

## SRPSD Grade 5 Science Rubrics

### Life Science: Human Body Systems (HB)

**HB5.1** Analyze personal and societal requirements for, and the impact of, maintaining a healthy human body.

| <b>Beginning (1)</b>   | <b>Approaching (2)</b>   | <b>Proficiency (3)</b>  | <b>Mastery (4)</b>   |
|--|--|---|--|
| I can list the factors needed to maintain a healthy human body.<br>a) i) | I understand how the body works so that I can keep myself healthy.<br>c) d) e) | I can explain how different lifestyles can affect the health of my body.<br>b) f) h) k) | I can develop a plan that includes personal and societal requirements for maintaining a healthy body.<br>g) j) |

**HB5.2** Investigate the structure, function, and major organs of one or more human body systems such as the digestive, excretory, respiratory, circulatory, nervous, muscular, and skeletal systems.

| <b>Beginning (1)</b>   | <b>Approaching (2)</b>   | <b>Proficiency (3)</b>  | <b>Mastery (4)</b>  |
|--|--|---|---|
| I can identify major organs or human body systems.<br>a) b) c) | I can explain the function of an organ or a human body system.<br>a) b) c) | I understand how the structure, function, and major organs of a human body system are connected.<br>a) b) c) d) | I can create my own investigation related to the structure and function of a human body system.<br>g) h) i) k) j) |

**HB5.3** Assess how multiple human body systems function together to enable people to move, grow, and react to stimuli.

| <b>Beginning (1)</b>         | <b>Approaching (2)</b>                              | <b>Proficiency (3)</b>   | <b>Mastery (4)</b>  |
|------------------------------|---|--|---|
| I can identify body systems. | I understand that body systems work together.<br>a) | I can explain how human body systems work together.<br>c) d) e) f) | I can suggest improvements to a body system to help the human body work more efficiently.<br>g) |

### Physical Science: Properties and Changes of Materials (MC)

**MC5.1** Investigate the characteristics and physical properties of materials in solid, liquid, and gaseous states of matter.

| <b>Beginning (1)</b>       | <b>Approaching (2)</b>                                       | <b>Proficiency (3)</b>  | <b>Mastery (4)</b>  |
|----------------------------|--|---|---|
| I can define matter.<br>a) | I can distinguish between solid, liquid and gas.<br>b) d) f) | I understand the characteristics and physical properties of materials in the three states of matter.<br>c) e) g) h) | I can use the characteristics and physical properties to determine the state of matter of a substance that is not easily classified.<br>i) j) |

**MC5.2** Investigate how reversible and non-reversible changes, including changes of state, alter materials.

| <b>Beginning (1)</b>  | <b>Approaching (2)</b>  | <b>Proficiency (3)</b>   | <b>Mastery (4)</b>   |
|---|---|--|--|
| I can provide an example of how materials can be changed.<br>b) | I can classify changes in materials as reversible and non-reversible.<br>d) e) f) i) k) | I understand how different factors affect the state or can change materials.<br>c) g) h) | I can design, carry out, and reflect on a procedure that compares the effects reversible and non-reversible changes have on materials.<br>a) j) n) |

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**MC5.3** Assess how the production, use, and disposal of raw materials and manufactured products affects self, society, and the environment.

| <b>Beginning (1)</b>   | <b>Approaching (2)</b>   | <b>Proficiency (3)</b>   | <b>Mastery (4)</b>   |
|--|--|--|--|
| I know the difference between raw materials and manufactured products.<br>a) | I understand the process of creating a manufactured product including production, use and disposal.<br>c) f) h) j) | I can assess how the production, use, and disposal of raw materials and manufactured products affects self, society, and the environment.<br>b) d) g) i) | I can justify my choice in selecting a manufactured product based on the impact it has on me, my society and the environment.<br>e) k) |

### Physical Science: Forces and Simple Machines (FM)

**FM5.1** Analyze the effects of gravitational, magnetic, and mechanical forces, including friction, on the movement of objects.

| <b>Beginning (1)</b>  | <b>Approaching (2)</b>   | <b>Proficiency (3)</b>  | <b>Mastery (4)</b>   |
|---|--|---|--|
| I know the difference between contact and non-contact forces.<br>a) | I can define and give examples of gravitational, magnetic, and mechanical forces.<br>b) c) e) k) | I can explain the effect gravitational, magnetic, and mechanical forces have on the movement of objects.<br>f) g) i) l) | I can design, carry out, and reflect on a procedure to create a device that will move an object using gravitational, magnetic, and mechanical forces.<br>d) h) m) n) |

**FM5.2** Investigate characteristics of simple machines, including levers, wheels and axles, pulleys, inclined planes, screws, and wedges, for moving and lifting loads.

| <b>Beginning (1)</b>             | <b>Approaching (2)</b>   | <b>Proficiency (3)</b>   | <b>Mastery (4)</b>   |
|----------------------------------|--|--|--|
| I know what a simple machine is. | I can demonstrate ways simple machines move or lift loads.<br>b) c) m) | I understand the different characteristics of simple machines that are needed to move or lift loads.<br>e) f) g) h) i) j) m) | I can design, carry out, and reflect on a device made of simple machines that will move or lift loads.<br>d) k) l) |

**FM5.3** Assess how natural and man-made forces and simple machines affect individuals, society, and the environment.

| <b>Beginning (1)</b>                                      | <b>Approaching (2)</b>   | <b>Proficiency (3)</b>   | <b>Mastery (4)</b>  |
|---|--|--|---|
| I can give examples of simple and complex machines.<br>a) | I can define and give examples of natural and man-made forces.<br>b) i) j) | I understand how forces and simple machines affect individuals, society, and the environment.<br>c) d) f) g) h) k) | I can design a device to simplify a task in my world.<br>e) l) m) |

### Earth and Space Science: Weather (WE)

**WE5.1** Measure and represent local weather, including temperature, wind speed and direction, amount of sunlight, precipitation, relative humidity, and cloud cover.

| <b>Beginning (1)</b>  | <b>Approaching (2)</b>   | <b>Proficiency (3)</b>                                  | <b>Mastery (4)</b>   |
|---|--|---|--|
| I can define temperature, wind speed and direction, precipitation, and relative humidity. | I can explain the function and purpose of simple weather instruments.<br>b) e) | I can measure and represent the local weather.<br>f) i) | I can design, construct and evaluate a weather instrument to measure local weather.<br>d) g) h) j) |

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**WE5.2** Investigate local, national, and global weather conditions, including the role of air movement and solar energy transfer.

| <b>Beginning (1)</b>  | <b>Approaching (2)</b>  | <b>Proficiency (3)</b>  | <b>Mastery (4)</b>  |
|---|---|---|---|
| I recognize that weather conditions are not the same everywhere and can provide an example. | I can describe and compare different weather conditions around the world.<br>c) i) j) k) l) | I understand how the role of air movement and solar energy transfer affects weather.<br>b) e) f) g) h) n) | I can use my understanding of air movement and solar energy transfer to explain why weather forecasts may not match actual weather data.<br>d) m) |

**WE5.3** Analyze the impact of weather on society and the environment, including technologies that help humans address weather conditions.

| <b>Beginning (1)</b>                                   | <b>Approaching (2)</b>   | <b>Proficiency (3)</b>  | <b>Mastery (4)</b>   |
|--|--|---|--|
| I understand that weather has an impact on daily life. | I can research the effects of weather on society and the environment.<br>d) h) | I understand the impact of weather on society and the environment.<br>c) e) f) g) | I can explain why measuring, forecasting, and understanding weather is important.<br>i) j) |