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STUDENT/TEAM WORKSHEET | GRADES 6-8 | BASELINE DATA-ANIMALS

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 (25). 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 roly polies, with only a few birds and butterflies are present. Sample 2 is therefore considered to be less diverse than sample 1.

ANIMALS	NUMBERS OF INDIVIDUALS	
	SAMPLE 1	SAMPLE 2
BIRDS	8	2
BUTTERFLIES	7	1
ROLY POLIES	10	22
TOTAL	25	25

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. When looking up, are there birds flying by? Is there a lizard on the tree? Are there beetles under a rock, etc.?

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 animal cannot be found enter a description.

1. CATEGORY (BIRDS, MAMMALS, INVERTEBRATES, AMPHIBIANS, REPTILES, FISH)	NAME OR DESCRIPTION	QUANTITY	ALIVE	DEAD
EXAMPLE: REPTILE	GREEN ANOLE	2	2	
TOTALS				

2. Total number of animals combined from the team's observation area. _____

3. **Richness**
   Number of different bird types _____

4. **Richness**
   Number of different mammal types _____

5. **Richness**
   Number of different invertebrate types _____

6. **Richness**
   Number of different amphibian types _____

7. **Richness**
   Number of different reptile types _____

8. **Richness**
   Number of different fish types _____

9. **Evenness**
   Number of each different type of bird. For
   example: 5 crows and 2 blue jays

10. **Evenness**
    Number of each different type of mammal.

11. **Evenness**
    Number of each different type of invertebrate.

12. **Evenness**
    Number of each different type of amphibian.

13. **Evenness**

    Number of each different type of reptile.

14. **Evenness**

    Number of each different type of fish.

15. Create a graph, chart or infographic showing animal richness and evenness.

Example Bar Graph of Animal Richness and Evenness

(Bar graph with y-axis from 0 to 60 in increments of 10. Categories on x-axis: Birds (~10), Mammals (0), Invertebrates (~50), Amphibians (~2), etc.)