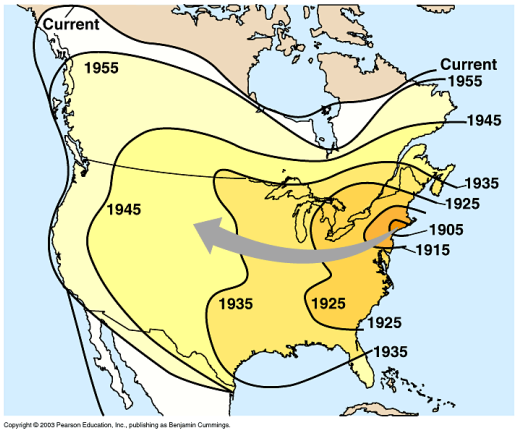
Advanced Biology
Dr. Senegar-Mitchell

Name_____

CHAPTER 35 – Population Dynamics
CHAPTER 36 – Communities and Ecosystems

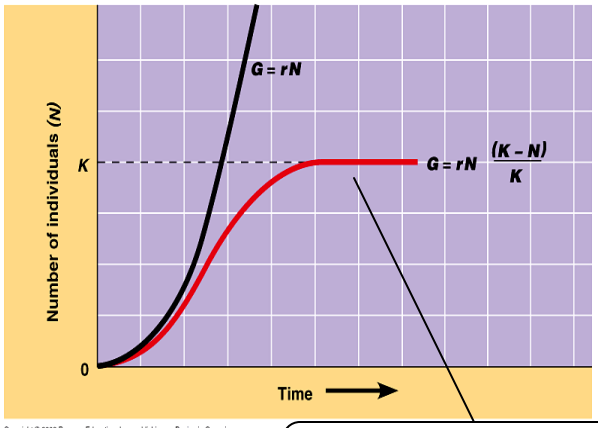
Chapter Reading Guide

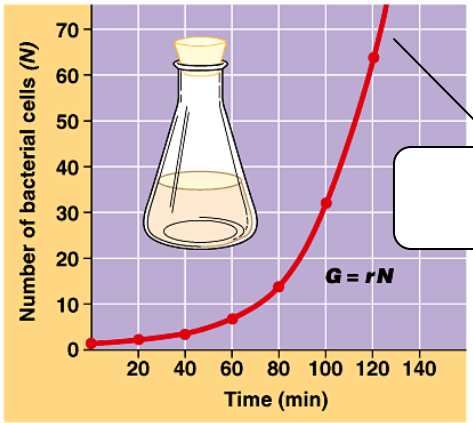
1. Explain how starlings made it to North America. Using information from your reading and the diagram below, explain what has occurred to the starling since their introduction.



2. Define a population and illustrate with examples.

3. Compare and contrast the exponential growth model and the logistic growth model. Cite examples of both models. Explain the concept of ***"carrying capacity"***.





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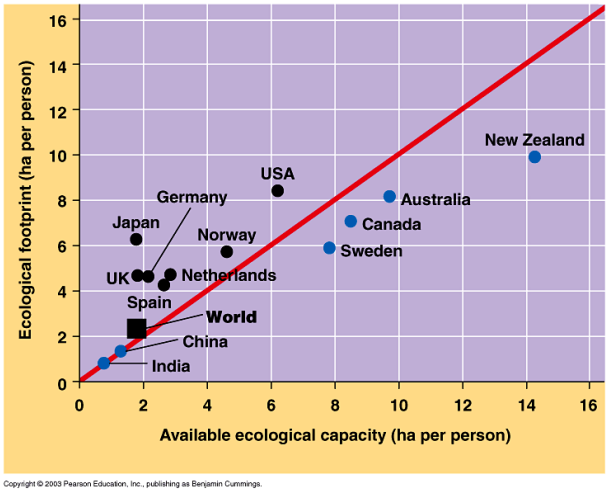
4. Describe the factors that regulate growth in natural populations.

5. Define boom-and-bust cycles. Use specific examples to explain why these cycles occur in populations.

6. Explain how life tables are used to track mortality and survivorship in populations. Compare Type I, Type II, and Type III survivorship curves.

7. Explain how the life history traits vary with environmental conditions and with population density. Compare ***r-selection*** and ***K-selection*** and indicate examples of each.

8. Explain how the human population is changing and the impact this has had and continues to have on the Earth. Use the concept of an ***ecological footprint*** to compare the impacts of humans living in different countries.



