

Can Earth be saved...or is Mars our only hope?

Life on Earth is precious and precarious. Every day, more species go extinct as our world becomes more polluted. People are fighting to make a difference—but is it enough? Or should we look to the skies to save our species?

In this project, students learn about the importance of environmental protection, and about the wonders of Mars. They choose whether to support environmental protection or space exploration, and create a commercial to raise money for their cause.

Imagine if students all around the country learned to appreciate the value of our soil, and began looking to the heavens and dreaming of the future—what a wonderful world that would be!



Start with why

Lesson 1: Is Earth Doomed?

Students learn about the incredible nature of Earth's resources, as well as about the the most dangerous threats to life on our planet.

Lesson 2: Could Mars be Ours?

Explore Mars and investigate the possibility of colonizing it in the future. Is it really possible to engineer a sustainable colony on the red planet? **MATH ENGLISH LANGUAGE ARTS**



Think it through

Lesson 3: One Team, Two Team, Red Team, Blue Team

Are you the kind of person who is hopeful about our ability to protect what we have here on Earth? Or, do you feel the need to adventure out and colonize Mars? Students split into teams that will raise money either for environmental preservation or for space exploration. **SOCIAL EMOTIONAL LEARNING**

Lesson 4: Planning and Planting

If Team Red is going to colonize Mars, it will need to learn to grow crops in its soil. But can the Martian engineers really compete with the fertile soil of mother Earth? **SCIENCE**



Work it out

Lesson 5: Fertilize and Advertise

Team Red and Team Blue fertilize radishes to see if Martian soil can really be made hospitable for plants from Earth. Meanwhile, the two teams begin planning commercials that will help them raise money for their chosen cause. **SOCIAL STUDIES**

Lesson 6: Create That Commercial!

Teams work to script, perform, and record a commercial that emphasizes either the importance of protecting Earth's resources, or the need to explore and colonize Mars.

Lesson 7: Is Your Radish Goodish or Baddish?

Evaluate the results of your radish experiment and discuss what students believe, on the basis of incomplete information, about whether humans can grow crops on Mars. Then, explore how to communicate their scientific findings at the Mission Funding event!



Fix it up

Lesson 8: Revising your Advertising

Refining your work based on feedback is an incredibly important skill. As students watch and discuss the commercials, they offer constructive criticism and help each group craft a more powerful message.



Share your awesome

Lesson 9: Which Team Gets the Green?

Share your ads with an authentic audience and see which team can raise the most money for their cause. The best part is, by donating to two worthy causes, everybody wins!

Suggested project time: **9 hours**





Content Connections

Math

POWERS OF TEN

As your students study the distances between planets, help them understand the power of the powers of ten.

CCSS.MATH.CONTENT.5.NBT.A.2

English Language Arts

ANALYZING ARTICLES

Explore different perspectives on Mars by reading, analyzing, and comparing two different articles.

CCSS.ELA-LITERACY.RI.5.6

Science

INTERDEPENDENT RELATIONSHIPS IN ECOSYSTEMS

Expand student understanding of the richness of ecosystems by exploring the fungi, bacteria, and invertebrates that help make soil fertile. **NGSS 5-LS2-1**

Social Studies

GOVERNMENT FUNDING

How does the government fund its programs? Explore and discuss the three ways in which the government pays for the goods and services it provides. **NCSS**

D2.Eco.12.3-5

Social Emotional Learning

RELATIONSHIP SKILLS AND SOCIAL AWARENESS

Help your students collaborate effectively by exploring the contagious nature of moods. Then, discuss how to interject positivity to improve how well your groups function!

CASEL CORE COMPETENCIES

Not teaching these standards?

Blue Apple projects include content connections for grades K–8. Go to BlueAppleTeacher.org to learn more!



Project Plan & Supplies

Kit Supplies

- Martian Regolith
- Radish Seeds
- Hex Bug
- Red and Blue Paper

Online Resources

- Mars Introductory Slideshow
- “Spoiled Soil?” Experiment Plan
- How to Create a Convincing Commercial
- Dear Future Generations: Sorry (**YouTube 6:02**)
- The Difference Between Martian and Terrestrial Soil
- And so much more!



Real-world Connections

Bring the World to Your Students

- Lights, Camera, Action!
- Planterrific!
- Real NASA Know-How
- Skype a Scientist
- Tiny Farmers
- Worms Galore!

Bring Your Students to the World

- Space Tweets
- Your Students on TV!
- Teach the Teachers
- Be Talk-Show Worthy!
- Meet the Press



Collaboration Options

Interplanetary Pen Pals

Surprise a class anywhere in our nation by selecting one randomly and sending them the Interplanetary Pen Pals Introductory Letter. Include a note from each student in which they pretend to have already colonized Mars, talk about what life is like there, and discuss ways their colony allows them to survive and thrive so far from Earth.



Professional Development

Timely and Actionable Feedback

What are some ways I can provide timely and actionable feedback for my students?

Standards-Based Grading

What is standards-based grading and how can I try it?

This is just the beginning!

Go online to access the complete project.

- Clear **learning targets** and **step-by-step instructions**
- Dozens of links to **supporting resources**
- **Mini-lessons** aligned to content standards
- **Videos and contact information** from industry experts
- **Ideas to collaborate** with other classrooms
 - Practical, point-of-use **instructional strategies**
 - Access to a grade-specific **Project Coach**

