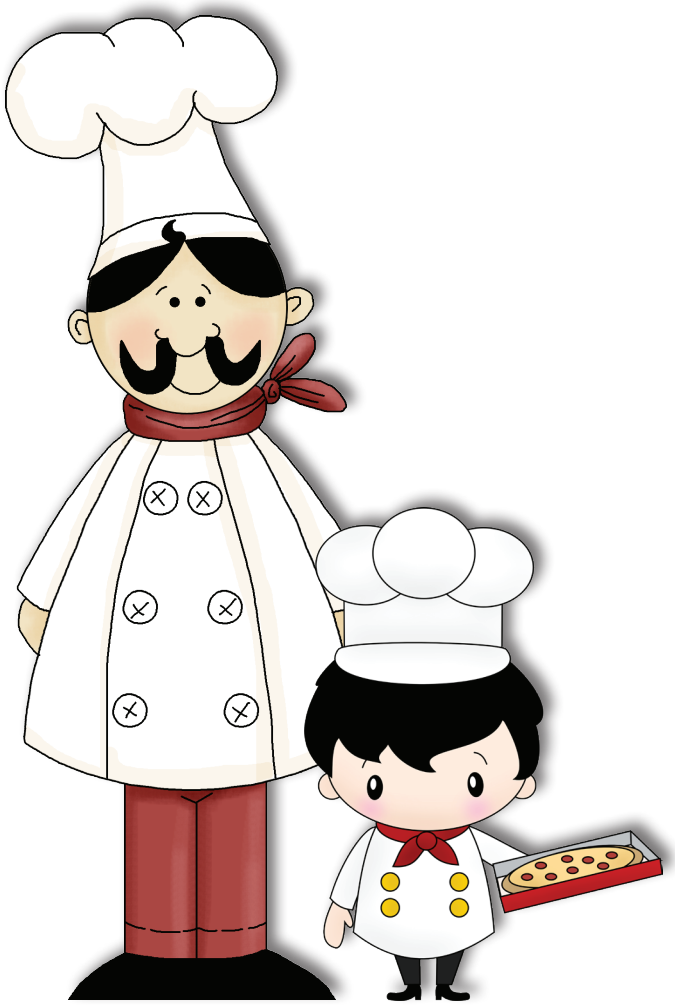
Sugar-Free Brainy Breakfasts for Kids



Brain Food COUNTS

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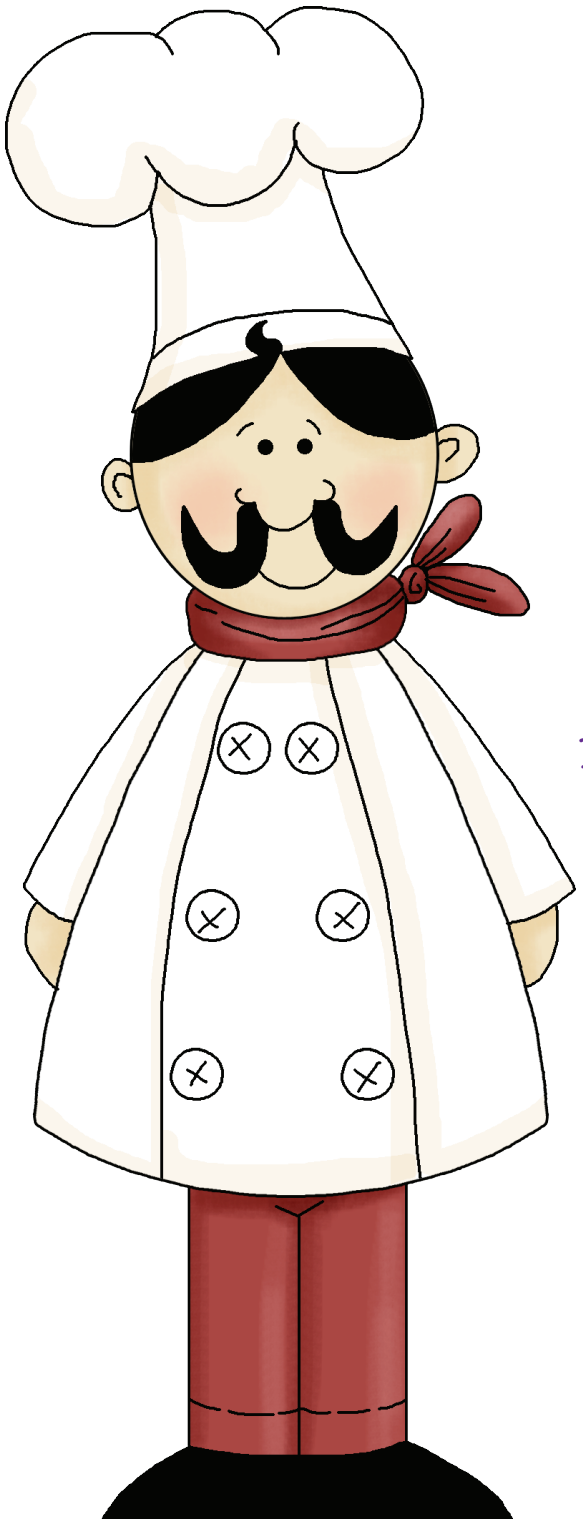