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CHAPTER 36 – Communities and Ecosystems

1. Describe the four properties of a community.

2. Define the following terms/concepts in relation to communities:

a. *competitive exclusion principle* –

b. *resource partitioning* –

c. *ecological "niche"* –

d. coevolution -

e. keystone species -

f. primary and secondary succession -

3. Distinguish between Batesian and Mullerian mimicry. Give an example of each.

4. Describe the three different types of symbiotic relationships.

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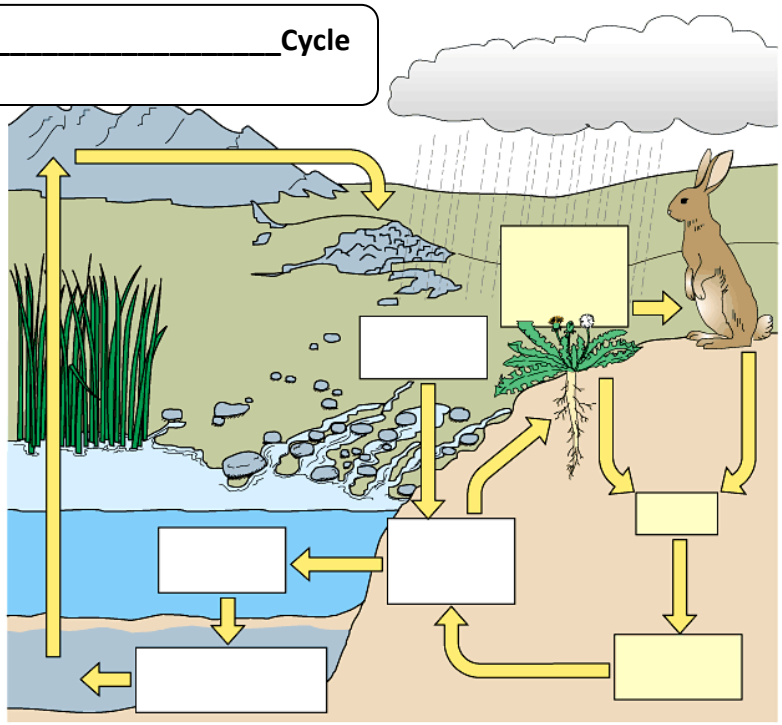
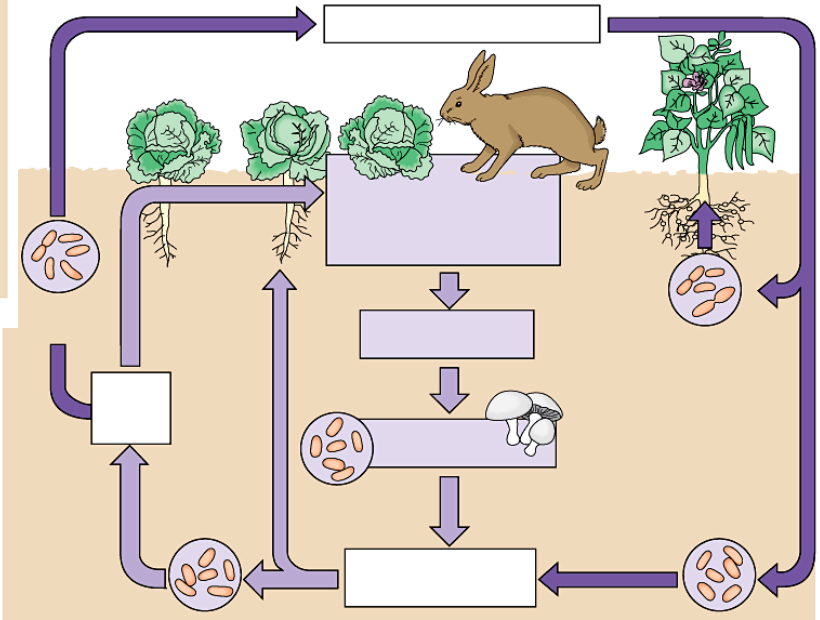
5.Describe the roles of fire in shaping ecosystems.

6. Describe and compare energy flow and chemical cycling in ecosystems.

7. **Label the diagrams below.** Then explain how **<u>water, carbon, nitrogen, AND phosphorus</u>** are cycled within ecosystems.

_____**Cycle**





_____**Cycle**