Squirrel Distribution in the Benton Community Area

Thomas Benton Elementary 5th Grade , Columbia, MO

INTRODUCTION

➢Squirrels are a common animal in Columbia, Missouri.

➢Squirrels in Columbia are faced with numerous hazards while trying to find resources.

➢ Using GPS we developed a research plan to study the distribution of squirrels around Thomas Benton Elementary and Benton-Stephens Park.

➢Research Question: What is the distribution of squirrels relative to resources and hazards within the Benton community?

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➢Hypothesis: Squirrels are closer to resources (Figure 1).

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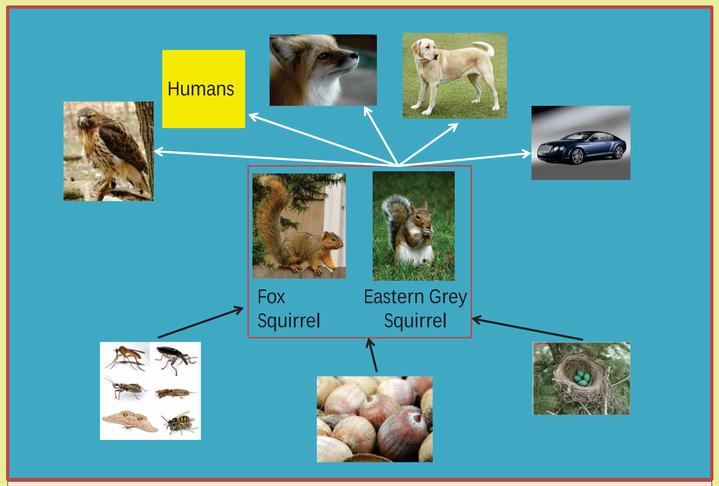


FIGURE 1. Resources and threats to fox squirrels and eastern grey squirrels around Thomas Benton Elementary.

METHODS

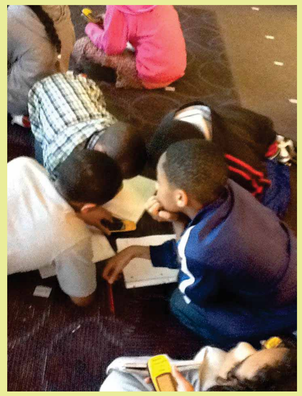
➢We used Garmin Etrex GPS units.

➢We determined a path from Thomas Benton Elementary to Benton-Stephens Park (Figure 2). We walked this path for two days to observe squirrels.

➢We observed trees for signs of squirrels (nests) or squirrels. We also observed possible resources (acorns) that could be used by squirrels. For each observation we recorded a point location using our GPS. We also recorded the latitude and longitude and point number in our science notebooks.

➢Using Google Earth, we identified the locations of squirrels and resources on the map. We measured the distance from each squirrel to the nearest resource or hazard in meters (Figure 3).

We practiced using GPS prior to collecting data on squirrel location.



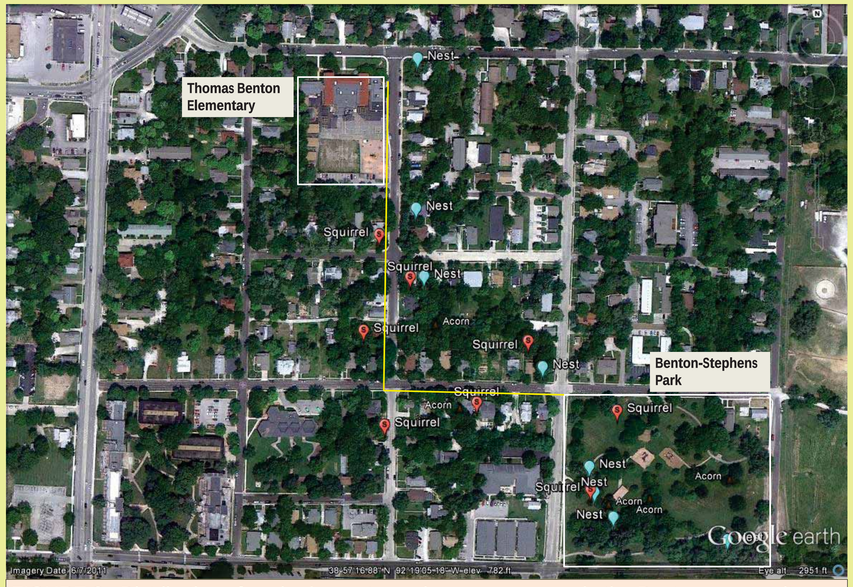


FIGURE 2. Distribution of squirrels, nests, and acorn resources in the Benton community. The yellow line indicates the travel route taken by our class over two days.

