**7th Grade Science Achievement Level Descriptors**

**Based on Georgia Standards of Excellence: Life Science Domain**

**S7L1: Diversity and Classification of Organisms**

*Investigate and model how living organisms are classified based on common characteristics and historical classification systems.*

* **Beginner Learner:** Struggles to identify characteristics used in organism classification; has difficulty explaining classification models or historical development of classification systems.
* **Developing Learner:** Recognizes basic organism characteristics and can describe simple classification categories but may confuse details or historical context.
* **Proficient Learner:** Accurately develops and defends models categorizing organisms, explains physical characteristics and historical classification progression to the six-kingdom system.
* **Distinguished Learner:** Demonstrates deep understanding of organism classification, comparing models critically and applying classification concepts to novel organisms or scenarios.

**S7L2: Cell Structures and Systems**

*Describe how cell components interact to maintain life processes and how cells organize into tissues, organs, and systems.*

* **Beginner Learner:** Identifies some cell structures but struggles to explain their functions or how systems interact to support life.
* **Developing Learner:** Explains basic functions of cell structures and recognizes the organization from cells to systems but with limited detail or accuracy.
* **Proficient Learner:** Develops clear models of cell structures and their functions, explains tissue-to-system organization, and constructs arguments on system interactions maintaining life.
* **Distinguished Learner:** Creates detailed models illustrating complex interactions among cell structures and body systems, explaining their roles in sustaining life with precision.

**S7L3: Reproduction and Heredity**

*Explain sexual and asexual reproduction, genetic inheritance, and how humans influence inheritance through selective breeding.*

* **Beginner Learner:** Has difficulty explaining genetic inheritance or differentiating sexual and asexual reproduction; limited understanding of selective breeding.
* **Developing Learner:** Describes basic reproduction types and inheritance concepts; recognizes selective breeding but with incomplete explanations.
* **Proficient Learner:** Constructs scientific explanations of gene/chromosome roles, uses models (e.g., Punnett squares) to show inheritance patterns, and synthesizes information on selective breeding.
* **Distinguished Learner:** Applies advanced genetic models to explain variation, critically compares natural and artificial selection, and investigates complex inheritance scenarios independently.

**S7L4: Interdependence of Organisms and Ecosystems**

*Examine organism interactions, matter cycling, energy flow, and effects of environmental factors on ecosystems.*

* **Beginner Learner:** Recognizes some organism interactions but struggles with ecosystem concepts, matter cycling, and energy flow explanations; limited data analysis skills.
* **Developing Learner:** Describes common interactions (e.g., predator-prey), basic matter and energy flow, and environmental impacts with partial accuracy; attempts data interpretation.
* **Proficient Learner:** Constructs explanations for ecosystem interactions, models matter cycling and energy flow, and analyzes data showing how factors affect populations and ecosystems.
* **Distinguished Learner:** Integrates multiple data sources to analyze complex ecosystem dynamics, predicts environmental impacts, and develops sophisticated models of biotic-abiotic relationships.

**S7L5: Evolution and Natural Selection**

*Explain evolution through inherited characteristics using evidence from data, genetic variation, and the fossil record.*

* **Beginner Learner:** Understands basic idea of evolution but has difficulty interpreting evidence or explaining natural selection processes.
* **Developing Learner:** Uses simple data representations to describe natural selection; recognizes genetic and environmental influences with some inaccuracies.
* **Proficient Learner:** Evaluates data mathematically, constructs evidence-based explanations of natural selection, genetic variation, and survival probabilities; interprets fossil record patterns.
* **Distinguished Learner:** Critically analyzes diverse data sets, synthesizes evolutionary evidence including fossil and genetic data, and explains evolutionary processes in depth with scientific rigor.

**Overall Science Practices Across Standards**

| **Performance Level** | **Description** |
| --- | --- |
| **Beginner Learner** | Struggles with asking scientific questions, developing models, analyzing data, and reasoning. Communicates scientific ideas with limited clarity and accuracy. |
| **Developing Learner** | Begins to engage in scientific practices with guidance; models and explanations may lack depth or consistency. Communicates with some scientific vocabulary. |
| **Proficient Learner** | Independently applies scientific practices effectively; develops clear models, analyzes data accurately, and constructs evidence-based explanations. Communicates clearly and accurately. |
| **Distinguished Learner** | Demonstrates advanced proficiency in scientific inquiry and reasoning; creates detailed models, critically evaluates data, and communicates complex ideas precisely and persuasively. |

This comprehensive descriptor set supports assessment, instruction, and student feedback aligned to Georgia’s 7th grade science standards focused on obtaining, evaluating, and communicating scientific information.