|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Strand** | **Level 1****South Dakota Grade 8 Science Achievement Level Descriptors**Students at this level of science have not met most of the fundamental skills of the South Dakota Science Standards. Some of the skills demonstrated may include: | **Level 2** Students at this level of science partially meet the skills of the South Dakota Science Standards. Some of the skills demonstrated may include: | **Level 3**Students at this level meet the science skills of the South Dakota Science Standards. Some of the skills demonstrated may include: | **Level 4**Students at this level exceed the skills of the South Dakota Science Standards. Some of the skills demonstrated very consistently may include: |
| **Physical** **Science** | * Identifies if a property is physical or chemical
* Defines kinetic and potential energy
 | * Recognizes simple atomic structures
* Defines a chemical reaction
* Defines Newton's laws of motion
* Identifies different forces in an interaction
* Identifies insulators and conductors in energy transfers
* Identifies parts of a wave
* Recognizes wave behaviors such as reflection, absorption, and transmission through various media
 | * Applies physical and chemical properties of matter
* Identifies possible reactions and any changes that have taken place
* Understands energy and matter are conserved during a chemical reaction
* Applies Newton's Laws of Motion to various problems
* Illustrates how different forces affect interactions
* Describes how thermal energy affects physical and chemical properties of matter
 | * Able to prove the law of conservation of mass
* Describes wave properties in various media
 |
| **Life Science** | * Knows cell is basic building block of life
* Knows photosynthesis occurs in plants
 | * Lists organisms characteristics and behaviors and how they might influence reproduction
* Understands energy for many living things comes from photosynthesis
* Understands energy is released through digestion and chemical reactions
* Recognizes the evolutionary relationships between various organisms as reflected in the fossil records
 | * Explains that the body is a set of subsystems with a cell as the basic building block
* Describes an organisms characteristics and behaviors and how they might influence reproduction
* Explains how environmental and genetic factors might influence the growth of organisms
* Identifies the effects of resource availability on organisms and groups of organisms in an ecosystem
* Utilizes processes of photosynthesis and cellular respiration in the flow of energy
 | * Traces evolutionary pathways of common organisms and describes their changes over time
 |
| **Earth and Space Science** | * Identifies seasons on earth
* Identifies severe weather patterns
 | * Defines how gravity affects our solar system
* Recognizes the expenditure of energy in the cycling of Earth's materials
* Identifies Earth's rotation and heat from the sun and how they interact with regional climates
* Summarizes how the human population affects Earth's systems
 | * Explains cycles in lunar phases, solar and lunar eclipses, and seasons on the Earth
* Explains how gravity is pivotal to motion in all galaxies, including our solar system
* Explains how Earth's rotation, and heat from the sun helps atmospheric and oceanic currents affect regional climates
* Relates how knowledge of past catastrophic natural disaster data can help predict future events
* Interprets evidence on how the human population has consumed natural resources and impacted the Earth's systems
 | * Explains how seasons are affected by climate change.
* Evaluate climate changes using evidence of energy transfer into and out of the Earth's systems
 |