LESSON FOUR | ACTIVITY 4.2 | Grade Levels K–2

Lunch Box Detective

OBJECTIVE

Students will learn how to create a frequency of occurrence graph using food from student lunch bags.

TIME REQUIRED

15 minutes

BACKGROUND

In this activity, students use lunches (either actual or created with paper images) to categorize and graph the contents. The activity prompts them to think about what kind of information they can obtain by looking at lunches much like a scientist would obtain by looking at fur seal scats.

MATERIALS

- Sack lunches
- Plastic bags
- Multi-colored Post-It notes (small)

PROCEDURES

GRADE LEVEL K-2

- Ask students to bring in a sack lunch the following day or make up your own sack lunches with plastic bags and the images provided below.
- Looking at what is inside the students' lunches is similar to looking at the fur seal scats.

Make a prediction chart.

1. Draw an X and Y-axis on a white board or poster paper.
2. Have the students predict the contents of the lunches.
3. Create four to six categories for lunch items. Examples: sandwiches, fruit, vegetables, sweets, drink, other.
4. Without looking at the lunches, ask students to raise their hand if they think an item is going to be in their lunch. Plot the data.

Analyze and plot the lunch data.

1. Create categories on the X-axis for lunch items using the categories the class chose.
2. Have each student empty his/her lunch bag on his/her desk.
3. Categorize the lunch items into groups; for example: fruit, sandwich, vegetable, sweets...
4. Make a bar chart of the lunch items.
    a. For each lunch item ask students to raise their hands if the item is in their lunch.
    b. Count the number of lunches with the item. Note: students may have more than one item from a category; only record the presence of an item ,not the number of items in each lunch. You are trying to figure out how many lunches contain items from a category not the number of times the item occurs.

Compare the predictions to the actual results.

NOTE: If you have Post-It pads of different colors, you can use the colors to represent the food categories and have each student put up one Post-it note for each type of food in their lunch, creating a bar graph on the board.

Example:

green = vegetable
red = fruit
purple = sweet
yellow = sandwich

The students use the Post-It notes to plot their data on the classroom bar chart.

DISCUSSION

- How close was your prediction to the actual data?
- What information can you gather from looking at lunches like this?
- What items are the most frequently found (e.g. most lunches had a sandwich)
- What was the least frequently found item?
- Think about how this activity might be different if you wanted to see what an animal eats.

EXTENSION

Within a category, have students graph the different items to see how frequently they were found (e.g. apples, pears, oranges within the "fruit" category).

ACTIVITY 4.2 EXAMPLE Lunch Box Detective

LUNCH #1
sandwich
apple
orange
cookie

LUNCH #2
sandwich
sandwich
carrots
celery
radishes

LUNCH #3
sandwich
carrots
broccoli
apple

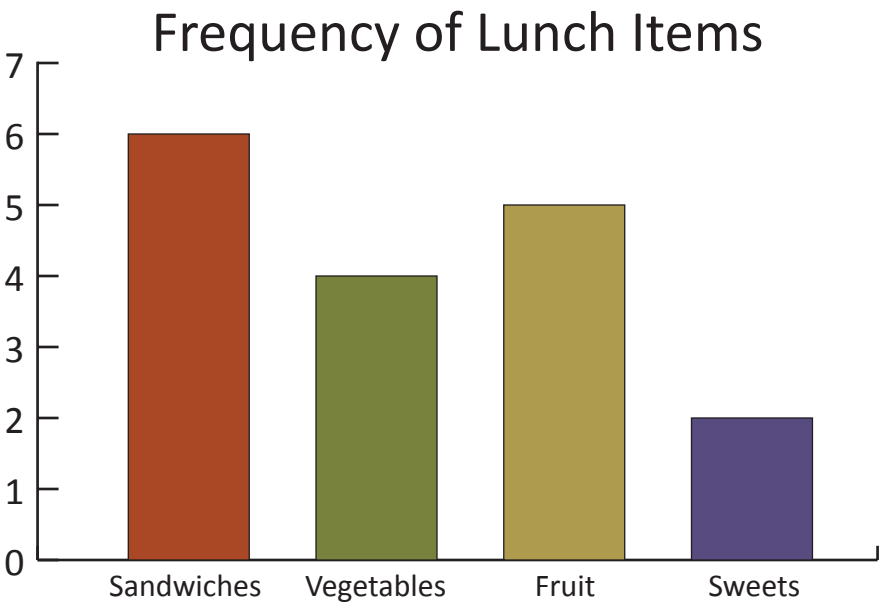
LUNCH #4
sandwich
pear
orange

LUNCH #5
sandwich
sandwich
carrots

LUNCH #6
sandwich
mango
candy

LUNCH #7
celery
carrots
apple

Total # of Lunches	**7**
Lunch Item	# of lunches with item
Sandwiches	6
Vegetables	4
Fruit	5
Sweets	2



ACTIVITY 4.2 LUNCH IMAGES

Lunch Box Detective

 JUICE	 JUICE	 JUICE	 JUICE	 JUICE	 JUICE
 COOKIE	 COOKIE	 COOKIE	 COOKIE	 COOKIE	 COOKIE
 CARROT	 CARROT	 CARROT	 CARROT	 CARROT	 CARROT
 PEAR	 PEAR	 PEAR	 PEAR	 PEAR	 PEAR
 APPLE	 APPLE	 APPLE	 APPLE	 APPLE	 APPLE
 ORANGE	 ORANGE	 ORANGE	 ORANGE	 ORANGE	 ORANGE

ACTIVITY 4.2 LUNCH IMAGES

Lunch Box Detective

 BANANA	 BANANA	 BANANA	 BANANA	 BANANA	 BANANA
 SANDWICH	 SANDWICH	 SANDWICH	 SANDWICH	 SANDWICH	 SANDWICH
 SANDWICH	 SANDWICH	 SANDWICH	 SANDWICH	 SANDWICH	 SANDWICH
 HOT DOG	 HOT DOG	 HOT DOG	 MILK	 MILK	 MILK
 MILK	 MILK	 MILK	 MILK	 MILK	 MILK
 WATER	 WATER	 WATER	 WATER	 WATER	 WATER