Grade 5 Science Performance Level Descriptors

Advanced: Students demonstrate superior performance on challenging subject matter. In addition to demonstrating a broad and in-depth understanding and application of all skills at the Proficient level, students scoring at the **Advanced** level typically analyze scale, proportion, quantity and patterns when performing computational thinking to complex data as it pertains to distribution of water on Earth, conservation of matter, and Earth's relationship with the sun, moon and stars. Students predict, modify, and extend complex models at various scales to analyze the movement of matter and energy between organisms, ecosystems, and Earth's systems, and analyze the outcomes of these interactions. Students analyze and compare evidence, data, and models to engage in argument to explain the cause and effect relationships between an object and Earth's gravity, how scale and proportion affect the apparent brightness of the sun and other stars/ and/or how plants use matter (chiefly air and water) to grow. Students observe and measure phenomenon to interpret and evaluate patterns that classify materials based on properties. Students can describe complex cause and effect relationships when mixing substances within an investigation framework.

Proficient: Students demonstrate mastery over appropriate grade-level subject matter and readiness for the next grade level. Students scoring at the **Proficient** level typically describe, use and/or develop basic models at various scales to explain the movement of matter and energy between organisms, ecosystems, and Earth's systems and explain the outcomes of these interactions. Students apply scale, proportion, quantity, and/or patterns when performing computational thinking to data as it pertains to distribution of water on Earth, conservation of matter, and Earth's relationship with the sun, moon, and stars. Students use evidence, data, and/or models to engage in argument to explain the cause and effect relationships between an object and Earth's gravity, how scale and proportion affect the apparent brightness of the sun and other stars, or how plants use matter (chiefly air and water) to grow. Students observe and measure phenomenon to identify patterns that classify materials based on properties. Students can describe cause and effect relationships when mixing substances within an investigation framework.

Basic: Students demonstrate partial mastery of the essential knowledge and skills appropriate to their grade level. Students scoring at the **Basic** level identify basic models to represent common features of matter and/or energy, ecosystems, and/or Earth's systems. Students recognize scale, proportion, quantity, or patterns when performing basic computations with data as it pertains to distribution of water on Earth, conservation of matter, and/or Earth's relationship with the sun, moon, and stars. Students identify evidence, data, or models to distinguish relationships between an object and Earth's gravity, how basic scale and proportion affect the brightness of the sun and other stars, or how plants use air and water. Students will observe or measure phenomenon to recognize patterns of materials. Students can identify basic relationships when mixing substances within an investigation framework.

Below Basic: Students have not performed at least at the Basic level. Students scoring at the **Below Basic** level should be given comprehensive science instruction.