**Deadly Windows**

Featured scientist: Natasha Hagemeyer from Old Dominion University

**Engage:** Based upon the narrative, what are two **hypotheses** for the observation that there are more dead birds under the windows in the fall?

 1.

 2.

In order to test these hypotheses, what **data** would Natasha have to collect?

**Explore Part 1: Investigating the Total Number of Birds in the Area**

**Your Net**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Resident** | **Migrant** | **Total** |
| **Number of birds** |  |  |  |

Describe what you notice about your data.

**All of the Nets**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Resident** | **Migrant** | **Total** |
| Group 1 - Number of birds |  |  |  |
| Group 2 - Number of birds |  |  |  |
| Group 3 - Number of birds |  |  |  |
| Group 4 - Number of birds |  |  |  |
| Group 5 - Number of birds |  |  |  |
| **Total Number of birds** |  |  |  |

Describe what you notice about all of the data.

**Explore Part 2: Investigating the Total Number of Birds Killed by Window Collisions**

**Predicting Window Collisions**

Discussion Question: If resident and migrant birds are equally likely to collide with windows and I find that 5 resident birds collide with windows, how many migrant birds would I expect to collide with windows – 5, 13, or 25? Explain your reasoning.

Discussion Question: If migrant birds are more likely to collide with windows than resident birds, and I find that 5 resident birds collide with windows, how many migrant birds would I expect to collide with windows – 5, 13, or 25? Explain your reasoning.

**Your Window**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Resident** | **Migrant** | **Total** |
| **Number of birds** |  |  |  |

Describe what you notice about your data.

**All of the Windows**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Resident** | **Migrant** | **Total** |
| Group 1 - Number of birds |  |  |  |
| Group 2 - Number of birds |  |  |  |
| Group 3 - Number of birds |  |  |  |
| Group 4 - Number of birds |  |  |  |
| Group 5 - Number of birds |  |  |  |
| **Total Number of birds** |  |  |  |

Describe what you notice about all of the data.

**Explain:**

Look at our group graph of the data. **Make a claim** that answers the scientific question of this study. (Hint: Did the data support either of our hypotheses?)

**What evidence supports your claim?** Reference specific parts of table or graph.

**Explain your reasoning and why the evidence supports your claim.** Connect the data back to the reasons why windows may be so dangerous for birds.

**Elaborate:**

Science is an ongoing process. What new question(s) should be investigated to build on Natasha’s research? What future data should be collected to answer your question(s)?

Window collisions kill nearly one billion birds every year! Based on Natasha’s experiment, what would you recommend that her friend at the zoo do to reduce the number of bird deaths due to window collisions?