

# Green Ninja

## A Middle School Science Curriculum



The creators of Green Ninja bring you an NGSS-aligned science curriculum that helps engage students around creating solutions that make the planet cleaner and healthier.

### WHAT IS INCLUDED?

Green Ninja's comprehensive middle school science curriculum helps students use life science, physical science, earth science and engineering design topics to create a cleaner and healthier world. It provides engaging hands-on activities based on the latest academic research regarding student motivation. Student projects build fundamental science and engineering skills that foster the connection between home, school and their community.

The Green Ninja character appears in films and games throughout the curriculum, and becomes a trusted science resource for students and their teachers.

Unique aspects of the curriculum include the use of story and filmmaking to demonstrate how science is relevant to improving our world, and developing technology skills that help students solve real-world problems.

The middle school science curriculum was designed from the ground up using the integrated model of the NGSS. In 2017, Green Ninja curriculum was recommended by NSTA.

(<http://www.nsta.org/recommends/ViewProduct.aspx?ProductID=23495>)



### TEAM

The Green Ninja team comes from San Jose State University and includes scientists, educators, and artists. Green Ninja partnerships include the National Science Foundation, NASA, the Bay Area Environmental STEM Institute, and local schools.



[www.greenninja.org](http://www.greenninja.org)

*We build science curriculum that inspires students to design a more sustainable world*



### PILOT NGSS CURRICULUM IN YOUR CLASS

Our materials are developed using the preferred NGSS integrated model. Embedded throughout each unit are hands on activities, games, and a culminating experience. If you are interested in piloting materials in your class during the school year, we are offering the following units below. Please contact us at [info@greenninja.org](mailto:info@greenninja.org).

#### GRADE 6

The grade 6 pilot offers six units designed around the theme of creating sustainable homes for people, plants and animals.

**Unit 1 Energy and Climate** Develop a model home using energy and heat transfer concepts

**Unit 2 Weather, Climate and Life** Use weather and climate data to design a method to protect an organism

**Unit 3 Energy Tracker** Create and test a home energy conservation plan using engineering design principles

**Unit 4 Reducing Pollution and Waste** Present a poster and carry out a plan to reduce waste and pollution

**Unit 5 Heating with the Sun** Use physical science concepts to better utilize the sun for heating and lighting

**Unit 6 Scientific Storytelling** Create a short film on a climate solution and submit to a film festival

#### GRADE 7

The grade 7 pilot offers six units designed around the theme of the Earth's resources and developing strategies and experiences to conserve these resources.

**Unit 1 Minerals** Dissect a phone to understand its lifecycle of precious metals and minerals

**Unit 2 Petroleum** Students create a film about their family's transportation conservation

**Unit 3 Soil** Develop a composting system and learn about the importance of growing food

**Unit 4 Food** Students prepare a meal for their family by understanding energy transfer

**Unit 5 Water** Design solutions to flooding and drought by learning about the water cycle

**Unit 6 Ecosystems** Write a letter to congress sharing plans on how to protect an ecosystem

#### GRADE 8

The grade 8 pilot offers six units designed around the theme of imagining and creating sustainable cities for the future.

**Unit 1 Exploring Early Earth** Create a model using geologic time scale to represent how the planet evolved

**Unit 2 Evolving Life on Earth** Develop stories about life on Earth through fossil records

**Unit 3 Earth Today** Create maps of human influence through satellites observations from space

**Unit 4 Humans and Life** Create case studies on human influence through evolution

**Unit 5 Future Transportation** Develop new methods of transportation to reduce human impact

**Unit 6 Future Energy** Collaborate to create a physical/electronic model of a sustainable city in the future