

BETTER LIVING THROUGH SPACE

★ **Grade Level: K-12**

★ **Focus Area: Science, Engineering, Technology**

★ **Time: 30-45 Minutes**

ACTIVITY INTRODUCTION

Gain insight into how space technology has impacted their daily lives, recognizing familiar products and concepts that originated from space research. This activity encourages critical thinking about how innovation and problem-solving in space can have practical applications on Earth.

BACKGROUND INFORMATION

The influence of space technology on our daily lives extends beyond our atmosphere, impacting various aspects of our world. Many products and technologies initially developed for space exploration have found their way into our homes and industries. In this activity, you will explore how space-inspired innovations have improved our everyday living on Earth.

STUDENT REAL-LIFE CONNECTIONS

- ✦ How have products like Tang, Teflon, and Velcro, which were initially developed or popularized through space missions, become integral parts of our everyday lives?
- ✦ What impact has hydroponic farming, originally designed for extraterrestrial environments, had on Earth-based agriculture and food production?
- ✦ In what ways has satellite technology transformed global communication and navigation, making our world more interconnected?

ACTIVITY OBJECTIVES

- ✦ Understand how space technology has contributed to innovations that enhance daily life on Earth.
- ✦ Discover specific examples of products and technologies developed for space that are now used in various industries.
- ✦ Recognize the interconnectedness of space exploration and the advancement of technology on Earth.

MATERIALS

- Aluminum foil
- Plastic bags
- Cotton balls
- Drinking straws
- Tape (e.g., masking tape, clear tape)
- Popsicle sticks
- Paper
- Scissors (1)

*There is no specific amount required for each supply. Participants just need a wide array of materials to facilitate their junk engineering project.

ACTIVITY DIRECTIONS

1. Introduction

- ✦ Depending on the age group, discuss the concept of how space technology influences everyday life on Earth.
- ✦ Highlight examples such as satellite communication, scratch-resistant lenses, and memory foam.

2. Exploration

- ✦ Present various materials to participants and briefly mention their relevance to space technology.
- ✦ Ask them to brainstorm how these materials could be used to create innovative solutions for common Earth-based challenges.

3. Design & Build

- ✦ Challenge participants to select one material from the provided list and design an innovation that addresses a specific problem.
- ✦ For example, they could design a more efficient kitchen tool, a sustainable packaging solution, or a fun educational game.

4. Construction

- ✦ Provide time for participants to construct their space-inspired innovation using the chosen materials. Encourage creativity and experimentation.

5. Presentation & Discussion

- ✦ Have participants present their creations to the group, explaining how their innovation solves a real-world problem. Facilitate a discussion on how their ideas could be adapted for practical use.