TABLE TOP WARM UP

Choose one type of relationship to describe and give a scenario.

NB Set-Up

9/30/18

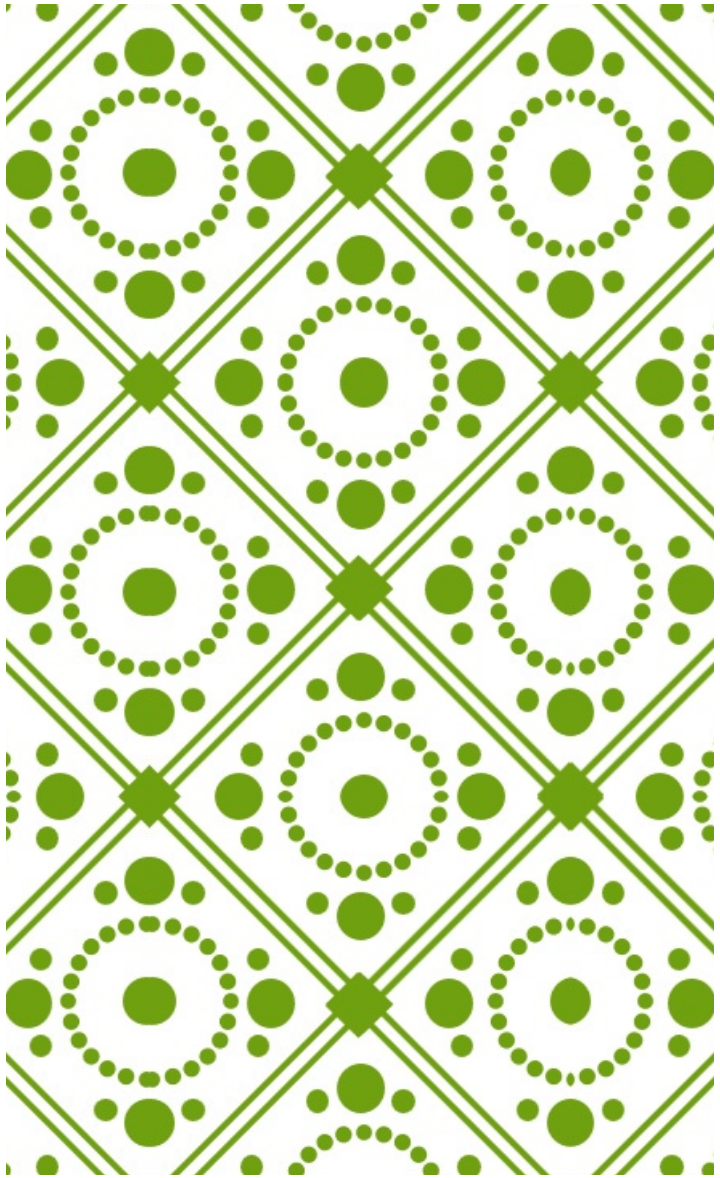
Analyzing Data: Population Trends
TBpg 123

#1-4

48

Population Growth

49



EQ: COMPARE AND CONTRAST EXPONENTIAL GROWTH AND LOGISTIC GROWTH.

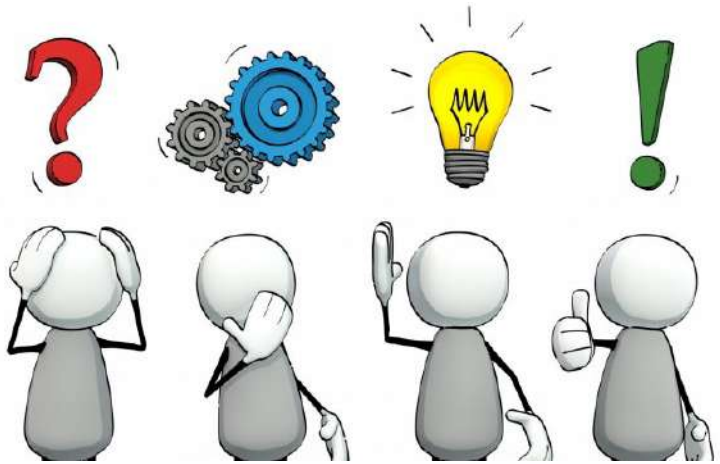
FOUR IMPORTANT CHARACTERISTICS OF A POPULATION ARE:

