

## Activity 2: Biodiversity Follow-up Questions

**1.** One definition of the word **INDEX** is “a number derived from a series of observations and used as an indicator.” In our experiment we made observations and then calculated a **BIODIVERSITY INDEX**. What was this number (index) an “indicator” of?

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**2.** The **BIODIVERSITY INDEX** that we calculated was a number greater than or equal to zero ( $\geq 0$ ) and less than or equal to one ( $\leq 1$ ).

The number zero (0) indicates extremely \_\_\_\_\_ (**low** or **high**) biodiversity.

The number one (1) indicates extremely \_\_\_\_\_ (**low** or **high**) biodiversity.

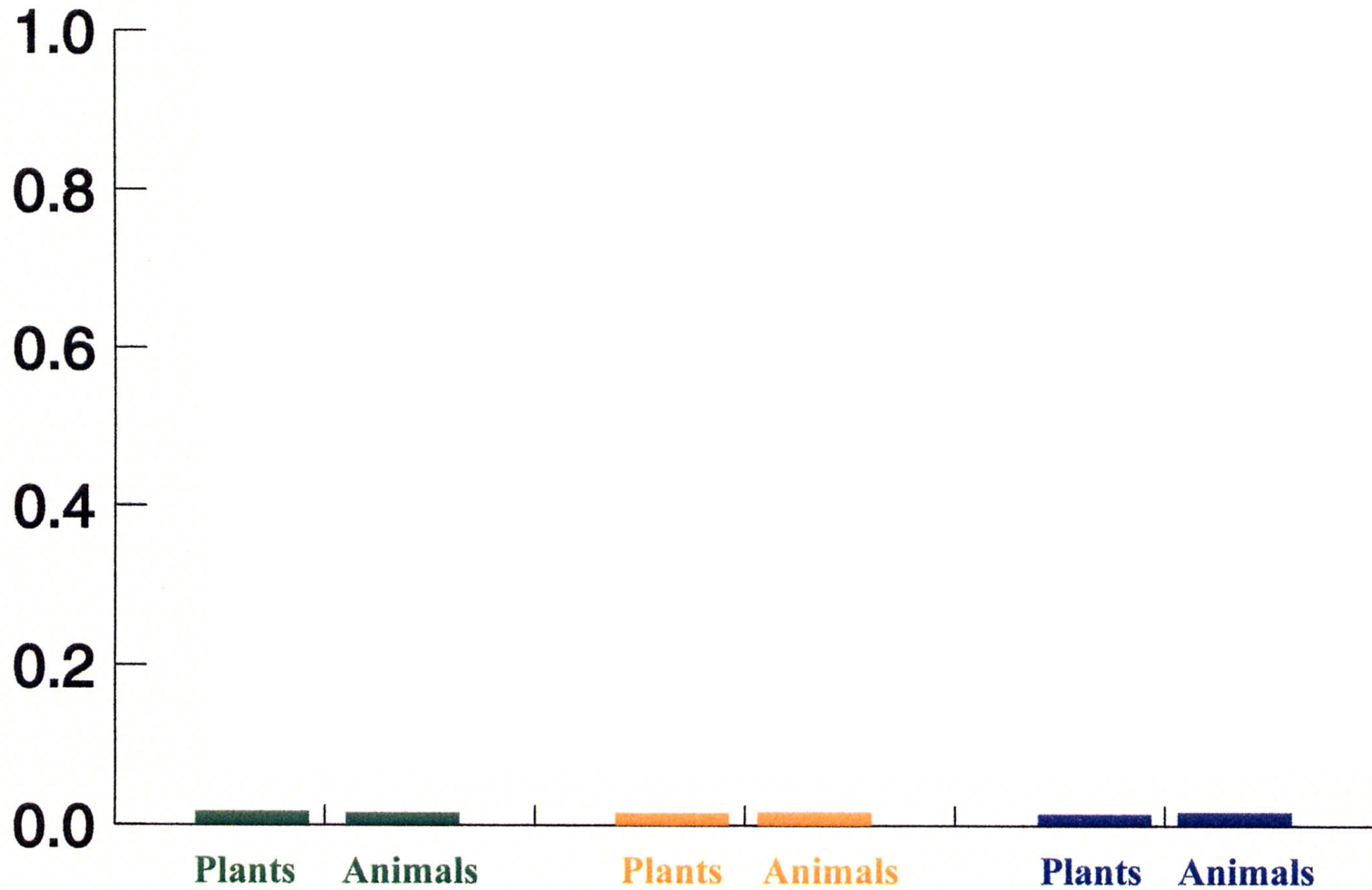
**3.** We measured the **BIODIVERSITY** of plants and animals in three habitats:

