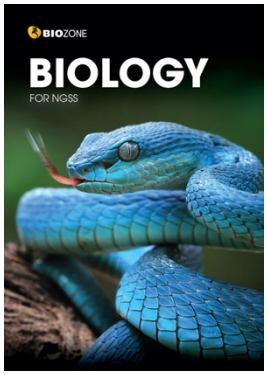
Alignment of BIOZONE's Biology for NGSS (3rd edition) to Idaho HS Life Sciences (April 2025)



PUBLISHER INFORMATION

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- Author: Jillian Mellanby, Kent Pryor, Sarah Gaze, Lissa Bainbridge-Smith
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- Note 1: Correlation locations are activity numbers (not page numbers).
- Note 2: Correlations do not usually include reference to the Science practices chapter.
- Note 3: Correlations to the standard statement include background material to address the specific objectives.

High School Life Science

From Molecules to Organisms: Structures and Processes *Students who demonstrate understanding can:*	Justification or Comments
Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells. (1.1)	Activities 47-52 Related activities (background) 30, 54, 55, 85-88
Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms. (1.2)	Activities 30, 55, 57, 60-64, 96 Related activities (background) 50-53, 86-88
Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis. (1.3)	Activities 75, 79, 81 Related activities (background) 68-71, 73-79
Use a model to illustrate the role of cellular division (mitosis) and differentiation in producing and maintaining complex organisms. (1.4)	Activities 93, 98 Related activities (background) 89-92, 94-95
Use a model to illustrate how photosynthesis transforms light energy into stored chemical energy. (1.5)	Activities 101-105 Related activities (background) 107, 108
Construct an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules. (1.6)	Activities 47-50, 53, 106 Related activities (background) 101-105
Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed, resulting in a net transfer of energy. (1.7)	Activities 106-110 Related activities (background) 73, 74, 144, 145

Ecosystems: Interactions, Energy and Dynamics *Students who demonstrate understanding can:*	Justification or Comments
Use mathematical and/or computational representations to support explanations of factors that affect carrying capacity of ecosystems at different scales. (2.1)	Activities 125-133 Related activities (background) 162-167
Use mathematical representations to support explanations that biotic and abiotic factors affect biodiversity at different scales within an ecosystem. (2.2)	Related activities (background) 114-116, 119-124
Construct an explanation using mathematical representations to support claims for the flow of energy through trophic levels and the cycling of matter in an ecosystem. (2.3)	Activities 145-147, 153, 156 Related activities (background) 137-144, 148-152,
Develop a model to illustrate the role of photosynthesis and cellular respiration in the cycling of carbon among the biosphere, atmosphere, hydrosphere, and geosphere. (2.4)	Activities 150, 151 Related activities (background) 102, 148, 152, 153
Evaluate the claims, evidence, and reasoning that changing the conditions of a static ecosystem may result in a new ecosystem. (2.5)	Activities 162-164 Related activities (background) 158-161, 165, 166
Design, evaluate, and/or refine practices used to manage a natural resource based on direct and indirect influences of human activities on biodiversity and ecosystem health. (2.6)	Activities 167, 168, 170, 256-258, 261 Related activities (background) 169, 252-255
Evaluate the evidence for the role of group behavior on individual and species' ability to survive and reproduce. (2.7)	Activities 175, 176, 178, 180-182, 184 Related activities (background) 177, 179,

Heredity: Inheritance and Variation of Traits	Justification or Comments
Students who demonstrate understanding can:	
Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring. (3.1)	Activities 47, 51, 186-191 Related activities (background) 55, 1956-197, 199
Make and defend a claim based on evidence that inheritable genetic variations may result from: (1) new genetic combinations through meiosis, (2) viable errors occurring during replication, and/or (3) mutations caused by environmental factors. (3.2)	Activities 198-204 Related activities (background) 195, 196, 209, 210
Apply concepts of probability and statistical analysis to explain the variation and distribution of expressed traits in a population. (3.3)	Activities 211-216, 219

Biological Adaptation: Unity and Diversity *Students who demonstrate understanding can:*	Justification or Comments
Communicate scientific information that common ancestry and biological evolution are supported by multiple lines of empirical evidence. (4.1)	Activities 221-231
Construct an explanation based on evidence that the process of evolution, through the mechanism of natural selection, primarily results from four factors: (1) the potential for a species to increase in number, (2) the heritable genetic variation of individuals in a species due to mutation and sexual reproduction, (3) competition for limited resources, and (4) the proliferation of those organisms that are better able to survive and reproduce in the environment. (4.2)	Activities 234, 235, 238-242, 246, 252 Related activities (background) 120-123, 236, 237
Apply concepts of probability and statistical analysis to support explanations that organisms with an advantageous heritable trait tend to increase in proportion to organisms lacking this trait. (4.3)	Activities 235, 238-242 Related activities (background)138, 234, 236, 237, 245
Construct an explanation based on evidence for how natural selection leads to adaptation of populations. (4.4)	Activities 238-242, 245-248 Related activities (background) 234-237
Evaluate models that demonstrate how changes in an environment may result in the evolution of a population of a given species; the emergence of new species over generations; or the extinction of other species due to the processes of genetic drift, gene flow, mutation, and natural selection. (4.5)	Activities 235, 240, 242 Related activities (background) 234, 236-239, 241, 243-248