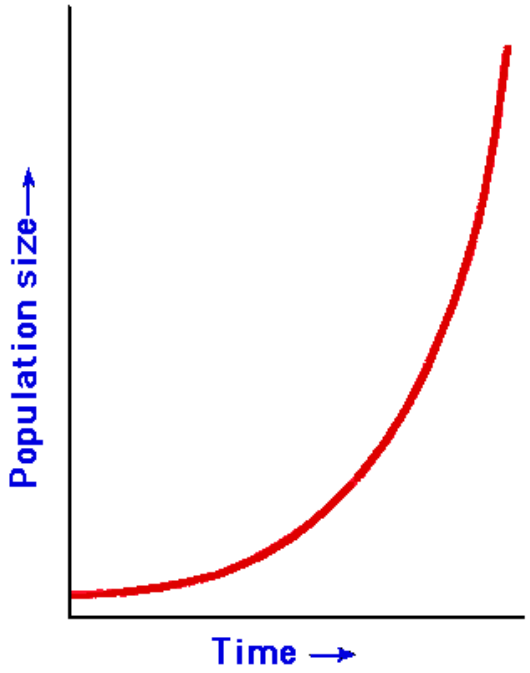
- ***geographic distribution*: where and how close**
- ***population density*: how many.**
  - Individuals that enter an area (***immigration***)
  - Individuals that leave an area ***(emmigration)***
- ***growth rate*: number of births versus number of deaths.**
- **Carrying Capacity: the amount of individuals that can survive on limited resources**

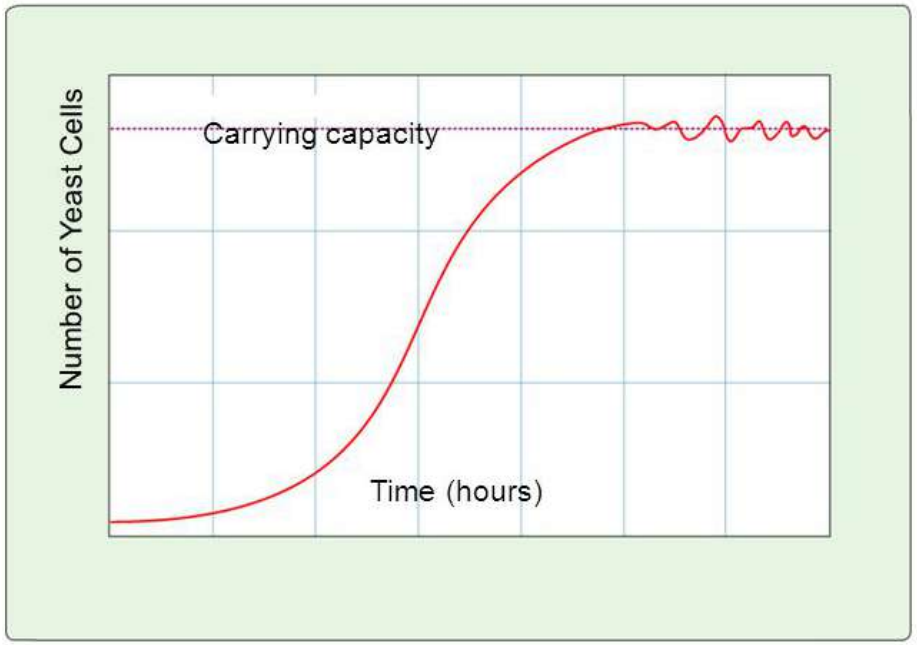
Analyze the graphs:

Discuss what you notice about it

What conclusions can you make?







