

Ingredient Cards

For GCSE OCR Food Preparation
and Nutrition

Sauces, Stocks, Reductions & Condiments

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Teacher's Introduction

This resource is designed to help you teach and discover the fascinating world of food we eat every day. Ingredient Cards are written with in mind the students who have chosen the challenge of studying the new subject – OCR GCSE Food Preparation and Nutrition.

What it covers

This part of Ingredient Cards introduces carefully chosen food ingredients – some to represent British cuisine and some to introduce world foods. The resource comprises 24 Sauces and Condiments sheets and 11 Task sheets.

How to use this resource

This resource covers all aspects of the new OCR GCSE specification for Food Preparation and Nutrition and is designed to increase the knowledge, improve the skills, arouse the curiosity and trigger the creativity of those using it.

Each Ingredient Card is dedicated to one ingredient. You can print and laminate these so that they can be safely used in the kitchen, without the risk of staining or damaging them.

- **What is It?** Briefly describes what a given sauce or condiment is made from and provides some trivia to make it more interesting for the student.
- **Common Cuisines.** This part indicates where a given ingredient comes from and where it is usually used in the world.
- **Nutritional Information.** Contains data about macro- and micronutrients present in a given food ingredient, both in 100 g and in a portion or piece, to help evaluate the nutritional value of the dishes made using it. It is presented in the form of a table, containing information about macro- and micronutrients as required by the OCR GCSE specification.

If there is a '-' it means that there is no data available about the given nutrient. If there is a '0' it means that the ingredient does not contain the given nutrient.

- **Health Benefits.** Indicates the health benefits of consuming the given food ingredient, with special attention to vitamins, minerals, unsaturated fats, protein, phytosterols, naturally occurring antioxidants and essential oils (where applicable).

IMPORTANT:

If a product contains cholesterol, or any other substances not listed in the table, it is indicated in the 'allergy and health risks' section.

Please bear in mind that nutritional data is estimated, and may differ depending on the brand, ingredients used, storage conditions and any processing applied to the food during manufacturing.

- **Allergy and Health Risks.** Points out the main health hazards relating to the consumption of a given food ingredient, including the risk of an allergic reaction.
- **Alternatives.** Contains a list of other food products which can be used instead of the described ingredient in case of shortage, health conditions or other reasons why the original ingredient cannot be used.
- **Cooking Uses.** A catalogue of culinary uses of a given food ingredient. Indicates whether it can be eaten alone or cooked, and whether there are any special requirements for cooking or preparation (where applicable). It also lists the kinds of dish in which the ingredient can be used, in order to fully appreciate its features and value.
- **Storage.** Conditions in which to store the given product in order to preserve its nutritional value, colour, texture and flavour.

The sauces and condiments are combined into small groups, and each group is followed by a **Task sheet** focused on the given ingredients. The purpose of each Task sheet is to check students' knowledge and encourage them to research more information, as well as experiment with the ingredient and discover its potential in cooking. Each task has been assigned a reference number to help cover the whole spectrum of the OCR GCSE Food Preparation and Nutrition specification. Simply copy one Task sheet per student for them to work on either during the lesson or at home. There are also exemplary answers to help you assess your students' progress and determine more challenging exercises which require more effort.

The nutritional data is, in most cases, based on the United States Department of Agriculture database and McCance and Widdowson Composition of Foods database for Great Britain.

Where appropriate, other sources of information have been used, such as FODMAPer application issued by Monash University and label information for products most popular in Great Britain.

Specification Specific Information

The Ingredient Cards contain a wide range of information, including data about vitamins and minerals. Please note that the nutritional values supplied do not always reflect the requirements of the OCR GCSE specification for Food Preparation and Nutrition, as they provide additional data on potassium and magnesium.

We believe that the additional information provided will broaden the students' knowledge and improve their understanding of how nutrients work together in the human body.

However, there is no need for students to focus on the vitamins or minerals not covered by the specification. The following table indicates which vitamins and minerals the OCR specification covers.

Minerals		
Calcium		✓
Iron		✓
Sodium		✓
Fluoride		✓
Iodine		✓
Phosphorus		✓
Potassium		
Magnesium		
Vitamins		
Fat soluble	Vitamin A	✓
	Vitamin D	✓
	Vitamin E	✓
	Vitamin K	✓
Water soluble	Vitamin B1 (Thiamine)	✓
	Vitamin B2 (Riboflavin)	✓
	Vitamin B3 (Niacin)	✓
	Vitamin B9 (Folic acid)	✓
	Vitamin B12 (Cobalamin)	✓
	Vitamin C (Ascorbic acid)	✓

September 2017

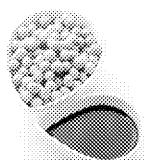
Free Updates!

Register your email address to receive any future free updates* made to this resource or other Food and Nutrition resources your school has purchased, and details of any promotions for your subject.

* resulting from minor specification changes, suggestions from teachers and peer reviews, or occasional errors reported by customers

Go to [zzed.uk/freeupdates](https://www.zzed.uk/freeupdates)

1. SOY SAUCE



What is It?

