APES-Comparing Biodiversity: *Spiders, Spiders Everywhere!*- **Field Quadrat Studies**
Name: _____

1. **First, make a hypothesis** about the diversity of spiders in the (Habitats A & B).
   Without looking at the spider habitat sheet… which habitat do you think will be more diverse in
   terms of spiders? **Explain your reasoning.**

•Next you have to *sample the different habitats*

•Find the sheet of paper with the *squares cut out of it.* The three square holes are the
   three random **'quadrat' samples** you will take in each habitat.

* Place each of the quadrat sheets on the habitats and count the number of spiders inside the squares

• Count and **record (below)** the number of spiders you find in each square. ****Only count
   spiders that you can see at least <u>FIVE</u> of their legs.**

•Then sample "Habitat B" with the same quadrats.

These are the four species of spiders you may find in your samples:
Species A   Species B   Species C   Species D

Table 1

Habitat A	Total # of Spiders	Which Species?	How many of each species			
Quadrat 1			A:	B:	C:	D:
Quadrat 2			A:	B:	C:	D:
Quadrat 3			A:	B:	C:	D:
Total			**A:**	**B:**	**C:**	**D:**

Table 2

Habitat B	Total # of Spiders	Which Species?	How many of each species			
Quadrat 1			A:	B:	C:	D:
Quadrat 2			A:	B:	C:	D:
Quadrat 3			A:	B:	C:	D:
Total			**A:**	**B:**	**C:**	**D:**

2. How many species of spiders did you find in…
      Habitat A: Habitat B:

3. What was the AVERAGE number of spiders you found **per quadrat**?
      Habitat A: Habitat B:

4. Twelve quadrats can fit in this area. How many spiders do you estimate are found in the whole area?   Habitat A: Habitat B:

5. Look at the bottom sheet of paper with the spiders on it. How many spiders are there in…
      Habitat A: Habitat B:

6. Was your estimate close to the actual number of spiders in the area?

7. **_Why_** might there be a difference between your sample estimate and the actual number?

•Sometimes we want to compare not only how many different species or total number of spiders there are in an area, but also the relative abundance of the species.

      For example we might sample two areas and find:

	Area 1	Area 2
Species W	2	25
Species X	90	25
Species Y	3	25
Species Z	5	25
Total	**100**	**100**

Both areas have four species and 100 animals total but the distribution of the species is very different

Area 2 has a more even distribution of species compared to area 1.

What is the **_number of each species?_**
What is the **PROPORTION** of each
of spider in your habitats? (see Tables 1&2)
species in your habitats?

Table 4	Habitat A	Habitat B
Species A		
Species B		
Species C		
Species D		
Total		

Table 3	Habitat A	Habitat B
Species A		
Species B		
Species C		
Species D		
Total		

8. Based on the proportions you just calculated (Table 4), do you think the species are evenly distributed within the habitats?

Habitat A: Habitat B:

9. Is this what you think it would be like in nature? Why?

10. Was your original hypothesis supported by the data you collected today? Why or why not?

11. What did you learn about doing a biodiversity quadrat study?