



# BIODIVERSITY

STUDENT/TEAM WORKSHEET | GRADES 9-12 | POST-ACTION DATA-PLANTS AND FUNGI

NAME/TEAM: \_\_\_\_\_

OBSERVATION AREA: \_\_\_\_\_

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 (100). 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 buttercups, with only a few daisies and dandelions present. Sample 2 is therefore considered to be less diverse than sample 1.

PLANTS AND FUNGI	NUMBERS OF INDIVIDUALS	
	SAMPLE 1	SAMPLE 2
DAISY	31	2
DANDELION	33	5
BUTTERCUP	36	93
TOTAL	100	100

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.<sup>1</sup>

<sup>1</sup> “Simpson's Diversity Index.” *Simpsons Diversity Index*, [www.countrysideinfo.co.uk/simpsons.htm](http://www.countrysideinfo.co.uk/simpsons.htm).



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GRADES 9-12 | POST-ACTION DATA-PLANTS AND FUNGI



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

Use the SEEK app (Apple) or Google Lens app (Android), local field guides and/or local experts to provide identification assistance. If the name of the plant or fungi cannot be found, enter a description.

1.	CATEGORY (PLANT OR FUNGUS)	NAME OR DESCRIPTION	QUANTITY	ALIVE	DEAD
	EXAMPLE: PLANT	GREGG'S MISTFLOWER	7	7	0
	<b>TOTALS</b>				

2. Total number of plants and fungi combined from the team's observation area. \_\_\_\_\_

3. **Richness**  
Number of different plant types. \_\_\_\_\_

4. **Richness**  
Number of different fungus types. \_\_\_\_\_



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5. **Evenness**

Number of each different type of flower. For example: 3 swamp milkweed, 5 sea oats, 10 compact nandina, 5 yarrows, 2 little blue stem, and a large area of turf grass

6. **Evenness**

Number of each different type of fungi.

7. Optional, but strongly encouraged. Ensuring native flora is a key factor in providing a healthy environment for wildlife to thrive. Using a field guide, online resources or local expert, identify how many plants and fungi are considered native and how many are considered, non-native.

\_\_\_\_\_ native to my region or state    \_\_\_\_\_ non-native to my region or state

8. Create an infographic, chart, or graph that shows plant and fungi richness and evenness, include the baseline data and differentiate between the two datasets. Compare the two datasets. Explain any changes (or lack of change) and provide evidence to support your answer.

