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1. **How could you define an *event* in your sampling scheme? Explain your reasoning.**

An event one possible outcome of observation in all six sites. We go to each site, make a single observation (presence/absence) and each of those single observations is one event.

1. **What is the *sample space* of your bird sampling scheme?**

Total possible outcomes of presence or absence over six sites of observation (2^6 possibilities)

1. **You observed 2 presences and 4 absences in your daily survey. One possible spatial arrangement of these presences/absences is:**

**How many ways are there to arrange the two presences in your grid of six plots? Explain how you found your answer.**

There are 15 possible arrangements: 5+4+3+2+1, because this is the number of unique combinations for two presences of birds in the six observation events.

1. **Given that the probability of observing a brown creeper presence in a given forest plot is about 50%, do you think that observing *exactly 2 presences* is an unusual event? Explain your reasoning. HINT: The coins might help with this question.**

Though 2 is not the mean of 3, it is not so far from the mean (given the sample size) that it isn’t too abnormal.

1. **Consider the scenario in which you pick up two acorns at the same time in one hand without looking.**

* Enumerate the events in this sample space.
  + A single event in this context represents a single pull of two acorns, with the possibilities MM, UU, UM (where M=marked, U=unmarked)
* Are these events *combinations*, or *permutations*?
  + These events are combinations, rather than permutations. This is because the order doesn’t matter, and we don’t need to worry about replacement.

1. **Consider the scenario in which you pick up one acorn, place it in your left pocket, walk a short distance, then pick up a second acorn and place it in your right pocket.**

* Enumerate the possible events in this sample space.
  + A single event in this context represents the pulling of two acorns, one after the other, with the possibilities MM, UU, UM, and MU, where the first letter represents the first pull and the second letter represents the second pull.
* Are these events *combinations*, or *permutations*?
  + These events are permutations, rather than combinations since the order does matter.