RESULTS

➢We observed eight squirrels and saw both fox squirrels and eastern grey squirrels.

➢Based on measurements, squirrels appear to be closer to safe areas than hazards.

➢Nests were closer to safe areas (trees) than hazards.

➢We did not observe more than one squirrel at a time.

We observed squirrel locations and recorded data within our GPS as well as science notebooks.

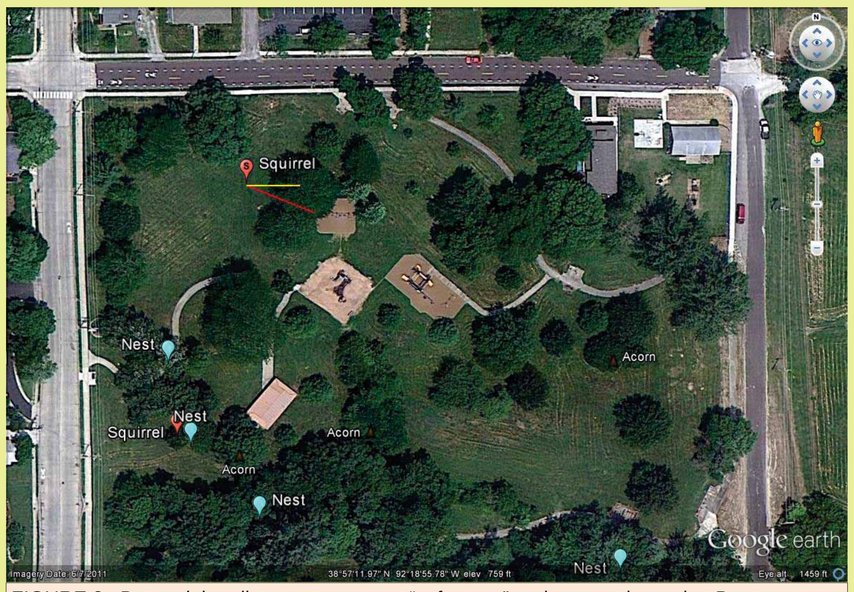


FIGURE 3. Determining distance to nearest "safe zone" and nearest hazard at Benton-Stephens Park using Google Earth.

Squirrel Number		Safe Zone (meters)		Hazard (meters)
1		0.64		56.13
2		9.94		34.79
3		8.62		23.29
4		1.90		4.00
5		2.81		24.98
6		12.99		24.10
7		13.87		72.35
8		8.74		60.87
Average		7.44		37.56

Nest Number		Safe Zone (meters)		Hazard (meters)
1		0.45		17.44
2		3.11		13.96
3		4.01		13.65
4		5.47		15.50
5		4.80		22.73
6		3.13		29.52
7		3.02		32.47
8		1.10		16.01
Average		3.14		20.16

Squirrel Number		Distance to nearest squirrel (meters)
1		48.26
2		48.26
3		65.92
4		92.19
5		79.64
6		70.30
7		104.57
8		77.39
Average		73.32

➢*CONCLUSIONS*

➢Squirrels and nests were closer to safe areas. However, we know that squirrels when they move are faced with danger in order to find resources (food).

➢Squirrels were not found with each other. This may indicate they prefer to be alone most of the time.

➢ We know the accuracy of our measurements were not very good because some squirrels were in trees.

➢The neighborhood has a large number of trees that provide safe zones for squirrels. We encourage planting trees or keeping trees for squirrels.

ACKNOWLEDGEMENTS

We would like to thank the NSF University of Missouri GK12 Program for funding this project.