TABLE: 3

		Benefits of Vitamins and Minerals	Toxicity and Overdose Levels
VITAMINS	**Vitamin B1 (Thiamine)**	Thiamin acts as an antioxidant, and optimizes brain function. Helps convert food to energy.Enhances circulation, and has a positive effect on energy, growth, and learning capacity. Aids the nervous and cardiovascular systems. Stress can increase the need for vitamin B.	No toxic effects resulting from high doses have been observed
	Vitamin B2 (Riboflavin)	Necessary for red blood cell formation. Aids in growth and reproduction. Functions to metabolize fats, carbohydrates and proteins. It is important for the metabolisam the of amino acid triptophan. Promotes healthy skin, nails, and hair. It also benefits vision and alleviates eye fatigue.	No toxic effects resulting from high doses have been observed
	Vitamin B3 (Niacin)	Keeps the nervous system balanced. Promotes healthy brain function. Niacin is important for the synthesis of hormones cortisone, insulin and thyroxine. Helps inhibit the absorption of cholesterol.It is needed for proper circulation, and healthy skin. It supports mental health.	Doses larger than 150 mg may cause liver problems and facial flushing.
	Vitamin B5 (Pantothenic Acid)	Necessary for the conversion of fat and sugar to energy. Keeps the nervous system balanced. It is known as "anti stress"vitamin. Helps with formation of antibodies and hormones, and is helpful in the treatment of allergies and arthritis..	Doses above 1200 mg may cause heartburn and nausea.
	Vitamin B6 (Pyridoxine)	Helps in the utilization of proteins and the metabolism of fats. Needed for production of red blood cells and antibodies. May help with shingles.It is important for the nervoues system,and for normal brain function. Important for the synthesis of the nucleic acids RNA and DNA.	Doses larger than 100 mg may cause tingling and numbness in the hands and feet. Excessive doses can lead to nerve damage.
	Vitamin B7 (Biotin)	Essential in the metabolism of fats and proteins. Helps synthesize amino and fatty acids. May help to lower blood sugar and reduce hair loss. Helps to metabolize carbohydrates for energy production. Promotes healthy nerve tissue, and bone marrow.	No toxicity reported. Excess amounts are excreted in the urine.
	Vitamin B9 (Folic Acid)	Helps the body form genetic material and red blood cells. It is considered a brain food. Aids in protein metabolism. Antioxidant properties. When taken daily, beginning at least 30 days prior to pregnancy, has been shown to help prevent birth defects.	Doses larger than 400 µg may cause anemia and may mask symptoms of a Vitamin B12 deficiency
	Vitamin B12 (Cyanocobalamin)	Maintains healthy nervous, cardiovascular, and immune systems. Assists in the formation of red blood cells and the building of genetic material. Helps with iron apsorption. B12 is critical to memory and learning. It is very mportant for intercellular health.Vegetarians must supplement their diets with B12.	There have been no reports of toxic reactions in individuals exceeding the RDA. Excess is excreted from the body.
	Vitamin C (Ascorbic acid)	Helps in the formation of collagen, production of red blood cells and absorbtion of iron. Regulates cholesterol. Antioxidant-Prevents oxidation of fat soluble vitamins and formation of free radicals. Anti-bacterial. Because the body cannot manufacture VitaminC, it must be obtained through the diet.	Too much Vitamin C, over 1000 mg per day, can cause urinary tract problems. Large doses of Vitamin C can prevent apsorption of Vitamin B12.
MINERALS	**Calcium**	Builds strong bones and teeth. It helps with insomnia. It has stress relieving properties. Plays a role in muscle contraction, and supports cardiovascular health. Adequate calcium consumption greatly lowers the risk of osteoporosis. Calcium is also essential for proper blood clotting.	May cause constipation and there is a risk of kidney stones. More severe toxicity can occur when excess calcium is ingested over long periods. Very high levels of calcium can result in appetite loss, nausea, vomiting, abdominal pain, seizures, and/or even coma.
	Magnesium	Magnesium is a mineral needed by every cell of the body. Helps to regulate body temperature, and may play an important role in regulating blood pressure. It has an iimportant function in transmission of genetic code and cell reproduction. Helps nervous system and muscle function. It is important for bone health. It may influence the release and activity of insulin, the hormone that helps control blood glucose levels.	Magnesium toxicity is more often associated with kidney failure, when the kidney loses the ability to remove excess magnesium. Very large doses of laxatives may cause magnesium toxicity, even with normal kidney function. Kidney function declines with age. Therefore, the elderly are at risk for magnesium toxicity because they are more likely to take magnesium containing products such as laxatives.
	Manganese	Necessary for normal skeletal development. Needed for protein, carbohydrate, and fat production. Helps to maintain the production of sex hormones, and nourishes the nerves and brain. Manganese works well with B-complex Vitamins.	Manganese toxicity may result in multiple neurologic problems with symptoms similar to those of Parkinson's disease, including difficulty walking, tremors, and facial muscle spasms. Manganese toxicity resulting from foods alone has not been reported in humans, except when large amounts of mineral supplements are taken for years.
	Zinc	Zinc is important for intercellular health and cellular metabolism. It is necessary for healing and new cell formation. As a component of many enzymes that have antioxidant properties, Zinc supports the overall immune system. It is important to reproductive organs, and normal functioning of the prostate. Zinc is also beneficial to digestive health.	Zinc toxicity can cause adverse effects such as nausea, vomiting, abdominal cramps, diarrhea, headaches and loss of appetite. Zinc supplements may interact with antibiotics and diuretics. Individuals taking these medications on a regular basis should discuss their Zinc intakes with their healthcare proffessionals.