



Bring
SPACE into
Your
CLASSROOM



What technology is needed to grow plants on the Moon so astronauts can live there?

How would communities of humans survive in an extraterrestrial environment for an extended period of time?

Is it possible to create the food sources required by human physiology away from our home planet?

ENGINEERING DESIGN CHALLENGE

Capture the imagination of your students as NASA prepares for the historic first spaceflight of an Educator Astronaut.



Join NASA's Engineering Design Challenge to design, analyze, build, and assess plant growth chambers as part of a standards-based activity based on human spaceflight. Growth chambers much like the unique space plant chambers your students will design and build are part of the education payload on STS-118. The first Educator Astronaut, Barbara Morgan, and her fellow crewmates will take up two growth chambers along with 10 million cinnamon basil seeds. These seeds will be exposed to microgravity and brought back to Earth to be used in classrooms throughout the nation.

Visit our interactive Web site at www.nasa.gov/sts118 to download educational materials and sign up for Space Seeds to be used by your Fall 2007 class in the challenge.

**Grade-Banded
for K-4, 5-8,
and 9-12**

ENGINEERING DESIGN CHALLENGE

NASA and the International Technology Education Association (ITEA) present the NASA Engineering Design Challenge for Fall 2007. During the school year, students will design, analyze, build, and assess plant growth chambers in a standards-based grade-banded activity for elementary, middle, and high schools. Students will learn the basics of engineering and design, as well as how to conduct a scientific experiment.

There are three challenge tracks:

1. Design, build, and evaluate your own unique lunar plant growth chamber.
2. Design and evaluate your own lunar plant growth chamber.
3. Evaluate a pre-built growth chamber.

After your students build their own growth chambers, you will receive actual Space Seeds that you can use along with other Earth Seeds to test your design. Space Seeds are available on a limited basis to educators who register and complete the challenge with their classes. Visit www.nasa.gov/sts118 or www.nasa.gov/education/plantchallenge for more information and to register. Here you'll also find lesson guides, classroom extensions, teaching tips, assessment guidelines, and an educator career corner.

Sign up for our Express mailing list! You can receive updates on the Engineering Design Challenge and the many other exciting STS-118 Education activities NASA is offering, as well as on related NASA Education news and opportunities. Visit us at www.nasa.gov/education/express/.