

A Dangerous Mix

Many teens regularly take medications and over-the-counter drugs. But they may not know that mixing substances can cause unexpected and potentially dangerous effects. Those risks are even greater when alcohol and illicit drugs are involved. By sharing the student article “A Dangerous Mix,” teaching the lesson, and handing out the activity sheet, you will help students be smart about medicine safety.



Critical-Thinking Questions

1 What is an active ingredient? Where can they be found? Give an example of an active ingredient. (*An active ingredient, also known as an active chemical, is a substance that has an effect on the brain or body such as causing alertness or slowing breathing. Active chemicals can be found in drugs and alcohol, over-the-counter and prescriptions medications, and even natural substances like food, vitamins, and herbal supplements. Examples may include caffeine, decongestants, stimulants in ADHD medications, etc.*)

2 Explain why it is important to check the ingredients in any over-the-counter medications before taking them. (*Answers may include that many over-the-counter medications contain the same active ingredients. Mixing these medications together may cause you to ingest too large of a dose of a chemical, which may be harmful to your body. Mixing medications can also amplify their effects, which may cause dangerous bodily reactions.*)

3 Why might someone who mixes alcohol with an illicit drug end up in the emergency room? Use evidence to support your answer. (*Alcohol often magnifies the effects of a drug on the body. Depending on the drug, this can cause dangerous complications that may impair a person's breathing, such as with sedatives or opioids, or dangerously increase a person's heart rate, such as with stimulants like cocaine and methamphetamine.*)

Writing Prompts

Grades 6–8 Why is it important to tell your doctor about any vitamins or herbal supplements you are taking?

Grades 9–10 Describe at least two ways that the effect of a medication may change if it is mixed with another substance. Give examples of each.

Grades 11–12 Explain why mixing drugs such as opioids can increase risk of death.

Paired Reading

“Non-Addictive Drugs: Are They Always Safe?” (teens.drugabuse.gov/blog/post/non-addictive-drugs-are-they-always-safe) This paired text describes why even over-the-counter medications should be used with caution.

Writing Prompt Explain why it is important to follow the directions on an over-the-counter medication. Describe at least two possible risks if you misuse the drug. Have students use text evidence from “Non-Addictive Drugs: Are They Always Safe?” and “A Dangerous Mix” to support their answers.

Activity Sheet Answers

1. The active ingredient in the medication is chlorpheniramine maleate.

2. Assuming an age of 12 and up: You can take a maximum of 12 pills per 24 hours, which is equal to 24 milligrams of chlorpheniramine maleate.

3. Answers may include that a person shouldn't drive a vehicle or operate heavy machinery when taking this medication. That's because the medication can cause the person to be drowsy.

4. Alcohol, sedatives, and tranquilizers.

5. Sedatives and tranquilizers are substances that slow breathing and heart rate and cause drowsiness. These are similar to the medication's side effects. When the substances are combined, the effects could be amplified or could result in other side effects. This is also true for alcohol, which can amplify the effects of medications.

Subject Areas

- Science Literacy
- English Language Arts
- Health/Life Skills

Standards

CCSS

RST.6-8.1 / RST.9-10.1

- Cite specific textual evidence to support analysis of science and technical texts

W.6-8.1 / W.9-10.1

- Write arguments to support claims, using valid reasoning and relevant and sufficient evidence

NGSS Practices

- Obtaining, evaluating, and communicating Information/engaging in argument from evidence

NSES

- Personal health

NCSS

- 8. Science, technology, and society

Additional Lesson Resources

- Tiered Vocabulary Tools: Visit scholastic.com/headsup/adangerousmix for a vocabulary list to support this article.
- headsup.scholastic.com/teachersandteens.drugabuse.gov



Read the Label!

Directions: Read the label from an allergy and cold medication below and then answer the questions that follow.

Drug Facts	
Active Ingredient (in each tablet) Chlorpheniramine maleate 2 mg	Purpose Antihistamine
Uses temporarily relieves symptoms due to hay fever or other upper respiratory allergies: ■ sneezing ■ runny nose ■ itchy, watery eyes ■ itchy throat	
Warnings Ask a doctor before use If you have ■ glaucoma ■ a breathing problem such as emphysema or chronic bronchitis ■ trouble urinating due to an enlarged prostate gland Ask a doctor or pharmacist before use If you are taking tranquilizers or sedatives When using this product ■ you may get drowsy ■ avoid alcoholic drinks ■ alcohol, sedatives, and tranquilizers may increase drowsiness ■ be careful when driving a motor vehicle or operating machinery ■ excitability may occur, especially in children If pregnant or breast-feeding, ask a health professional before use. Keep out of reach of children. In case of overdose, get medical help or contact a Poison Control Center right away.	
Directions	
adults and children 12 years and over	take 2 tablets every 4 to 6 hours; not more than 12 tablets in 24 hours
children 6 years to under 12 years	take 1 tablet every 4 to 6 hours; not more than 6 tablets in 24 hours
children under 6 years	ask a doctor
Other information store at 20-25° C (68-77° F) ■ protect from excessive moisture	
Inactive ingredients D&C yellow no. 10, lactose, magnesium stearate, microcrystalline cellulose, pregelatinized starch	

Answer these questions on a separate sheet of paper as necessary.

1. What is the active ingredient in the medication?
2. What is the maximum dose in milligrams of the ingredient someone your age can take in 24 hours?
3. What are some activities that should be avoided while taking this medicine? Explain why.
4. Which substances should not be taken with the medication?
5. Research the effect of substances listed on the label that should not be used with this medication. Apply what you have learned in the student article to explain why these substances should not be combined. Include evidence from the label, the article, and any additional research to support your answer.

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