

Biodiversity Practice Simpson's Index

ESSENTIAL KNOWLEDGE

ENE-4.A.1

The structure of a community is measured and described in terms of species composition and species diversity.

RELEVANT EQUATION

Simpson's Diversity Index—

$$\text{Diversity Index} = 1 - \sum \left(\frac{n}{N} \right)^2$$

n = the total number of organisms of a particular species

N = total number of organisms of all species



Area 1				Area 2			
Organism	n	n/N	(n/N)^2	Organism	n	n/N	(n/N)^2
Monkey				Lion			
Giraffe				Giraffe			
Elephant				Monkey			
Lion				Elephant			
Zebra				Zebra			
Total				Total			
	Diversity Index				Diversity Index		

Make a Claim

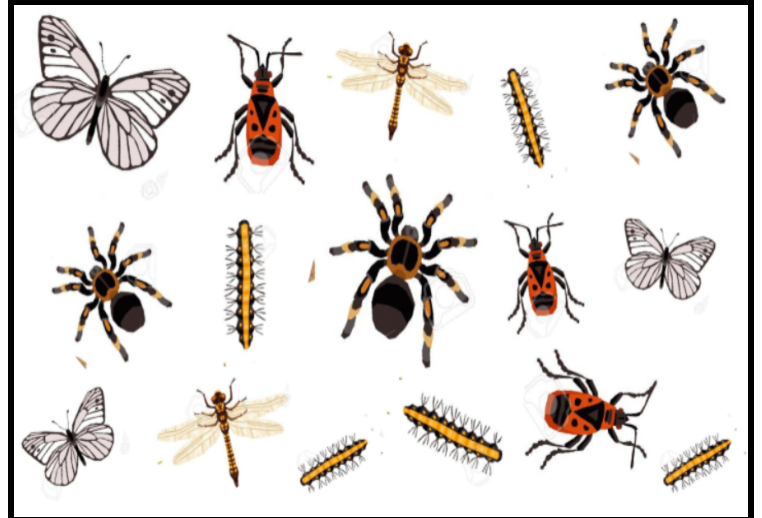
State your Evidence

State the Reasoning

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Area 1



Area 2

State your hypothesis:

Area 1					Area 2			
Organism	n	n/N	(n/N) ²		Organism	n	n/N	(n/N) ²
Total					Total			
	Diversity Index					Diversity Index		

Make a Claim

State your Evidence

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Tables for Australian Fires - **Candy Lab**

Site 1					Site 2			
Organism	n	n/N	(n/N)^2		Organism	n	n/N	(n/N)^2
Total					Total			
	Diversity Index					Diversity Index		

Hypothesis:

Make a Claim

State your Evidence

State the Reasoning

1. Which organism(s) was impacted the most?

2. Which organism was not impacted by the fire?

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A fisherman is catching fish in three lakes and thinks there is a greater diversity in Lake Grapevine than in Lake Worth or Lake Lewisville. The table below shows the results of a survey.

	Bass	Trout	Perch
Lake Grapevine	41	68	19
Lake Worth	62	99	54
Lake Lewisville	59	104	25

Calculate the Biodiversity Index for each Lake:

State your Null Hypothesis:

Make a Claim

State your Evidence

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