Soy sauce is the product of fermenting soy beans and wheat from *Aspergillus* family.

Common Cuisines:

Soya is a common ingredient used in Asian cooking, and was originally developed in China as a method of preserving and salting foods.

Storage:
Store at room temperature, sealed, to prolong opening.

Nutritional Information:

These values may differ between similar products.

Nutritional value: typical value	Per 100 g	Per 1 tsp (approx. 6 g)
Energy	60 kcal	4 kcal /
Macronutrients		
Fat	0.10 g	0.01 g
Saturated fats	0.011 g	0.001 g
Monounsaturated fats	0.017 g	0.001 g
Polyunsaturated fats	0.044 g	0.003 g
Carbohydrates	5.57 g	0.33 g
Starch (polysaccharides)	-	-
Sugars (mono- and disaccharides)	1.70 g	-
Fibre	-	0.10 g
Protein	10.51 g	0.63 g
Micronutrients		
Vitamin A	0	0
Vitamin D	0	0
Vitamin E	0	0
Vitamin K	0	0
Vitamin B1 (Thiamine)	0.059 mg	0.004 mg
Vitamin B2 (Riboflavin)	0.152 mg	0.009 mg
Vitamin B3 (Niacin)	3.951 mg	0.237 mg
Folic acid	0	0
Vitamin B12	0	0
Vitamin C (Ascorbic acid)	0	0
Calcium	20 mg	1.2 mg
Iron	2.38 mg	0.14 mg
Sodium	56 mg	335 mg
Fluoride	-	-
Iodine	-	-
Phosphorus	130 mg	8 mg
Potassium	212 mg	13 mg
Magnesium	40 mg	2 mg

g – grams, mg – milligrams, mcg – micrograms

Nutritional

Health Benefits:

Soy sauce is low in saturated fat and a great source of group B vitamins, phosphorus. It also provides additional health benefits.

Soy sauce is a great source of sodium, which is essential for proper conduction of nerve signals and controls water balance in the body. It contains less sodium than a teaspoon of salt. It is recommended to obtain the desired sodium intake under control.

Soy sauce is also a source of soy isoflavones, natural antioxidants, protecting the body from free radicals.

Allergy and Health Risks:

Most soy sauces contain wheat, which is a common allergen for individuals who suffer from coeliac disease or wheat allergies.

With its high sodium content, soy sauce should be consumed in reduced amounts, as it can increase blood volume and blood pressure (and can cause other cardiovascular problems).

Alternatives

For a gluten-free alternative, use tamari sauce. Tamari is a little gluten – do check the label. **For lower sodium intake,** use reduced sodium soy sauce.

Cooking Uses:

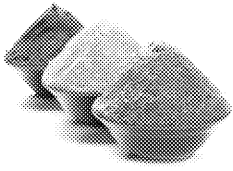
- **Spray** on top of a dish as a finishing touch.
- **Mix** into a marinade for fish or meat (works too).
- **Splash** into stews and stir-fries.
- **Spice up** sauces for meats and vegetables.
- **Dip in,** e.g. with sushi.

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2. MISO



What is It?

Thick, salty paste made from soy, rice, barley and other ingredients with *Aspergillus oryzae* mould (also known as koji). Available in jars, tubs, and packets.

Common Cuisines:

Miso is very popular in Japanese cuisine. It is used to prepare the famous miso soup, and as a flavouring agent in many dishes.

Nutritional Information:

These values may differ between similar products.

Nutritional value: typical value	Per 100 g	Per 1 tbsp (17 g)
Energy	198 kcal	34 kcal
Macronutrients		
Fat	6.01 g	1.02 g
Saturated fats	1.025 g	0.174 g
Monounsaturated fats	1.118 g	0.19 g
Polyunsaturated fats	2.884 g	0.49 g
Carbohydrates	25.37 g	4.31 g
Starch (polysaccharides)	-	-
Sugars (mono- and disaccharides)	6.2 g	1.05 g
Fibre	5.3 g	0.9 g
Protein	12.79 g	2.17 g
Micro nutrients		
Vitamin A	4 mcg	1 mcg
Vitamin D	0	0
Vitamin E	-	-
Vitamin K	29.3 mcg	5 mcg
Vitamin B1 (Thiamine)	0.098 mg	0.017 mg
Vitamin B2 (Riboflavin)	0.233 mg	0.04 mg
Vitamin B3 (Niacin)	0.906 mg	0.154 mg
Folate	19 mcg	3 mcg
Vitamin B12	0.08 mcg	0.01 mcg
Vitamin C (Ascorbic acid)	0	0
Calcium	57 mg	10 mg
Iron	2.49 mg	0.4 mg
Sodium	3728 mg	628 mg
Fluoride	-	-
Iodine	0	0
Phosphorus	159 mg	27 mg
Potassium	210 mg	36 mg
Magnesium	48 mg	8 mg

g – grams, mg – milligrams, mcg – micrograms

Nutrition

Health Benefits:

As with many other fermented foods, miso contains probiotic bacteria, which support the digestive system. Due to high levels of vitamin B12, miso can be used in vegetarian and vegan recipes. It still has less than classic ketchup, but adding a slightly brown color.

