KENNEDY SPACE CENTER VISITOR COMPLEX

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WHERE THE MOST AMAZING THINGS ON EARTH LEAVE EARTH. LOOK UP.

Space Nutrition

NAME: _____

One challenge NASA scientists face is providing a balanced, nutritious diet for astronauts. Crews on the International Space Station or even as far away as the Moon can be resupplied with food from Earth. When traveling to another planet, however, a crew must either pack enough food for the entire mission or find a way to produce food. With our current technology, it takes about six months to get to Mars and we will stay there for several months. How much food needs to be packed for such a trip?

1. Calculate how much food you eat per day. Keep a record of *everything* you eat for one day and use that to calculate your total grams of food per day. (Don't include water, just food.) *HINT: Look at food labels to figure out how many grams are in a serving and what the serving size is.* _____ grams/day

2. Multiply this by the number of crew members (4) and the number of days (180) to get the total weight of food needed for a one-way trip to Mars. _____ grams

3. According to the book "Space Nutrition," 50-60% of your calories should come from carbohydrates, 30% from fats and 10-15% from proteins. Look back at the list of foods you ate in one day and calculate the number of grams of each type of food in your diet.

  Carbohydrates (c) = _____g   **Fats (f) =** _____g   **Proteins (p) =** _____g

4. Now calculate the total number of calories from each type of food. Proteins and carbohydrates provide 4 calories per gram of food. Fats provide 9 calories/gram.

  c = _____calories f = _____calories p = _____calories

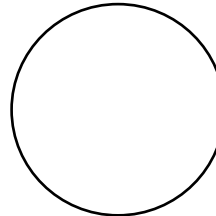 What were your **total (t)** calories for the day? t = _____calories

5. Use the number values above to complete the equations below and calculate the percentage of each type of food calories in your diet. Then color in the pie chart and the key.

$c \div t$ X $100 =$ _____% carbohydrates

$f \div t$ X $100 =$ _____% fats

$p \div t$ X $100 =$ _____% proteins

KEY

☐ carbohydrates

☐ fats

☐ proteins

Based on this data, what are some changes you could make in your diet?

_____

_____

_____

6. Label each of the foods below as a good source of carbohydrates (**C**), fats (**F**) or proteins (**P**). Some foods contain more than one kind of calories. *Hint: Look at food labels to help you decide*.

_____ apple   _____ bread   _____ cheese

_____ eggs   _____ butter   _____ fish

_____ rice   _____ chicken   _____ pasta

_____ beans   _____ carrots   _____ whole milk

BONUS: Play the game "Space Lunch," at NASA Kids Club.
https://www.nasa.gov/kidsclub/flash/clubhouse/Space_Lunch.html