



## Buzz in a Bottle

### **Target Age:**

Teens

### **Goal:**

To increase awareness of potential overdose risk when consuming caffeine-spiked energy drinks and other caffeine containing products, and learn how to get help in the event of a poison emergency.

### **Learning Objective:**

Participants will be able to

- Explain the difference between energy drinks and sports drinks
- Name 3 possible side effects from too much caffeine
- List 2 healthy energy promoting alternatives to energy drink
- Critique the marketing of an energy drink during the “tagline” activity

### **Timeline:**

This lesson is designed to be a 60 minute presentation.

### **Materials:**

- Video: *Buzz in a Bottle* (optional) available for loan from Utah Poison Control Center (UPCC)
- Activity handouts for each participant: *Tagline Activity*, *Caffeine Tracker Activity* and *Caffeine Levels in Common Drinks*, *Name the Energy Drink* found in the appendix.
- Magnets or telephone stickers with the poison control phone number (optional) available free of charge by calling poison control at 1-800-222-1222

### **Description:**

Use of energy drinks has been steadily increasing. Studies show that energy drinks are consumed by 30%-50% of adolescents and young adults. They contain high and unregulated amounts of caffeine and have been linked to serious side effects. Marketing of these products are usually targeted at young people. Furthermore, some energy drinks contain alcohol which competes with the caffeine stimulant and can cause a false sense of sobriety. New caffeine containing products continue to emerge and are usually marketed to the teen population. Educating teens about the risks and about healthy alternatives to energy drink consumption can help prevent poisonings.

## **Content:**

The lesson content is presented in a brief outline for easy reference. This is followed by detailed content which includes all learning activities, methods, materials list, and information needed to facilitate the session.

## **Content Outline:**

### **1. Introduction**

- a. Introduce self
- b. Explain purpose

### **2. Ice Breaker Game**

- a. Name the Energy Drink

### **3. Overview/Statistics**

### **4. What are Energy Drinks?**

- a. Caffeine spiked drinks
- b. Unregulated products

### **5. Energy Drinks vs. Sports Drinks**

- a. Stimulants and diuretics vs. re-hydration products

### **6. What is Caffeine and how does it affect the Body?**

- a. Stimulant
- b. Diuretic

### **7. What are the Dangers of Consuming Energy Drinks?**

- a. Side affects
- b. Alcohol
- c. Mixing

### **8. How Much Caffeine is in these Drinks?**

- a. Comparisons
- b. Activity: Caffeine Tracker

### **9. Video**

- a. Buzz in a Bottle: the Dangers of Caffeine-Spiked Energy Drinks

### **10. Marketing**

- a. Activity: Taglines

### **11. Healthy Alternatives**

- a. Carbohydrates such as fruit, vegetables, cereal and whole-grain breads can increase energy.
- b. Low-fat milk following exercise
- c. Water

## 12. How to Get Help

- a. Poison control phone number
- b. Activity: program into cell phone

## 13. Conclusion

- c. Don't hesitate to call
- d. Magnets or Telephone Stickers

# Energy Drinks

## 1. Introduction

- a. Introduce yourself
- b. Explain purpose: To increase awareness of potential overdose risk when consuming energy drinks and learn how to get help in the event of a poison emergency.

## 2. Icebreaker

- a. **Name the Energy Drink Activity:** Distribute the Name the Energy Drink handout to each participant. Explain that they will be given 1 minute to write the name of as many energy drinks as possible. When the time limit is completed each participant one-by-one, reads the items on their paper. If more than one person has an item listed then all participants must cross it out. Participants continue reading their lists and others indicating if they have the same item listed. Once everyone has read through their lists, participants count the number of products left on their paper that have not been crossed out. The person with the most items listed wins. A small prize could be given to the winner (optional). Note: Name the Energy Drink handout is located in the appendix.

## 3. Overview/Statistics

Present the following information to the class:

- a. 30%-50% of teens and young adults consume energy drinks
- b. Ask the following question: Why do people choose to drink energy drinks? Most people state that fatigue and lagging energy is the reason.
- c. We need to be aware of what we are putting into our body.

## 4. What are Energy Drinks?

Present the following information to the class:

- a. Energy drinks contain large amounts of caffeine and sugar along with a combination of legal stimulants and supplements such as taurine, guarana, ginseng. Many energy drinks do not list the amount of each ingredient on the label which makes it difficult to know exactly how much it contains.
- b. Caffeine is a drug not a food, however, energy drinks are not regulated by the Federal Drug Administration because they fall under the "supplement" category not the food or the drug category. Manufacturers of energy drinks regulate themselves. There are no requirements for testing, warning labels, or restrictions against sales or consumption by minors.
- c. Caffeine is the most common used drug in America.

