## Nebraska State Accountability-Science (NeSA-S) Performance Level Descriptors
### Grade 5

<table>
<thead>
<tr>
<th>Below the Standards</th>
<th>Meets the Standards</th>
<th>Exceeds the Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall student performance in science reflects <strong>unsatisfactory</strong> performance on the standards and <strong>insufficient</strong> understanding of the content at fifth grade. A student scoring at the Below the Standards level <strong>inconsistently</strong> draws on a broad range of scientific knowledge and skills in the areas of inquiry, physical, life, and Earth/space sciences.</td>
<td>Overall student performance in science reflects <strong>satisfactory</strong> performance on the standards and <strong>sufficient</strong> understanding of the content at fifth grade. A student scoring at the Meets the Standards level <strong>generally</strong> draws on a broad range of scientific knowledge and skills in the areas of inquiry, physical, life, and Earth/space sciences.</td>
<td>Overall student performance in science reflects <strong>high academic</strong> performance on the standards and a <strong>thorough</strong> understanding of the content at fifth grade. A student scoring at the Exceeds the Standards level <strong>consistently</strong> draws on a broad range of scientific knowledge and skills in the areas of inquiry, physical, life, and Earth/space sciences.</td>
</tr>
</tbody>
</table>

A student at this level **inconsistently**:
- Identifies testable questions.
- Identifies factors that may impact an investigation.
- Identifies appropriate selection and use of scientific equipment.
- Develops a reasonable explanation based on collected data.
- Identifies physical properties of matter.
- Identifies forces on motion.
- Recognizes that energy transfers.
- Identifies characteristics of living and nonliving things.
- Identifies inherited characteristics and life cycle of living things.
- Identifies components of an ecosystem.
- Identifies adaptations made by plants and animals to survive.
- Identifies changes of objects in the sky.
- Identifies Earth’s materials and structure.
- Identifies energy sources on Earth.
- Identifies changes in Earth’s surface.

A student at this level **generally**:
- Identifies testable questions.
- Identifies factors that may impact an investigation.
- Identifies appropriate selection and use of scientific equipment.
- Develops a reasonable explanation based on collected data.
- Describes the physical properties of matter and its changes.
- Identifies the influence of forces on motion.
- Identifies signs of energy transfer.
- Compares the characteristics of living and nonliving things.
- Identifies variations of inherited characteristics and life cycles.
- Describes relationships within an ecosystem.
- Describes changes in organisms over time.
- Describes characteristics, patterns, and changes of objects in the sky.
- Describes Earth’s materials, structure, and processes.
- Describes the effects of energy changes on Earth.
- Describes changes in Earth’s surface.

A student at this level **consistently**:
- Identifies testable questions.
- Identifies factors that may impact an investigation.
- Identifies appropriate selection and use of scientific equipment.
- Develops a reasonable explanation based on collected data.
- Compares physical properties of matter.
- Compares the influence of forces on motion.
- Compares energy transfers.
- Compares how parts of organisms function to meet basic needs.
- Compares variations of inherited characteristics and life cycles.
- Compares relationships within an ecosystem.
- Compares changes in organisms over time.
- Compares characteristics, patterns, and changes of objects in the sky.
- Compares Earth’s materials, structure, and processes.
- Compares the effects of energy changes on Earth.
- Compares changes in Earth’s surface.
### Nebraska State Accountability-Science (NeSA-S) Performance Level Descriptors

#### Grade 8

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<thead>
<tr>
<th>Below the Standards</th>
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<th>Exceeds the Standards</th>
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</thead>
<tbody>
<tr>
<td>Overall student performance in science reflects unsatisfactory performance on the standards and insufficient understanding of the content at eighth grade. A student scoring at the Below the Standards level inconsistently draws on a broad range of scientific knowledge and skills in the areas of inquiry, physical, life, and Earth/space sciences.</td>
<td>Overall student performance in science reflects satisfactory performance on the standards and sufficient understanding of the content at eighth grade. A student scoring at the Meets the Standards level generally draws on a broad range of scientific knowledge and skills in the areas of inquiry, physical, life, and Earth/space sciences.</td>
<td>Overall student performance in science reflects high academic performance on the standards and a thorough understanding of the content at eighth grade. A student scoring at the Exceeds the Standards level consistently draws on a broad range of scientific knowledge and skills in the areas of inquiry, physical, life, and Earth/space sciences.</td>
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</tbody>
</table>

A student at this level **inconsistently:**

- Identifies testable questions that lead to predictions and scientific investigations.
- Identifies and controls variables that impact a scientific investigation.
- Identifies appropriate selection and use of scientific equipment.
- Develops logical inferences based on collected data and accounts for non-relevant information.
- Analyzes investigations for quality, accuracy, and relevancy.
- Identifies the particulate nature of matter.
- Identifies forces and motion.
- Identifies energy systems.
- Identifies structure of living organisms.
- Identifies types of reproduction.
- Identifies components of an ecosystem.
- Identifies characteristic of organisms.
- Identifies components of the solar system.
- Identifies Earth’s structure and processes.
- Identifies energy in Earth systems.
- Identifies changes in Earth over time.

A student at this level **generally:**

- Identifies testable questions that lead to predictions and scientific investigations.
- Identifies and controls variables that impact a scientific investigation.
- Identifies appropriate selection and use of scientific equipment.
- Develops logical inferences based on collected data and accounts for non-relevant information.
- Analyzes investigations for quality, accuracy, and relevancy.
- Describes the particulate nature of matter including physical and chemical interactions.
- Describes forces and motion.
- Describes how energy systems and matter interact.
- Describes the structure and function of living organisms.
- Describes the relationship between reproduction and heredity.
- Describes populations and ecosystems.
- Identifies characteristics of organisms that help them survive.
- Describes Earth and the solar system.
- Describes Earth’s structure, systems, and processes.
- Describes energy in Earth’s system.
- Describes changes in Earth over time.

