Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Declining Bat Population: Web quest**

Go to: <http://birdsbeesandbats.weebly.com/>

1. What do you think are the term “ emerging infectious disease means”?
2. What do you think the word “mortality” means?
3. What are the effects of emerging infectious disease?
4. What is WNS?
5. What causes WNS?
6. How do scientists think the disease originated in North America?
7. What is pathogen pollution?
8. What are the effects of WNS?
9. What is the origin of WNS?

**Stop and Think**

1. Why are bats in Europe immune to WNS while bats in the US are affected by the fungus?

**Click on Panel A**

1. What happens to the infected bats?
2. What happens to bats when they wake up early?

**Stop and Think**

Besides WNS, what could be some other environmental factors leading bats to awake from torpor ahead of schedule?

**Click on Panel B**

1. There are certainly benefits to bats hibernating together in large groups, can you think of one advantage?
2. What advantage does the WNS fungi have when the bats are hibernating?
3. Why does the Northern part of the US have more WNS?
4. How does WNS spread?
5. What is happening to the bat population?

**Stop and Think**

1. On average, bats eat 600 mosquitoes per hour. Starting with a bat population of 1000 and assume that bats are awake and hunting for 8 hours a day, that summer lasts for 90 days, how many mosquitoes will all the bats consume?
2. If the bat population decreases by 50%, how will this affect humans and the ecosystem?

**Declining bat population and Scientific method discussion questions**

1. What primary question(s) do the researchers focus on?
2. What led the scientist(s) to conduct the investigation? What about the topic interested or motivated them?
3. Does the article reveal any ways that mathematics helped the scientists in their investigation?  If not, what kind of math do you think was used in designing, analyzing, and communicating about the investigation?
4. Are the researchers' conclusions based on evidence?  Are their explanations logical?  Explain.
5. Do the researchers suggest areas for further study?  If not, can you think of any?