



# JERSEYSTEM

## LAB 101: Intro to Biology

SCAN HERE  
Learn more about  
our programs!



### 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!

 [jerseystem.org/contact-us](http://jerseystem.org/contact-us)

 [company/jerseystem](https://www.linkedin.com/company/jerseystem)

 186 Columbia Turnpike #5-160  
Florham Park, NJ 07932

 JerseySTEM  [jerseystem](https://www.instagram.com/jerseystem)



**12-20 Students**



**Suggested Curricular-Aligned Field Trip**



**Industry Speaker**