

# Teen Science-Investigators

## In This Installment:

- Profiles of three teens who are the winners of the first-ever NIDA-Scholastic *Addiction Science Awards*



## More Information

- For more about the NIDA-Scholastic *Addiction Science Awards*, visit [www.drugabuse.gov/sciencefair](http://www.drugabuse.gov/sciencefair).
- For complete interviews with the three teen winners, visit [www.scholastic.com/headsup](http://www.scholastic.com/headsup).

## Dear Teacher:

Every day around the world, scientists are working hard to find answers to unsolved questions. Their discoveries and research provide inspiring examples of the power of science to change the world.

But when the scientists turn out to be teens, there's even more reason to take notice. This latest installment in the Heads Up series offers a very special look at three teens whose remarkable research will continue to shape our knowledge about drug abuse and addiction.

As winners of the first-ever NIDA-Scholastic *Addiction Science Awards*, our "Teen Science-Investigators"—Kapil Ramachandran, Ethan Guinn, and Shelby Raye—have shown the world what can be achieved by asking questions and by finding answers through the study of science. We hope you will share this article with your students to encourage them to consider and share questions that are intriguing to them, and to recognize the power of science to provide answers.

Sincerely,

Nora D. Volkow, M.D.  
Director,  
National Institute on Drug Abuse (NIDA)



## Lesson Plan and Worksheet

### NATIONAL STANDARDS

**Science** (NSES, NRC): Life Science; Science in Personal and Social Perspectives

### BEFORE READING

- Discuss what scientific researchers do; ask students about the role teens might play in scientific investigation.
- Discuss ways in which scientific tools and methods are used to answer questions.

### AFTER READING

- Why was each teen science-investigator in the article motivated to use science and research to seek answers to the questions he or she had?
- What results of the teens' research did you find surprising?

### CRITICAL THINKING

- How might the work of these teen science-investigators contribute to helping teens better understand the health consequences of drug abuse and addiction?
- What unique perspective do you think teens bring to addiction-science research?

### WRITING PROMPT

Ask students to write a paragraph about a question they have about drug abuse and/or addiction. Have them describe what inspired them to ask the question and how they might use science to answer it.

### STUDENT WORKSHEET

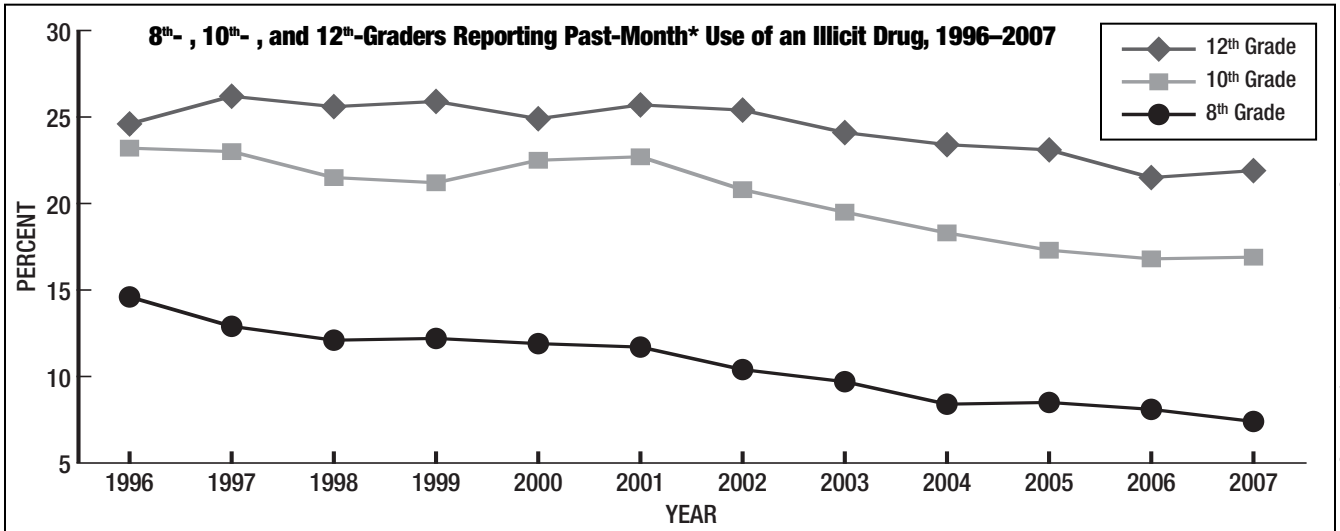
Distribute the graphing skills worksheet to build students' skills using line graphs and bar graphs. Explain that graphing and analyzing data are key parts of scientific research and reporting, and that each of the three teen science-investigators used graphs as part of their research studies.

ANSWERS to Student Worksheet: 1. b; 2. b; 3. a.

For printable past and current articles in the **HEADS UP** series, as well as activities and teaching support, go to [www.drugabuse.gov/parent-teacher.html](http://www.drugabuse.gov/parent-teacher.html) or [www.scholastic.com/HEADSUP](http://www.scholastic.com/HEADSUP).

## Trends in Teen Drug Use

Collecting, graphing, and analyzing data are key parts of scientific research and reporting. Study the line graph below to analyze national trends in teen drug use from 1996 to 2007. Then answer the questions that follow.



Source: Monitoring the Future Study, University of Michigan.

\* "Past month" refers to use at least once during the 30 days preceding an individual's response to the survey.

- The graph shows the percents of 8<sup>th</sup>-, 10<sup>th</sup>-, and 12<sup>th</sup>-graders who reported past-month use of an illicit drug from the years 1996 to 2007.
  - (A) True
  - (B) False
- Overall illicit drug use by 8<sup>th</sup>-, 10<sup>th</sup>-, and 12<sup>th</sup>-graders \_\_\_\_\_ between 1996 and 2007.
  - (A) increased
  - (B) decreased
  - (C) stayed the same
- The percentage of 8<sup>th</sup>-graders using an illicit drug dropped \_\_\_\_\_ between 1996 and 2007.
  - (A) about 50 percent
  - (B) about 25 percent
  - (C) more than 75 percent

**Now try this:** Bar graphs are another way to represent data. Like line graphs, bar graphs have a horizontal x-axis and a vertical y-axis. The height of each bar represents a certain value (percent) measured for each group. The table below includes the percentage data that were used to construct the line graph above. Select three separate years from the chart below. Then, on a separate piece of paper, create a bar graph to represent the percentage data of those three years for grades 8, 10, and 12.

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
8 <sup>th</sup> Grade	14.6	12.9	12.1	12.2	11.9	11.7	10.4	9.7	8.4	8.5	8.1	7.4
10 <sup>th</sup> Grade	23.2	23.0	21.5	21.2	22.5	22.7	20.8	19.5	18.3	17.3	16.8	16.9
12 <sup>th</sup> Grade	24.6	26.2	25.6	25.9	24.9	25.7	25.4	24.1	23.4	23.1	21.5	21.9