Allergy and Health Risks:

Miso can contain barley – always check its content to make sure it's safe. The high sodium and protein makes it a risk for kidney diseases, and for those with the fact that over 50% of soybeans are genetically modified may be important.

Alter

For use in soups, stews and casseroles: Add a cube.

For use as a dip, substitute miso for tahini.

For pickling, use vinegar.

Cooking Uses:

- Add a little miso flavour to soups, stews and casseroles.
- Improve salad dressings and marinades.
- Add when making Japanese miso soup.
- Spice up marinades for meat and fish.
- Use as a dip for vegetables.
- Dissolve in water to eat as a main or side dish.
- Spread onto sushi, or let it melt into the rice.

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3. FISH SAUCE



What is It?

Fish sauce is made by fermenting fish with salt. The result is a liquid with an umami taste.

Common Uses:

Fish sauce is used to prepare many dishes, especially in Vietnamese, Japanese and Korean cuisines.

Nutritional Information:

These values may differ between similar products.

Nutritional value: typical value	Per 100 g	Per 1 tbsp (15 g)
Energy	35 kcal	6 kcal
Macronutrients		
Fat	0.01 g	0
Saturated fats	0.003 g	0
Monounsaturated fats	0.002 g	0
Polyunsaturated fats	0.003 g	0
Carbohydrates	3.64 g	0.66 g
Starch (polysaccharides)	0	0
Sugars (mono- and disaccharides)	0	0.66 g
Fibre	0	0
Protein	5.06 g	0.91 g
Micronutrients		
Vitamin A	4 mcg	1 mcg
Vitamin D	0	0
Vitamin E	0	0
Vitamin K	0	0
Vitamin B1 (Thiamine)	0.012 mg	0.002 mg
Vitamin B2 (Riboflavin)	0.057 mg	0.01 mg
Vitamin B3 (Niacin)	2.313 mg	0.416 mg
Folate	51 mcg	9 mcg
Vitamin B12	0.48 mcg	0.09 mcg
Vitamin C (Ascorbic acid)	0.5 mg	0.1 mg
Calcium	43 mg	8 mg
Iron	0.78 mg	0.14 mg
Sodium	7851 mg	1178 mg
Fluoride	-	-
Iodine	-	-
Phosphorus	7 mg	1 mg
Potassium	288 mg	52 mg
Magnesium	175 mg	32 mg

g – grams, mg – milligrams, mcg – micrograms

Nutritional

Health Benefits:

Fish sauce is quite unique and healthy because it contains vitamins and minerals that improve the performance of the nervous system and create healthy red blood cells. It prevents anaemia. Fish sauce also contains all of them come from the fish, which supports the body. One tablespoon provides 10% of the daily requirement.

Allergy and Health Risks:

Since it's made of fish, it should be avoided by people with fish allergies. Also, it is very high in sodium, so it should be avoided by people suffering from hypertension.

Alter

For saltiness, replace with soy sauce.
For flavour, use anchovies or shrimp.

Cooking Uses:

- **Stir into** curries, stews, soups, etc.
- **Spice up** marinades, especially for poultry.
- **Improve the flavour** of stir-fries.
- **Add** to home-made chutneys.

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SOY SAUCE, MISO, FISH SAUCE – TASTE

1. Research and list five recipes that use miso to help complement the flavour of the main ingredient.
 - i.
 - ii.
 - iii.
 - iv.
 - v.
2. Briefly describe the production of soy sauce from soybeans. [Section B: 2]

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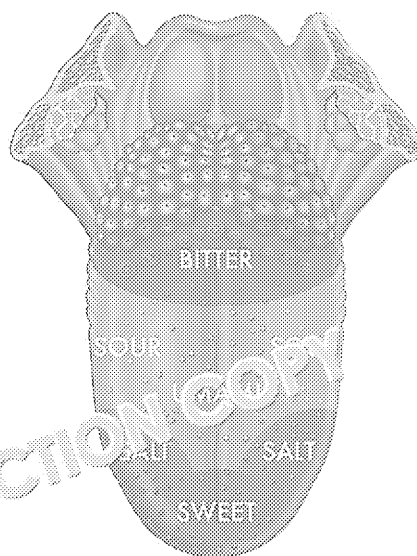
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3. Soy sauce is common in Chinese cooking. Name two other cultures or cuisines in which soy sauce is common [Section B: 5]

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.....
4. Circle the areas of the tongue that would be most receptive to soy sauce.

.....



Notes:
buds
not

Extension [Section C: 2]

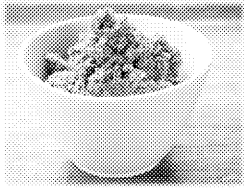
Complete a ranking test for between three and five different soy sauces. Which of soy sauce ranks highest for the area of the tongue you circled in Question 4?

