

Mission Innovation Challenge Archives

2025 - 2026 Mission: Carbon Capture System

Space Center Houston invites K–12 students to think like real-world innovators and tackle one of space exploration's most important challenges.

Through the **Mission Innovation Challenge**, students step into the role of engineers, scientists, and aerospace problem-solvers as they take on the **Spring 2026 Mission: Carbon Capture System**—researching real-world problems, imagining bold solutions, and communicating their ideas through a creative pitch.

This challenge empowers students to explore how innovative carbon capture concepts can support sustainable space exploration, while inspiring ideas that could one day help protect our planet here on Earth.

Spring 2026 Mission:
Carbon Capture System

Mission Brief

Long-duration space missions depend on clean, breathable air—and smart systems to manage carbon dioxide. Your mission is to **design a conceptual carbon capture system** that could operate in a space or a Lunar/Martian habitat, where resources are limited and every design decision matters.

Student teams will research the problem, imagine bold solutions, and communicate their ideas through a **pitch deck**, just like real engineers proposing ideas for future missions.

No prototype or testing is required.

This is a **conceptual design challenge**.

Space First, Earth Next

This is a space-focused challenge—but many space innovations go on to improve life on Earth. Teams may choose to briefly explain how their carbon capture concept could inspire real-world applications beyond space exploration.

Challenge Guides

[Challenge Guide – Elementary School](#)

[Challenge Guide – Middle/High School](#)