

What's the Risk?

Abstract

To discover the risk and protective factors involved in substance addiction, students play a game of chance to determine whether a fictitious child is likely or unlikely to abuse drugs. Students then analyze the results along with genetic factors to assess the risk of addiction.

Logistics

Time Required

▶ **Class Time:**
40 minutes

▶ **Prep Time:**
30 min. to review activity, make copies of student pages, and obtain dice

Materials

Copies of student pages, dice (one die per pair of students), several pictures of diverse individuals among which one is an addict (optional)

Prior Knowledge Needed

None

Appropriate For:

Primary Intermediate Secondary College

Learning Objectives

- ▶ Students will understand that the use of drugs is an important risk factor in addiction.
- ▶ Environmental and behavioral factors (known as risk and protective factors) affect personal choices about drug use and influence the likelihood of addiction.
- ▶ Genetics is a factor in addiction.

Special Features You'll Find Inside

- ▶ An additional activity you can use with students to demonstrate that addiction can happen to anyone, perhaps even them.

What's the Risk?

Classroom Implementation

To engage students in this topic:

- Optional: Show pictures of several individuals from different socioeconomic backgrounds, ages, races, and cultures. Ask students to identify which person is the addict. (It should be hard to tell.)
- Explore the idea that drug addiction is a very unpredictable disease. It is hard to tell who will or will not abuse drugs, alcohol, or tobacco. But one thing is very clear. There are tremendous risks involved in the use of addictive substances. Discuss some of these personal and social risks with your students.
- Explain that although addiction is hard to predict, a person's environment, genetic make-up, behaviors and choices may either increase or decrease the likelihood of addiction. These factors are called risk factors and protective factors.
- It is the accumulation of protective factors that will have the most positive effect on a young person when it comes to the choice of drug, alcohol, or tobacco use.

Activity instructions:

- Pass out the student pages and dice, then invite students to find a partner with whom they will play the game *What's The Risk?*.
- Ask students to follow the instructions on the student pages to complete the *What's The Risk?* activity.

Discussion Points:

- Roughly 10% of all people who experiment with drugs become addicted. A combination of environmental, behavioral and genetic factors influence the likelihood of addiction.
- As a class, discuss some of the most important risk and protective factors for substance abuse. Ask students to suggest ways parents and teens can reduce or eliminate these risks. Explain that it is the accumulation of protective factors in community, school, family, and peer environments that has the most positive effect on a person.
- Discuss the contribution of genetics, environment, and behavior/choice to a person's risk. Explain that

Supply Quantities

Per Group of 2

- ▶ One die
- ▶ One copy of student pages S-1 to S-3 (the game)

Common Misconceptions

Many students incorrectly believe that early experimentation with drugs, tobacco, or alcohol won't hurt them because addiction is easy to avoid. They think that addiction only happens to those who are mentally ill, come from a low socioeconomic status, or lack will power. But 10% of all people who experiment with drugs become addicted. Help students see this tremendous risk!

Extension

Learn more about the risk and protective factors included in this activity by exploring *Environmental Risk Factors for Addiction*, linked from the *Timing and Circumstances Influence Addiction* page in *The New Science of Addiction: Genetics and The Brain* module on our website ([url above](http://gslc.genetics.utah.edu)). Includes audio clips.

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an “unlikely” score does not make recreational use safe (as genetic factors may play a large role), and a “likely” score does not equate to inevitability. However, it does mean that the individual should be especially diligent about avoiding drugs and further risk factors.

Standards

U.S. National Science Education Standards

Grades 5-8:

Content Standard F: Science in Personal and Social Perspectives Personal Health

- Personal Health

- » The use of tobacco increases the risk of illness. Students should understand the influence of short-term social and psychological factors that lead to tobacco use, and the possible long-term detrimental effects of smoking and chewing tobacco.
- » Alcohol and other drugs are often abused substances. Such drugs change how the body functions and can lead to addiction.

Grades 5-8:

Content Standard F: Science in Personal and Social Perspectives

- Risks and Benefits

- » Risk analysis considers the type of hazard and estimates the number of people that might be exposed and the number likely to suffer consequences. The results are used to determine the options for reducing or eliminating risks.
- » Students should understand the risks associated with personal hazards (smoking, dieting, and drinking).
- » Important personal and social decisions are made based on perceptions of benefits and risks.

Grades 9-12:

Content Standard F: Science in Personal and Social Perspectives Personal and Community Health

- Personal and Community Health

- » Many diseases can be prevented, controlled or cured.
- » Personal choice concerning fitness and health involves multiple factors. Personal goals, peer and social pressures, ethnic and religious beliefs, and understanding of biological consequences can all influence decisions about health practices.
- » An individual's mood and behavior may be modified by substances. Students should understand that drugs can result in physical dependence and can increase the risk of injury, accidents, and death.

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What's the Risk?

AAAS Benchmarks for Science Literacy

Grades 6-8:

The Human Organism

- Physical Health

- » Students should extend their study of the healthy functioning of the human body and ways it may be promoted or disrupted by diet, lifestyle, bacteria, and viruses. Students should consider the effects of tobacco, alcohol, and other drugs on the way the body functions.