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4. CURRY PASTE



What is It?

Curry paste is a thick mixture made from various spices but usually contains lemongrass, garlic, shallot, ginger, curry leaves, dried chilli (red curry), green chilli and Kaffir lime (green curry). It may also use some kind of oil, which would change the nature of the product.

Common Uses:

Curry paste is especially commonly used in Indian and Thai cuisines, where it is used to prepare yellow, red or green curry.

Nutritional Information:

These values may differ between similar products.

Nutritional value: typical value	Per 100 g	Per 1 tbsp (15 g)
Energy	253 kcal	38 kcal
Macronutrients		
Fat	21.3 g	3.2 g
Saturated fats	-	-
Monounsaturated fats	-	-
Polyunsaturated fats	-	-
Carbohydrates	11.3 g	1.7 g
Starch (polysaccharides)	4.3 g	0.65 g
Sugars (mono- and disaccharides)	7 g	1.05 g
Fibre	2.8 g	1.02 g
Protein	4.7 g	0.7 g
Micronutrients		
Vitamin A	-	-
Vitamin D	-	-
Vitamin E	-	-
Vitamin K	-	-
Vitamin B1 (Thiamine)	0.09 mg	0.014 mg
Vitamin B2 (Riboflavin)	0.13 mg	0.02 mg
Vitamin B3 (Niacin)	1.8 mg	0.27 mg
Folic acid	-	-
Vitamin B12	-	-
Vitamin C (Ascorbic acid)	0	0
Calcium	150 mg	22.5 mg
Iron	12.8 mg	1.92 mg
Sodium	1520 mg	228 mg
Fluoride	-	0
Iodine	-	0
Phosphorus	110 mg	16.5 mg
Potassium	-	-
Magnesium	-	-

g – grams, mg – milligrams, mcg – micrograms

Store in a cool, dry place. After opening, keep for up to 3 months.

Nutritional Information:

Health Benefits:

As with many other hot spices, turmeric can improve digestion and stimulate gastric juices. Its component chemicals which can prevent many other diet-related diseases. Turmeric also works as an antibiotic and can help in alleviating a blocked nose.

Allergy and Health Risks:

The turmeric in curry can irritate the stomach. To avoid curry if you're taking medication or awaiting surgery. Excessive consumption can cause stomach ache, nausea and diarrhoea. Spiciness and high sodium content.

Alterations:

For colour, use garam masala.

For colour and aroma, try ghee.

For spiciness and colour, use red chilli.

Cooking Uses:

- **Splash into** marinades for meat and vegetables
- **Add to** sauces, curries, stews
- **Spice up** a salad dressing
- **Infuse** rice/quinoa/couscous
- **Add** a hint to a bread dough and colour, best served with a dollop of yogurt
- **Mix into** stuffing, e.g. for meatballs
- **Sprinkle onto** pastes and breads

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5. COCONUT MILK (CANNED)



What is It?

A thick, creamy liquid made of pressed/squeezed coconut flesh. Depending on the quality, the canned product will have from 10% to 20% coconut extract. Also a pure cream of coconut (sometimes with a preservative) is available in a box, which need to be dissolved in water to make a coconut milk.

Common Cuisines:

Coconut milk is a common cooking ingredient, often added to curries, desserts and cocktails to make them sweet and creamy. It is most popular in Asian and Caribbean cuisines.

Storage:

Sealed cans can be stored at room temperature. Once opened, it should be stored in a non-metallic container.

Nutritional Information:

These values may differ between similar products.

Nutritional value: typical value	Per 100 g	Per 1 tbsp (15 g)
Energy	197 kcal	11 kcal
Macronutrients		
Fat	21.33 g	3.2 g
Saturated fats	18.915 g	2.84 g
Monounsaturated fats	0.907 g	0.136 g
Polyunsaturated fats	0.233 g	0.035 g
Carbohydrates	2.81 g	0.42 g
Starch (polysaccharides)	0	0
Sugars (mono- and disaccharides)	4.2 g	0.74 g
Fibre	0	0
Protein	2.02 g	0.3 g
Micronutrients		
Vitamin A	0	0
Vitamin D	0	0
Vitamin E	-	-
Vitamin K	-	-
Vitamin B1 (Thiamine)	0.022 mg	0.003 mg
Vitamin B2 (Riboflavin)	0	0
Vitamin B3 (Niacin)	0.637 mg	0.096 mg
Folate	14 mcg	2 mcg
Vitamin B12	0	0
Vitamin C (Ascorbic acid)	1 mg	0.1 mg
Calcium	18 mg	3 mg
Iron	3.3 mg	0.5 mg
Sodium	12 mg	2 mg
Fluoride	-	-
Iodine	-	-
Phosphorus	96 mg	14 mg
Potassium	220 mg	33 mg
Magnesium	46 mg	7 mg

g – grams, mg – milligrams, mcg – micrograms

Nutritional

Health Benefits:

The name of the coconut is derived from the word 'fruit', and, therefore, may cause allergic reactions in people with nut allergies. It is low in calories and contains group B vitamins, such as B1, B2, B3, B6, B12, and also provides potassium, which helps to regulate blood pressure. Although it contains a high amount of saturated fat, namely lauric acid, it also increases the HDL ('good') cholesterol and, therefore, lowers the risk of heart disease. Studies have proven that MCT fatty acids are beneficial for metabolism ratio and prevent weight gain.

