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Theme B: Day 9 Plan

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THEME B

Becoming a Spacewalker: My Journey to the Stars by Astronaut Jerry L. Ross

DAY NINE STEM EXTENSION TO ACCOMPANY DAY NINE SHARED READING OF *LIFE IN ZERO GRAVITY*

To Ponder: *Life in Zero Gravity* can be compared to going camping here on earth. You need to pack your clothes and food ahead of time. I wonder what it would be like to pack food for one person and spend one day in space. What if you had to plan three meals (breakfast, lunch, and dinner) for space? What would you pack knowing what you know now?

SCIENCE/TECHNOLOGY/ENGINEERING/MATHEMATICS (STEM) ACTIVITIES:

STEM Activity: Give the students an opportunity to “think like a chef on a budget” and develop one menu to feed one person in space. The food tray on page 27 illustrates possible food choices, portions, and packaging ideas.

Vocabulary: portable, magnetized, galley, cramped, resistance, zero gravity, treadmill

Goal: To design a “needs vs. want” menu for one person who will be spending one day in space and calculate the cost/meal/day.

Purpose of Science Activity: To develop students’ “need vs. want” skills in planning a one-day menu, including breakfast, lunch, and dinner for one astronaut

Materials: paper, pencil, page 27 in text, computer, Internet, food pictures, technology assistance, calculator, space menu lab: “need vs. want”

Link: Jerry Ross compared traveling up in space to going on a camping trip. Food is extremely important whenever or wherever you travel. Let’s see what kind of menu you can create when it comes to nutrition and survival in a hostile environment. I wonder what the menus and their cost will look like.

Set the Stage: View the following video (2:26) prior to discussion
Eating Food in Space (Chris Hadfield’s Kitchen)

<http://www.sciencekids.co.nz/videos/astronauts/eatingfoodinspace.html>

Before Activity:

- Activate prior knowledge: What is a need? What is a want?
- Prompts to encourage prediction: We know that food is important to our survival. What about food for the astronauts as they travel up in space?
- Draw on personal experience: Have you ever prepared a shopping list and bought groceries at the grocery store? Why is the list important?
- Draw or write predictions in science notebook: After viewing short video, model for students how to make a plan, create a list of food, and how to find out what food costs.

During Activity:

1. Educator models what a grocery list could look like. Brainstorm what kinds of food would be on a "need" list and a "want" list.
2. Keep in mind that the food is going up in space. Refer to pages 27–28 in the book for guidance and the "Eating Food in Space" video.
3. Discuss with students and compose a list of breakfast, lunch, and dinner foods.
4. Help students narrow down their choices. Utilizing prior knowledge from text, help students remember what kinds of food are appropriate for human consumption in space.
5. Focus on food packaging and space available.
6. Utilize T chart again. This time with three columns (breakfast, lunch, dinner).
7. Students can list food choices for each meal, leaving enough space to also list the cost.
8. To locate prices, educator can go to the Internet and type in Kroger, Target, or Walmart.
9. <http://krogersouthwest.mywebgrocer.com/>
10. The website requests a zip code. This gives you the most appropriate prices for your geographic location. Click on "Weekly Ad." The Kroger site offers at least two ways to check prices: Click on (1) "Weekly Ad" or (2) "Seasonal Low Prices"
11. Click on "Weekly Ad" and scan for items on your list. You can also go to "What are you looking for today?" at the very top of the screen and type in specific food items (prices are also provided).
12. Other websites to visit: Target.com; Walmart.com—click on Grocery, Household & Pets—Breakfast foods are nicely organized with pictures and prices, and they are easier to navigate.
13. Brainstorm and problem solve to find the approximate cost of your food item. Remember that the portion size is for one.
14. At this point, you can continue to plan together, in groups or alone. Students can make a word list, sketch their ideas, print out pictures, cut/paste from the computer or create their own. Have fun exploring "need vs. want."
15. Display final copy and present to class.

Space Menu Lab: "Need vs. Want"

<u>Breakfast</u>	<u>Lunch</u>	<u>Dinner</u>
Item Cost:	Item Cost:	Item Cost:
1.	1.	1.
2.	2.	2.
3.	3.	3.
4.	4.	4.
5.	5.	5.
6.	6.	6.
Breakfast Total: \$ _____	Lunch Total: \$ _____	Dinner Total: \$ _____
Grand Total for all 3 Meals \$ _____		

After Activity: What does your evidence show?

- *The menu shows that* _____.
- *My conclusions about “need vs. want” and the menu are* _____.
- *Reflections: My reflections about the planning, researching and cost of meals for one day in space are* _____.

Resources:

Kroger

<https://www.kroger.com/>

Target

<http://www.target.com/>

Walmart

<http://www.walmart.com/>