Credits

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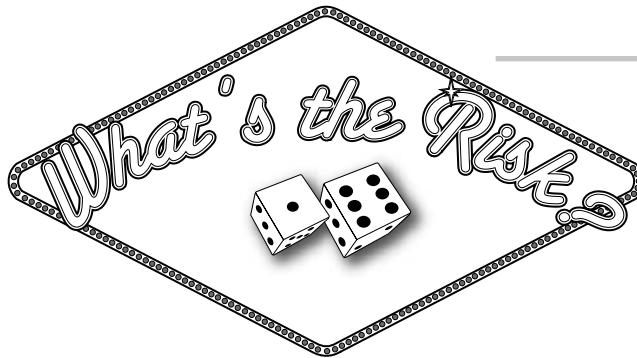
Funding

Funding for this module was provided by a Science Education Drug Abuse Partnership Award (SEDAPA) from the National Institute on Drug Abuse, a component of the National Institutes of Health, Department of Health and Human Services.

NIDA NATIONAL INSTITUTE
ON DRUG ABUSE

Name _____

Date _____

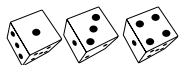


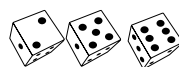
Drug addiction can happen to anyone. It is hard to predict who will become addicted and who will not. One thing is very clear and simple however, using drugs is an important risk factor for addiction.

Certain environmental and behavioral factors are known to predict drug use. Learn what these factors are by rolling dice to determine the risk and protective factors a fictitious child will encounter. You will then tally up these factors to determine the likelihood that this child will use drugs.


For each question that follows, CIRCLE THE OUTCOME indicated by the number rolled on the die and record the points awarded on the Score Sheet.


1. Social and problem-solving skills:

 Anti-social behavior, no sign of guilt or remorse for misbehavior 2 points

 Adapts well to new situations, guilt or remorse following misbehavior 1 point

2. Stability

 Moves to a new area frequently 2 points

 Moves infrequently or never 1 point

3. Anger management:

 Easily angered and aggressive, alienates self from others 2 points


 Easy-going personality, very patient 1 point


4. Depression:

 Struggles with depression 2 points

 Does NOT struggle with depression 1 point

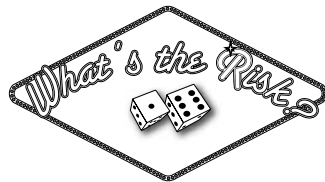
5. Friends:

 Best friend uses substances of addiction 2 points



 Best friend never uses 1 point

Name _____

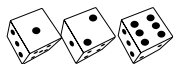

Date _____





6. Parents talk about and discourage drug abuse:

-  Parents never discuss the issue 2 points
-  Parents speak frequently about drug abuse 1 point

7. Sense of belonging in school and community:

-  Feels unattached, doesn't care about school or community 2 points
-  Is highly involved in school and community, feels a sense of belonging 1 point




8. Family bonds:

-  Feels detached from family 2 points
-  Strong bonds between family members 1 point

9. Abuse history (verbal, mental, sexual):

-  Abused 2 points
-  Never abused 1 point

10. First use of drugs or tobacco:

-  Never 0 points
-  Before the age of 18 2 points
-  Age 18 or older 1 point

11. Availability of firearms and drugs:

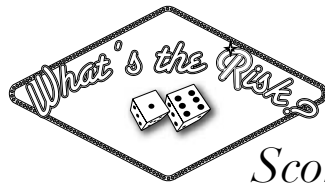
-  Widely available, easily obtained 2 points
-  Hard to find and obtain 1 point

12. Early academic success (grades 5 and 6):

-  Poor grades or failure 2 points
-  Excellent grades 1 point

Name _____

Date _____



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Score Sheet

- | | |
|---|--------------|
| 1. Social and problem-solving skills | _____ points |
| 2. Stability | _____ points |
| 3. Anger management | _____ points |
| 4. Depression | _____ points |
| 5. Friends | _____ points |
| 6. Parents talk about and discourage drug abuse | _____ points |
| 7. Sense of belonging in school and community | _____ points |
| 8. Family bonds | _____ points |
| 9. Abuse history | _____ points |
| 10. First use of drugs or tobacco | _____ points |
| 11. Availability of firearms and drugs | _____ points |
| 12. Early academic success | _____ points |

Total: _____

What are the odds that this child will use drugs?
(Circle your number on the scale below)

11	12	13	14	15	16	17	18	19	20	21	22	23	24
<i>not likely</i>											<i>likely</i>		

Consider This:

Genetics plays a role in addiction. A person's genetic make-up may make them more or less vulnerable to addiction once drug use begins. Roll the dice one more time to determine your child's genetic make-up and circle the outcome.

Genetic make-up:



Both biological parents have an addiction susceptibility gene



One biological parent has an addiction susceptibility gene



Neither mother nor father has an addiction susceptibility gene

Given your child's likelihood to use drugs, what effect might their genetic make-up have on his or her risk of becoming an addict? Explain your reasoning on the back of this paper.