Allergy and Health Risks:

Coconut milk is often present in many processed foods, which are important allergens. People with allergies should avoid health complications and use coconut milk in moderation.

Alter

For the creamy texture, try using silken tofu.

For colour and fewer calories, use cheese or cream.

For sweetness, replace with sugar.

Cooking Uses:

- **Simmer** to make a curry.
- **Use instead of** cow's milk in recipes like panna cotta, puddings (except cream-based ones) and ice creams...
- **Boil** to cook rice and quinoa (a bit if it's too thick)
- **Shake or blend** to make smoothies (e.g. as pina colada)

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CURRY PASTE AND COCONUT MILK

1. List the ingredients of yellow, green and red curry pastes. Underline the ingredients that are **not** in the list.
[Section B: 6, Section A: 2]

Yellow curry

.....

Green curry

.....

Red curry

.....

2. Evaluate which is healthier: cow's milk or coconut milk. Justify your reasons.

.....

.....

.....

.....

3. Coconuts are very hard and cause around 15 deaths each year. Can you think of any ways to make them easier to break them open? [Section B: 1]

.....

.....



Extension [Section B: 6, Section B: 2]

Create a consumer's guide in which you compare five different brands of coconut milk. You can either go to a shop and photograph the labels or find some on the internet.

Pay extra attention to the amount of coconut extract and preservatives in the ingredients. Which brand would you recommend, and why?

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6. MUSTARD



What is It?

Thick sauce made from whole or ground mustard seeds mixed with water, vinegar, salt and flavourings. There are many varieties from bright yellow to dark brown, from sweet and mild to hot and from smooth to grainy.

Common Cuisines:

Dijon mustard is made by the French in the thirteenth century and is seen as a classic element of French cuisine. In England, mustard was known from the end of the fourteenth century – although the flavour differed from the French one. Today, mustard is especially popular in Europe and the USA.

Store in a cool, dry place. Usual shelf life 12 months. Open after use.

Nutritional Information:

These values may differ between similar products. Data shown is for Colman's mustard, or is an estimated average where no data was available.

Nutritional value: typical value	Per 100 g	Per 1 tsp (5 g)
Energy	195 kcal	10 kcal
Macronutrients		
Fat	12 g	0.6 g
Saturated fats	0.7 g	0.1 g
Monounsaturated fats	-	-
Polyunsaturated fats	-	-
Carbohydrates	12 g	0.7 g
Starch (polysaccharides)	-	-
Sugars (monosaccharides and disaccharides)	13 g	0.7 g
Fibre	2.6 g	0.13 g
Protein	6.8 g	0.5 g
Micronutrients		
Vitamin A	0	0
Vitamin D	0	0
Vitamin E	1.06 mg	0.053 mg
Vitamin K	1.1 mcg	0.055 mcg
Vitamin B1 (Thiamine)	0.169 mg	0.008 mg
Vitamin B2 (Riboflavin)	0.055 mg	0.003 mg
Vitamin B3 (Niacin)	0.994 mg	0.05 mg
Folate	34 mcg	1.7 mcg
Vitamin B12	0	0
Vitamin C (Ascorbic acid)	1.5 mg	0.075 mg
Calcium	56 mg	2.8 mg
Iron	0.8 mg	0.1 mg
Sodium	3400 mg	170 mg
Fluoride	-	-
Iodine	-	-
Phosphorus	174 mg	8.7 mg
Potassium	152 mg	8 mg
Magnesium	48 mg	2 mg

g – grams, mg – milligrams, mcg – micrograms

Nutritional

Health Benefits:

The mustard seed content is high because most of mustard's weight is made up of seeds. Mustard seeds are a good source of omega-3 fatty acids (important for the nerve cell membrane and blood pressure low) and selenium (important for healthy eyes). They are also rich in vitamin C, which is necessary for healthy eyes. Mustard seeds stimulate the work of the pancreas, improving digestion.

Allergy and Health Risks:

Mustard seeds are an important allergen. It is indicated on food labels. The condiment makes it inappropriate for people with hypertension or kidney disease. It can irritate the stomach, especially in people with stomach ulcers.

Alter

For colour and spiciness, use yellow mustard.
For texture and creaminess, use Dijon mustard.
For hotness, replace with hot mustard.

Cooking Uses:

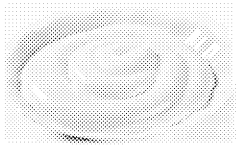
- Use as a sauce with burgers and hot dogs.
- Splash into a vinaigrette.
- Spice up marinades.
- Improve the flavour of cream soup, sauces and soups.
- Blend into mayonnaise.
- Emulsify a hollandaise sauce.
- Cook to make a Dutch mustard.
- Mix into stuffing, e.g. for turkey.

