

## SRPSD Grade 4 Science Rubrics

### Life Science: Habitats and Communities (HC)

**HC4.1** Investigate the interdependence of plants and animals, including humans, within habitats and communities.

<b>Beginning (1)</b>	<b>Approaching (2)</b>	<b>Proficiency (3)</b>	<b>Mastery (4)</b>
I know the difference between a population, a community and a habitat. a) b)	I understand the roles of plants, animals, and humans (producer, consumer...) to create a food chain. f) g)	I understand the interdependence of plants and animals, including humans in various habitats and communities. e) h) i)	I can explain what happens when a habitat or a community is disrupted in some way. j) k) m)

**HC4.2** Analyze the structures and behaviours of plants and animals that enable them to exist in various habitats.

<b>Beginning (1)</b>	<b>Approaching (2)</b>	<b>Proficiency (3)</b>	<b>Mastery (4)</b>
I can explain that a plant and animal needs a habitat to survive. b)	I can identify factors that plants and animals need to live in a habitat. c)	I understand the structures and behaviours of plants and animals necessary for survival in a habitat. d) e) f) h)	I can apply my understanding to design, predict and explain the habitat, structures and behaviours of an imagined animal or plant. g) i) j)

**HC4.3** Assess the effects of natural and human activities on habitats and communities, and propose actions to maintain or restore habitats.

<b>Beginning (1)</b>	<b>Approaching (2)</b>	<b>Proficiency (3)</b>	<b>Mastery (4)</b>
I understand the importance of plants and animals to my life. a)	I can identify natural and human activities that affect habitats. c) g)	I can explain the consequences of natural and human activities on a habitat. d) e) g)	I can apply my understanding to develop a plan to preserve or restore a habitat. h) i) j) b)

### Physical Science: Light (LI)

**LI4.1** Investigate the characteristics and physical properties of natural and artificial sources of light in the environment.

<b>Beginning (1)</b>	<b>Approaching (2)</b>	<b>Proficiency (3)</b>	<b>Mastery (4)</b>
I can give examples of sources of light. c)	I can explain the difference between artificial and natural light. a) f)	I understand the characteristics and physical properties of natural and artificial sources of light. b) d) e) g)	I can use my knowledge of light to predict, plan, and communicate results of how light changes around objects. h) i)

**LI4.2** Analyze how light interacts with different objects and materials to create phenomena such as shadows, reflection, refraction, and dispersion.

<b>Beginning (1)</b>	<b>Approaching (2)</b>	<b>Proficiency (3)</b>	<b>Mastery (4)</b>
I know light changes with different objects and materials. a)	I can describe the properties of objects and materials that affect the path of light. b) c) e) g)	I can analyze how light interacts with objects and materials creating shadows, reflection, refraction, and dispersion. d) f) h)	I can apply my understanding of light to explain, design or create a new light source given a set of criteria. i) j)

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**LI4.3** Assess personal, societal, and environmental impacts of light-related technological innovations including optical devices.

<b>Beginning (1)</b>	<b>Approaching (2)</b>	<b>Proficiency (3)</b>	<b>Mastery (4)</b>
I recognize how light is used in my world. l)	I can identify light-related technologies and their uses. c) d) e)	I can evaluate the impacts of light-related technology and optical devices on our world. a) b) f) g) k)	I can apply my knowledge of the impacts of light-related technologies to design, construct and/or make improvements to an optical device. h) i) j)

### Physical Science: Sound (SO)

**SO4.1** Explore natural and artificial sources of sound in the environment and how those sounds are detected by humans and animals.

<b>Beginning (1)</b>	<b>Approaching (2)</b>	<b>Proficiency (3)</b>	<b>Mastery (4)</b>
I can give examples of natural and artificial sounds. a) c)	I understand how sound is produced and used. b) d) e)	I can explain how humans and animals can detect both natural and artificial sounds. f) g) h)	I can apply my knowledge of sound to suggest adaptations that could improve the hearing of an animal. i)

**SO4.2** Draw conclusions about the characteristics and physical properties of sound, including pitch and loudness, based on observation.

<b>Beginning (1)</b>	<b>Approaching (2)</b>	<b>Proficiency (3)</b>	<b>Mastery (4)</b>
I know how sound is created. a) b)	I understand how different materials can affect the properties of sound (pitch and loudness). c) d) e)	I can make conclusions about the characteristics and physical properties of sound. f) g) h) l)	I can apply my knowledge of the properties of sound to create and/or alter sound quality of a device. i) j) k)

**SO4.3** Assess personal, societal, and environmental impacts of sound-related technologies.

<b>Beginning (1)</b>	<b>Approaching (2)</b>	<b>Proficiency (3)</b>	<b>Mastery (4)</b>
I can identify uses of sound in various environments. b) c) g)	I can research and explain the purpose of sound based technologies. a) k)	I can assess personal, societal, and environmental impacts of sound-related technologies. d) e) f) h)	I can apply my knowledge of sound-related technologies to propose solutions in the prevention of hearing loss. i) j)

### Earth and Space Science: Rocks, Minerals, and Erosion (RM)

**RM4.1** Investigate physical properties of rocks and minerals, including those found in the local environment.

<b>Beginning (1)</b>	<b>Approaching (2)</b>	<b>Proficiency (3)</b>	<b>Mastery (4)</b>
I can give examples of rocks and minerals and where they might be found. a) b)	I recognize the difference between rocks and minerals. I can define colour, lustre, hardness, cleavage, transparency, and crystal structure. c) d) e) k)	I can describe the physical properties (colour, lustre, hardness, cleavage, transparency, and crystal structure) of rock and minerals in my environment. c) f) g) l)	I can apply my knowledge of physical properties of rocks and minerals to develop a classification system and/or compare rocks and minerals from around the world. h) i) j) k)

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### RM4.2 Assess how human uses of rocks and minerals impact self, society, and the environment.

<b>Beginning (1)</b>	<b>Approaching (2)</b>	<b>Proficiency (3)</b>	<b>Mastery (4)</b>
I can identify objects made from rocks and minerals. I can identify where minerals are found in Saskatchewan. b) f)	I can research and relate uses of rocks and minerals in Saskatchewan. c) e)	I can assess how the uses of rocks and minerals impact my world. a) g) h) i) k)	I can apply my knowledge of rocks and minerals and their impacts to propose new uses for rocks and minerals and/ or suggest methods of reducing impacts on the environment. d) i) j)

### RM4.3 Analyze how weathering, erosion, and fossils provide evidence to support human understanding of the formation of landforms on Earth.

<b>Beginning (1)</b>	<b>Approaching (2)</b>	<b>Proficiency (3)</b>	<b>Mastery (4)</b>
I can define weathering, erosion, and fossils.	I understand the effects of weathering, erosion and fossil creation. b) c) g) h) i) j)	I can analyze how weathering, erosion and fossils provide support for what we know about land formations. a) k) m)	I can suggest solutions for minimizing the effects of weathering and erosion on land formations. d) e) f) n)