



National Inventors
Hall of Fame®
EDUCATION PROGRAMS



Spacecation™

OVERVIEW

Get ready for an out-of-this-world vacation to space! Children follow a fantastical itinerary filled with awesome astro-adventures that are rooted in real-world, cutting-edge space exploration science. Spacecationers engineer a personalized Spacepack, design a Spacecraft, and construct an Astro-Arm to use throughout their trip.

Spacecation[™] provides children with an interactive, hands-on exploration of space concepts inspired by many of the inventions from National Inventors Hall of Fame Inductees. Children experience microgravity with a spacetastic cooking challenge, erupt an ice volcano, and mine for rare metals, the ultimate payload. They end their trip by sharing their favorite excursion or activity, showcasing their Spacepack, and making a postcard to send to family and friends.

The Invention Project[®] program has provided interactives that contain music, digital posters, and/or videos. Access the interactive video and other supplemental resources at: ip.invent.org.

The materials needed for each session are provided. Please note, some materials may be used in multiple sessions. Prior to presenting this module, review the supplemental sections that follow: Spacecation Vocabulary and Instructor Background. Consider the following activity suggestions to enhance the Spacecation experience.

Writing:

- Have children write ideas for Spacepack designs.
- Have children write a postcard summarizing their space vacation.

Vocabulary Activity & Second Language Scaffolds:

- Explore literary devices, such as descriptive imagery with adjectives and sequences of events, while children write a postcard about their *Spacecation* experience.
- Have children sketch pictures of new vocabulary words. Use imagery to help define the word.

Cross-Curricular Connection:

- Engineering Design
- History
- Mathematics
- Science



SEL Scaffolds:

- Responsible Decision-Making:
 - Demonstrating curiosity and open-mindedness while exploring different moons on their spacecation.
 - Learning to make reasoned judgment after analyzing information, data, and facts.
 - Identifying solutions for personal and social problems.

Book List:

- Hackett, Chris and The Editors of Popular Science. *The Big Book of Maker Skills: Tools & Techniques for Building Great Tech Projects*, 2014.
 - A full-filled guide of DIY tips and tricks for projects ranging from cutting-edge electronics to basic woodworking.
- Connolly, Sean. *The Book of Massively Epic Engineering Disasters: 33 Thrilling Experiments Based on History's Greatest Blunders*, 2017.
 - Take an illustrated tour of some of the greatest engineering disasters in history



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VOCABULARY

Cryovolcano

Cryptobiosis

Data

Incubator

Itinerary

Microgravity

Microscopic

Radiate

Spacewalk

Summary

Ultraviolet

Water bear



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Spacecation: Session One

PLAN AHEAD

- Get comfortable with the curriculum and interactive format ahead of time. The interactive contains the videos, posters, and other elements that will be shared with participants during the *Spacecation* module.
- Make sample Spacepack straps using your materials. Watch the DIY Spacepack Tips video on in slide 11 for inspiration.

LET'S GO

Activity 1: Solar System Map and Itinerary (10–15 min)

In Activity 1, participants discover that they are going on a spacecation. They discuss tardigrades, review their itinerary, and share what they know about the solar system.

1

INTRODUCTION

- Welcome participants to *Spacecation*.
- Ask participants what they know about space.



Hello, everyone! I have some fabulous news. We are all in luck because we have been gifted a ticket that will take us somewhere truly out of this world! In fact, it is a galactic ticket for a one-of-a-kind trip beyond Earth's atmosphere! That's right, we are going on a spacecation! Who wants to share what you find interesting about space or what you want to know more about?



Spacecation: Slide 1

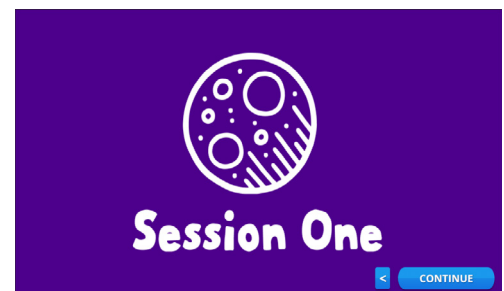
2

CONVERSATION

- Share it is time to get started.



Let's get started!



Spacecation: Slide 2