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7. MAYONNAISE



What is It?

Thick sauce made from oil, egg yolk, vinegar and flavourings. Egg yolk is an emulsifier and helps to stabilise the mixture.

Common Cuisines:

The name 'mayonnaise' suggests it comes from France – but many sources indicate it was first created in Spain! (Although, the French popularised it.) Anyway, mayonnaise is most popular in European countries.

Storage

Sealed container
ambient temperature
keep for up to 2 weeks

Nutritional Information:

These values may differ between similar products. Data shown is for Hellmann's mayo, or is an estimated average where no data was available.

Nutritional Analysis

Nutritional value: typical value	Per 100 g	Per 1 tbsp (13 g)
Energy	692 kcal	90 kcal
Macronutrients		
Fat	77 g	10 g
Saturated fats	11.54 g	1.5 g
Monounsaturated fats	19.23 g	2.5 g
Polyunsaturated fats	46.15 g	6 g
Carbohydrates	2.4 g	0.31 g
Starch (polysaccharides)	-	-
Sugars (mono- and disaccharides)	0.5 g	0.5 g
Fibre	-	-
Protein	0	0
Micronutrients		
Vitamin A	78 mcg	10.14 mcg
Vitamin D	0	0
Vitamin E	22.1 mg	2.87 mg
Vitamin K	0	0
Vitamin B1 (Thiamine)	0	0
Vitamin B2 (Riboflavin)	0.1 mg	0.013 mg
Vitamin B3 (Niacin)	0.1 mg	0.013 mg
Folate	9 mcg	1.17 mcg
Vitamin B12	0.3 mg	0.039 mg
Vitamin C (Ascorbic acid)	0	0
Calcium	2 mg	0.26 mg
Iron	0.16 mg	0.021 mg
Sodium	2 mg	90 mg
Fluoride	-	-
Iodine	7 mcg	0.91 mcg
Phosphorus	5 mg	0.65 mg
Potassium	20 mg	3 mg
Magnesium	1 mg	0 mg
g – grams, mg – milligrams, mcg – micrograms		

Health Benefits:

Any benefits of mayonnaise come from the oil. It provides vitamin A, group B vitamins, and is a source of lecithin, which improves memory and ability to focus. It also increases immunity and improves blood flow to the cells. Some benefits come from other ingredients, such as mustard, but in very small quantities.

Allergy and Health Risks:

Each tablespoon of mayo contains about 10 g of fat. Together they may clog arteries and blood vessels – forming plaque and increasing the risk of heart attack or stroke. It also contains a high sodium content, which increases the risk of kidney disease. Since it is very high in calories, it is not recommended for low-calorie diets.

Alterations

- For texture and colour, replace with lemon juice.
- For texture and creaminess, replace with avocado.
- For flavour, replace with mustard.
- For a better nutritional value, use olive oil.
- For texture and better nutrition, use avocado.

Common Uses:

- Use as a dressing in salads, coleslaw.
- Splash onto sandwiches.
- Serve with meats, cold cuts, eggs, frittata...
- Improve other sauces, e.g. tomato sauce.
- Cream or blend to make dips.
- Decorate salads, devilled eggs, finger foods.
- Pour over chips – Belgian style.

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8. KETCHUP



What is It?

Thick sauce made from tomatoes, sugar, vinegar, seasoning and spices. The fresher the tomatoes used the better, as they provide vitamins, antioxidants and fibre.

Common Cuisines:

Tomato ketchup as we know it was popularised only at the beginning of the twentieth century in the USA. From there, it spread worldwide, and is now a popular condiment in Australia, Europe, South Africa, India and many other countries.

Nutritional Information:

These values may differ between similar products. Data shown is for Heinz ketchup or is an estimated average where no data was available.

Nutritional value: typical value	Per 100 g	Per 1 tbsp (15 g)
Energy	102 kcal	15 kcal
Macronutrients		
Fat	0.1 g	0
Saturated fats	0	0
Monounsaturated fats	-	-
Polyunsaturated fats	-	-
Carbohydrates	23.2 g	3.5 g
Starch	-	-
(polysaccharides)	-	-
Sugars (monosaccharides and disaccharides)	1.8 g	3.4 g
Fibre	0.9 g	0.135 g
Protein	1.2 g	0.2 g
Micronutrients		
Vitamin A	79 mcg	11.85 mcg
Vitamin D	0	0
Vitamin E	1.01 mg	0.15 mg
Vitamin K	-	-
Vitamin B1 (Thiamine)	1 mg	0.15 mg
Vitamin B2 (Riboflavin)	0.09 mg	0.0135 mg
Vitamin B3 (Niacin)	2.1 mg	0.315 mg
Folate	1 mcg	0.15 mcg
Vitamin B12	0	0
Vitamin C (Ascorbic acid)	2 mg	0.3 mg
Calcium	13 mg	1.95 mg
Iron	0.3 mg	0.045 mg
Sodium	720 mg	108 mg
Fluoride	-	-
Iodine	0	0
Phosphorus	31 mg	4.65 mg
Potassium	350 mg	52.5 mg
Magnesium	19 mg	2.85 mg

g – grams, mg – milligrams, mcg – micrograms

Nutrition

Health Benefits:

What makes the tomato red – lycopene – is good news – is abundant in ketchup. It is a potent antioxidant, stored in the skin and slows down the process of ageing. Studies in the prevention of heart disease are ongoing.

