

Course: Chemistry	Grade Level: 10 and 11
Type: Argumentative	Structure: Analysis
Teaching Task 2: Should energy drink purchase and consumption be regulated by government agencies? After reading a selection of texts provided by the teacher, write a persuasive letter to an FDA regulator that addresses the question, using evidence from the texts to support your opinion. L2 Be sure to acknowledge opposing views concerning the need for regulation. L3 Give examples from past or current products that the FDA has regulated and those it appears not to regulate.	
Performance Level: Advanced	

10093 New Hampshire Ave

Silver Spring, MD 20993

Dear Ms. Margaret Hamburg:

It's come to my attention, being I am a teenager myself, that adolescents are the vulnerable target of the flourishing energy drink industry market. With advertisements that specifically target teenagers, sponsorships with influential celebrities and little information on the ingredients – energy drinks appear to only have positive consequences. What worries me most is that this addicting ingredient- caffeine- can cause so much damage to your body. Caffeine is the most active ingredient in energy drinks. Dr. Ayala in her article "Energy drinks: Is it safe to Caffeinate kids?" explains that not only do these drinks already contain about 80 mg of caffeine per serving, but the drinks normally contain several servings which would certainly surpass the recommended 100 mg<sup>1</sup> of caffeine for a teen *per day*. Therefore, it would be appropriate for government agencies to construct a law which bands minors to having access to these harmful drinks. Furthermore, it would be responsible for the U.S. Food and Drug Administration to test and regulate ingredients of energy drinks.

It should be noted that doctors, nutritionists, and scientists have already cautioned adults about consuming excessive caffeine.<sup>2</sup> If adults have already been advised – imagine the effects on smaller, developing bodies of teenagers. These main customers have no idea that energy drinks causes high blood pressure, obesity and dental problems.<sup>3</sup> Additionally, if you consume large amounts of caffeine and it's flowing through your blood stream, it becomes very difficult for your body to absorb the necessary amount of calcium. Due to this side effect, energy drinks have been noted to cause lower bone mass.<sup>4</sup> It's especially important for kids to be careful who already cope with seizures, diabetes, kidney and liver problems and respiratory disorders since caffeine can cause health issues to become even worse.<sup>5</sup> Although U.S. poison centers have only recently begun tracking toxicity of energy drinks a recent survey in 2007 showed that 46% of caffeine overdoses were under the age of 19.<sup>6</sup>

I know that your work in the FDA has helped to limit the amount of caffeine in soda to 71 mg per 12 fl. oz.<sup>7</sup> I think having this limit is very helpful because it controls the soda companies and keeps the drinkers safe. Sadly there are high-caffeinated drinks including 5 Hour Energy and a whopping 138 mg of caffeine for only 2 ounces.<sup>8</sup> Unfortunately, energy drinks do not have a limit for the amount of caffeine or other harmful ingredients. Ted Labuza a distinguished teaching professor of Food and Science and Engineering at the University of Minnesota simply puts that “Energy drinks are basically soda pop on steroids—not literally, but figuratively”!<sup>9</sup> I’m sure you’re aware of how they are able to get away with no limits: energy drinks are labeled as diet supplements.<sup>10</sup>

Energy drinks contain some very harmful ingredients including: taurine, ginseng, sweeteners and guarana.<sup>11</sup> Companies purposely add these other stimulants to further enhance the already extreme effects of caffeine, and they also make large fallacies about what these added ingredients are capable of.<sup>12</sup> For example, energy companies claim ginseng can “speed illness recovery; improves mental, physical, and sexual performance; controls blood glucose and lowers blood pressure”.<sup>13</sup> In actuality there is absolutely no scientific evidence that exists to support any of the claims listed above. My question to you is: Are there effects that you are hiding from your buyers? Emma Hitt in her article “Energy Drinks Pose Serious Health Risks for Young People” suggest that we need to research and run more trials on these supplemental additives, because “The fact that there is no known safe dose of any of those additives, or of caffeine, poses a risk”.<sup>14</sup> There absolutely has to be more research because so many athletes rely on energy drinks. This large population, which certainly includes teenagers and young adults, drinks these caffeinated beverages as a way to gain energy without losing energy for digesting food.<sup>15</sup> Because it’s so quick and easy and because it seems to be logical the effects of these additives needs to be known immediately before this popular trend becomes more dangerous and spreads to more people.

