

# TEST YOUR KNOWLEDGE ON DRUGS AND DRUG ABUSE BY TAKING THE:

# National Drug IQ Challenge

Go to <http://www.drugfactsweek.drugabuse.gov/IQchallenge> for an online interactive version.

## 1 Addiction is a disease of...

- A. The liver
- B. The brain
- C. The heart
- D. The whole body

## 2 Which of the following drugs are addictive? (you can choose more than one)

- A. MJ
- B. Cocaine
- C. Nicotine
- D. Alcohol
- E. All of the above

## 3 Which of the following is safe to do? (you can choose more than one)

- A. Smoke crack cocaine
- B. Smoke a joint (marijuana)
- C. Tweet about texting on Twitter
- D. Take ecstasy at a "rave"
- E. Sniff a permanent marker

## 4 Which of these statements are false? (you can choose more than one)

- A. You can tell if you are the type to get addicted
- B. If you can stop using drugs for 1 week, you are cured of your addiction
- C. You can't get addicted to marijuana
- D. If you smoke marijuana daily, you function at a decreased intellectual level all or most of the time

## 5 Adderall can be an effective medication to treat ADHD, but it can be dangerous when taken by those who are not prescribed it. What percentage of high school seniors report taking Adderall for non-medical reasons?

- A. 3.5%
- B. 12.7%
- C. 27.1%
- D. 6.5%

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*For more questions and to find out the correct answers, go to the next page.*

# National Drug IQ Challenge

**6** Marijuana was a contributing factor in what number of emergency room visits in 2009?

- A. 127,000
- B. 72,000
- C. 375,000
- D. 929,000

**7** What drugs are associated with risky sexual behavior that could lead to HIV infection?

- A. Alcohol
- B. Prescription pain pills
- C. Marijuana
- D. Ecstasy
- E. All of the above

**8** A person who is addicted to drugs can experience a severe reaction when trying to quit—this is called:

- A. The heebie-jeebies
- B. Withdrawal
- C. Status epilepticus
- D. Hysteria
- E. None of the above

**9** What does “Detoxification” mean?

- A. Treatment for drug addiction
- B. A process that enables the body to rid itself of drugs
- C. Removing all drugs from your backpack, locker, and medicine cabinet
- D. B and C

**10** Drugs hijack the brain’s “reward” system, causing unusually large amounts of a natural neurotransmitter to flood the brain. This neurotransmitter is called:

- A. Dopamine
- B. Estrogen
- C. Epinephrine
- D. Krypton

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*For the correct answers, go to the last page.*

# BRAINIAC

## BONUS QUESTIONS:

**1** Inhalants can harm the brain, affecting a fatty tissue that covers nerves called:

- A. Myelin
- B. Noradrenaline
- C. Frontal cortex
- D. Polyneuropathy

**2** A person who has smoked marijuana may have difficulty with his or her balance because of the drug's effect on what brain area?

- A. The cerebral cortex
- B. The thalamus
- C. The hippocampus
- D. The cerebellum

**3** The reward structures are part of a larger brain system known as the:

- A. Frontal lobe
- B. Nervous center
- C. Limbic system
- D. Logic system

**4** Which is about the same size as our brain?

- A. A golf ball
- B. A honeydew melon
- C. Your lungs
- D. Two fists together

**5** The biggest part of the human brain, which contains the main "thinking center," is called the:

- A. Brain stem
- B. Cerebral cortex
- C. Piccadilly forceps
- D. White matter

[HTTP://WWW.DRUGFACTSWEEK.DRUGABUSE.GOV/IQCHALLENGE](http://www.drugfactsweek.drugabuse.gov/iqchallenge)

*For the correct answers, go to the last page.*



# ANSWERS TO THE

# National Drug IQ Challenge

**1 B. The brain.** Addiction is defined as a chronic, relapsing brain disease because drugs alter the brain in a way that can lead to compulsive drug seeking and use, despite harmful consequences. Learn more: <http://www.drugabuse.gov/ScienceofAddiction/>

**2 E. All of the above.** All of these drugs, even legal ones like nicotine and alcohol, affect dopamine levels in the brain and can disrupt normal brain function, which can lead to addiction. Learn more: <http://www.drugabuse.gov/nidahome.html>

**3 C. Tweet about texting on Twitter.** All of the actions above (except tweeting) can have dangerous health consequences, including addiction. Cocaine can cause heart attacks and seizures; marijuana can impair driving ability, especially when combined with alcohol; ecstasy pills can contain any number of toxic ingredients; and sniffing permanent markers can keep oxygen from getting to your brain. Learn more about these drugs on the NIDA for Teens Web site at <http://teens.drugabuse.gov>

**4 The correct answers are A, B, and C.** (A) You cannot tell in advance if you will become addicted. It is true that some people are more at risk than others—if you have a family member with drug problems, you may be at greater risk, since addiction is about 50 percent genetics. (B) Addiction is linked to long-lasting changes in the brain, including memory triggers that can induce severe drug cravings and relapse. Recovery is a lifelong process for some. (C) An estimated 1 out of every 11 people who try marijuana become addicted to it. For those who start in their teens, the chances go up to 1 in 6; and for daily users, the addiction rate is 25–50 percent. (D) True: Marijuana's effects on attention, memory, and learning can last for days and sometimes weeks—especially if you smoke often. Check out NIDA's Drugs, Brains and Behavior: <http://www.drugabuse.gov/ScienceofAddiction>

