Microbial Math worksheet

Bob dropped two sticky, gooey donuts on the floor of his kitchen. Quickly bending to pick them up, he replaced one in the box and picked the less smushed of the two to take along with him as he dashed to catch his ride for school at 7:30 am.

Bob was, of course, eating not only the donut but also many bacteria and other particles the donut picked up from the kitchen floor. Luckily for Bob, his immune system was strong, the kitchen floor had been mopped recently, and the pathogens he ingested did not end up causing him any illness.

But what about the donut he put back in the box? What threat does that donut pose to his family?

While on the floor, the donut picked up five *Staphylococcus* bacteria. The bacteria stayed on the donut and settled into the box, where they decided to become comfortable with their new environment (the donut). For approximately ten hours, the bacteria didn't grow or move - then the explosion began. For the next several hours, until Bob needed an evening snack, the Staph bacteria doubled every thirty minutes.

Beginning at 5:30 pm the bacteria were doubling every thirty minutes, and by 8:00 pm Bob was hungry for an evening snack. How many bacteria did Bob eat? Complete the following math problem to find out.

| 6:00pm | bacteria × 2 = |
|--------|----------------|
| 6:30pm | bacteria × 2 = |
| 7:00pm | bacteria × 2 = |
| 7:30pm | bacteria × 2 = |
| 8:00pm | bacteria × 2 = |

Graph the growth of the bacteria on the donut from the time Bob dropped it until he ate it. :)



Microbial Math worksheet Continued

Elapsed Time in Hours

Total Bacteria