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Why do children need a brainy breakfast before school?

Because the "think tank" cannot run on empty.

The working mechanisms in the brain are protein and lipid (fat) dependent. The amino acids found in protein make the chemicals in the brain responsible for attention, memory, learning, sense of well-being, sleep, calmness, and even attachment (the love, cuddly hormone, oxytocin has synaptic receptors). Nine of these amino acids are essential. They must come from an animal or plant dietary source daily.

The body cannot produce these amino acids from other foods. It is important for optimal brain power that school-aged children eat high ratio amino acid proteins throughout the day. Chicken, fish, beef, cheese, and eggs are a few examples of high ratio proteins that contain all of the amino acids, essential and nonessential in the highest ratios possible!

Children need 20% more essential amino acids than adults because their brains are still growing.

Unlike fat and starch, the human body does not store excess amino acids for later use. Protein must be eaten throughout the day. (Biology Project)

The current daily recommended intake requirements of protein for children are severely underestimated (R. Elango 2011, 2016).

5 reasons why children need a high protein "brainy" breakfast before going to school.

1. School breakfasts usually contain simple carbohydrates and very little protein.

2. The amino acids in protein calm and fuel the brain so it stays alert and focused.

3. Your child might have to wait until lunch to eat protein because most school snacks do NOT provide enough protein.

4. Protein will slow down gastric emptying keeping your child full longer.

5. Protein will lower median blood sugar levels supplying steadier energy levels.

Amino Acids Are IMPORTANT!

Protein is made up of amino acids that build and rebuild neurotransmitters that affect brain performance. It is important the brain get a steady supply throughout the day. There are approximately 60 neurotransmitters that have been identified. Meet five that are of extreme importance to any child who is expected to focus, learn, and retain.

1. Acetylcholine - responsible for controlling areas in the brain responsible for attention, learning, and memory.

2. Glutamate - vital for forging the links between neurons that are the basis of learning and memory.

3. Norepinephrine - plays a large role in attention and focus.

4. Dopamine - controls arousal and motor control in many parts of the brain. Dopamine disorders can cause a decline in attention, memory, and problem solving abilities.

5. Serotonin - assists with learning and memory. Serotonin also enhances your child's sense of well-being to minimize anxiety and fear associated with learning, homework and test taking.

Brains Hunger For Healthy FATS!

Essential fatty acids, particularly docosahexaenoic acid (DHA), are critical for brain-power and health.

The finer working mechanisms of the brain including synaptic vesicles responsible for transmitting and receiving neurotransmitters and myelin, the fatty sheath covering the nerve communicating messages between two neurons, depend on daily dietary DHA.

Myelin is also made up of oleic acid (olive oil, avocados), and cholesterol. High vitamin fats from grass-fed animals and their by-products are the best source of cholesterol. Arachidonic acid (ARA) found in meat, eggs and liver also builds myelin.

5 reasons why children need a complex carbohydrate for sustained mental fuel (with breakfast) such as whole grain bread, steel-cut oatmeal, or beans.

1. School breakfasts usually contain highly processed simple carbohydrates (glucose) that are released rapidly into the bloodstream with little staying power.

2. Carbohydrates are the primary source of energy (glucose) in the human brain.

3. Deep concentration drains energy from key parts of the brain responsible for learning and memory. Highly processed simple carbohydrates can rapidly be used up during mental activity.

