

# The effects of cooking on nutrients



You need to cook foods to make them better to eat. Raw potatoes would give you stomach ache!  
The main foods affected by heat are fruit and vegetables. More nutrients are lost with longer cooking.

2 vitamins are altered or destroyed by heat

- vitamin Bs - thiamin (B1), riboflavin (B2), niacin (B3), pantothenic acid (B5), pyridoxine (B6), folic acid (B7) and cobalamin (B8).
- vitamin C.

Proteins change with heat - think of a boiled egg compared with a raw one.

## Investigation

Use the Nutrition Program to find the changes in nutrition in cooked vegetables.

Cooking methods such as frying and roasting increase the fat and calories in food.

- 1) Find the fat content of different ways of cooking potatoes.
- 2) Find the changes in vitamin C in spinach and peas when they are cooked.

Type of potato	Amount of fat in 100g	Vegetable	Amount of vitamin C in 100g
Potato, baked flesh only		Raw spinach	
Potato, mashed with butter		Boiled spinach	
Potato wedges		Raw peas	
Potato, roasted		Boiled peas	
Chunky chips		Canned peas	

## Steps to use the Nutrition Program

Open the Program and click My Meals + New Meal and Name it Vegetables

Choose age 15-18 years, Male, Meal type Lunch.

Fat investigation

To find out the fat in the different potatoes click Add Foods and in Find Foods type potato.

You see a list of different types of potato - click one listed above and you will see a list of nutrients including Fat. Put your result in the chart.

Vitamin C

To find out the vitamin C in spinach - you see a spinach list. Choose raw spinach and find the vitamin C and put it on the chart.

Questions

1. Which potato has the highest amount of fat in 100g? Explain why the fat content is high. (3 marks)
2. Explain why boiled spinach and boiled peas contain less vitamin C than raw spinach and peas. (2 marks)

Enter an amount	
potatoes, roasted in corn oil	
Energy	630 kJ
Energy	149 kcal
Protein	2.9 g
Carbohydrate	26 g
Total Sugars	0.6 g
Starch	25 g
Fat	4.5 g

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## Answers

Type of potato	Amount of fat in 100g	Vegetable	Amount of vitamin C in 100g
Potato, baked flesh only	1g	Raw spinach	26mg
Potato, mashed with butter	4g	Boiled spinach	8mg
Potato wedges, baked	7.7g	Raw peas	24mg
Potato, roasted	4.5g	Boiled peas	16mg
Chunky chips	5.2g	Canned peas	1mg

1. Which potato has the highest amount of fat in 100g? Explain why the fat content is high. (3 marks)

Potato wedges have the highest fat. They are cut into smaller pieces and so absorb more fat when roasted.

2. Explain why boiled spinach and boiled peas contain less vitamin C than raw spinach and peas. (2 marks)

Vitamin C is lost during cooking and both of these vegetables have been cooked in water, so the vitamin leaches out.