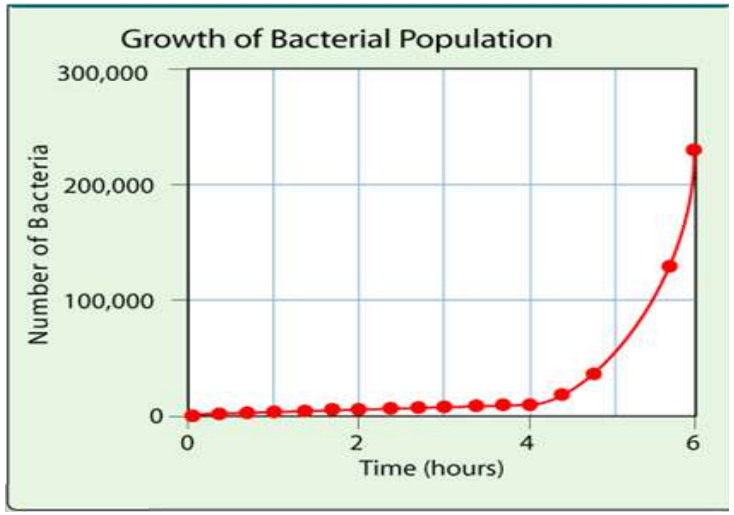
CARRYING CAPACITY – LARGEST POPULATION SIZE THAT CAN BE SUPPORTED BY THE ECOSYSTEM

Population (Cont.)

Exponential Growth

Under ideal conditions with unlimited resources, a population will grow exponentially. Species reproduce at a constant rate.

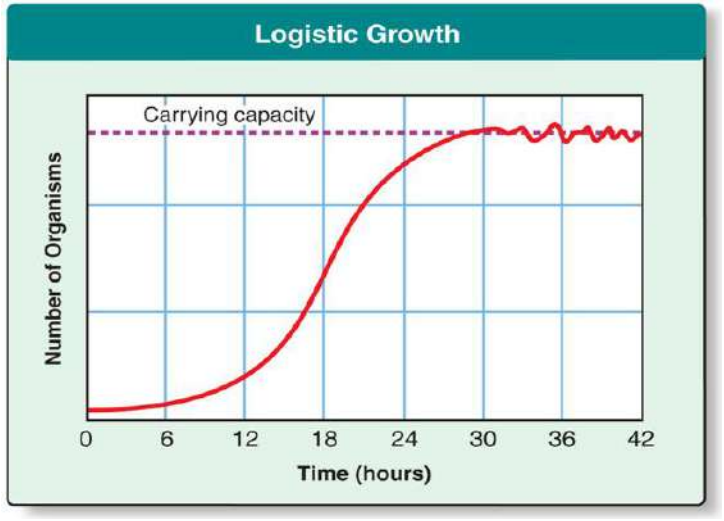
(Draw)



Logistic Growth

Logistic growth occurs when a population's growth slows or stops (***carry capacity***), as resources become less available.

(Draw)



LIMITING FACTORS

Density Dependent Factors

Factors whose effects on the size or growth of the population vary with the population density.

Types of density dependent factors such as;

- Availability of food
- Predation
- Disease

However the main factor is the availability of food.

Density Independent Factors

Density-independent factors, such as

- Weather
- Climate

These factors influence a population size regardless of the population's density.

Density-independent factors are known as limiting factors


Limiting Factors

Using the textbook, page 123, complete the "Analyzing Data" assignment on the NBpg48

Write the red titles for each number

Answer using complete sentences

Use TAILS to create your graph

Write your prediction as a hypothesis

- If….,
- then…
- Because…

Analyzing Data

BI 6.b, 6IIE 7.c

Population Trends

Do fruit flies and rabbits show similar trends in population growth?

1. **Using Tables and Graphs** Make a graph using the data in each data table. One graph will show the growth rate of a fruit fly population. The other graph will show the growth rate of a population of rabbits.
2. **Using Tables and Graphs** What type of growth pattern is exhibited by the fruit fly population? Is it the same type of growth as in the rabbit population? Explain.
3. **Drawing Conclusions** Does either graph indicate that there is a carrying capacity for the population? If so, when does the population reach its carrying capacity? What is the maximum number of individuals that can be supported at that time?
4. **Predicting** Animals such as foxes and cats often prey on rabbits. Based on the growth curve of the rabbit population, what might happen if a group of predators move into the rabbits' habitat during the tenth generation and begin eating the rabbits?

Fruit Fly Population Growth

Days	Number of Fruit Flies
5	10
10	50
15	100
20	200
25	300
30	310
35	320
40	320

Rabbit Population Growth

Generations	Number of Rabbits
1	100
2	105
25	1000
37	1600
55	2400
72	3350
86	8000
100	13,150