**Title of your proposal**

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**Introduction**

Common birds in the northeastern region of North America are the American crow, American goldenfinc, American robin, American tree sparrow, Baltimore oriole, black-capped chickadee, blue jay, bohemian waxwing, boreal chickadee, brown thrasher, brown-headed cowbird, Carolina chickadee, cedar waxwing, chipping sparrow, common grackle, common raven, common redpoll, dark0eyed junco, dowy woodpecker, eastern bluebird, eastern meadowlark, eastern towhee, Eurasian collared-dove, European starling, evening grosbeak, field sparrow, fox sparrow, gray jay, hairy woodpecker, hermit thrush, hoary redpoll, house finch, house sparrow, mourning dove, northern cardinal, northern flicker, northern mockingbird, pileated woodpecker, pine grosbeak, pine siskin, pine warbler, purple finch, red-bellied woodpecker, red-breasted nuthatch, red-winged blackbird, ring-necked pheasant, rock pigeon, ruby-crowned kinglet, song sparrow, tufted titmouse, white-breasted nuthatch, white-crowned sparrow, wild turkey, yellow-bellied sapsucker, yellow-rumped warbler (1). All the birds that can be expected to be in the northeastern region of north America are the same as the list above (1). The time being morning, the season being spring, and it being a relatively cold spring could all impact the birds I saw.

**Hypothesis**

The Carolina Chickadee prefers tube and platform feeders over other types of feeders. This was observed as the Carolina Chickadees went to the tube and platform feeders much more often than any others, some of which they never went to. In an area with numerous Carolina Chickadees, many different feeders would be placed out with a camera to record the number of birds that visited each feeder. It is predicted that under those circumstances, a majority of Carolina Chickadees would visit the tube and platform feeders while a relatively small minority of them would visit any other feeder.

**Preliminary Data**

|  |  |
| --- | --- |
| Feeder type | Number of Carolina Chickadees |
| Tube feeder | 23 |
| Platform feeder | 26 |
| Wire mesh | 1 |

Table 1: Observations made from bird-watching session. Carolina Chickadees and where they chose to feed at was observed. Most of them chose to feed at the platform feeder, with the tube feeder closely behind, while almost none visited the other feeders.

Figure 1: Number of Carolina Chickadees fed by type of feeder. The majority of Carolina Chickadees fed at the platform feeder with the tube feeder close behind. The Carolina Chickadees did not feed at any other feeder, except the wire mesh with one bird.

**Proposed Experiment**

In multiple areas where Carolina Chickadees are common, set up multiple feeders of every type with a camera set to record the footage for 24 hours. It should be set up in multiple areas with Carolina Chickadees to control for local behavior of the Carolina Chickadees, multiple feeders of every type are set up at each location to minimize Carolina Chickadees going to a different feeder simply because there is not enough space for them to use their preferred feeder, and the footage is recorded with a camera for 24 hours because it can be analyzed easier with less mistakes due to the fact that it can be checked multiple times by multiple people without a time restraint. This would test the hypothesis because it would show the preferred feeder type for the Carolina Chickadee through the number of them that visit each feeder type. The feeder should be analyzed by multiple people with the average of all their data used to minimize human error when counting the Carolina Chickadees.

**Possible Outcomes**

A majority of them being split evenly between feeding at the tube and platform feeders with a vast minority of them at any other feeder would affirm the hypothesis and show that the preliminary data was a good sample for this data.

If a large majority of them fed at the tube feeder with a vast minority of them feeding at ever other feeder would show that the hypothesis was wrong. In this scenario, the hypothesis would have to be revised to “Carolina Chickadees prefer tube feeders over other feeders” and it would show that the preliminary data was limited by space available as many Carolina Chickadees were forces to feed at a different feeder due to competition for the preferred spot.

If a large majority of them fed at the platform feeder with a vast minority of them feeding at ever other feeder would show that the hypothesis was wrong. In this scenario, the hypothesis would have to be revised to “Carolina Chickadees prefer platform feeders over other feeders” and it would show that the preliminary data was limited by space available as many Carolina Chickadees were forces to feed at a different feeder due to competition for the preferred spot.

If a large majority of them fed at a feeder or multiple feeders that are not the platform or tube feeder would show that the hypothesis was wrong. In this scenario, the hypothesis would have to be revised to “Carolina Chickadees prefer [feeder type/feeder types] over other feeders” and it would show that the preliminary data was limited by local behavior of Carolina Chickadees as the ones in this region were an outlier and preferred the tube and platform feeders.

References

Common Feeder Birds. FeederWatch. [accessed 2020 Mar 23]. https://feederwatch.org/learn/common-feeder-birds/

Raw data

Birds from 10:00 to 10:30

hf (10:00:00-) ground feeder

cc (10:00:46-48)second to the far-left feeder then to the ground feeder

cc (10:00:53-1:00)second to the far-left feeder

cc (10:01:00-15)second to the far-left feeder t

hf (10:01:10-21)second to the far-left feeder (sharing with Carolina chickadee)

cc (10:01:32-34)second to the far-left feeder

cc (10:01:48-56)second to the far-left feeder

agf (2:16-

chickadees

cc 218 223 2l

227 231 ground

253357ground

302307ground

323326ground

407409 2L

417419 2L

428430 2l

457 503 g

555 610 g

620 626 g

649 651 g

1408 1412 2l

1531-1541 2l

1658-1702 2l

1809 1817 g

1826-1827 g

1827 36 g

G

G

2l – g

G

G

2r-g

G

G -2l

2l - g

2l

G

G

G

2l

2l

G

2l

G

2l

2l

2l

2l

Decided to sacrifice having a variety of data for having more specific data (specifically where the Carolina chickadee would feed)

2l: 23 (tube feeder)

G: 26 (platform feeder)

2r: 1 (wire mesh)