4. Complex carbohydrates are a good source of time-released brain fuel.

5. Complex carbohydrates with minimal processing contain all parts of the grain including the germ and bran where B vitamins and trace minerals abound to fuel the mitochondrial energy "think tank." Beans are another excellent complex carbohydrate.

It is important as a parent to feel good about breakfast—to feel confident their child is walking out of the house with a fueled "think tank" to maximize the action potential of every neuron.

Scientific researchers agree:

Children who consumed breakfast had higher daily intakes of energy and protein than children who skipped breakfast (U. Chitra 2007).

Brain Foods

Good News
Foods good for the brain are good for the heart and all body systems!

1-2 cage-free scrambled eggs with 1-2 ounces wild fatty fish (lox, baked salmon, trout, cod), organic spinach leaves, 2 tsp olive oil poured onto eggs right before serving (helps more of the omega-3s from the fish incorporate into brain cells), 1/2 cup steel-cut oatmeal w unsweetened almond milk, 1 tsp grass-fed butter, 1/2 mashed banana

Brainy Breakfast Suggestions

(can also be served as mini-meals throughout the day)

Sweeten with finely-chopped/pureed - sweet seasonal fruit - apples, bananas, pears, peaches, nectarines, melon, pineapple, grapes or mixed berries. Leave the skin intact to retain the fiber. Add grapes if fruit is tart. Frozen fruit is also an option. Experiment with creating a sugar-free compote as a sweetener.

1. ½ cup steel-cut oatmeal, 4 oz almond milk, butter, raisins, crushed nuts, cinnamon, ½ cup fresh berries, 1-2 oz meat

2. Bacon or sausage (meat, turkey, sprouted soy), sprouted/whole grain toast smeared with olive oil/butter, ½ under ripe banana (lower on the glycemic index chart)

3. 2 oz smoked salmon or lake trout on sprouted bread with a smear of cream cheese, tomato, water, almond milk, ½ cup cantaloupe

4. 2 scrambled eggs (cage-free), bacon, ½ cup steel-cut oatmeal, olive oil/butter, mashed banana, cinnamon, 1 small peach

Good Morning TUMMY!

5

Hummus and cream cheese spread on sprouted grain bread, sausage, orange sections

6

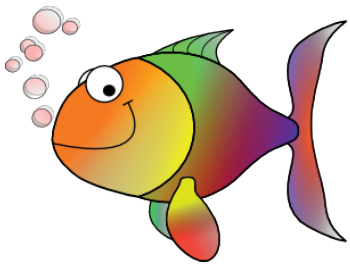
Cooked whole grain pudding (½ cup quinoa, bulgur wheat, oatmeal etc.) with butter, raisins, crushed walnuts, mashed banana, 2 oz Greek style yogurt, 1-2 oz meat

7

Stone-ground corn tortilla with ½ cup organic beans, 1-2 oz melted cheese, 4 oz almond milk or water, ½ cup mango

8

1 -2 egg omelet with 1-2 oz ham, avocado, baby spinach, sun-dried tomato bits, milk or water, ½ cup steel-cut oats, 1 tsp butter, ½ cup strawberries



9

½ sprouted grain bagel with 2 tbsp peanut, almond, soy or pumpkin seed butter, almond milk or water, ½ small under-ripe banana, 1-2 oz meat or 2 pieces turkey bacon

10

Whole/sprouted grain sugar-free cereal, ground pumpkin and sunflower seeds, raisins, vanilla almond milk, 1 scrambled egg, 1-2 pieces bacon, 3 oz orange juice

11

Blueberry or pumpkin parfait sundae – Lace plain Greek yogurt (4-6 oz) with ½ cup oatmeal, chia seeds (high in tryptophan – precursor to serotonin) crushed pecans, cinnamon, chopped banana, bacon (2 slices)

12

Sandwich with meat, fish or cheese, spinach leaves on sprouted grain bread (olive oil mayonnaise), sliced apples, 4 oz almond milk

13

Hamburger, spinach leaves, 1 oz cheese, sprouted grain bun, no-added-sugar ketchup mixed with olive oil, organic apple

14

Salmon or tuna burger, sprouted grain bread, steamed broccoli, ½ cup blueberries

15

Tuna, salmon, chicken or egg salad (made with olive oil mayonnaise or veganaise) sandwich, sprouted grain bread, orange

16

Whole grain pita or soft stone-ground corn tortilla burrito with melted cheese and beans, avocado

17

½ cup organic sugar-free baked beans, 1-2 oz ground turkey or beef, whole grain crackers for dipping

