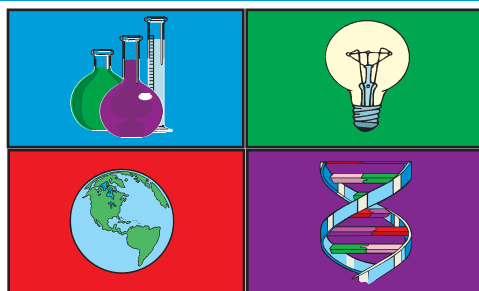


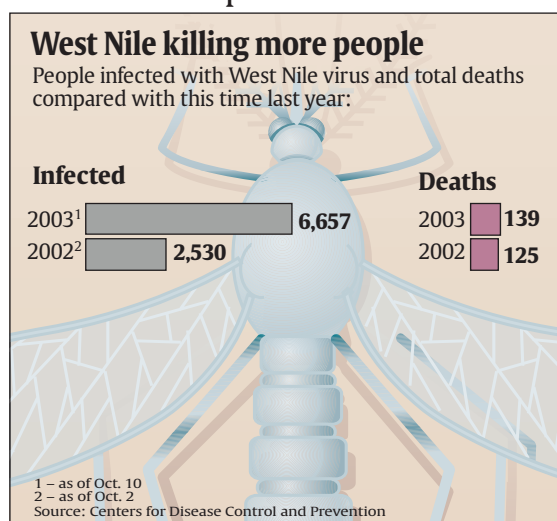
# Science TODAY™

## Student Edition



## West Nile killing more people

### USA TODAY Snapshots



By Shannon Reilly and Dave Merrill, USA TODAY

Note: Data from 2004 recently became available. As of October 26, 2004, there were 2231 West Nile cases reported in the U.S., 73 of which resulted in the death of the infected person.

### Activity Overview:

"New" diseases and health scares are nothing new to Americans. Lyme disease, Ebola, and HIV are just a few of the frightening health issues that have confronted us over the past several years. Perhaps the most recent disease to come on the scene is West Nile. Since West Nile made its way onto our shores a few years ago, it has rapidly spread across the country and has forced public health officials to take action to control it. West Nile, like so many other health concerns, is spread by a "vector"--in this case, the mosquito. Because of this, officials have worked hard to educate people on prevention strategies, and encouraged communities to spend millions of dollars on mosquito control. In this activity, you will examine the West Nile infection data from the past several years and draw conclusions as to how public health officials are coping with the spread of this potentially deadly virus. How have infection rates changed over the past two to three years? Just how "deadly" is the West Nile virus? What measures have states taken to prevent the further spread of the virus?

### Focus Questions:

- Describe how West Nile infection rates have changed since 2002?
- How have the death rates from the virus's infection changed?
- What are communities and states doing to control the spread of the West Nile virus?

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This activity was created for use with  
Texas Instruments handheld technology.

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### Procedure:

#### Step 1

On the home screen of the graphing calculator, calculate the percent change in the number of West Nile cases in the United States from 2002-2003 and answer question number 1 from the Assessment and Evaluation Section.

#### Step 2

Calculate the percent change in the number of West Nile cases from 2003-2004 and answer question 2 from the Assessment and Evaluation Section. Note that the data from 2004 is not included in the USA TODAY Snapshot.

#### Step 3

On the home screen, calculate the percentage of West Nile cases in 2002 that resulted in the deaths of the infected victims. Then answer question 3 from the Assessment and Evaluation Section.

#### Step 4

Do the same for 2003 and 2004 and answer questions 4 and 5 from the Assessment and Evaluation Section.

#### Step 5

Access the Centers for Disease Control website listed under "Additional Information," and explore the information on West Nile virus.

#### Step 6

Answer the remaining questions from the Assessment and Evaluation Section.

### Data Source:

Centers for Disease Control and Prevention

### Materials:

- TI-83 Plus family or TI-84 Plus family
- Computers with Internet access
- TI-Navigator™ Learning System (if available)

### Additional Information:

- The Centers for Disease Control

[www.cdc.gov/ncidod/dvbid/west-nile/surv&control.htm](http://www.cdc.gov/ncidod/dvbid/west-nile/surv&control.htm)

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### Assessment and Evaluation:

1. By what percent did the number of West Nile cases increase from 2002 to 2003?

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2. By what percent did the number of West Nile cases decrease from 2003 to 2004?

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3. In 2002, what percentage of infections resulted in the death of the victim?

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4. In 2003, what percentage of infections resulted in the death of the victim?

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5. In 2004, what percentage of infections resulted in the death of the victim?

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6. Pennsylvania reported 237 cases of West Nile in 2003, and only 11 cases in 2004. Explain why you think the number of cases of infection dropped so significantly.

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7. On the other coast of the United States, California reported only 3 cases of West Nile in 2003 and 710 cases in 2004! Why do you think there was a tremendous increase?

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8. Nebraska reported 1942 cases of West Nile in 2003 and only 30 in 2004. Explain.

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9. Based on historical data from the past two to three years, predict whether the number of West Nile infections that will be reported in California in 2005 will increase or decrease. Explain your reasoning.

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### Student Notes: