

**Activity 1.1: Sampling Populations**

Name: \_\_\_\_\_

In this activity you are a professional biologist. Your task is to determine the populations of different species in your region and investigate reasons for the decrease in the number of frogs.

You and your team will take samples from three areas by examining the species found in that location. You will then represent your findings in a bar graph form

**Instructions**

1. Each species of animal in your sampling sites is represented by a different colour of paper as follows:
  - a. Green – Frogs
  - b. Pink – Grasshoppers
  - c. Blue – Blue herons
  - d. Black – Snakes
  - e. Yellow - Blackbirds
2. Record the number of each species found in each area by filling in the following tables.

## Area A

	Frogs	Grasshoppers	Blue herons	Snakes	Blackbirds
Number					

## Area B

	Frogs	Grasshoppers	Blue herons	Snakes	Blackbirds
Number					

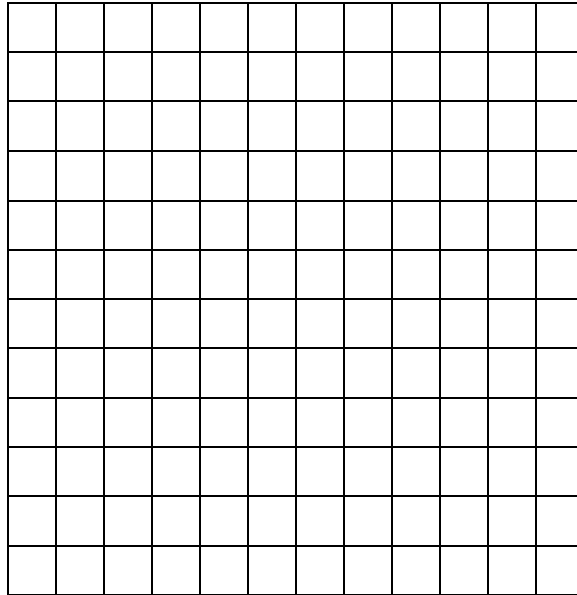
## Area C

	Frogs	Grasshoppers	Blue herons	Snakes	Blackbirds
Number					

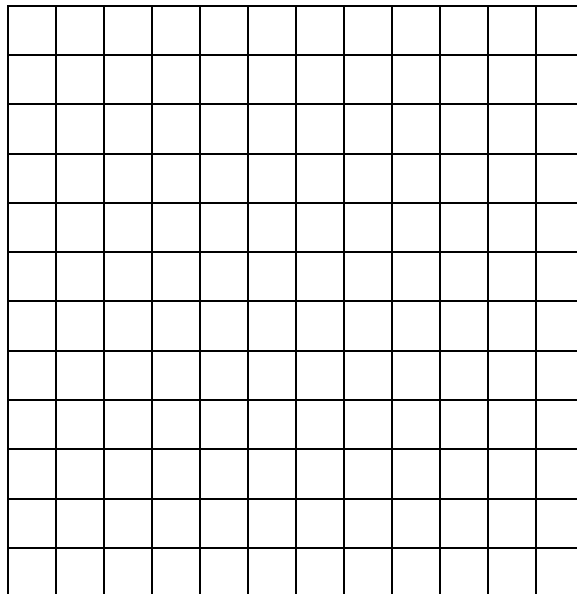
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**Analysis**

1. Use the data you collected to draw a bar graph showing the population of each species in each sampling area.

Area A

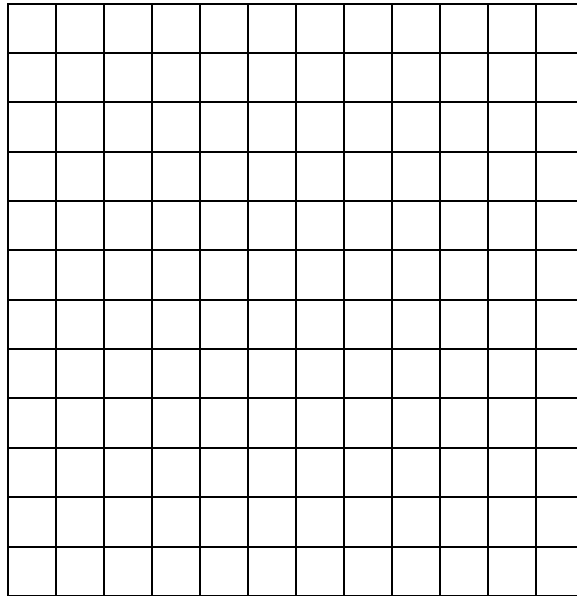


Area B



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Area C



2. Grasshoppers are food for the frogs. How does the number of frogs in your populations compare with the number of grasshoppers? Suggest an explanation.
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
3. Blue herons are large predatory birds that eat frogs. How does the number of blue herons in your populations compare with the number of frogs? Suggest an explanation.

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4. Which area do you believe to best represent a balanced ecosystem? Explain your answer.
5. Based on your observations, what two factors could affect the number of frogs in your sampling areas?
6. Can you suggest other factors that might cause a decrease in the number of frogs? Explain how each of these factors causes a decrease in the frog population.

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### Sampling Populations (Rubric)

Name: \_\_\_\_\_

Rating		Exceptional (Level 4)	Proficient (Level 3)	Satisfactory (Level 2)	Limited (Level 1)	Poor (Level R)
<b>Categories</b>	<b>Analyzing and Interpreting Data</b>	Provides rich analysis of the data	Provides sufficient analysis of the data	Provides some analysis of the data	Provides limited analysis of the data	Fails to provide analysis of the data.
		Draws insightful conclusions based on the data	Draws valid conclusions based on the data	Demonstrates some ability to draw conclusions based on the data	Demonstrates limited ability to draw conclusions based on the data	Fails to provide any conclusions based on the data.
	<b>Communication of Ideas and Information</b>	Communicates information and ideas clearly and precisely	Communicates information and ideas with substantial clarity and precision	Communicates information and ideas with some clarity and precision	Communicates information and ideas with limited clarity and precision	Fails to communicate ideas and information.
	<b>Use of scientific terminology, symbols, conventions, and standard (SI) units</b>	Uses scientific terminology, symbols, and graphing conventions with few if any errors	Uses scientific terminology, symbols, and graphing conventions with substantial accuracy	Uses scientific terminology, symbols, and graphing conventions with some accuracy	Uses scientific terminology, symbols, and graphing conventions with limited accuracy	Fails to use scientific terminology, symbols, and graphing conventions
<b>Note:</b> <input type="checkbox"/> Student Excused: No Mark <input type="checkbox"/> Unexcused Absence: rating 0 <input type="checkbox"/> Assignment not done or not submitted: rating 0		<b>Overall Rating:</b>				