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STUDENT/TEAM WORKSHEET | GRADES 3-5 | BASELINE DATA-TREES AND SHRUBS

NAME/TEAM: _____

Biological diversity can be quantified in many different ways. The two main factors taken into account when measuring diversity are richness and evenness. **Richness is a measure of the number of different kinds of organisms present in a particular area.** For example, species richness is the number of different species present. However, diversity depends not only on richness, but also on evenness. **Evenness compares the similarity of the population size of each of the species present.**

Example: Both samples have the same richness (3 species) and the same total number of individuals (30). However, the first sample has more evenness than the second. This is because the total number of individuals in the sample is quite evenly distributed between the three species. In the second sample, most of the individuals are boxwoods, with only a one oak and one maple present. Sample 2 is therefore considered to be less diverse than sample 1.

	NUMBERS OF INDIVIDUALS	
TREES AND SHRUBS	**SAMPLE 1**	**SAMPLE 2**
OAK	10	1
BOXWOOD	12	28
MAPLE	8	1
TOTAL	30	30

A community dominated by one or two species is considered to be less diverse than one in which several different species have a similar abundance.[1]

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[1] "Simpson's Diversity Index." *Simpsons Diversity Index*, www.countrysideinfo.co.uk/simpsons.htm.

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The team needs to observe the entire space. Slowly look up, down and all around the observation area, including the ground.

Use the iNaturalist SEEK app or Google Lens app, local field guides and/or local experts to provide identification assistance. If the name of the tree or shrub cannot be found, enter a description.

1. CATEGORY (TREE OR SHRUB)	NAME OR DESCRIPTION	QUANTITY	ALIVE	DEAD	HOLLOW
EXAMPLE. TREE	DESERT WILLOW	3	3		
TOTALS					

2. Total number of trees and shrubs within the inventory site. _____

3. **Richness**
   Number of different tree and shrub types. _____

4. **Evenness**
   Number of each tree and shrub type. For example: 5 oaks, 2 fruitless mulberries and 2 butterfly bush.

5. Create a bar graph, t-chart or infographic showing tree and shrub richness and evenness.

Example Bar Graph of Tree and Shrub Richness and Evenness

Category	Value
Tree Type 1	1
Tree Type 2	3
Shrub Type 1	15
Shrub Type 2	25