

S8.C Physical Sciences**Reporting Category****ASSESSMENT ANCHOR****S8.A.1 Reasoning and Analysis****ELIGIBLE CONTENT**

S8.A.1.1 Explain, interpret, and apply scientific, environmental, or technological knowledge presented in a variety of formats (e.g., visuals, scenarios, graphs).

Reference: 3.2.7.A, 3.2.7.B

S8.A.1.1.2 Explain how certain questions can be answered through scientific inquiry and/or technological design.

S8.A.1.2 Identify and explain the impacts of applying scientific, environmental, or technological knowledge to address solutions to practical problems.

Reference: 3.2.7.C, 3.8.7.A, 3.8.7.B, 4.3.7.A

S8.A.1.2.3 Describe fundamental scientific or technological concepts that could solve practical problems (e.g., Newton's laws of motion, Mendelian genetics).

ASSESSMENT ANCHOR**S8.A.2 Processes, Procedures, and Tools of Scientific Investigations****ELIGIBLE CONTENT**

S8.A.2.1 Apply knowledge of scientific investigation or technological design in different contexts to make inferences to solve problems.

Reference: 3.2.7.B, 3.2.7.D, 3.1.7.C, 3.1.7.D

S8.A.2.1.6 Identify a design flaw in a simple technological system and devise possible working solutions.

S8.A.2.2 Apply appropriate instruments for a specific purpose and describe the information the instrument can provide.

Reference: 3.3.7.A, 3.7.7.B, 3.1.7.D

S8.A.2.2.1 Describe the appropriate use of instruments and scales to accurately and safely measure time, mass, distance, volume, or temperature under a variety of conditions.

S8.A.2.2.2 Apply appropriate measurement systems (e.g., time, mass, distance, volume, temperature) to record and interpret observations under varying conditions.

S8.C Physical Sciences**Reporting Category****ASSESSMENT ANCHOR****S8.A.3 Systems, Models, and Patterns****ELIGIBLE CONTENT**

S8.A.3.1 Explain the parts of a simple system, their roles, and their relationships to the system as a whole.

Reference: 3.1.7.A, 3.4.7.B, 4.3.7.C, 4.2.7.D, 4.6.7.A

S8.A.3.1.1 Describe a system (e.g., watershed, circulatory system, heating system, agricultural system) as a group of related parts with specific roles that work together to achieve an observed result.

S8.A.3.1.3 Distinguish among system inputs, system processes, system outputs, and feedback (e.g., physical, ecological, biological, informational).

S8.A.3.1.4 Distinguish between open loop (e.g., energy flow, food web) and closed loop (e.g., materials in the nitrogen and carbon cycles, closed-switch) systems.

S8.A.3.2 Apply knowledge of models to make predictions, draw inferences, or explain technological concepts.

Reference: 3.1.7.B, 3.2.7.B, 4.1.7.B

S8.A.3.2.2 Describe how engineers use models to develop new and improved technologies to solve problems.

ASSESSMENT ANCHOR**S8.C.3 Principles of Motion and Force****ELIGIBLE CONTENT**

S8.C.3.1 Describe the effect of multiple forces on the movement, speed, or direction of an object.

Reference: 3.4.7.C, 3.6.7.C

S8.C.3.1.3 Explain that mechanical advantage helps to do work (physics) by either changing a force or changing the direction of the applied force (e.g., simple machines, hydraulic systems).