Allergy and Health Risks:

Ketchup – like many other condiments – contains sugar, so it has to be avoided by people with diabetes. It is also quite high in sugar, so people suffering from diabetes, insulin resistance or high blood sugar levels should be cautious.

Alter

For colour and flavour, use tomato paste or pesto sauce.

For colour, replace with red food colouring.

For flavour, use chilli or BBQ sauce.

Cooking Uses:

- **Pair** over chips.
- **Brush** onto sandwiches.
- **Spice up** marinades, e.g. for chicken.
- **Blend** to make a dressing.
- **Spice up** soups, sauces and stews.
- **Make dressings,** such as ranch dressing, barbecue sauce and sweet-and-sour sauce.

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MUSTARD, MAYONNAISE AND KETCHUP

1. Ketchup, mustard and mayonnaise are the most popular sauces in the UK. Which do you consider the healthiest, and why? [Section A: 1, Section A: 3]

I think the healthiest sauce is.....

This is because

.....



2. For a 16-year-old of your gender, calculate the percentage of RNI provided by each nutrient. Then colour-code the label using the traffic light labelling system to indicate how well each nutrient reflects your nutritional needs. [Section A: 4, Section B: 6]

Nutritional value: typical value		RNI for me	Per 100 g
Energy			692 kcal
Fat			77 g
	saturates		11.54 g
Sugars (mono- and disaccharides)			3.85 g
Sodium			692 mg

Energy	Fat	Saturates	Sugars	Salt
692 kcal	77 g	11.54 g	3.85 g	1.73 g
____%	____%	____%	____%	____%

3. Briefly describe how mayonnaise is made and what the functions of each ingredient are. [Section C: 1, Section B: 2]

.....

.....

.....

Ingredient 1:

Function(s):

Ingredient 2:

Function(s):

Ingredient 3:

Function(s):

Ingredient 4:

Function(s):

Ingredient 5:

Function(s):

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4. What are the indicators of a good-quality ketchup? What would you pay for when buying a ketchup? [Section B: 6, Section C: 3]

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5. Indicate three health benefits and three disadvantages of tomato ketchup.

Health benefit	Disadvantage



Extension [Section C: 2]

Complete a ranking test for five different types of mustard. Assess the spread, colour and taste of each one. Are there any other features you could assess on a carrier?

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9. HP BROWN SAUCE



What is It?

Very popular in Great Britain. Sauce made from tomatoes, malt vinegar, sugar and flavourings.

Common Cuisines

HP brown sauce is one of the most popular condiments in Britain. It was created at the end of the nineteenth century in Birmingham. In 2014, 13 million kilograms of the sauce were sold in the UK alone!

Store
Once

Nutritional Information:

These values may differ in other brands of brown sauce.

Nutritional value: typical value	Per 100 g	Per 1 tbsp (15 g)
Energy	122 kcal	18 kcal
Macronutrients		
Fat	0.1 g	0
Saturated fats	0	0
Monounsaturated fats	-	-
Polyunsaturated fats	-	-
Carbohydrates	28.3 g	4.2 g
Starch (polysaccharides)	5.8 g	0.87 g
Sugars (mono- and disaccharides)	23.1 g	3.5 g
Fibre	1 g	0.2 g
Protein	0.9 g	0.1 g
Micronutrients		
Vitamin A	7 mcg	1.05 mcg
Vitamin D	0	0
Vitamin E	-	-
Vitamin K	-	-
Vitamin B1 (Thiamine)	0.09 mg	0.014 mg
Vitamin B2 (Riboflavin)	0.06 mg	0.007 mg
Vitamin B3 (Niacin)	0.1 mg	0.015 mg
Folate	5 mcg	0.75 mcg
Vitamin B12	0	0
Vitamin C (Ascorbic acid)	0	0
Calcium	23 mg	3.45 mg
Iron	2.12 mg	0.36 mg
Sodium	520 mg	78 mg
Fluoride	-	-
Iodine	-	-
Phosphorus	21 mg	2.1 mg
Potassium	21 mg	3.3 mg
Magnesium	36 mg	5.4 mg

g – grams, mg – milligrams, mcg – micrograms

Nutritional

Health Benefits:

Health benefits of brown sauce include – and – less so – from dates, vitamins and antioxidants. It is low in calories.

Allergy and Health Risks:

As with many other condiments, it should be avoided if you have allergies. Also, it is high in sugar, so diabetics. It contains barley, so it should be avoided if you are gluten-free.

Alter

For acidity and flavour, replace the vinegar with lemon juice.
For the sweet-and-sour taste, add a little maple syrup.

