

# Hidden Sugar



## Key words

- Sugar
- Nutrition
- Mathematics

## The science behind

### Introduction

- Every package of food contains a table of nutrition facts. The table of nutrition information is usually located in the back or on the side of the package.
- The key information is under term – carbohydrates (total), of which sugars. The value is calculated per 100 grams of the product. Sometimes, nutrition information is shown per single serving size.
- Total sugar include both, added sugars and natural sugars. Added sugars are the ones you want to limit.

### Calculating the percentage of sugar

Calculating the percentage of sugar with a simple math equation:

- $\text{Sugar(\%)} = \frac{\text{mass of sugar (g)}}{100\text{g product}}$
- The daily value of added sugars is less than 10 percent of total calories per day.

## Nutritional Values – Recommended Amounts

- Women and children- children from ages 2-18 -less than 6 teaspoons (25 grams) per day
- Men - less than 9 teaspoons (36 grams) per day.
- One teaspoon of granulated sugar weighs approximately 4 grams.

## Everyday life

### Biochemist

- Usage of urine sample to check sugar level:  
Oxidation of glucose by Fehling's Reagent-Biochemists use this specific chemical reaction in medicine labs to detect glucose (sugar) from urine samples. The functional group in glucose, like in the most sugars, is the aldehyde group. Hence, sugars can reduce metallic cations as Cu(II), Hg(II), Ag(I) and Bi(III) as they are oxidized to carboxylic acids. This property can be used to detect the amount of glucose in blood from an urine samples.

### Disease

- Detecting the amount of sugar in our food is important for our health.
- Added sugar intake can lead to weight gain and this is linked to all of diseases : diabetes, higher blood pressure, inflammation, fatty liver disease. All these are linked to an increased risk for heart attack and stroke.

Nutrition Facts Valeur nutritive	
Per 1 bar (35 g) / Pour 1 barre (35 g)	
Amount Teneur	% Daily Value % valeur quotidienne
<b>Calories / Calories 140</b>	
<b>Fat / Lipides 2.5 g</b>	<b>5%</b>
Saturated / saturés 0.5 g	
+ Trans / trans 0 g	<b>3%</b>
<b>Cholesterol / Cholestérol 0 mg</b>	
<b>Sodium / Sodium 80 mg</b>	<b>3%</b>
<b>Carbohydrate / Glucides 25 g</b>	<b>8%</b>
Fibre / Fibres 2 g	<b>8%</b>
Sugars / Sucres 10 g	
<b>Protein / Protéines 2 g</b>	
Vitamin A / Vitamine A	0%
Vitamin C / Vitamine C	4%
Calcium / Calcium	2%
Iron / Fer	6%



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