**SANDHILLS**, **STREAM**, and **PINE PLANTATION**.

The data from class trials are presented below. **CALCULATE** the average **BIODIVERSITY INDEX** for each habitat. Round your answers to the thousandth decimal place. After you have calculated the average biodiversity index for plant and animal species in each habitat, **GRAPH** your results in the form of a **BAR GRAPH** on the sheet provided.

		SANDHILLS		STREAM		PINE PLANTATION	
		Plants	Animals	Plants	Animals	Plants	Animals
<b>ADD</b>		0.833	0.930	0.825	0.895	0.444	0.868
		0.851	0.913	0.904	0.920	0.570	0.877
		0.869	0.868	0.895	0.886	0.500	0.807
		0.825	0.904	0.870	0.921	0.614	0.816
		0.850	0.930	0.859	0.877	0.483	0.842
		0.833	0.868	0.904	0.921	0.509	0.886
		0.833	0.930	0.842	0.921	0.509	0.860
		<u>0.885</u>	<u>0.921</u>	<u>0.868</u>	<u>0.895</u>	<u>0.579</u>	<u>0.886</u>
<b>SUM</b>	_____	_____	_____	_____	_____	_____	
<b>DIVIDE</b>	<b>DIVIDE BY 8 TO GET MEAN</b>	<b>DIVIDE BY 8 TO GET MEAN</b>	<b>DIVIDE BY 8 TO GET MEAN</b>	<b>DIVIDE BY 8 TO GET MEAN</b>	<b>DIVIDE BY 8 TO GET MEAN</b>	<b>DIVIDE BY 8 TO GET MEAN</b>	
<b>MEAN INDEX</b>	_____	_____	_____	_____	_____	_____	

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**Pine  
Plantation**

**Sandhills**

**Upper Three  
Runs Creek**

**Directions:** after calculating the average for each category on the work sheet, extend the bars on the graph above to the appropriate height.

4. In our sampling of **BIODIVERSITY**, what variable did we **measure** that was the **dependent** (**RESPONDING**) variable?

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5. In this experiment we chose the habitats we wanted to sample. By choosing “habitat type” as a variable we were changing a(n) \_\_\_\_\_ variable (**dependent** or **independent**).

**Tough Bonus Question** (Can you do it? *Hint: first you must identify whether a species of plant is a flower, tree, shrub, fern, or other. For animals you must know the difference between mammals, birds, amphibians, reptiles, insects, and others*)

6. In your habitat you “**sampled**” either plant or animal species in **six trials** for a total of **120 samples**. Use your “**Habitat Species Key**” data sheet to summarize your **data** as follows:

If you and your partner sampled **plants**, then **tally** (*count*) the total number of times that you and your partner picked **tree** AND **shrub** species and record your answer below:

\_\_\_\_\_ trees AND shrubs out of 120 picks

If you and your partner sampled **animals** then **tally** (*count*) the total number of times you drew **amphibian** AND **reptile** species and record you answer below:

\_\_\_\_\_ amphibians AND reptiles out of 120 picks

**Graph your results in the form of a “CIRCLE GRAPH.”**

The circle represents all 120 picks. Use your pencil to shade in the approximate portion of the circle that represents the plant or animal species you tallied above.

What proportion of 120 was your result?

\_\_\_\_\_ ÷ 120 = \_\_\_\_\_ (a fraction)

*Your Total*

What percentage of 120 was your result?

\_\_\_\_\_ ÷ 120 = \_\_\_\_\_ x 100% = \_\_\_\_\_ %

*Your Total*