I have realized that energy drinks are a quick and easy source of energy. The University of South Carolina states that caffeine is known to increase endurance and its use is therefore banned by the International Olympic Committee. It also found that consumption of caffeine in combination to heavy exercise to be safe! Though the negative parts of caffeine pour over the limited positives. there are ways to exclude this heavily addicted drug. Dr. Ayala mentions that caffeine is unnecessary and eating well, getting enough sleep and being physically active is the best recipe.

Ms. Hamburg and the rest of the FDA, I truly hope you understand that caffeine can be very addictive and harmful to the body. To come to a conclusion you should recognize that this is a damaging drug and that there should be a law enforced. This is something that can be stopped and fixed. Thank you for your time.

<sup>1</sup> Hitt

<sup>2</sup> Heneman

<sup>3</sup> Ayala

<sup>4</sup> Ayala

<sup>5</sup> Ayala

- <sup>6</sup> Hitt
- <sup>7</sup> Ayala
- <sup>8</sup> <http://www.energyfiend.com/the-caffeine-database>
- <sup>9</sup> Rohrig
- <sup>10</sup> Ayala
- <sup>11</sup> Heneman
- <sup>12</sup> Heneman
- <sup>13</sup> Hitt
- <sup>14</sup> Hitt
- <sup>15</sup> <http://www.energyfiend.com/carb-supplementation-energy-drinks>

Annotation		
Focus	4	The writer discusses many aspects of the prompt by consistently addressing the potentially harmful effects of caffeine. The position taken is consistently convincing. The use of facts and quotes builds the argument in the first paragraph. <i>Ayala in her article "Energy drinks: Is it safe to Caffeinate kids?" explains that not only do these drinks already contain about 80 mg of caffeine per serving, but the drinks normally contain several servings which would certainly surpass the recommended 100 mg of caffeine for a teen per day. Therefore, it would be appropriate for government agencies to construct a law which bans minors to having access to these harmful drinks.</i>
Reading/Research	4	The writer's presentation of relevant research demonstrates comprehension and furthers the writer's arguments and claims: <i>Not only do [energy] drinks already contain about 80mg of caffeine per serving, but the drinks normally contain several servings which would normally surpass the recommended 100mg of caffeine for a teen "per day."</i> Details are provided with citation to build a strong argument. There is extensive evidence that the student has read and researched the topic.
Controlling Idea	3.5	The thesis is stated clearly in the first paragraph – that caffeine is a predominant and harmful ingredient in energy drinks – and that the FDA should test and regulate energy drink ingredients: <i>it would be appropriate for government agencies to construct a law which bans minors to having access to these harmful drinks</i>  The writer makes some note of counter claims (L2): <i>energy drinks are a quick and easy source of energy.</i> The author then provides evidence that undermines the counterclaims, strengthening the argument; however, the writer's attempts to address or resolve the issues need to be developed more fully.
Development	4	The writer provides numerous examples of supportive evidence that substantiates the thesis: <i>Although U.S. poison centers have only recently begun tracking toxicity of energy drinks a recent survey in 2007 showed that 46% of caffeine overdoses were under the age of 19.</i> The writer consistently builds an argument, however the final paragraph seems to be a little weaker than the rest of the writing.
Organization	4	The organization of the letter follows a logical structure in that the thesis is presented in the opening paragraph and is addressed in three subsequent body paragraphs. Each paragraph addresses a different element related to the harmful effects of caffeine. The conclusion paragraph appropriately reinforces the writer's position.
Conventions	3	The writer demonstrates a reasonable command of Standard English conventions. There is cohesion throughout the majority of the letter but the final paragraphs detract from its overall impact. The tone is largely effective and appropriate for its intended audience but is too informal in some instances: <i>It's come to my attention, being that I am a teenager myself; if you consume large amounts of caffeine and it's flowing through your blood stream.</i>
Content Understanding	3.5	The writer smoothly integrates relevant research and demonstrates strong knowledge of disciplinary content. The quality of the writer's explanations varies. The writer discusses the impacts of caffeine on humans such as high blood pressure, difficulty in absorbing calcium, lower bone density, possible seizures, as well as liver and kidney problems. They also discuss the various harmful ingredients of energy drinks – taurine, ginseng sweeteners, and guarana.

**This student would benefit from feedback, discussion, and/or instruction in the following areas:**

- Proofreading punctuation (e.g. comma usage, citations)
  - Developing and refuting counter claims (e.g. using a logic model)
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