

TRS 92: Skeeters

A new life form has been found called Skeeters. These Skeeters have few natural enemies (except for people who mistake them for Skittles...) They reproduce asexually (that is, by themselves), and reproduction is triggered when the lettered side of a Skeeter is exposed to light each day.

To determine your population each day, start with 2 Skeeters and toss them into your box. Count the number of Skeeters that land with the ‘S’ face up. Add this number to the amount of Skeeters you just rolled. This is your new population. Continue this process for 8 days.

Day (# of rolls)	Population
0	2
1	
2	
3	
4	
5	
6	
7	
8	

Enter your data into the Graph program.

- Select Function from the tool bar.
- Select Insert Point Series. Enter data and click OK.
- Double click on Axes (on left side of screen) to edit the axes. Start with this window: x-minimum: -2 and y-minimum: -10, and adjust as required by your data.

1. Based on your graph, how many Skeeters do you think there will be on Day 20?

Create an exponential function that you think might model this data (estimate a growth rate).

Test your hypothesis by graphing the function on the computer:

- Select Function from the tool bar.
- Select Insert Function. Enter your equation in the box labeled “Function equation”
 $f(x) = \underline{\hspace{10em}}$.
- Click OK.

Keep adjusting your equation until you have a function that is a good fit for the data. Record the first function you try and the one you will use as your model.

2. First function: _____ Model function: _____

3. What is the rate of growth based on your model?

4. Use a calculator: How many Skeeters will there be on day 20 based on your model?
5. Use a calculator: Use guess and check to find how long it will take for the population of Skeeters to reach 2000.