

## Drug Worksheet Activity Pros and Cons

Target audience: 11,12 grade

**Background and Notes:** Active molecules used in medicines and drugs can have positive and negative effects. This activity enhances student understanding of the active ingredients from generic and name brand medicines, their dose and their effects.

### Knowledge and skills:

- Students should know basic concepts of molecular and ionic bonding, structure and intermolecular forces.
- Students should be able to obtain information from medicinal informational inserts and reference books such as the Physician's Desk Reference.

### Fundamental understanding:

- Students should see that medicines/natural products can have positive or negative effects depending on the dose or the specific person.

### Essential Questions:

- Students will observe through research positive and negative effects of medicines/natural products.

### National standard (s):

- National content standards content standard A: the ability to do and understand scientific inquiry.

### State standard(s):

- North Carolina Standard Course of Study Objective 1.071 and 1.072: Assess the structure of compounds relating bonding and molecular geometry to chemical and physical properties

**Purpose:** For students to research chemicals used for medicinal or mind altering purposes to assess their positive and negative effects.

### Safety Precautions:

none

### Materials:

- **Resources, books and websites:**
  1. The Pill Book
  2. Physician's Desk Reference
  3. "Medicinal Plants and Herbs" Peterson Field Guide
  4. "Buzzed"

5. Information from the National Institutes of Health. It contains sections for teachers, students, and the public. <http://science-education.nih.gov/>
6. This site contains information on drugs of abuse, NIDA publications and communications, agency events, and links to other drug-related Internet sites. 301-443-6245.  
<http://www.nida.nih.gov/http://www.nida.nih.gov/>
7. <http://www.mayohealth.org/usp/di/uspA-AM.htm>

**Procedure:**

1. A worksheet ([click here or see below](#)) is provided for the students work in pairs or groups researching on the internet or from reference materials available in the room.
2. Students present their information in a shared classroom setting.
3. Optionally, they can just turn in the work sheet.

**Conclusion:**

1. Restate Purpose of the exercise
2. What was learned?
3. How would you change or improve this activity i.e. would you do next in an investigation?

**References and Resources:**

**Books:**

1. Foster, Steven and Duke, James A. "Medicinal Plants and Herbs" Peterson Field Guide Series, Houghton Mifflin Company, 215 Park Avenue, New York, New York 1003. ISBN0-395-98814-4 (pbk)
2. Levine, Ruth R. "Pharmacology, Drug Actions and Reactions." The Parthenon Publishing Group: International Publishers in Medicine, Science, & Technology. One Blue Hill Plaza PO Box 1564, Pearl River, New York 10965. Copyright 1996. ISBN: 1-85070-780-4
3. Kuhn, Cynthia, Swartzwelder, Scott and Wilson, Wilkie, "Buzzed". W. W. Norton & Company, Inc., 500 Fifth Avenue, New York, New York 10110. 1998 ISBN 0-393-31732-3 (pbk)
4. Mann, John. "Murder Magic and Medicine." Oxford University Spread. Walton Street, Oxford OX2 6DP. Copyright 1992. ISBN: 0-19-855854-6
5. Plotkin, Mark J. Ph.D. "Medicine Quest: In Search of Nature's Healing Secrets." Viking: Published by Penguin Books. 375 Hudson Street New York, New York 10014. Copyright 2000. ISBN: 0-670-86937-6
4. Plotkin, Mark J. Ph.D. "Tale of Shaman's Apprentice: An Ethnobotanist Searches for New Medicines in the Amazon Rain Forest." Penguin Books. 375 Hudson Street New York, New York 10014. Copyright 1994. ISBN: 0-14-01.2991 X

5. Silverman, Harold M. Pharm D. "The Pill Book." Bantam Books: CMD Publishing, A Division of Current Medical Directions. 1540 Broadway New York, New York 10036. ISBN: 0-553-58478-2
6. Physician's Desk References

**Teacher Notes:** Allow students to start at beginning of class, first day. Fill in as much as possible, and then lead into a discussion. How drugs and toxins might affect you. Discuss why you need to understand chemistry to achieve a happy, healthful and safe life. [Student notes](#) (Unit1) from the introduction of the *Murder, Magic and Medicine* and from Marc Plotkin's *Tales of a Shaman's apprentice*. Useful website for the students to research the drugs of their interest.  
<http://www.mayohealth.org/usp/di/uspA-AM.htm>

Name \_\_\_\_\_

### DRUGS

<http://www.mayohealth.org/usp/di/uspA-AM.htm>

<http://www.drugabuse.gov/>

	Common Name	Generic Name	Prescription, Illegal, or OTC	Negative Effects	Positive Effects
1					
2					
3					
4					
4					
6					
7					
8					
9					
10					