YEARS OF LIVING DANGEROUSLY | EDUCATIONAL STANDARDS AND EPISODES MATRIX




NEXT GENERATION SCIENCE STANDARDS - HS	Episode 1	Episode 2	Episode 3	Episode 4	Episode 5	Episode 6	Episode 7	Episode 8	Episode 9
ECOSYSTEMS: INTERACTIONS, ENERGY, AND DYNAMICS **STUDENTS WHO DEMONSTRATE UNDERSTANDING CAN:**									
HS-LS2-1 Use mathematical and/or computational representations to support explanations of factors that affect carrying capacity of ecosystems at different scales.	✔	✔		✔	✔			✔	✔
HS-LS2-2. Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales.	✔	✔		✔	✔			✔	✔
HS-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.	✔	✔		✔	✔			✔	✔
HS-LS2-7. Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.*	✔	✔	✔	✔	✔	✔	✔	✔	✔
EARTH'S SYSTEMS **STUDENTS WHO DEMONSTRATE UNDERSTANDING CAN:**									
HS-ESS2-2. Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to other Earth's systems.	✔	✔	✔	✔	✔	✔	✔	✔	✔
HS-ESS2-4. Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes in climate.	✔	✔	✔	✔				✔	✔
HS-ESS2-6. Develop a quantitative model to describe the cycling of carbon among the hydrosphere, atmosphere, geosphere, and biosphere.	✔	✔		✔		✔		✔	

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EARTH AND HUMAN ACTIVITY **STUDENTS WHO DEMONSTRATE UNDERSTANDING CAN:**									
HS-ESS3-1. Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.	✔	✔	✔	✔	✔	✔	✔	✔	✔
HS-ESS3-2. Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.					✔	✔	✔		
HS-ESS3-3. Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity.	✔	✔		✔	✔	✔	✔	✔	✔
HS-ESS3-4. Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.	✔					✔	✔		
HS-ESS3-5. Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems.	✔	✔	✔		✔	✔		✔	
HS-ESS3-6. Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity.	✔	✔	✔	✔	✔	✔		✔	

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ENGINEERING DESIGN* **STUDENTS WHO DEMONSTRATE UNDERSTANDING CAN:**									
HS-ETS1-1. Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.									
HS-ETS1-2. Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.									
HS-ETS1-3. Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.									
HS-ETS1-4. Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem.									

Although the curriculum does not provide for engineering opportunities, each episode has the potential to inspire and motivate educators and students to solve problems around issues presented. Activities for high school engineering programs will be added at a later date.