A student at this level **consistently:**

- Identifies testable questions that lead to predictions and scientific investigations.
- Identifies and controls variables that impact a scientific investigation.
- Identifies appropriate selection and use of scientific equipment.
- Develops logical inferences based on collected data and accounts for non-relevant information.
- Analyzes investigations for quality, accuracy, and relevancy.
- Describes the particulate nature of matter by comparing and contrasting physical and chemical interactions.
- Predicts the impact of balanced and unbalanced forces acting on objects.
- Evaluates interactions between energy and matter.
- Evaluates the interactions between structure and function of living organisms.
- Describes the relationship between reproduction and heredity.
- Analyzes interactions between populations and ecosystems.
- Evaluates survival of organisms based on characteristics.
- Analyzes interactions between Earth and the solar system.
- Analyzes interactions among Earth’s structure, systems, and processes.
- Analyzes energy’s impact on Earth systems.
- Analyzes changes in Earth over time.
### Nebraska State Accountability-Science (NeSA-S) Performance Level Descriptors

#### Grade 11

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<tbody>
<tr>
<td>Overall student performance in science reflects <strong>unsatisfactory</strong> performance on the standards and <strong>insufficient</strong> understanding of the content at eleventh grade. A student scoring at the Below the Standards level <strong>inconsistently</strong> draws on a broad range of scientific knowledge and skills in the areas of inquiry, physical, life, and Earth/space sciences.</td>
<td>Overall student performance in science reflects <strong>satisfactory</strong> performance on the standards and <strong>sufficient</strong> understanding of the content at eleventh grade. A student scoring at the Meets the Standards level <strong>generally</strong> draws on a broad range of scientific knowledge and skills in the areas of inquiry, physical, life, and Earth/space sciences.</td>
<td>Overall student performance in science reflects <strong>high academic</strong> performance on the standards and <strong>a thorough</strong> understanding of the content at eleventh grade. A student scoring at the Exceeds the Standards level <strong>consistently</strong> draws on a broad range of scientific knowledge and skills in the areas of inquiry, physical, life, and Earth/space sciences.</td>
</tr>
<tr>
<td><strong>A student at this level <strong>inconsistently:</strong></strong></td>
<td>**A student at this level <strong>generally:</strong></td>
<td>**A student at this level <strong>consistently:</strong></td>
</tr>
<tr>
<td>- Identifies a testable hypothesis that guides a scientific investigation.</td>
<td>- Identifies a testable hypothesis that guides a scientific investigation.</td>
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<tr>
<td>- Identifies and manages variables and constraints.</td>
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<tr>
<td>- Identifies appropriate selection and use of scientific equipment.</td>
<td>- Identifies appropriate selection and use of scientific equipment.</td>
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<tr>
<td>- Analyzes and interprets data and evaluates models and explanations.</td>
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</tr>
<tr>
<td>- Evaluates scientific investigations.</td>
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</tr>
<tr>
<td>- Identifies matter in terms of its structure and composition.</td>
<td>- Describes matter in terms of its structure, composition, and conservation.</td>
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</tr>
<tr>
<td>- Identifies field forces.</td>
<td>- Describes the nature of field forces and their interactions with matter.</td>
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<tr>
<td>- Identifies energy systems in matter.</td>
<td>- Describes energy systems relating to the conservation and interaction of energy and matter.</td>
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<tr>
<td>- Identifies organic molecules, sub-cellular structures, and cellular functions.</td>
<td>- Describes the chemical basis of the growth, development, and maintenance of cells.</td>
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<tr>
<td>- Identifies DNA and its role in heredity.</td>
<td>- Describes the molecular basis of reproduction and heredity.</td>
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<tr>
<td>- Identifies the flow of energy between organisms and their environment.</td>
<td>- Describes, on a molecular level, the cycling of matter and the flow of energy between organisms and their environment.</td>
<td>- Describes, on a molecular level, the cycling of matter and the flow of energy between organisms and their environment.</td>
</tr>
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<td>- Identifies types of adaptations necessary for survival.</td>
<td>- Describes the theory of biological evolution.</td>
<td>- Describes the theory of biological evolution.</td>
</tr>
<tr>
<td>- Identifies components of the universe.</td>
<td>- Describes the known universe.</td>
<td>- Describes the known universe.</td>
</tr>
<tr>
<td>- Identifies the relationships between Earth’s structure and processes.</td>
<td>- Investigates the relationships among Earth’s structure, systems, and processes.</td>
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</tr>
<tr>
<td>- Identifies relationships between sources of energy and Earth’s systems.</td>
<td>- Describes the relationships among the sources of energy and their effects on Earth’s systems.</td>
<td>- Describes the relationships among the sources of energy and their effects on Earth’s systems.</td>
</tr>
<tr>
<td>- Identifies the Law of Superposition.</td>
<td>- Explains the history and evolution of Earth.</td>
<td>- Explains the history and evolution of Earth.</td>
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- **Unsatisfactory** performance indicates consistently inconsistent understanding of the content.
- **Satisfactory** performance indicates consistent and mixed understanding of the content.
- **High academic** performance indicates consistent and thorough understanding of the content.