

Name _____ Date _____ Period _____

POPULATION DYNAMICS

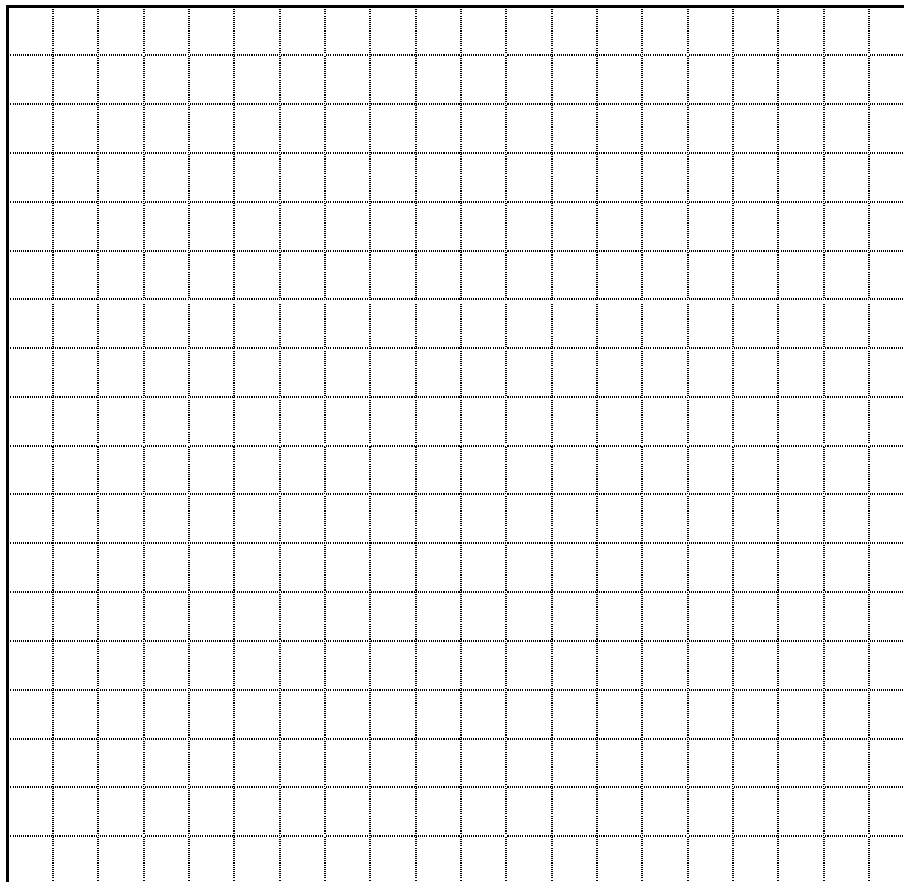
DIRECTIONS:

A population of yeast cells are growing in the laboratory. Graph the following data:

MINUTES	YEAST	MINUTES	YEAST	MINUTES	YEAST
0	4	210	440	420	7500
30	7	240	990	450	7700
60	14	270	1880	480	7750
90	28	300	3760	510	7800
120	55	330	5400	540	7840
150	110	360	6500	570	7870
180	220	390	7200	600	7880

NOTE: Your graph should include all of these items:
(1) X-AXIS LABEL & UNITS, (2) Y-AXIS LABEL & UNITS, (3) TITLE.

_____ (title)



1. Describe the shape of this growth curve.
2. What happens to the curve as the number of minutes reaches a maximum?
3. Why do you think this happens?
4. Name five things for which organisms compete.
5. Use the following terms to develop a reasonably coherent sentence (or two):
POPULATION, YEAST, COMPETITION, NUTRIENTS, GROWTH CURVE, MAXIMUM.
6. The following math equation allows scientists to predict changes in a population:

$$\text{TOTAL CHANGE} = (B - D) + (I - E)$$

* B = # of Births

* D = # of Deaths

* I = # of Immigrants (organisms that JOIN the population)

* E = # of Emigrants (organisms that LEAVE the population)

What happens to the population if...

- a. # of births increases (INCREASE / DECREASE)
 - b. # of immigrants decreases (INCREASE / DECREASE)
 - c. # of deaths decreases (INCREASE / DECREASE)
 - d. # of emigrants decreases (INCREASE / DECREASE)
 - e. # of deaths increases (INCREASE / DECREASE)
7. How do LIMITING FACTORS affect the growth of a population?
 8. What is the difference between EXPONENTIAL growth and LOGISTIC growth?
 9. Do you think a graph of the human population would look like the one you drew?
Explain your reasoning.