In 1997, the law was changed to allow drug companies to advertise prescription drugs on television without including a lengthy statement of every possible side effect. Each year since, there have been more of these ads. Television ads are still required to provide disclaimers about the main risks of each drug. Typically, such disclaimers are stated very quickly while good-looking actors distract the viewers. In 1991, drug companies spent $55 million on advertising directly to consumers. By 2012, they were spending over $4 billion. The average number of prescriptions per person in the United States has also increased. In 1992, that average was 7.2. By 2011, it was 13.

Prescription drug advertisements have the potential to be helpful. They often provide useful information. They can lead people to talk to their doctors instead of ignoring a health problem. Yet this advertising also causes some problems. Many people who go to the doctor assume they need a certain drug that might not be right for them. Doctors can feel pressured to prescribe the medication that the patients ask for. This might mean that the patient takes an expensive drug when there are less costly alternatives available. Advertisements might also lead people to think that there is a pill that will solve any problem. This could make them rely on drugs instead of preventing health risks with good diets and regular exercise. Also, they might not know about the risks of taking the medication they see on television. There is not enough time in a typical disclaimer to tell consumers about all of the possible side effects of a drug. The United States is one of only two countries in the world that allow drug companies to advertise directly to consumers.

Do prescription drug advertisements help people more than they hurt? Or should drug companies be restricted from advertising on television?
USE THE FOCUS WORDS

disclaimer (noun) statement denying responsibility

Sample Sentence: Television ads are required to provide *disclaimers* about the major risks of each drug.

Turn and Talk: Should products that promise to clear away pimples come with a *disclaimer*?

prescription (noun) an order that allows someone to use a medication or therapy

Sample Sentence: The average number of *prescriptions* per person in the United States has increased.

Turn and Talk: Why do you think only doctors can write *prescriptions*?

potential (noun) possibility

Sample Sentence: Prescription drug advertisements have the *potential* to be helpful.

Turn and Talk: What do adults mean when they say a young person has a lot of “*potential*”? Explain.

assume (verb) to decide without much evidence

Sample Sentence: Many people who go to the doctor *assume* they need a certain drug that might not be right for them.

Turn and Talk: Why might young people take risks and *assume* that they will not get injured?

rely (verb) to depend on

Sample Sentence: People who see advertisements for prescription drugs might *rely* on drugs instead of preventing health risks with good diets and regular exercise.

Turn and Talk: Do you think teenagers *rely* too much on technology? Explain.
DO THE MATH

Are prescription drug advertisements dangerous? Consumers who rely on commercials for information about drugs may not get the whole story. These people may not understand the disclaimers that talk about side effects. They may ask their doctor to prescribe a drug that has the potential to be dangerous. Drug companies, however, assume that they have a right to market their products directly to consumers.

**Option 1:** In 2006, Americans spent $216 billion on prescription drugs. This amount is about 10% of the country’s total health care costs. Given this information, what are the country’s total health care costs?

A. $2,160 million  
B. $21.6 billion  
C. $216 trillion  
D. $2.16 trillion

**Option 2:** One study said that for every $1 a company spends on consumer advertising, it will have an increase of $2.20 in sales. In 2006, drug companies spent $4.8 billion on advertising. If the study is correct, the $4.8 billion spent on advertising should have caused an increase of how many dollars in sales?

A. $7 billion  
B. $8.4 billion  
C. $10.56 billion  
D. $10.8 billion

**Discussion Question:** In 2006, drug companies spent $4.8 billion on consumer prescription drug ads. In that same year, drug companies spent $7.2 billion marketing drugs to doctors. If companies spend billions of dollars trying to convince doctors to use their products, can we rely on a doctor’s advice? Or does advertising have the potential to affect a doctor’s judgment? Can we assume that doctors’ decisions are not changed by advertising? Why or why not? Should we demand a new kind of disclaimer in the doctor’s office telling us which products have been advertised to our doctors?
Mr. Seemy’s students are studying familiar diseases in science class. “Some diseases are caused by bacteria, such as strep throat, tuberculosis, and food poisoning,” says Mr. Seemy. “However, diseases such as the common cold and chickenpox are caused by viruses, which are even smaller than bacteria.”

“I had a cold for two weeks and my doctor wouldn’t write me a prescription for antibiotics,” says Arjun. “She told me the cold was caused by a virus, and antibiotics wouldn’t work on it, and that I just needed to rest and drink a lot of fluids. It was so annoying!”

“Many people assume that antibiotics can kill viruses, but they can’t,” says Mr. Seemy. “Antibiotics are only effective on bacterial infections. Your doctor was right, even if you didn’t like it. You may see advertisements for a certain drug on TV or hear stories about people using a particular drug to get better, but that doesn’t necessarily mean it will be helpful in your situation.”

“I know what Arjun means though,” says Tanisha. “When I’m sick all I want is to get better. But my uncle’s a doctor and he says relying too much on antibiotics has the potential to create even stronger types of bacteria.”

“Well, I know that bacteria and viruses aren’t the same thing,” says Arjun, “but really, how are they different?”

“Let’s look at some information and see if you can sort different germs into the right categories for yourself,” says Mr. Seemy.

**Think Scientifically**

**The class goes over the following information on bacteria and viruses:**

<table>
<thead>
<tr>
<th>Bacteria</th>
<th>Viruses</th>
</tr>
</thead>
<tbody>
<tr>
<td>single-celled organisms</td>
<td>non-cellular</td>
</tr>
<tr>
<td>about 1,000 nanometers in size (visible with light microscope)</td>
<td>20-400 nanometers in size (not visible with light microscope)</td>
</tr>
<tr>
<td>reproduce by dividing (binary fission)</td>
<td>reproduce by hijacking a host cell and turning it into a virus factory</td>
</tr>
<tr>
<td>need to eat and produce waste</td>
<td>neither eat nor produce waste</td>
</tr>
<tr>
<td>classified as living by all scientists</td>
<td>scientists debate whether viruses should be classified as living</td>
</tr>
<tr>
<td>antibiotics can interfere with life processes and kill bacteria</td>
<td>cannot be killed by antibiotics</td>
</tr>
</tbody>
</table>

Now imagine you are a doctor. First, determine if each germ below is a bacteria or a virus. Then decide if you will prescribe antibiotics to fight each germ.

**Salmonella**
- single-celled
- reproduces using binary fission
- can be viewed under a light microscope

**Rhinovirus**
- must use a host cell to reproduce
- cannot be seen using a light microscope
- not made of cells

**Influenza (the flu)**
- does not consume food or produce waste
- about 100 nanometers in size

Which of the three germs above are treatable with antibiotics? How do you know?

Suppose a patient who had the flu asked you to prescribe an antibiotic he had seen advertised. Explain to your patient whether or not antibiotics could help him, and why.
DEBATE THE ISSUE

Pick one of these positions (or create your own).

A  Drug companies should be able to advertise on television.

B  Drug companies should not be able to advertise on television.

OR

CREATE YOUR OWN

Jot down a few notes on how to support your position during a discussion or debate.

___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________
___________________________________________________

Be a strong participant by using phrases like these:

• Can you show me evidence in the text that...

• You make a good point, but have you considered...

• I believe that...

• I agree with you, but...

OR

Drug companies should be able to advertise on television.

Drug companies should not be able to advertise on television.
TAKE A STAND

Support your position with clear reasons and specific examples. Try to use relevant words from the Word Generation list in your response.

disclaimer  |  prescription  |  potential  |  assume  |  rely