

Group Activity: Elementary Epidemiology

Objective: Identify the food causing the outbreak

Instructions: Each group has a given number of papers as your sample population. Based off of symptoms (3) and incubation period, determine the case and controls. Use the information to answer the remaining questions.

Incubation Period: 24-72 hrs. after eating the food

Symptoms: (must have at least 3)

- Fever
- Diarrhea
- Stomach Pain
- Vomiting

Identify:

1. **If the sample is the set of data, what is the population in this activity?**

Bonny Kate Students who ate school lunch on Monday

2. **How many are in the sample?** *50 students*

3. **How many controls?** *28 students*

4. **How many cases?** *22 students*

5. **Calculate incident rate** *22/50*

5a. **Can you reduce the fraction?** *22/50 is reduced by a factor of 2. Reduced fraction is 11/25*

6. **Based off your initial work with the data, can you make a prediction about which food is the culprit?** *There is not a correct answer to this one. It is their prediction.*

7. **Calculate attack rate by food. Reduce the fractions if possible.**

Chicken Nuggets:

Controls = 13, Cases = 6

Attack Rate = 6/19

Spaghetti with Meat Sauce:

Controls = 7, Cases = 16

Attack Rate = 16/23

Side Salad:

Controls = 15, Cases = 9

Attack Rate = 9/24, reduced = 3/8

Peanut Butter and Jelly:

Controls = 10, Cases = 4

Attack Rate = 4/14, reduced = 2/7

Corn:

Controls = 11, Cases = 8

Attack Rate = 8/19

Green Beans:

Controls = 17, Cases = 9

Attack Rate = 9/26

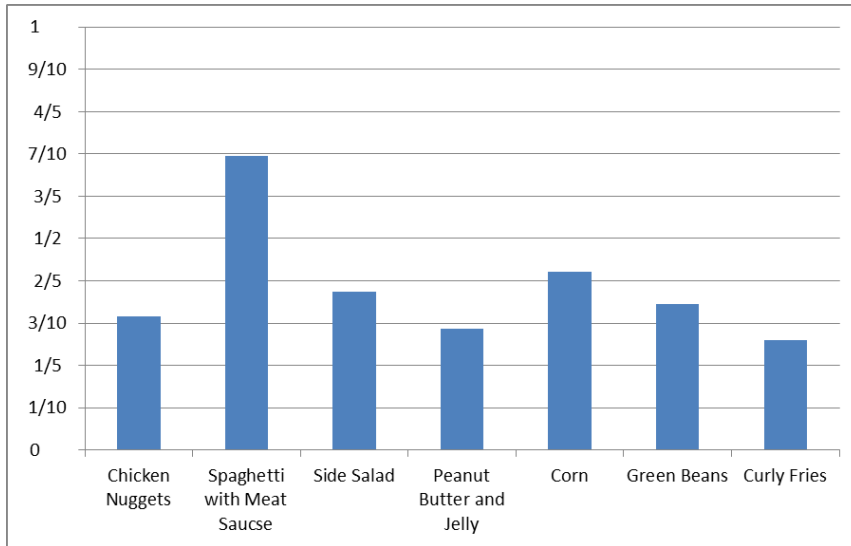
Curly Fries:

Controls = 17, Cases = 6

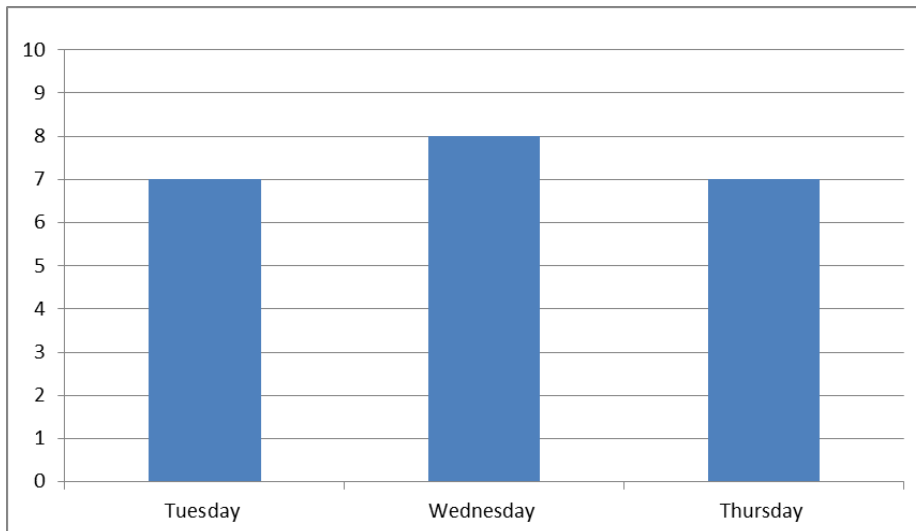
Attack Rate = 6/23

8. What food caused the outbreak? Explain why you how you identified the food.
Spaghetti with Meat Sauce causes the outbreak because the attach rate is greater than the other foods.

9. Can you graph the results?



10. Can you graph how many people became sick on each day?



11. As the epidemiologist, how would you communicate the results?
This could be anything from a social media campaign, a new article, or a letter to the parents. The most effective public health campaigns combine more than one level of communication.