18

Mango, pineapple, or spicy peach salsa with 1-2 oz meat or mild cod, stone-ground corn chips

19

Chickpea pasta salad (any whole grain, quinoa, legume) with chopped up vegetables and chicken (olive oil dressing), fig bits, feta cheese

20

Smoked salmon or lake trout pieces in tomato sauce with chickpea pasta or white quinoa, carrots

21

Frozen or homemade organic soups and stews with vegetables, chicken, beef or wild caught fish, roasted chickpeas

22

Ricotta cheese, yogurt, or cottage cheese, flax meal, fresh strawberries, few tsps of unsweetened applesauce, bacon

23

Whipped cream cheese with hummus on a ½ sprouted grain bagel, pita, or tortilla with meat, chicken or fish, mixed berries

24

Sushi, chicken or beef rolled up in romaine lettuce, mozzarella sprinkles, olive oil mayonnaise for dipping, sliced avocados, sprouted/whole grain bread

25

Leftovers from the previous night's dinner – Add protein, fat or complex carbohydrates as needed

26

Blended smoothie with 4 oz Greek yogurt, 1 soft-boiled egg, frozen fruit, banana, baby spinach, grated carrots, chia seeds, almond milk as needed for consistency, sprouted/whole grain toast, 1-2 tbsp nut/seed butter

27

Pizza on whole grain pita, tomato sauce with bits of meat, tempeh or mild fish, vegetable pieces (spinach, broccoli, etc.), mozzarella cheese

28

Spinach salad, bacon, sun-dried tomatoes, cheese, or grated hard-boiled eggs, olive/oil and/or thousand island dressing with olive oil mayonnaise and no-added-sugar ketchup

29

Whole grain or chickpea pasta with olive oil, parmesan cheese, cubes of mozzarella, sun dried tomatoes, and vegetable bits

30

Cut-up vegetables (lightly steamed), peanut butter/olive oil dip or natural ranch dressing w/olive oil or thousand island dressing made with olive oil mayonnaise and no-added-sugar ketchup, stone-ground corn chips, 1 ½ string cheese or grass-fed cheddar

Make My Day—Brain Boosting Breakfast

When I began my career as a Montessori educator decades ago, I had no idea what a child ate or didn't eat for breakfast could dictate the difference between inattention, grumpiness, status quo, and excellence in classroom achievement.

Attention, learning, memory, sense of well-being, calmness and impulse control are byproducts of brain-essential nutrients eaten daily. Essential nutrients must come from diet daily. The body cannot manufacture them from other nutrients. Protein contains 9 essential amino acids that build muscle, tissue, and chemical messengers in the brain that influence how we focus, feel and behave.

Essential fatty acids from animal, fish, and plant sources are also required in a child's daily menu. They regulate the brain's chemical messengers so there is a good balance between arousal and calm for a child ready to learn and be able to face life's challenges with a bit more emotional equilibrium.

Two Important Facts about Nutritional Components for Breakfast

1. Complete proteins such as eggs, cheese, fish, chicken, and beef contain all essential and non-essential brain boosting amino acids needed for learning. Peanut butter is considered a complete protein but is low in tryptophan – the amino acid responsible for building the calming brain chemical, serotonin. Nut butters are also low in protein but can be a good addition (metabolic mini-meal) throughout the day served on sprouted grain bread with bacon or tempeh.

2. Complex carbohydrates such as whole grains with the bran and germ intact (steel-cut oats, whole stone-ground corn chips and tortillas, quinoa and whole/sprouted grain bread) and beans provide slow burning, sustained fuel for the "think tank". Carrots, broccoli and an assortment of brightly colored vegetables also provide complex carbohydrates. Vegans and vegetarians benefit from working with a nutritionist to ensure their child is consuming enough complementary proteins, complex carbohydrates and fat to meet their daily energy requirements.

Simple carbohydrates such as sugary cereal, drinks, pancakes, waffles, pasta, snack crackers, cookies, chips and energy bars provide fast burning fuel that soon drains the brain and alerts the fight or flight system which is counter-productive for focus, learning and behavior (Tamborlane 1990). These foods can also skew the taste buds towards extra sweet preferences (including artificial sweeteners), lead to picky-eating, malnourishment, and fuel sugar addiction.

