

Contemporary nutrition



**ASSIGN
BUSTER**

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Relate the importance of variety in a diet, especially with regard to fruit and vegetable choices, to the discovery of various phytochemicals in foods.

Variety is of vital importance when deciding what to eat. Not only does it help ensure that a diet contains sufficient nutrients, but also makes meals more interesting rather than eating the “ same old thing” day after day. This approach is also best because no one particular food choice meets all of a person’s nutrient needs.

For example, although carrots have a rich source of a pigment that forms vitamin A, you are neglecting various other nutrients found only in other vegetables. In this regard, diversity in your diet is essential because the required nutrients are scattered among many foods. As an added bonus, research has found that numerous fruits and vegetables contain rich supplies of phytochemicals, many of which provide significant health benefits. Studies have repeatedly shown that those who consume these types of foods regularly can reduce the risk of certain diseases such as cancer.

Due to this, fruits and vegetables rich in such chemicals are now part of a family of foods referred to as functional foods. This is defined as a food that provides health benefits beyond those supplied by the traditional nutrients it contains. 2. How would you explain the concepts of nutrient density and energy density to a fourth grade class? Density means how much you get of one thing given the presence of something else. A nutrient is a substance in food that the body needs in order to work properly.

In the case of nutrient density, the “ things” you receive, the nutrients, are compared to how many total calories that particular food contains. A food is said to be nutrient dense if it gives you a large amount of a nutrient for a small amount of calories. For instance, let’s say you get to choose whether to eat an apple or a glazed donut which are about the same size. The apple has around 80 calories and a lot of vitamins, fiber, and phytochemicals that will keep you healthy. The fiber and water in the apple will also help fill your stomach much faster and prevent you from eating too much.

The donut, on the other hand, has a bunch of calories but has very little nutrients and a lot of saturated fat and plenty of sugar, both of which are very unhealthy . There is only about one gram of fiber so it won’t help keep you full either which will make you want to eat a second or even third one, which adds even more unhealthy choices. For this reason, the apple is said to be much more “ nutrient dense” than the donut, even though they are about the same size. Energy density, on the other hand, is determined by comparing the calorie amount with the weight of the food.

An “ energy-dense” food is high in calories but weighs very little, like Potato Chips. An example of a food that is low in energy density, where it has few calories but weights a lot, would be an orange. As a result, it is safe to assume that foods with lots of water and fiber provide low-energy-density to a meal and helps you feel full, whereas foods with high energy density must be eaten in greater amounts to help you feel fuller. This is another reason to eat a diet that has many fruits, vegetables, and whole-grain breads and cereals since it will help keep your hunger under control. 3.

Trace the progression, in terms of physical results, of a person who went from an over-nourished to an under-nourished state. In terms of physical results, a person who went from an over-nourished to an under-nourished state would see drastic physical changes. To start, the individual would be visibly obese due to the excess calories that the body does not need. He/she would also fatigue very easily, experience digestive problems, have trouble sleeping, and depending on the severity, the individual could also develop serious and sometimes fatal diseases such as cancer or type 2 diabetes.

During the transition to an under-nourished state, the person would see a period of desirable nutrition in which he/she would have more energy and experience gradual absence of the symptoms that accompany obesity. The most visible change would be weight loss. When transitioning to an under-nourished state, no outward symptoms would be immediately noticeable. Over time, though, clinical symptoms would start to surface. For example, a person with a vitamin A deficiency would start seeing small areas of bruising on the skin.

When severe enough, under-nutrition will start taking a toll on health and less energy, unhealthy weight loss, weakness, irritability, among other symptoms, will soon become apparent. If left untreated, both states of nutrition can be fatal. 4. How could the nutritional state of the person at each state in question 3 be evaluated? The nutritional state of the person at each state can be evaluated by analyzing background factors and assessing his/her status using the ABCDE assessment method.

Since family health history plays an important role in determining overall health status, it must be thoroughly investigated and carefully recorded. These include medical history, social history, family health history, education level, and economic status. In addition to background factors, the ABCDE assessment, as previously mentioned, can give a physician and dietitian an even more in-depth analysis that can aid in treating the patient. First is the anthropometric assessment in which such things as an individual's height, weight, skinfold thickness, arm muscle circumference, and other parameters are measured.

Next, the biochemical assessment involves the measurement of the concentrations of nutrients and nutrient by-products in the blood, urine, and feces and of specific blood enzyme activities. The clinical assessment soon follows during which a health care professional would search for any physical evidence of diet-related diseases or deficiencies such as the general appearance of skin, eyes, and tongue as well as the ability to hear, touch, or walk properly. Then, a close look at the person's diet, including a record of at least the previous few days' food intake, would determine any problem areas with the dietary assessment.

The final is that of the environment and deals with further details regarding the living conditions, education level, and ability to purchase and prepare foods needed to maintain health. Together, both the background factors and analysis of the ABCDE method would truly give an accurate evaluation of the individual's nutritional state. 5. Describe the philosophy underlying the creation of MyPyramid. What dietary changes would you need to make to meet the pyramid guidelines on a regular basis? MyPyramid was initially

created to translate the science of nutrition into practical terms so that people with no special training could estimate whether their nutritional needs were being met. This led to the invention of a pyramid diagram and provides an individualized approach to improving diet and lifestyle whose goal is to provide advice that will help us live longer, better, and healthier lives. The symbol was designed to be simple and remind consumers to make healthy food choices and to be active every day. It illustrates personalization, gradual improvement, activity, variety, proportionality, and moderation.

To meet the dietary guidelines in MyPyramid, I would have to make a few subtle additions to my daily diet. Since I already exercise regularly, monitor my caloric intake, and limit consumption of unhealthy options such as alcoholic beverages and overly-processed foods, I believe I would just need to add more variety in the form of fruits and vegetables due to their nutrient density and numerous health benefits beyond those of regular foods. Only then will I truly be able to harness the power of MyPyramid's intent! 6.

Describe the intent of the Dietary Guidelines for Americans. Point out one criticism for its general application to all North American adults. Dietary Guidelines for Americans is another tool for menu planning that reaches beyond the scope of MyPyramid. MyPyramid was designed to help meet nutritional needs for carbohydrate, protein, fat, vitamins, and minerals. However, most of the major chronic “killer” diseases in North America, such as cardiovascular disease, cancer, and alcoholism, are not primarily associated with deficiencies of these nutrients.

In response to concerns regarding killer disease patterns and poor dietary habits, the USDA and U. S. Department of Health and Human Services have published Dietary Guidelines to aid in diet planning. The latest version places stronger emphasis on monitoring one's caloric intake and increasing physical activity. A basic premise of the Dietary Guidelines is that nutrient needs should be met primarily through consuming foods.

Foods provide an array of nutrients and other compounds that may have beneficial effects on health. Fortified foods and dietary supplements, however, are especially important for people whose typical food choices cannot meet one or more nutrient recommendations. One criticism for the Dietary Guidelines application to all North American adults is that it cannot possibly accommodate the needs of every individual. Results are sometimes disappointing, even when you are following a diet change very closely.

For this reason, when using the Dietary Guidelines, you should consider your own state of health and keep in mind that differences in genetic background, among others, play a huge role in your progress and overall outcome. One's diet should be planned with this individuality in mind, taking into account when possible, one's current health status and family history for specific diseases. Although creating a unique nutrition program for every North American citizen is currently unrealistic, Dietary Guidelines provide typical adults with simple advice that can be actively practiced by anyone willing to take a step toward good health.