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| Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **INTERPRETING ECOLOGICAL DATA** |
| **Graph 1: Rabbits Over Time**a. The graph shows a \_\_\_\_\_\_\_\_\_\_ growth curve.b. The carrying capacity for rabbits is \_\_\_\_\_\_c. During which month were the rabbits in exponential growth?  | http://www.biologycorner.com/resources/graph_rabbits.gif |
| **Graph 2: Average Toe Length**a. In 1800, about how many people surveyed had a 3 cm toe? \_\_\_\_\_\_\_How many in 2000? \_\_\_\_\_\_\_b. The data shows the \_\_\_\_\_\_\_\_\_\_\_\_ selection has occurred?c. In 2000, what is the average toe length? \_\_\_\_\_\_ What is the average toe length in 1800 \_\_\_\_\_\_\_ | http://www.biologycorner.com/resources/graph_stabilizing_selection.gif |
| **Graph 3: Mexico and US**a. In Mexico, what percentage of the population is between 0-4 years of age? \_\_\_\_\_\_\_ In the US? \_\_\_\_\_\_b. Which population is growing the fastest? \_\_\_\_\_\_\_\_c. Which age group has the smallest number in both countries? \_\_\_\_\_ | http://www.biologycorner.com/resources/population_pyramid4.gif |

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| **Chart 4: Trapping Geese**In order to estimate the population of geese in Northern Wisconsin, ecologists marked 10 geese and then released them back into the population. Over a 6 year period, geese were trapped and their numbers recorded. a. Use the formula to calculate the estimated number of geese in the area studied? \_\_\_\_\_\_\_\_\_\_\_\_\_b. This technique is called \_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_\_\_c. Supposing more of the geese found in the trap had the mark, would the estimated number of geese in the area be greater or lesser? \_\_\_\_\_ |

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| --- | --- | --- |
| Year | Geese Trapped | Number with Mark |
| 1980 | 10 | 1 |
| 1981 | 15 | 1 |
| 1982 | 12 | 1 |
| 1983 | 8 | 0 |
| 1984 | 5 | 2 |
| 1985 | 10 | 1 |

http://www.biologycorner.com/resources/mark_recapture_formula.gif |
| **Chart 5: Mushroom Plots**Another ecologist uses a different method to estimate the number of mushrooms in a forest. She plots a 10x10 area and randomly chooses 5 spots, where she counts the number of mushrooms in the plots and records them on the grid. a.Calculate the number of mushrooms in the forest based on the grid data: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_b. Thie technique is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | http://www.biologycorner.com/resources/grid_mushrooms_sample.gif |

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| **Chart 6: Snakes & Mice**The data shows populations of snake and mice found in an experimental field. a. During which year was the mouse population at zero population growth? \_\_\_\_\_\_b. What is the carrying capacity for snakes ? \_\_\_\_\_\_c. What is the carrying capacity for mice? \_\_\_\_\_d. What is the rate of growth (r) for mice during 1970? \_\_\_\_\_ During 1980? \_\_\_\_\_\_  |

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| Year | Snakes | Mice born | Mice died |
| 1960 | 2 | 1000 | 200 |
| 1970 | 10 | 800 | 300 |
| 1980 | 30 | 400 | 500 |
| 1990 | 15 | 600 | 550 |
| 2000 | 14 | 620 | 600 |
| 2001 | 15 | 640 | 580 |

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