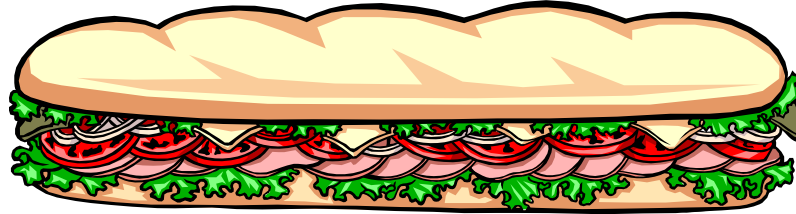


Student Activity Worksheet

Jody's Submarine Sandwich - Lesson 4



Directions:

As you read through the story on your activity sheet, note any possible food safety problems.

It was 12 o'clock noon on a hot summer day when Jody's father took her to the local submarine sandwich shop for lunch. Jody was only able to finish half of her turkey, cheese, tomato and lettuce sandwich while at the shop. She took the rest of it with her to eat later. On the way home she was thinking about all the chores that she had to finish before she could go to the movies that evening. In a rush, she left the sandwich in her father's car and ran into the house. It was 1:30 by the time Jody entered the house.

Jody was just getting started on her chores when her friends called. By the time they finished talking about the movie they were going to see, and the clothes they were going to wear, an hour had already passed.

At 3:00 p.m., Jody finally started her chores. She had to clean her room, feed the dog, and take out the garbage. It was 6:00 p.m. before she finished. Jody then showered and got dressed for her big night out. By this time it was 7:00 p.m. and Jody was getting hungry. She remembered that her sandwich was still in the car. She ran out to the car and brought the sandwich inside. The sandwich was a little warm and the lettuce was a little wilted, but otherwise the sandwich looked fine. Jody quickly ate the sandwich and left the house to meet her friends for the movie.

Answer the following questions:

1. Do you think the sandwich was safe to eat?
If not, why?
2. How might Jody feel during the next day or two?

3. If there were 5 bacteria in the sandwich when it was made, and if the bacteria doubled in numbers every 20 minutes, how many bacteria would there have been in the sandwich by the time Jody ate it at 7:00?

Complete the following chart:

Time of Day	Number of Bacteria
12:00 noon	5
12:30 p.m.	10
12:40 p.m.	20
1:00 p.m.	40
1:20 p.m.	
1:40 p.m.	
2:00 p.m.	
2:20 p.m.	
2:40 p.m.	
3:00 p.m.	
3:20 p.m.	
3:40 p.m.	
4:00 p.m.	
4:20 p.m.	
4:40 p.m.	
5:00 p.m.	
5:20 p.m.	
5:40 p.m.	
6:00 p.m.	
6:20 p.m.	
6:40 p.m.	
7:00 p.m.	

4. How many bacteria did Jody ingest when she ate her sandwich?



Jody's Submarine Sandwich Key

1. Do you think the sandwich was safe to eat? **No**
2. If not, why? **The turkey and cheese are risky foods. The sandwich should have been refrigerated as soon as Jody got home.**
3. How might Jody feel during the next day or two? **Jody could be sick with vomiting, diarrhea, and nausea.**
4. If there were 5 bacteria in the sandwich when it was made, and if the bacteria doubled in numbers every 20 minutes, how many bacteria would there have been in the sandwich by the time Jody ate it at 7:00? Complete the following chart:

Time of Day	Number of Bacteria
12:00 noon	5
12:30 p.m.	10
12:40 p.m.	20
1:00 p.m.	40
1:20 p.m.	80
1:40 p.m.	160
2:00 p.m.	320
2:20 p.m.	640
2:40 p.m.	1280
3:00 p.m.	2560
3:20 p.m.	5120
3:40 p.m.	10,240
4:00 p.m.	20,480
4:20 p.m.	40,960

4:40 p.m.	20
5:00 p.m.	40
5:20 p.m.	80
5:40 p.m.	160
6:00 p.m.	320
6:20 p.m.	640
6:40 p.m.	1280
7:00 p.m.	2560

5. How many bacteria did Jody ingest when she ate her sandwich?

10,485,760 – Over 10 million!