

ACTIVITY 2

MARS BASE 1: ADAPT AND SURVIVE.



Mars Base 1 is Kennedy Space Center's new hands-on adventure for next-generation space explorers. When you sign up for Mars Base 1, you're part of a team managing the NASA Base Operations Center on Mars. You'll face the challenges of the Martian environment, program robots to optimize solar energy, and grow plants in the Botany Lab to provide real data for NASA research.

Get ready for Mars Base 1 by working with a small group of classmates to create a prototype botany lab. Use your choice of the materials provided to build a self-sustaining biome. Draw a sketch of your design in the space at right, then trade ideas with your classmates and build your botany lab. Test your design by placing your prototype in a sunny location. Then answer the questions below:

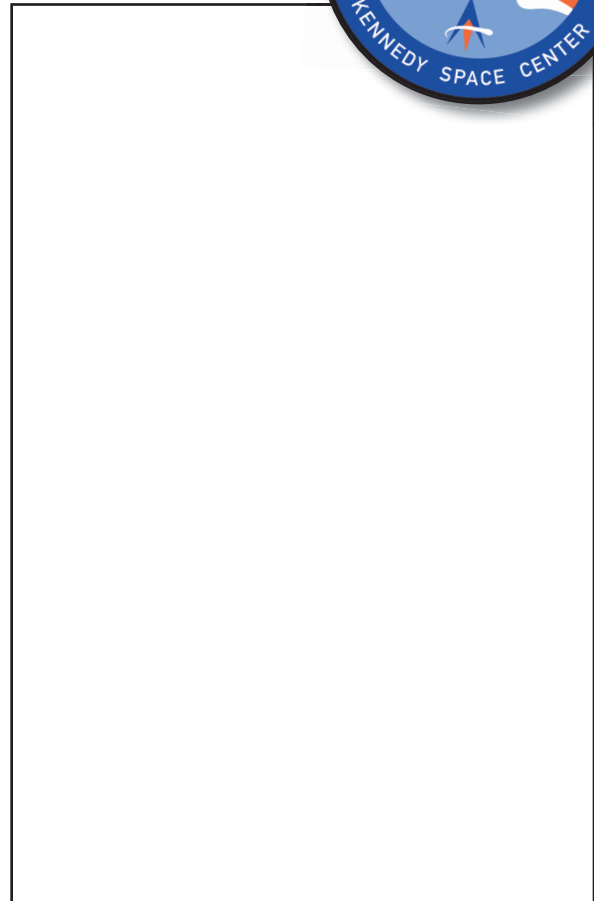
1. Why did you choose your design? _____

2. How will it work? _____

3. What was the most difficult part of your design to implement?

4. How did you solve that problem? _____

5. Observe your plants once a week, for several weeks, and record your observations below:
Week 1 _____
Week 2 _____
Week 3 _____



Mars has extreme hot and cold temperatures. How do you think NASA scientists will protect their Botany Lab from those temperatures? Try your own experiment. Work as a team to develop a way to protect your plants from cold, then place your prototype botany lab in a freezer for a few hours to see if your design worked. Next, develop a way to protect your botany bottle from heat, and place it under a heat lamp for a few hours. Record your results.

Cold _____

Heat _____

Now design a logo for your botany lab and give an oral presentation that includes information on how your lab would be a vital part of a Mars colony. Sketch your logo on the back of this sheet.



Continue your adventure! Travel to Mars to live and work for the day at Kennedy Space Center's Mars Base 1. Set in a landscape of the future, Rookie Astronaut teams have the unique opportunity to manage the Base Operations Center on Mars, grow and harvest plants in the Botany Lab, program robots to optimize solar energy, and adapt to the challenges of living in the Martian environment! For details, visit KennedySpaceCenter.com/atx