Cutting edge research demonstrates habitual access to sugar can increase behaviors and neurochemical changes that resemble the effects of substance abuse (Avena, Rada, Hoebel 2008). Cited in (Unwin, Delon, Giaeveer, Kennedy, Painschab, Sandin, Poulsen, Wiss 2022).

Bonus Brain Boosting Breakfasts — don't forget — the brain utilizes 300 calories a day. (Wow, — that's a meal!)

1. **Blueberry or pumpkin parfait sundae – Lace plain Greek yogurt (4-6 oz) with ½ cup steel-cut oatmeal, chia seeds (high in tryptophan), crushed pecans, cinnamon, raisins or date pieces (finely chopped). nitrate-free bacon**

2. **Breakfast burrito – Soft stone-ground corn tortilla, scrambled egg, 2 oz meat, ¼ cup beans, shredded grass-fed cheese, chopped spinach leaves, mango salsa with 1 tsp olive oil**

3. **Cooked grain pudding – ½ cup rice/white quinoa, bulgar wheat, steel-cut oatmeal, 1 tsp butter, raisins, cinnamon, Greek yogurt, crushed pistachios, 2 pieces bacon, ½ cup melon**

4. **My fave – contains brain-boosting nutrients in 1/2 to 1 cup servings. Pre-make in a crockpot and serve for breakfast, lunch, dinner or in-between – a super mini-meal for extracurricular activities, therapies and athletic pursuits.**

   Chili – ½ cup beans, (black, pinto, garbanzo, etc), ground meat, cod, or tempeh, tomato paste, canned tomatoes, sauteed onions, chili powder, finely chopped cilantro, mango (optional), drizzle of olive oil before serving, organic stone-ground corn chips, ½ cup mixed berries

Bonus Blended Breakfast

Digestive peach/cinnamon apple smoothie — unsweetened Kefir, peaches or apples, cooked sweet potato, chia seeds, unsweetened applesauce, 2-3 shakes of cinnamon, avocado toast

Brain boosting beet — beets, soft-boiled or scrambled egg, avocado, frozen sweet cherries, A2 milk (easier to digest), banana, almond butter, sprouted/whole grain toast

Easy Breakfast Pizza

Toasted sprouted grain bread, tomato sauce, 2 oz mozzarella cheese, chopped basil, 2 oz ground grass-fed beef/nitrate free pepperoni, Broil

English Breakfast

2 scrambled eggs, ½ cup no-sugar baked beans, sweet cherry tomatoes, ¼ cup pineapple

Oatmeal Pancakes

¾ cup rolled oats, ½ large banana (blueberries or sugar-free chocolate chips - add to batter after blending other ingredients smooth in food processor) ¼ cup milk, 2 eggs, serve with nut/seed butters, fresh fruit, 2 sausage

Water

Children should drink 8-ounce cups of water equal to their age, with a minimum of 64 ounces of water for children over the age of 9. Adjust intake for hot weather/activity level.

The More You Know...

Cold water fish, greens, seeds, olive oil, and avocados contain brain happy nutrients. Trans fats and vegetable oils (especially re-used), sugar, and artificial food additives/coloring can interfere with the body's absorption of the vital nutrients contained in these foods.

Studies have shown that chemicals found in food including pesticides, trans fats, artificial dyes, sweeteners, flavorings, etc. affect your child's learning ability, mood, behavior and health. They are found in energy drinks, vitamin water, boxed cereal, candy, cookies, muffins, crackers, chips, fast food, boxed macaroni and cheese, peanut butter and cheese crackers, even seafood and meat.

Pesticides are highest in apples, berries, and greens (EWG.org). Unhealthy trans fats are listed as hydrogenated or partially hydrogenated vegetable oils in the ingredients list. If under 0.5 grams they can declare 0 grams on the label. (Become an expert at reading labels.)

Prepare fresh food whenever you can. It's worth getting up a few minutes earlier and controlling the ingredients to ensure the highest nutritional quality and to minimize ingredients and foods that are not well-tolerated, compromising and short-circuiting brain performance. These are important to identify and remediate early – as children are developing their attention spans and learning styles.

Serve pumpkin seeds (very high in Zinc - major cofactor in omega-3 fatty acid metabolism) daily. Pumpkin seeds are a nutritional powerhouse containing protein, Vitamin A, B3, E, Folic Acid, Magnesium, Manganese, Calcium, Iron, Potassium, Selenium, and Zinc.