## 5. Energy Drinks vs. Sports Drinks

- a. Ask the class if they know what the difference is between energy drinks and sports drinks.
- b. Sports drinks such as Gatorade or PowerAde are flavored beverages that often contain carbohydrates, minerals and electrolytes, and sometimes vitamins or other nutrients. They are designed to re-hydrate the body while energy drinks can produce the opposite effect.
- c. Energy drinks contain stimulants such as caffeine, guarana, taurine, ginseng, and creatine with varying amounts of carbohydrates, protein, amino acids, vitamins, sodium and other minerals. They cause dehydration because the caffeine in them is a diuretic drug.
- d. Studies show that energy drinks have no therapeutic benefit (Pediatrics February 14, 2011).
- e. Energy drinks pose more of a threat to a person's health than a benefit to their performance. (AAPCC)

## 6. What is Caffeine and how does it affect the body?

Present the following information

- a. Caffeine is a stimulant drug that affects the body by jolting the central nervous system. It tricks the brain into thinking that it is not tired.
- b. Caffeine is a diuretic which may cause dehydration

## 7. What are the Dangers of Consuming Energy Drinks

Present the following information

- a. Excessive caffeine can cause serious side effects such as:
  1. Upset stomach
  2. Sleeplessness
  3. Seizures
  4. Strokes
  5. Heart palpitations
  6. Sweating
  7. Tremors
  8. Vomiting
  9. Headache
  10. Diarrhea
  11. Chest pains
  12. Increased blood pressure
  13. Dependency
  14. Withdrawal when trying to stop
- b. Explain that some energy drinks contain alcohol. Present the following elevator analogy:

Have you ever stepped onto an elevator and pressed all the buttons? That wouldn't make much sense, because you'd be giving the elevator mixed signal. That is exactly what you're doing to your body if you mix alcohol with ingredients found in many energy drinks. When two drugs like caffeine and alcohol are mixed, there is the risk of a drug interaction. A drug interaction occurs when two or more drugs combine and have unpredictable results. This is a potentially deadly mixing of signals.
- c. Creates a false sense of sobriety. Even though you may feel alert, legally you are still considered "under the influence".
- d. Studies have shown that caffeine may have a negative effect on the developing child's brain reward and addiction center. (Pediatrics February 14, 2011)
- e. American Academy of Pediatrics states that "stimulant-containing energy drinks have no place in the diets of children or adolescents" ( Pediatrics May 29, 2011)

## 8. How Much Caffeine is in these Drinks?

Present the following information

- a. The amount of caffeine in energy drinks is much greater than the amount found in soda and often much greater than the amount found in a cup of coffee (a threat for caffeine overdose and related health problems).
- b. The total amount of caffeine contained in some cans or bottles of energy drinks can exceed 500 mg which is equal to 14 cans of common caffeinated soft drinks. This is high enough to result in caffeine toxicity ( Pediatrics May 29, 2011).
- c. Activity: *Caffeine Tracker*: located in the appendix

## 9. Video—Buzz in a Bottle: the Dangers of Caffeine-Spiked Energy Drinks

- a. Description: Video highlights 3 real-life scenarios all of which have tragic consequences for those involved. The stories are reenacted in the video. Experts are shown giving information on energy drink dangers and how to stay safe.
- b. Discuss the video: Ask the students to comment on the stories that were presented.

## 10. Marketing

Explain that energy drinks are largely marketed to teens and young adults

- a. Activity: *Taglines*: located in the appendix
- b. Discuss strategies that advertisers use to target young people:
  - Magical promises and claims about increased energy
  - Music and dance
  - Names that appeal to young people and their lifestyles, such as Full Throttle, Bionic Tonic and Jolt
  - Emphasis on technology-video games, MP3's, the internet
  - Superheroes
  - Links to sports and movie activities
  - Peer group acceptance
  - Depictions of children outperforming adults
  - Carefully chosen fonts and colors that are more likely to appeal to teens
  - The use of “ideas kids” who are usually a little older and little cooler than the kids in the target audience

## 11. Healthy Alternatives

There are healthy alternatives to help us have more energy. Discuss the following:

- a. Carbohydrates such as fruit, vegetables, cereal and whole-grain breads can increase energy.
- b. Sleep: getting enough sleep is essential for the body to function at its best.
- c. Exercise: making exercise a part of your routine will create more energy.
- d. Water is the appropriate first beverage choice during and after most exercise not sports drinks or energy drinks.
- e. Research has shown that low fat milk and chocolate milk help rehydrate after exercise.

## **12. How to get help if needed**

- a. If there is a poisoning, call Poison Control. They provide service 24 hours a day, 7 days a week. It is free and confidential. 1-800-222-1222
- c. Activity: Program poison control phone number into cell phone. Optional: Make this into a race. The first person to come to the front and show the instructor the programmed number gets a prize. For those with i-phones, they can download a free app at the i-Tunes store under Health & Fitness.

## **14. Conclusion**

- a. Companies are coming up with new types of energy products frequently. Energy shots™, Energy Sheets™, and Aeroshots™, as well as other over-the-counter products have similar dangers associated with them. It is important to be aware of all sources™ of caffeine in your diet on a daily basis.
- b. Don't hesitate to call Poison Control Hotline 1-800-222-1222. Offer them magnets or telephone stickers with the number (optional). These are available free of charge from poison control.

