

### Science Standards Review Blueprint 2023

- Add information in the preamble connecting science as a human endeavor to the fact that, in many cases, science has been used to benefit humanity (vaccines, space exploration, green energy advancements, technological innovations and engineering marvels) but that there are also notable cases in which science has been used by those with power to oppress and abuse other people (e.g. eugenics movement / pseudo-science; Tuskegee experiment, etc.).
- Incorporate Wabanaki and African American studies and the history of Genocide, including the Holocaust into the parenthetical examples offered after the performance expectations (may use Alaska and the 2007 MLRs as reference documents).
- Review parenthetical examples for accuracy and make updates as necessary.
- Include specific, local examples into the parenthetical examples offered after the performance expectations throughout.
- Update LS3-1 to provide further explanation and examples to clarify the differences between human and non-human systems.
- Expand the current standards into statements using the essential questions from *A Framework for K-12 Science Education*. When crafting these statements, careful attention needs to be paid to the rigor of the performance expectations and the source question. These statements should begin with “students will demonstrate understanding” rather than simply understand or explain. Examples:
  - *What forces hold nuclei together and mediate nuclear processes? → Students will demonstrate an understanding of what forces hold nuclei together and mediate nuclear processes.*
  - *How do particles combine to form the variety of matter one observes? → Students will demonstrate an understanding of how particles combine to form the variety of matter one observes.*
  - *How can one explain and predict interactions between objects and within systems of objects? → Students will demonstrate an understanding of interactions between objects and within systems of objects.*
  - *How can one predict an object’s continued motion, changes in motion, or stability? → Students will demonstrate an understanding of an object’s continued motion, changes in motion, or stability.*
- Explain cross cutting concepts (what NGSS uses) and conceptual understandings (what Maine uses) in the preamble being clear that no new expectations or content has changed.
- Where “Cross Cutting Concepts” is used in the outline, add a parenthetical note that it is known in other content standards of the Maine Learning Results as conceptual understandings.