

| <b>OK Environmental Science</b>                                                                                                                                                                                                              | <b>Environment: The Science Behind the Stories, 7e<br/>©2021 AP® Edition Page Reference</b> |
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| EN.LS2.1 Use mathematical and/or computational representations to support explanations of factors that affect carrying capacities of ecosystems at different scales.                                                                         | pp. 120-122 (related), pp. 125-127 (related)                                                |
| EN.LS2.2 Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales.                                                       | p. 64 (related), p. 315                                                                     |
| EN.LS2.4 Use a mathematical representation to support claims for the cycling of matter and the flow of energy among organisms in an ecosystem.                                                                                               | pp. 36-40                                                                                   |
| EN.LS2.6 Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem. | p. 118, pp. 125-127, p. 137                                                                 |
| EN.LS2.7 Design, evaluate, and refine a solution for reducing the impact of human activities on the environment and biodiversity.*                                                                                                           | p. 319 (related)                                                                            |
| EN.LS4.6 Use evidence to construct an explanation that describes how a designed solution mitigates adverse impacts of human activity on biodiversity.*                                                                                       | p. 163                                                                                      |
| EN.ESS2.1 Develop a model to illustrate how Earth's internal and surface processes operate at different scales of space and time to form continental and ocean-floor features.                                                               | p. 46                                                                                       |
| EN.ESS2.2 Analyze geoscience data to make the claim that one change to Earth's surface can create feedback and interactions that cause changes to other Earth systems.                                                                       | pp. 44-45 (related), p. 116 (related)                                                       |
| EN.ESS2.3 Develop a model based on evidence of Earth's interior to describe the cycling of matter by thermal convection.                                                                                                                     | p. 44 (related)                                                                             |
| EN.ESS2.4 Analyze and interpret data to explore how variations in the flow of energy into and out of Earth's systems cause changes to the atmosphere and climate.                                                                            | p. 523                                                                                      |
| EN.ESS2.5 Plan and conduct investigations of how the structure and resulting properties of water interact with the Earth's materials and surface processes.                                                                                  | p. 10 (related), pp. 128-129 (related)                                                      |
| EN.ESS2.6 Develop a quantitative model to describe the cycling of carbon among the hydrosphere, atmosphere, geosphere, and biosphere.                                                                                                        | p. 130 (related)                                                                            |
| EN.ESS2.7 Engage in argument from evidence for how the simultaneous co-evolution of Earth's systems and life on Earth led to periods of stability and change over geologic time.                                                             | pp. 116-117 (related), p. 294, p. 300                                                       |
| EN.ESS3.1 Construct an explanation based on evidence for how the availability of natural resources, occurrences of natural hazards, and changes in climate affect human activity.*                                                           | pp. 50-56 (related), pp. 176-177 (related)                                                  |
| EN.ESS3.2 Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios on large and small scales.*                                                                  | p. 7, p. 10, p. 28, p. 695, p. 706                                                          |
| EN.ESS3.3 Use computational simulations to illustrate changes in the relationships between natural resources, human populations, and biodiversity and their sustainability within Earth's systems.*                                          | p. 58 (related), p. 299 (related), p. 320 (related)                                         |

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| EN.ESS3.4 Evaluate design solutions for a major global or local environmental problem that reduces or stabilizes the impacts of human activities on natural systems.*                                                    | p. 163 (related)                                                                    |
| ES.ESS1.1 Develop a model based on evidence to illustrate the life span of the Sun, and the role of nuclear fusion in the Sun's core to convert matter to energy that eventually reaches Earth in the form of radiation. | p. 605 (related, p. 629 (related)                                                   |