5-LS1 From Molecules to Organisms: Structures and Processes

5-LS1 From Molecules to Organisms: Structures and Processes

Students who demonstrate understanding can:

5-LS1-1. Support an argument that plants get the materials they need for growth chiefly from air and water. [Clarification Statement: Emphasis is on the idea that plant matter comes mostly from air and water, not from the soil.]

The performance expectations above were developed using the following elements from the NRC document *A Framework for K-12 Science Education*:

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Engaging in Argument from Evidence Engaging in argument from evidence in 3–5 builds on K–2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world(s). ▪ Support an argument with evidence, data, or a model. (5-LS1-1)	**LS1.C: Organization for Matter and Energy Flow in Organisms** ▪ Plants acquire their material for growth chiefly from air and water. (5-LS1-1)	**Energy and Matter** ▪ Matter is transported into, out of, and within systems. (5-LS1-1)

Connections to other DCIs in fifth grade: **5.PS1.A** (5-LS1-1)

Articulation of DCIs across grade-bands: **K.LS1.C** (5-LS1-1); **2.LS2.A** (5-LS1-1); **MS.LS1.C** (5-LS1-1)

Common Core State Standards Connections:

ELA/Literacy –
RI.5.1   Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. *(5-LS1-1)*
RI.5.9   Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably. *(5-LS1-1)*
W.5.1   Write opinion pieces on topics or texts, supporting a point of view with reasons and information. *(5-LS1-1)*
Mathematics –
MP.2   Reason abstractly and quantitatively. *(5-LS2-1)*
MP.4   Model with mathematics. *(5-LS2-1)*
MP.5   Use appropriate tools strategically. *(5-LS2-1)*
5.MD.A.1   Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems. *(5-LS1-1)*

*The performance expectations marked with an asterisk integrate traditional science content with engineering through a Practice or Disciplinary Core Idea.

The section entitled "Disciplinary Core Ideas" is reproduced verbatim from A Framework for K-12 Science Education: Practices, Cross-Cutting Concepts, and Core Ideas. Integrated and reprinted with permission from the National Academy of Sciences.