### **Resources:**

Journal of School Nursing June 10, 2010

Pediatrics May 29, 2011

Human Relations Media "Buzz in a Bottle the dangers of Caffeine-spiked Energy Drinks" 2010

Pediatrics February 14, 2011

# Appendices

# Name the Energy Drink

Directions: On the lines below list the names of as many energy drinks as you can within the allotted time.





# Tagline Activity

Listed below are four popular energy drink brands and their marketing taglines that you may recognize. Choose one brand, or another brand that you are familiar with, and answer the questions below.

- Jolt**<sup>®</sup> - "We are the energy machine"
- Red bull**<sup>®</sup> - "Red bull gives you wings"
- Full Throttle**<sup>®</sup> - "Go full throttle or go home"
- Rockstar**<sup>®</sup> - "Party like a rockstar"

1. How is the name of the energy drink associated with increased vitality and energy?

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2. Does the tagline make any promises or claims? If so, are they realistic claims? Explain.

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3. Chose one word from the tagline that is intended to evoke a particular image for the product and explain what reaction you think the marketing team is trying to provoke in consumers.

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4. Do you think the tagline for this product might be aimed at teens? Why or why not?

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5. What, if anything, does the tagline tell you about the drinks actual ingredients?

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## Caffeine Tracker Activity

Caffeine is a drug that occurs naturally in many of the foods and drinks that we consume each day. As with any drug, it's possible to have too much of it.

For this activity, use the *Caffeine Levels in Common Drinks* fact sheet as well as your own research about caffeine levels in foods and drinks to track how much caffeine you consume on a typical day.

For each of the categories below, write down an estimate of how much caffeine you ordinarily consume. Just be sure to answer honestly and remember that caffeine is present in more than just certain kinds of sodas, teas or coffee.

Discuss your results as a group, and answer the following questions during the discussion:

- How much caffeine am I consuming?
- Have I been feeling any negative effects as a result of it, like trouble sleeping?
- How can I decrease or eliminate caffeine from my diet?

<b>Morning</b>	<b>Afternoon</b>	<b>Evening</b>	<b>Night</b>

## Caffeine Levels in Common Drinks

It is difficult to know how much caffeine is in a [product. Caffeine is required to be included on the ingredients list of food and beverages when it is added to a product (such as with soft drinks). However, it is not required to be listed as an ingredient when it occurs naturally in the product itself (e.g., chocolate) or in a caffeine-containing ingredient of the other products (e.g., guarana).

What's more, the amount of caffeine in a product is not required to be listed. Considering how much these levels can vary depending on the type and brand of beverage, this means you might be consuming much more caffeine than you realize

Here are some approximate levels of caffeine for popular drinks.

### Amount of Caffeine in Beverages

Product	Caffeine per Serving	Caffeine per Ounce
<b>Coffee</b>		
Dunkin' Donuts regular coffee (16 oz)	206 mg	12.9 mg/oz
Plain (8 oz)	102-200 mg (avg 133)	16.6 mg/oz
Starbucks brewed coffee (16 oz)	320 mg	20 mg/oz
Espresso (1 oz)	30-90 mg (avg 40)	40 mg/oz
<b>Tea</b>		
Arizona, green (16 oz)	15 mg	0.9 mg/oz
Snapple, plain (16 oz)	18 mg	1.1 mg/oz
Arizona, black (16 oz)	32 mg	2.0 mg/oz
Snapple, flavored (16 oz)	42 mg	2.6 mg/oz
Brewed, green (8 oz)	10-40 mg (avg 25)	3.1 mg/oz
Brewed (8 oz)	40-120 mg (avg 53)	6.6 mg/oz
<b>Soda (12 oz serving)</b>		
Barq's Root Beer	23 mg	1.9 mg/oz
Coke	35 mg	2.9 mg/oz
Pepsi	38 mg	3.1 mg/oz
Dr. Pepper	42 mg	3.5 mg/oz
Sunkist Orange	42 mg	3.5 mg/oz
Diet Coke	47 mg	3.9 mg/oz
Pepsi One	54 mg	4.5 mg/oz
Mountain Dew	54 mg	4.5 mg/oz
Mountain Dew MDX	71 mg	5.9 mg/oz
Jolt Cola	72 mg	6.0 mg/oz
<b>Energy Drinks</b>		
Full Throttle (16 oz)	144 mg	9.0 mg/oz
Red Bull (8.3 oz)	80 mg	9.6 mg/oz
Monster Energy (16 oz)	160 mg	10.0 mg/oz
SoBe No Fear (16 oz)	174 mg	10.9 mg/oz
Cocaine (8.4 oz)	280 mg	33.3 mg/oz
Spike Shooter (8.4 oz)	300 mg	35.7 mg/oz
<b>Caffeinated Water</b>		
Propel invigorating Water (20 oz)	50 mg	2.5 mg/oz
Water Joe (16.9 oz)	60 mg	3.6 mg/oz
FXXX Hybrid (20 oz)	110 mg	5.5 mg/oz