**5 D. 6.5%.** According to NIDA's annual Monitoring the Future survey of 8th, 10th, and 12th graders, approximately 1 in 15 high school seniors reported taking Adderall in the past year for non-medical reasons, meaning they used someone else's prescription or they took it to get high. See more at: <http://www.nida.nih.gov/infofacts/PainMed.html>

**6 C. 375,000.** In the 2009 DAWN survey of hospital ER visits, marijuana was involved in 375,000 emergency room visits, with about two-thirds (65 percent) of patients being male, and 12 percent between the ages of 12 and 17. Learn more: <http://www.nida.nih.gov/ResearchReports/Marijuana/marijuana2.html#scope>

**7 E. All of the above.** All drugs of abuse can affect judgment and decision-making, which can lead to risky behaviors like having unprotected (or even non-consensual) sex. This puts people at risk for acquiring HIV or other sexually transmitted diseases. Check out NIDA's *Learn the Link* site at <http://hiv.drugabuse.gov/english/learn/overview.html>.

**8 B. Withdrawal.** Although withdrawal symptoms can occur following long-term medical or non-medical use, they are often a contributor to relapse in those who are addicted. Symptoms vary according to the abused drug. With heroin, for example, withdrawal symptoms include restlessness, muscle and bone pain, insomnia, diarrhea, vomiting, and cold flashes with goose bumps. Learn more: <http://www.drugabuse.gov/ScienceofAddiction/>

**9 B. A process that enables the body to rid itself of drugs.** The first step in treatment is to rid the body of the abused substance; however, detoxification alone is not sufficient to prevent relapse. Detoxification should be followed by treatment—behavioral (talk therapies); medications (e.g., nicotine replacement for smoking; the medication suboxone for opioids); or both. Detoxification may require physician supervision to minimize dangerous or painful symptoms—especially for drugs such as sedatives or opiates. Learn more: <http://www.drugabuse.gov/ScienceofAddiction/>

**10 A. Dopamine.** Some drugs produce a flood of dopamine in the brain, which causes the “high” or euphoria that people experience. Continued drug use causes the dopamine system to adapt, eventually becoming less responsive to normal rewards, such as listening to your favorite music or holding hands with a new boyfriend or girlfriend. Learn more: <http://www.drugabuse.gov/ScienceofAddiction/>

## BRAINIAC BONUS ANSWERS:

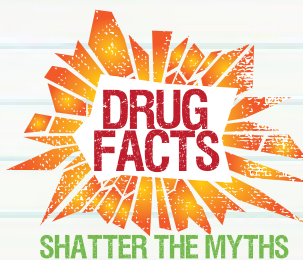
**1 A. Myelin.** Inhaling fumes or markers can eat away at the myelin lining that protects nerve cells. Without this protection, nerve cells can get damaged and may be less efficient in transmitting messages to other nerve cells. This can cause muscle spasms, tremors, or difficulty with basic motor skills like walking, bending, or talking. For more information, see <http://teens.drugabuse.gov/blog/word-of-the-day-axon/>

**2 D. The cerebellum.** The cerebellum is a part of the brain that helps regulate posture, balance, and coordination during activities such as playing ball, picking up objects, and balancing. The cerebellum coordinates our voluntary muscle movement, like a puppeteer helping us put one leg in front of the other. See more at <http://teens.drugabuse.gov/blog/word-of-the-day-cerebellum/>

**3 C. Limbic system.** The limbic system is a set of brain structures that generates our feelings, emotions, and motivations. It is also important in learning and memory. By controlling our ability to feel pleasure, the limbic system motivates us to repeat behaviors that are necessary for our survival, like eating. But drugs of abuse take over this system, causing people to want drugs more than they want anything else, and teaching them to continually repeat the behavior. You can find more information at <http://teens.drugabuse.gov/blog/word-day-limbic-system/>

**4 D. Two fists together.** Weighing about 3 pounds, the brain is made up of many parts that all work together as a team, each with a specific and important job to do. To get an idea of how big your brain is, make two fists and hold them together, knuckles facing each other, with the heels of your palms touching. More information on the brain and what drugs do to it can be found at [http://teens.drugabuse.gov/facts/facts\\_brain1.php](http://teens.drugabuse.gov/facts/facts_brain1.php)

**5 B. Cerebral cortex.** The cerebral cortex is the mushroom-like outer part of the brain (the gray matter). It is divided into four areas called lobes, and makes up about three-fourths of the entire brain. The front part of the cortex, frequently called the frontal lobe, is the thinking center. It powers our ability to think, plan, solve problems, and make decisions. Long-term exposure to drugs of abuse interferes with the cerebral cortex's ability to control behaviors related to drug abuse. Check out: [http://teens.drugabuse.gov/facts/facts\\_brain1.php](http://teens.drugabuse.gov/facts/facts_brain1.php)



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For more information about drugs and drug abuse, visit [drugabuse.gov](http://drugabuse.gov) or call 1-877-643-2644. Order number: AVD223.