

Syllabus Details

Lesson 1: Meet the Zorbians - Construct an explanation, based on evidence, describing how genetic variation in traits in a population increases the likelihood that some individuals will survive and reproduce

Lesson 2: Adaptation and Water Filtration - Construct an argument, supported by empirical evidence, that changes in physical or biological components of an ecosystem have an effect on populations

Lesson 3: What is Life/Astrobiology - Students use aerospace principles to construct a rocket

Lesson 4: Ecosystems - Develop a model to describe how matter cycles and energy flows among the living and nonliving parts of an ecosystem

Lesson 5: Biodiversity, Food Webs, Homeostasis -Construct an explanation that predicts patterns of interactions among organisms in different ecosystems

Lesson 6: Biogeochemical Cycles - Develop a model to describe the cycling of matter and the flow of energy among the living and nonliving parts of an ecosystem

Lesson 7: Symbiosis - Construct an explanation that predicts the patterns of interactions among organisms in a variety of ecosystems

Lesson 8: Levels of Organization - Conduct an investigation to provide evidence that living things are made of cells. They can be either one cell or many different numbers and types of cells

Lesson 9: Biomolecules - Conduct an investigation to demonstrate that living things are made of molecules

Lesson 10: Wrap Up

Program Structure (2hrs)

15 Min Exploration of minorities and

women in STEM

45 Min Experimentation

15 Min Discussion

30 Min Follow up experimentation and

demonstration

15 Min Presentation (SEL) and wrap up

NJ Science Standards

MS-LS1 From Molecules to Organisms: Structures and Processes

MS-LS2 Ecosystems: Interactions, Energy, and Dynamics

MS-LS3 Genetics: Trait Inheritance and Variation

MS-LS4 Biological Evolution: Unity and Diversity

MS-ESS1 Place of the Earth in the Universe

MS-ESS3 Earth and Human Activity

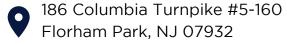
MS-PS2 Motion and Stability

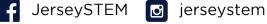
MS-ETS1 Engineering Design

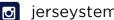
Let's Talk!



company/jerseystem











12-20 Students



Suggested Curricular-Aligned Field Trip



Industry Speaker