







# ANSWERS TO THE:

## 2018 National Drug & Alcohol IQ Challenge

**1 A.** Smoking THC-rich resins extracted from the marijuana plant is called “dabbing.” These extracts come in various forms and consistencies, such as oils, goopy liquids, waxes, and soft or hard solids. These extracts can deliver large amounts of THC to the body, and their use has sent people to the emergency room. Preparing these extracts is also dangerous because it usually involves butane (lighter fluid). A number of people have caused fires and explosions and have been seriously burned from using butane to make extracts at home. To learn more about marijuana, visit <https://www.drugabuse.gov/publications/drugfacts/marijuana>.

**2 C.** Studies have shown that cocaine use speeds up HIV infection. According to research, cocaine impairs immune cell function and promotes reproduction of the virus. Research also suggests that people who are infected with HIV and use cocaine may be at increased risk for contracting hepatitis C, a virus that causes liver damage, even if they do not inject drugs. Learn more about other health effects of cocaine here: <https://www.drugabuse.gov/publications/drugfacts/cocaine>.

**3 D.** Alcohol overdose occurs when there is so much alcohol in the bloodstream that areas of the brain controlling basic life-support functions, such as breathing, heart rate, and temperature control, begin to shut down. Symptoms of alcohol overdose include confusion; difficulty remaining conscious; vomiting; seizures; trouble breathing; slow heart rate; clammy skin; dulled responses, such as no gag reflex (which prevents choking); and extremely low body temperature. If you suspect someone is experiencing an alcohol overdose, get medical help immediately. Cold showers, hot coffee, or walking will not reverse the effects of alcohol overdose and could actually make things worse. Alcohol overdose can lead to permanent brain damage or death. To learn more about alcohol overdose, visit: <https://pubs.niaaa.nih.gov/publications/AlcoholOverdoseFactsheet/Overdosefact.htm>.

**4 E.** E-cigarette use exposes the lungs to a variety of harmful chemicals, including those added to e-liquids and other chemicals produced during the heating/vaporizing process. A study of some e-cigarette products found the vapor contains known carcinogens and toxic chemicals, as well as potentially toxic metal nanoparticles from the device itself. Learn more about e-cigarettes here: <https://www.drugabuse.gov/publications/drugfacts/electronic-cigarettes-e-cigarettes>.

**5 C.** Nearly 23,000 people died in the United States from prescription opioid pain reliever overdoses in 2015. 13,000 died from heroin overdoses the same year. Heroin is also an opioid. Most people who use heroin started by first misusing opioid pain relievers. These pain relievers should ONLY BE TAKEN AS PRESCRIBED BY YOUR DOCTOR. It is impossible to predict who will become addicted. To learn more about opioid overdose rates, visit <https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates>.

**6 B.** Research shows that young people’s brains keep developing well into their 20s. Alcohol can alter this development, potentially affecting both the brain’s structure and its function, meaning how well it processes information. This can cause cognitive or learning problems later in life. This is especially a risk when people start drinking young and drink heavily. Learn more about how alcohol affects the brain at <https://pubs.niaaa.nih.gov/publications/UnderageDrinking/UnderageFact.htm>.

**7 E.** All of these drugs are often made illegally in laboratories. Fentanyl is especially dangerous, because it is an opioid that is 50–100 times more powerful than morphine (a drug often used to treat severe pain). Drug dealers sometimes add it to heroin and other drugs. People using street drugs often don’t realize that fentanyl has been added to what they are buying. This leads to a lot of overdoses because fentanyl, especially when added to other drugs, can slow or stop a person’s breathing.

**8 B.** False. NIDA’s annual Monitoring the Future Survey shows that about 45% of 12th graders say they have tried marijuana in their lifetime. This means that most teens have actually never used marijuana. About 36% say they have tried it in the past year, and close to 23% say they have tried it in the last month. Finally, 6% say they use it daily. To learn more about drug use in teens, visit <https://www.drugabuse.gov/trends-statistics/monitoring-future/monitoring-future-study-trends-in-prevalence-various-drugs>.

**9 A.** In the short term, a young person who drinks may have decreased motor coordination and make poor, and often risky, decisions, resulting in tragic consequences such as injuries, violence, or death. It also slows down a person’s ability to recognize and respond to potential danger. Alcohol can also have long-term effects that are permanent. To learn more, visit <https://pubs.niaaa.nih.gov/publications/UnderageDrinking/UnderageFact.htm>.

**10 D.** According to the National Survey on Drug Use and Health, in 2016, nearly 12 million people age 16 or older drove under the influence of illicit drugs in the past year. 20.7 million people age 16 or older drove under the influence of alcohol. Learn more about drugged driving at <https://www.drugabuse.gov/publications/drugfacts/drugged-driving>.

## BRAINIAC BONUS ANSWERS

**11 C.** Stimulants, such as dextroamphetamine (Dexedrine®, Adderall®) and methylphenidate (Ritalin®, Concerta®), act on the family of monoamine neurotransmitter systems in the brain, which include norepinephrine and dopamine. Stimulants enhance the effects of these chemicals. These medications’ effects on norepinephrine increase blood pressure and heart rate, constrict blood vessels, increase blood glucose, and open up breathing passages. Learn more about how prescription drugs act on the brain by visiting <https://www.drugabuse.gov/publications/research-reports/misuse-prescription-drugs/which-classes-prescription-drugs-are-commonly-misused>.

**12 D.** This research project is called the Adolescent Brain Cognitive Development Study. “Cognitive” refers to how well the brain learns and analyzes information. ABCD is a landmark study on brain development and child health supported by NIDA and other National Institutes of Health Institutes. Children will be interviewed and studied with brain imaging from the age of 9 to at least age 19. This project will increase our understanding of environmental, social, genetic, and other biological factors that affect brain and cognitive development and that can enhance or disrupt a young person’s life trajectory. To learn more about the ABCD Study, visit <https://www.drugabuse.gov/related-topics/adolescent-brain/longitudinal-study-adolescent-brain-cognitive-development-abcd-study>.

