterns in the motion of the Sun, Moon, and stars.
1.1.2	1-ESS1-2	Seasonal patterns in the amount of daylight.
1.1.3	unique	Design a device that measures the varying patterns of daylight.
1.2.1	2-LS2-1	Effect of sunlight and water on plant growth.
1.2.2.	1-LS1-1	External structures help living organisms in the environment where they live.
1.2.3	1-LS3-1	Young organisms are like, but not exactly like their parents.
1.2.4	1-LS1-2	Behaviors of parents and offspring help offspring to survive.
1.3.1	1-PS4-1	Relationship between sound and vibrating matter.
1.3.2	1-PS4-2	Objects are visible when light is shining on them.
1.3.3	1-PS4-3	Effects of putting an object in the path of light.
1.3.4	1-PS4-4	Design a device that uses light or sound to communicate over a distance

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DRAFT - Cross walk for 2019 Minnesota Science Standards Benchmarks - DRAFT

This Crosswalk was developed for Minnesota Teachers by Next Gen Education, LLC

GRADE 1

MN BENCHMARK	NGSS	Minnesota Benchmarks Core Idea
1E.2.2.1.1	Unique	Use data to describe patterns in the amount of time it takes for Earth processes to occur and whether they occur quickly or slowly.
1E.4.1.1.1	K-ESS2-2	Use evidence for how plants and animals can change the non-living aspects of the environment to meet their needs.
1E.4.1.2.1	2-ESS2-1	Determine how a person can reduce the use of natural resources.
1E.4.2.1.1	Unique	Solutions that will reduce the impact of humans on the land, water, and air in the local environment.*
1L.1.1.1.1	1-LS3-1	Young organisms are like, but not exactly like their parents.
1L.3.1.1.1	Unique	Develop a model to represent how plants or animals use their external parts to help them survive and grow.
1L.3.2.2.2	1-LS1-1	External structures that help living organisms in the environment where they live.
1L.4.2.1.2	1-LS1-2	Determine patterns in the behavior of parents and offspring that help offspring survive.
1P.1.2.1.1	1-PS4-1	Vibrating materials can make sound and that sound can make materials vibrate.
1P.2.1.1.1	Unique	Test different materials and determine which materials have the properties that are best suited for producing and/or transmitting sound.
1P.3.2.2.1	1-PS4-4	Design a device that uses light or sound to communicate over a distance.
1P.4.2.2.1	Unique	Use materials to provide shelter, food, or warmth for communities including Minnesota American Indian tribes.

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	Draft Arizona 1st Grade Science Standards		
NGSS	**AZSS**	**1st Grade - Physical Science**	
1-PS4-3	**1.P2U1.1**	**Plan and carry out investigations** demonstrating the **effect** of placing objects made with different materials in the path of a beam of light and **predict** how objects with similar properties will affect the beam of light.	Light travels in a straight line and can pass through some material but not others.
1-PS4-1	**1.P2U1.2**	**Use models** to provide evidence that vibrating matter creates sound and sound can make matter vibrate.	Sound is produced by vibrating objects and sound can cause objects to vibrate.
K-PS2-1	**1.P3U1.3**	**Plan and carry out investigations** that demonstrate how equal forces can balance objects and how unequal forces can push, pull, or twist objects, making them change their speed, direction, or shape.	Forces affect the motion of an object.
NA	**1.P4U2.4**	**Design and evaluate** ways to increase or reduce heat from friction between two objects.	Friction opposes the motion of two objects sliding past one another.
NGSS	**AZSS**	**1st Grade - Earth and Space Science**	
K-ESS3-1	**1.E1U1.5**	**Obtain, evaluate, and communicate information** about the properties of Earth materials and **investigate** how humans use natural resources in everyday life.	Earth materials have properties people can use as resources.
NGSS	**1st Grade - Life Science**		
NA	1.L1U1.6	**Observe, describe, and predict** the life cycles of animals and plants.	Life Cycle of Plants and animals
K-ESS3-1	1.L1U1.7	**Develop and use models** about how living things use resources to grow and survive; **design and evaluate** habitats for organisms using earth materials.	Organisms have natural habitats they use to help them grow and survive.
NA	1.L1U1.8	**Construct an explanation** describing how organisms obtain resources from the environment including materials that are used again by other organisms.	Organisms get the resources needed to live and grow from their environment.
1-LS3-1	1.L1U1.9	**Obtain, evaluate, and communicate information** to **support an evidence-based explanation** that plants and animals produce offspring of the same kind, but offspring are generally not identical to each other or their parents.	Plants and animals have offspring that look very much but not exactly like the parents.

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