

# Issues and Science Third Edition: Developed for the NGSS

## Suggested Colorado 2020 Integrated Alignment for Units and Performance Expectations

Unit Title	Main Issue	Performance Expectations	Item Number
<b>Body Systems</b> (4 weeks) (2nd edition Body Works & Studying People Scientifically)	<i>How do we know if a medicine is safe and effective?</i>	LS1-3, LS1-8, LS1-7	SB: SMS-BOD-3SB Equip: SMS-BOD-3000
<b>From Cells to Organisms</b> (5-6 weeks) (2nd edition Cell Biology and Disease)	<i>How should we prevent the spread of an infectious disease?</i>	LS1-1, LS1-2, LS1-6, LS1-7	SB: SMS-CEL-3S Equip: SMS-CEL-3000
<b>Energy</b> (6 weeks) (2nd edition Energy)	<i>How can people manipulate energy transfer and transformation to use energy more efficiently?</i>	PS3-3, PS3-4, PS3-5, MS-ETS1-4	SB: SMS-ENE-3SB Equip: SMS-ENE-3000
<b>Weather &amp; Climate</b> (6-7 weeks) (2nd edition Weather & Atmosphere)	<i>How does the weather affect people and how do people affect the climate?</i>	ESS2-5, ESS2-6, ESS3-5, ETS1-3, ETS1-4	SB: SMS-WEA-3SB Equip: SMS-WEA-3000
<b>Reproduction</b> (3-4 weeks) (2nd edition - Genetics)	<i>What are the ethical issues involved in using genetic information?</i>	LS1-4, LS1-5, LS3-1, LS3-2	SB: SMS-REP-3SB Equip: SMS-REP-3000
<b>Land, Water, and Human Interactions</b> (5-6 weeks) (2nd edition- Erosion and Deposition)	<i>Which areas of Boomtown are the best choice for construction?</i>	ESS2-2, ESS2-4, ESS3-3, ETS1-1, ETS1-2	SB: SMS-IMP-3SB Equip: SMS-IMP-3000
<b>Biomedical Engineering</b> (3 weeks) (2nd edition Bioengineering)	<i>How can engineering be used to improve the lives of those living with medical conditions?</i>	ETS1-1, ETS1-2, ETS1-3, ETS1-4	SB: SMS-BIO-3SB Equip: SMS-BIO-3000
<b>Chemistry of Materials</b> (6 weeks) (2nd edition Chemistry of Materials)	<i>What are the environmental impacts of producing, using, and disposing of materials?</i>	PS1-1, PS1-3, PS1-4	SB: SMS-MAT-3SB Equip: SMS-MAT-3000
<b>Chemical Reactions</b> (4 weeks) (New Unit- No 2nd edition)	<i>How do people use chemical reactions to solve problems?</i>	PS1-2, PS1-5, PS1-6	SB: SMS-REA-3SB Equip: SMS-REA-3000
<b>Ecology</b> (7 weeks) (2nd edition Ecology)	<i>What are the effects of introduced species, and what can be done about them?</i>	LS2-1, LS2-2, LS2-3, LS2-4, LS2-5, LS1-6, LS1-7	SB: SMS-ECO-3SB Equip: SMS-ECO-3000
<b>Geological Processes</b> (5-7 weeks) (2nd Edition Plate Tectonics)	<i>Where should we store nuclear waste?</i>	ESS2-1, ESS2-2, ESS2-3, ESS3-1, ESS3-2	SB: SMS-GEO-3SB Equip: SMS-GEO-3000
<b>Force and Motion</b> (5 weeks) (2nd edition Force and Motion)	<i>How can we reduce the risk of motor vehicle accidents?</i>	PS2-1, PS2-2, PS3-1, ETS1-3, ETS1-4	SB: SMS-FOR-3SB Equip: SMS-FOR-3000
<b>Solar System and Beyond</b> (6 weeks) (2nd edition units Earth in Space and Exploring Space)	<i>What kind of future space missions should we fund and conduct?</i>	ESS1-1, ESS1-2, ESS1-3	SB: SMS-SPA-3SB Equip: SMS-SPA-3000
<b>Fields and Interactions*</b> (5-6 weeks) (New Unit- No 2nd edition)	<i>Sustainable transportation of the future</i>	PS2-3, PS2-4, PS2-5, PS3-2, ETS1-1, ETS1-2	SB: SMS-FIE-3SB Equip: SMS-FIE-3000
<b>Evolution</b> (7 weeks) (2nd edition Evolution)	<i>How are people affected by and affecting evolution?</i>	LS3-1, LS4-1, LS4-2, LS4-3, LS4-4, LS4-5, LS4-6	SB: SMS-EVO-3SB Equip: SMS-EVO-3000
<b>Waves</b> (5 weeks) (2nd edition Waves)	<i>How are waves both helpful and harmful?</i>	PS4-1, PS4-2, PS4-3	SB: SMS-WAV-3SB Equip: SMS-WAV-3000
<b>Earth's Resources</b> (5 weeks) (New Unit- No 2nd edition)	<i>How is a growing human population affecting the availability of natural resources?</i>	ESS1-4, ESS3-1, ESS3-4	SB: SMS-RES-3SB Equip: SMS-RES-3000

\*subject to change

Please visit [lab-aids.com/third-edition](http://lab-aids.com/third-edition) to see more information including:

- an exploration of the *5 Innovations in Science Education* with links to exemplars
- a card representing each unit above - click on the card to see:
  - Anchoring Phenomena
  - NGSS & Common Core Correlations
  - NGSS Unit Overview
  - Storyline and Phenomena
  - Learning Pathways
  - Student Book excerpts
  - Teacher Edition excerpts
  - Transitioning from 2nd to 3rd edition documents  
[previous edition unit titles in table for reference](#)
  - Build your own custom SEPUP curriculum

Contact **Bill Gipperich, Lab-Aids Colorado Science Curriculum Specialist**, to arrange digital sample access, physical samples, or to schedule a visit.

**Unit Issue** Provides context for relevant and connected anchoring and investigative phenomena within the unit.

How and why do organisms interact with their environment and what are the effects of these interactions? What if the organisms aren't native to the area?

**Unit Phenomena** What can we observe in science that makes us wonder?

Introduced species are changing their environments, can cause problems for people, and affect biodiversity.

When people bring new organisms into an ecosystem, there can be effects for people and the environment.

There are different organisms and different numbers of organisms in different places.

Different species tend to be found together and are linked through feeding and energy relationships.

Physical and biological factors can disrupt an ecosystem to a small or large degree.

**Activities** Students use SEPs and understanding of DCIs and CCCs to explain, justify, and argue a point of view about the issue.

species research

local data transects

black-worm habitats

owl pellets and food webs

matter cycles - local nematodes

population growth

modeling a new species

abiotic impacts in ecosystems

evaluating & presenting solutions

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