Real Life Populations

**Background:** James Hyde farm has not had people living on it since June of 1971. An interstate highway was put through the middle of the farm towards the end of 1971. Now there are only 100 acres of land left on the farm. In April of 1979, two biologist wanted to find out how two populations of animals were changing on the farm. They counted rabbits by trapping and then releasing them. They counted foxes by looking for them with field glasses, since the foxes would not go near their traps. They trapped and released 23 rabbits and they saw 4 foxes at the start of their research.

Use the numbers in the class set Data Table to graph and analyze trends.



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Oct Apr Oct Apr Oct Apr Oct Apr Oct Apr

‘79 ’80 ’80 ’81 ’81 ’82 ’82 ’83 ’83 ‘84

1. List 3 factors that caused a decrease in the rabbit population and two factors that caused an increase in the rabbit population.

2. List 3 factors that caused a decrease in the fox population and two factors that caused an increase in the fox population.

3. How did the presence of pheasants and mice affect the fox population?

4. What will happen to the rabbits when there is a decrease in the mice population?

5. What kind of factors/events affect births?

6. What kind of factors/events affect immigration?

7. What kind of factors/events affect death?

8. What kind of factors/events affect emigration?

9. What do you think would happen to the rabbits if all of the foxes where wiped completely?

Real Life Populations

CLASS SET

CLASS SET

Class Set Data Table

|  |  |  |
| --- | --- | --- |
| **Date of Change** | **Rabbit Population** | **Fox Population** |
| October 1979 | Initial count of 23 rabbits | Initial count of 4 foxes |
| April 1980 | Population decreases by 10 due to harsh winter and scarcity of food. | Population increases by 2. Foxes find pheasants (a type of bird) for food. |
| October 1980 | No change in population. | No change in population. |
| April 1981 | Population increases by 15. Rabbits move in from another area due to plentiful food sources. | Population increase by 8. Foxes had larger litters than usual. |
| October 1981 | Population decreases by 8. Many rabbits die from disease. | Population decreases by 3. Some foxes leave the area due to lack of food. |
| April 1982 | Population increases by 12. Early warm weather in spring causes rabbits to have young early. | Population decreases by 4. Hunters kill many pheasants and mice population suffers from disease. |
| October 1982 | No change in population. | Population increases by 8. Foxes move in from another area. Pheasants and rabbits are plentiful. |
| April 1983 | Population decreases by 14. Rabbits compete with each other and other animals for limited water sources due to lower than average rain fall. | Population decreases by 4. Hunters shoot and kill |
| October 1983 | No change in population. | No change in population. |
| April 1984 | No change in population. | No change in population. |