Brown rice contains high levels of arsenic. Use sparingly. Supplement with rice/white quinoa.

Eating a balanced diet is like listening to a symphonic masterpiece – all instruments (nutrients) play a major role in body and brain health.

A Final Note

Many children are very active (little athletes) and require a macronutrient-based daily food plan. This provides a steady supply of nutrients that metabolize slower for sustained body/brain energy and to minimize processed food snacking which could have an anti-nutrient effect.

Purchase 100% grass-fed (cage-free) meat, and byproducts for a higher vitamin content (second-hand salad for picky-eaters), and healthier fatty acid profile.

Greens for breakfast (or any time) contain an abundance of trace minerals and B vitamins including folate (Latin: folate – foliage). The need for daily folate continues after building the brain (neural tube). Folate supports focus, memory, lowers the risk of depression and increases mental agility as we age. It also supports vascular health throughout life and reduces the risk of developing cancer.

Invite children to help in food preparation–tearing romaine leaves for salad, peeling hard-boiled eggs, mixing, spreading, grating, and slicing strawberries, cheese, and bananas are just a few ideas.

Credits

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About Nutritionist Jan, AMI, CN

I am a former AMI (Association Montessori Internationale) pre-primary educator with decades of experience teaching and observing children. My students became "four-feet tall" professors and taught me how fundamental nutrition is to concentration, behavior, health and inherent well-being.

I studied nutrition and health under the tutelage of Professor Michael Crawford, expert in brain chemistry and human nutrition (UK) and "God Father" of DHA (structural omega-3 fatty acid). My credentials as a certified nutritionist and researcher were established over a 5-year period.

Concurrently, I authored several books and published articles in scientific journals and published "Nutrition for Development and Learning Guide and Workbook" including assessment and early intervention tools for parents, health professionals and educators which is now a requirement for the Center for Guided Montessori Studies' Teacher-Training Course.

I am a clinician at Melmed Center in Phoenix, Arizona. I help children, teens and adults with disordered eating, and sugar addiction. Many of the children I see have developmental challenges (autism, ADHD, learning differences) behavioral and metabolic health concerns. I offer out-of-state consults via Zoom.

Meal composition and timing are crucial pieces of helping families wean away from the minefields of sugary and ultra-processed food. Our goals are increasing daily "brain essentials" which minimize sugar cravings and prioritizing foods that satisfy physiological and metabolic hunger.

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Meet Hannah

My children's book (based on true events), "Hannah was Eating Junk" is being revised with new illustrations and food characters. Endearing vita-GEMS (healthy) and vita-GERMS" (not-so-healthy) food characters call out to Hannah from the pantry and refrigerator each day around 4:00 PM. They argue among themselves to be chosen with silly dialogue. The reader will fall in love with hero, Baby Broccoli and Gassy Beans. *Warning: Graphic Children's Humor*

Sneak Previews

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A Special Preview

Hannah's Health Tips

★ If you want the good omega-3s you are eating to work, don't eat anything fried in a fast food restaurant, especially French fries. SORRY! The fats they are fried in are used over and over, get icky, and clog the arteries leading to your heart and brain.

★ If you happen to eat vitaGERMS or any food for that matter, make sure you take one bite and chew it fifteen times before swallowing. You'll feel full faster, eat less, and won't get a tummy ache.

★ If you have tummy troubles and it's hard to poop, drink lots of water. What really helps is eating more vitaGEM foods with fiber.

★ Bright vitaGERM colors in junk food are made from bad stuff (like coal) that turn your tongue and fingers red, blue, yellow, or orange. They might even get into your brain and make you hyper. Best to keep these fake colors in your crayon box.

★ Don't eat or drink sugary junk throughout the day or after dinner. You might act wild, get into trouble and have a hard time falling and staying asleep (yawn).

★ If you want something sweet, have a piece of brightly colored fruit (like berries). They have Fight-O-Nutrients (Phytonutrients) that keep you from getting sick and missing out on something fun.

★ Now that you know so much about healthy eating, you might see certain foods served at school that are full of vitaGERMS. Don't eat them. Help make your own breakfast, lunch, and snack and take it to school.

★ Bring a friend or grown-up with you and politely ask your principal to add more vitaGEMS (protein, complex carbs, good fats, fruit and vegetables) to the school menu.

★ If you see your friends, parents, relatives and teachers eating too much junk food, show your "Glad I-Ate-It Superstar" sticker proudly.