

Additional resource: [Where do calories come from? Learn to calculate the energy value of food.](#)

Energy Value is the amount of energy that the food will give you when you eat it. It is measured either in calories (kcal) or joules (kJ). Calories provide information about how much energy you get from a portion of a given food. The total amount of calories provided by a food is the sum of the calories provided by single nutrients (calorific value).

Nutrient	Calorific value
Proteins	4 kcal/g
Carbohydrates	4 kcal/g
Fats	9 kcal/g

Each food ingredient we eat is made up of water, sugar, protein, fat, fibre in different proportions. For example, olive oil is basically 100% fat, so **100g of oil=100g*9kcal=900kal**. So, when you cook a dish, if you want to calculate the calories in more complex recipes rather than 1 ingredient, you just need to add them up.

Spaghetti Bolognese for one

Let's calculate the calories of a meal. You are making spaghetti Bolognese. From the Nutritional Information on a typical pack of spaghetti, it can be found that 100g of spaghetti (one serving) contains:

Nutrition information	
Typical values	Per 100g
Fat	1.2g
Carbohydrate	70.5g
Protein	12.5g

To calculate the energy (kcal) obtained per serving (100g) of spaghetti, simply multiply the calorific values from above by nutrient and then add them all up:

$$1.2g \text{ fat} \times 9\text{kcal/g} + 70.5g \text{ carbs} \times 4\text{kcal/g} + 12.5g \text{ proteins} \times 4\text{kcal/g} = 343 \text{ kcal}$$

Now let's check the nutritional information from a typical label of ready-made Bolognese sauce, one serving (125g) contains:

Nutrition information	
Typical values	Per 125g
Fat	0.8g
Carbohydrate	7.5g
Protein	1.9g

By following the same process previously done, we can infer the total kcal of the Bolognese sauce:

$$0.8\text{g fat} \times 9\text{kcal/g} + 7.5\text{g carbs} \times 4\text{kcal/g} + 1.9\text{g proteins} \times 4\text{kcal/g} = 45\text{ kcal}$$

At this point, to calculate the total amount of kcal in our meal, we simply add up the kcal from the spaghetti and the kcal from the Bolognese sauce:

$$343\text{ kcal spaghetti} + 45\text{ kcal sauce} = 388\text{ kcal}$$

Therefore, our meal contains 388 kcal.

You can also use online calories counter to help yourself in the process as the one provided by the NHS '[Calorie checker](#)', as well as by downloading free apps from your App Store or Google Play like MyfitnessPal or Sparkpole.

References

[1] HS, "Food labels," 2018. [Online]. Available: <https://www.nhs.uk/live-well/eat-well/how-to-read-food-labels/>

[2] NHS, "Understanding calories," 2018. [Online]. Available: <https://www.nhs.uk/live-well/healthy-weight/understanding-calories/>