



Next Generation Science Standards Curriculum Connections for Planet Protector Academy: *Zero Heroes*

The Planet Protector Academy: *Zero Heroes* provides highly engaging learning activities that empower students to make a difference in the world and introduce students to topics and concepts that correspond to the national Next Generation Science Standards. The resource is designed to introduce and engage students with a wide variety of topics within the 6x1hr pre-planned lessons - quiz games activate student thinking while the group activities and at-home missions engage them in environmental problem-solving.

Feedback

If you have any feedback or suggestions, please don't hesitate to get in touch with us at support@planetprotectoracademy.com.

We hope you enjoy using *Zero Heroes* in your classroom!

GRADE 3

Content: V = video content

G = game show

A = Activity

M = At-Home Mission

Curriculum Expectations	Levels					
	1	2	3	4	5	6
GRADE 3 SCIENCE (2013)						
Life Sciences 4.C Adaptation For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all.						A
Life Sciences 4.D Biodiversity and Humans Populations live in a variety of habitats, and change in those habitats affects the organisms living there	V G	V G	V G	V		V G
Engineering, Technology and Applications of Science 1.A: Defining and Delimiting an Engineering Problem: Asking questions, making observations, and gathering information are helpful in thinking about problems						A
Engineering, Technology and Applications of Science 1.B: Developing Possible Solutions: Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.						A
(Practices) Planning and carrying out investigations	M	M	M	M	M	
(Practices) Using mathematics and computational thinking	M	A M	M	A M	M	
(Practices) Obtaining, evaluating, and communicating information	M	M	M	M	M	A
(Practices) Constructing explanations (for science) and designing solutions (for engineering)						A
(Crosscutting) Cause and effect: Mechanism and explanation. Events have causes, sometimes simple, sometimes multifaceted.	G V	V	V	V G	V G	V G
(Crosscutting) Energy and matter: Flows, cycles, and conservation.	G V	V	V	V G	V G	V G
(Crosscutting) Structure and Function						A
(Crosscutting) Stability and change	G V	V	V	V G	V G	V G
(Crosscutting) Interdependence of Science, Engineering, and Technology. Scientific discoveries about the natural world can often lead to new and improved technologies, which are developed through the engineering design process.						A

GRADE 4

Content: V = video content

G = game show

A = Activity

M = At-Home Mission

Curriculum Expectations	Levels					
	1	2	3	4	5	6
GRADE 4 SCIENCE (2013)						
Earth and Space Sciences 3.A: Natural Resources: Living things need water, air, and resources from the land, and they live in places that have the things they need. Humans use natural resources for everything they do	G			V G		V G A
Engineering, Technology and Applications of Science 1.A: Defining and Delimiting an Engineering Problem: Asking questions, making observations, and gathering information are helpful in thinking about problems						A
Engineering, Technology and Applications of Science 1.B: Developing Possible Solutions: Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.						A
(Practices) Obtaining, evaluating, and communicating information	M	M	M	M	M	A
(Practices) Planning and carrying out investigations	M	M	M	M	M	
(Practices) Using mathematics and computational thinking	M	A M	M	A M	M	
(Practices) Constructing explanations (for science) and designing solutions (for engineering)						A
(Crosscutting) Cause and effect: Mechanism and explanation. Events have causes, sometimes simple, sometimes multifaceted.	G V	V	V	V G	V G	V G
(Crosscutting) Stability and change: For natural and built systems alike, conditions of stability and determinants of rates of change or evolution of a system are critical elements of study	G V	V	V	V G	V G	V G
(Crosscutting) Interdependence of Science, Engineering, and Technology: Scientific discoveries about the natural world can often lead to new and improved technologies, which are developed through the engineering design process.						A

GRADE 5

Content: V = video content

G = game show

A = Activity

M = At-Home Mission

Curriculum Expectations	Levels					
	1	2	3	4	5	6
GRADE 5 SCIENCE (2013)						
Life Sciences 2.A: Interdependent Relationships in Ecosystems Some organisms, such as fungi and bacteria, break down dead organisms (both plants or plants parts and animals) and therefore operate as “decomposers.” Decomposition eventually restores (recycles) some materials back to the soil.			V G A M			
Life Sciences 2.B: Cycles of Matter and Energy Transfer in Ecosystems Matter cycles between the air and soil and among plants, animals, and microbes as these organisms live and die (composting)			V G A M			
Earth and Space Sciences 3.C: Human Impacts on Earth Systems: Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the environment and living things	G V M	V G A M	V G A M	V G A M	V G A M	V G A
Engineering, Technology and Applications of Science 1.A: Defining and Delimiting an Engineering Problem: Asking questions, making observations, and gathering information are helpful in thinking about problems						A
Engineering, Technology and Applications of Science 1.B: Developing Possible Solutions: Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.						A
(Practices) Obtaining, evaluating, and communicating information	M	M	M	M	M	A
(Practices) Asking questions (for science) and defining problems (for engineering)						A
(Practices) Planning and carrying out investigations	M	M	M	M	M	A
(Practices) Using mathematics and computational thinking	M	A M	M	A M	M	
(Practices) Constructing explanations (for science) and designing solutions (for engineering)						A
(Crosscutting) Stability and change: For natural and built systems alike, conditions of stability and determinants of rates of change or evolution of a system are critical elements of study	G V	V	V	V G	V G	V G
(Crosscutting) Cause and effect: Mechanism and explanation. Events have causes, sometimes simple, sometimes multifaceted.	G V	V	V	V G	V G	V G
(Crosscutting) Systems and system models: Defining the system under study—provides tools for understanding and testing ideas that are applicable throughout science and engineering	G V	V	V	V G	V G	V G
(Crosscutting) Energy and matter: Flows, cycles, and conservation. Tracking fluxes of energy and matter into, out of, and within systems helps one understand the systems’ possibilities and limitations	G V	V	V	V G	V G	V G
(Crosscutting) Interdependence of Science, Engineering, and Technology. Scientific discoveries about the natural world can often lead to new and improved technologies, which are developed through the engineering design process.						A