

Energy Drink: Full Throttle

Claims:

- Increases energy

Source of Energy	Amino Acids	Stimulants and Vitamins	Other
- High Fructose Corn Syrup - Sucrose - Maltodextrin - Ginseng extract - Guarana extract	- Taurine - Carnitine Fumarate	- Vitamin B12 - Pyridoxine Hydrochloride - Cyanocobalamin - Caffeine - Vitamin B6	- Carbonated water - Yellow dye 5 - Sodium Benzoate - Citric Acid - Natural Flavors - Artificial Flavors - Sodium Citrate

Questions

1. When we say something gives us “energy” what do you mean?
2. What is the physiological role of each of the molecules in your table?
- a. Which ingredients provide energy? How do they do that?
- b. Which ingredients contribute to body repair, i.e., which help build or rebuild muscle tissue?
3. In what ways might the one(s) that does (do) not have a metabolic energy source (caffeine) provide the perception of increased energy after consumption?
4. How are the ingredients in these drinks helpful to someone expending a lot of energy, e.g., a runner?
5. Does your analysis substantiate the claim that this is an “energy drink”? If so, what molecules are the sources of energy?
6. Could your drink serve different purposes for different consumers? Explain.
7. What is the normal physiological response to increased intake of sugars? to increased intake of caffeine?
8. Is there such a thing as a “sugar high”? Explain your answer. .
9. Evaluate, in terms of basic physiology and biochemistry, the statement: A lack of sleep causes a lack of energy.
10. Are the product claims legitimate? Why?
11. Should you simply buy a can of Coke® rather than one of these energy drinks? Why/why not?

Answers

1. When we say something gives us energy we mean that we feel awake and hyper.
2. High fructose corn syrup give the body a quick boost of sugar. Sucrose triggers insulin release. Maltodextrin keeps high levels of high glucose in blood stream. Ginseng extract gives the body a boost when mixed with caffeine. Guarrera extract increases mental alertness fight fatigue and increase stamina. Taurine helps skeletal functions. Carnitine fumarate acts as a carrier for fatty acids in the mitochondria. Pyridoxine hydrochloride helps the nervous system, and help proper breakdown of starches and sugar. Cyanocobalamin helps form red blood cells. Caffeine stimulate respiration increases blood pressure and affect the skeletal muscle.
 - a. High fructose corn syrup sucrose, maltodextrin, ginseng extract, and guarana extract provide energy.
 - b. Taurine and Carnitine fumarate contribute to body repair.
3. They might just give you a bunch of sugar so you feel energized but you will soon crash.
4. They give you a quick boost of energy for about 4 hours.
5. Yes we think that this is an energy drink. High fructose corn syrup, sucrose, maltodextrin, Ginseng extract, and guarana extract are all sources of energy.
6. Yes some of the ingredients would affect consumers who have diseases like diabetes because their body processes sugar differently than normal people.
7. When you take in more sugar, your blood sugar increases very quickly, causing you to produce insulin. With sugar, you can experience some similar responses to caffeine, but caffeine won't give you as much of a crash later.
8. Studies say that a sugar high isn't really caused by sugar. The hyperactivity that is seemingly caused by an increased intake of sugar is actually caused by a number of other things. Sugar itself doesn't cause much of a significant change.
9. Lack of sleep can affect metabolic functions that make you seem like you have less energy.
10. It does increase mental alertness and provide a feeling of having more energy.
11. No because this product has certain ingredients that help give you energy that a coke does not.

Charley's Questions

1. What is the nature (sugar, amino acid, vitamin, etc.) of each ingredient listed on the cans?
2. What is the physiological role of each in the human body?
3. Which ingredients provide energy?
4. . Which ingredients contribute to body repair, i.e., which help build or rebuild muscle tissue?

Answers to Charley's Questions

1. High fructose corn syrup, sucrose, maltodextrin, ginseng, guarrera, taurine, carnitine, pyridoxine hydrochloride, cyanocobalamin, and caffeine are all sources of energy.

2. High fructose corn syrup gives the body a quick boost of sugar. Sucrose triggers insulin release. Maltodextrin keeps high levels of high glucose in the blood stream. Ginseng extract gives the body a boost when mixed with caffeine. Guarrera extract increases mental alertness, fights fatigue, and increases stamina. Taurine helps skeletal functions. Carnitine fumarate acts as a carrier for fatty acids in the mitochondria. Pyridoxine hydrochloride helps the nervous system and helps proper breakdown of starches and sugar. Cyanocobalamin helps form red blood cells. Caffeine stimulates respiration, increases blood pressure, and affects the skeletal muscle.
3. High fructose corn syrup, sucrose, maltodextrin extract, ginseng extract, and guarana extract provide energy.
4. Pyridoxine Hydrochloride it helps support nervous system activity and break down of sugars and starches. Cyanocobalamin helps form red blood cells. Caffeine stimulates respiration and stimulates blood pressure. Taurine helps normal skeletal muscle functions. Carnitine Fumarate carries fatty acids into mitochondria.