

# Carbohydrates

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<sup>1</sup> If our body is a car, carbohydrates are gasoline. Without gasoline, a car cannot move. Similarly, without carbohydrates, we don't have enough energy to do anything! Recognizing how important carbohydrates are, scientists allocate the base, which is also the largest part, of the food guide pyramid to carbohydrates. The food guide pyramid, designed by the U.S. Department of Agriculture and the Department of Health and Human Services, is meant to help Americans to understand how to maintain a balanced diet.



<sup>2</sup> Now we know that carbohydrates are an important energy source to our bodies, as each gram of carbohydrates generates four calories. But, what are carbohydrates? In the simplest form of explanation, carbohydrates are sugars. There are two types of sugars -- simple sugars and complex sugars. Likewise, there are two types of carbohydrates -- simple carbohydrates and complex carbohydrates.

<sup>3</sup> Simple carbohydrates (or simple sugars) are made up of one or two sugar units. Table sugar, honey, jelly, fructose (sugar from fruit), lactose (sugar from milk), syrup, candy, and other sweets are all examples of simple carbohydrates. Complex carbohydrates (or complex sugars) are made up of hundreds or thousands of sugar units. They reside in starchy food, such as pasta, bread, potatoes, cereals, rice, and other grains.

<sup>4</sup> The biggest difference between simple carbohydrates and complex carbohydrates is how fast they can be digested and converted to energy. Once consumed simple carbohydrates break down to glucose faster than complex carbohydrates. Therefore, simple carbohydrates are converted to energy faster than complex carbohydrates. Have you ever felt energetic soon after you eat a chocolate bar? Well, chocolate bars, as all sweets, are simple carbohydrates. Because simple carbohydrates are quick to be absorbed by our bodies, they give our tired bodies an immediate energy boost. Nevertheless, this abrupt burst of energy (nicknamed “sugar shock”) is only a temporary fix. Energy provided by simple carbohydrates disappears quickly.

<sup>5</sup> Contrary to simple carbohydrates, complex carbohydrates offer long-lasting energy. Since starchy food has complex molecular structures, breaking it down to glucose takes time. Therefore, it represents a more gradual and sustained source of energy. Aside from being digested slower, complex carbohydrates provide more nutrients (such as fibers and minerals) than simple carbohydrates, with the exception of fructose and lactose. Eating lots of fruits and drinking lots of milk not only give us simple carbohydrates, but also numerous nutrients such as vitamin C and calcium.

<sup>6</sup> Many people think carbohydrates are bad, so they avoid eating them. This extreme approach runs directly against the concept of having a balanced diet. Because carbohydrates supply energy, assist in digesting fats, lubricate joints, and keep skin, bones, and nails healthy, excluding carbohydrates from our diet is not a good idea. The right attitude toward carbohydrates is to eat healthy carbohydrates. Healthy carbohydrates are nutrient-rich carbohydrates. Whole wheat, brown rice, and oatmeal contain more vitamins, minerals, proteins, and dietary fiber than white bread, white rice, and brownies; thus, they are healthy carbohydrates.

<sup>7</sup> So, you see, the wisdom behind carbohydrates is to choose the right type and the appropriate portion of carbohydrates to consume!

## Carbohydrates

<p>1. Which of the following about carbohydrates is true?</p> <p><input type="radio"/> A It is okay to exclude carbohydrates from our diet.</p> <p><input type="radio"/> B For every ounce of carbohydrates we consume, it translates to 4 calories.</p> <p><input type="radio"/> C Simple carbohydrates contain more nutrients than complex carbohydrates.</p> <p><input type="radio"/> D Carbohydrates are sugars.</p>	<p>2. Which of the following is <b>not</b> an example of simple carbohydrates?</p> <p><input type="radio"/> A Honey</p> <p><input type="radio"/> B Syrup</p> <p><input type="radio"/> C Jelly</p> <p><input type="radio"/> D Cereals</p>
<p>3. When we drink milk, we get both simple carbohydrates and nutrients like calcium.</p> <p><input type="radio"/> A False</p> <p><input type="radio"/> B True</p>	<p>4. Which of the following has healthy carbohydrates?</p> <p><input type="radio"/> A A piece of fried chicken</p> <p><input type="radio"/> B A brownie</p> <p><input type="radio"/> C A chocolate bar</p> <p><input type="radio"/> D A slice of whole wheat bread</p>
<p>5. Which of the following statements about carbohydrates is true?</p> <p><input type="radio"/> A Simple carbohydrates are converted to energy at the same rate as complex carbohydrates.</p> <p><input type="radio"/> B Fructose and lactose are complex carbohydrates.</p> <p><input type="radio"/> C Simple carbohydrates have the same nutritional value as complex carbohydrates.</p> <p><input type="radio"/> D Carbohydrates make up the base of the food guide pyramid.</p>	<p>6. Who designed the food guide pyramid? (Please choose two of the best answers.)</p> <p><input type="radio"/> A The Department of Homeland Security</p> <p><input type="radio"/> B The U.S. Department of Agriculture</p> <p><input type="radio"/> C The Department of Health and Human Services</p> <p><input type="radio"/> D The Department of Justice</p>
<p>7. Fruits have sugars. Sugar from fruits is called fructose.</p> <p><input type="radio"/> A False</p> <p><input type="radio"/> B True</p>	<p>8. What do carbohydrates break down to?</p> <p><input type="radio"/> A Sucrose</p> <p><input type="radio"/> B Fructose</p> <p><input type="radio"/> C Glucose</p> <p><input type="radio"/> D Lactose</p>
<p>9. Which of the following is <b>not</b> a benefit that carbohydrates provide?</p> <p><input type="radio"/> A Lubricate joints</p> <p><input type="radio"/> B Generate energy</p> <p><input type="radio"/> C Digest fats</p> <p><input type="radio"/> D Produce hormones</p>	