Cooking Uses:

- **Splash onto** meat pies, burgers, bacon, chips...
- **Serve with** eggs and chicken.
- **Add to** sandwiches, soups, stews.
- **Spice up** marinades, etc.

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10. WORCESTER SAUCE



What is It?

Flavouring sauce made from a mixture of barley and spirit vinegar, m... anchovies and various herbs and spices, mat... together for 18 mo...

Common Cuisines:

The modern recipe was invented in 1830 in Worcestershire, England, and gained popularity at the beginning of the 19th century. It is now used worldwide as a flavouring.

Storage:

Once opened, it should be stored in a cool, dark place. Do not refrigerate.

Nutritional Information:

These values may differ between similar products.

Nutritional value: typical value	Per 100 g	Per 1 tbsp (15 g)
Energy	79 kcal	13 kcal
Macronutrients		
Fat	0	0
Saturated fats	0	0
Monounsaturated fats	0	0
Polyunsaturated fats	0	0
Carbohydrates	19.45 g	3.3 g
Starch (polysaccharides)	-	-
Sugars (mono- and disaccharides)	10.03 g	1.71 g
Fibre	-	0
Protein	0	0
Micronutrients		
Vitamin A	5 mcg	1 mcg
Vitamin D	0	0
Vitamin E	0.08 mg	0.01 mg
Vitamin K	1 mcg	0.2 mcg
Vitamin B1 (Thiamine)	0.07 mg	0.012 mg
Vitamin B2 (Riboflavin)	0.13 mg	0.022 mg
Vitamin B3 (Niacin)	0.7 mg	0.119 mg
Folate	8 mcg	1 mcg
Vitamin B12	0	0
Vitamin C (Ascorbic acid)	13 mg	2.2 mg
Calcium	107 mg	18 mg
Iron	5.3 mg	0.8 mg
Sodium	980 mg	157 mg
Fluoride	-	-
Iodine	1 mcg	0.15 mcg
Phosphorus	60 mg	10 mg
Potassium	800 mg	134 mg
Magnesium	13 mg	2 mg

g – grams, mg – milligrams, mcg – micrograms

Nutritional

Health Benefits:

Since Worcester sauce is primarily vinegar, it contains some calcium and is easily absorbed by the body. It also contains B vitamins, which are necessary for energy. The garlic and onion in the sauce boost immunity, while vitamin C is a powerful antioxidant.

Allergies and Health Risks:

Worcester sauce contains anchovies, so people with fish allergies should be cautious. As with other condiments, it is high in sodium, so people with hypertension or kidney disease should consume it in moderation. It also contains sugar, so people with diabetes should be aware of the amount consumed.

Alterations:

For flavour and colour, try using different vinegars.

For saltiness, use soy sauce instead of Worcestershire.

You can make your own sauce by combining soy sauce, cider or vinegar, and a pinch of salt.

Cooking Uses:

- Always shake before use to mix the sediment that settles at the bottom.
- Spice up** marinades for meats and vegetables.
- Add to** minced meat for burgers and meatballs.
- Splash into** stews, dips, and soups.
- Serve with** casseroles and roasts.
- Pour over** wraps and sandwiches.
- Blend** into drinks and cocktails.

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HP BROWN SAUCE AND WORCESTER SAUCE: BROWN SAUCE - TASK SHEET

1. Outline how Worcester sauce is made. [Section B: 2]

1.	2.	3.
4.	5.	6.
7.	8.	9.

2. Indicate with what health conditions the overconsumption of HP sauce be avoided. [Section A: 1]

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3. What kind of date mark should be included on a bottle of HP sauce, and

.....

.....

4. Can Worcester sauce be considered a perishable food? Justify your answer

.....

.....

5. What ingredient is used in the production of both HP sauce and Worcester

.....

Extension [Section C: 2]

Try preparing your own brown sauce. What ingredients will you use, and compare your sauce with one of the brand sauces available on the market, and indicate the differences.

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11. TABASCO SAUCE

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What is It?

Very hot sauce made from chilli peppers with vinegar and salt, aged for three years in oak whisky barrels. The original Tabasco sauce has 2,500 SHU and 5,000 SHU on the Scoville scale. Today, there are many versions of the sauce, differing in their main ingredients and spiciness. A popular version of Tabasco sauce is chipotle sauce, which is made from smoked

Common Uses:

Tabasco is a popular condiment in the USA, where it is used to prepare marinades for meat and seafood, and nacho dips.

Nutritional Information:

These values may differ between similar products.

Nutritional value: typical value	Per 100 g	Per 1 tsp. (approx. 5 g)
Energy	12 kcal	1 kcal
Macronutrients		
Fat	0.76 g	0.04 g
Saturated fats	0.106 g	0.005 g
Monounsaturated fats	0.061 g	0.003 g
Polyunsaturated fats	0.401 g	0.019 g
Carbohydrates	0.8 g	0.04 g
Starch (polysaccharides)	-	-
Sugars (monosaccharides and disaccharides)	0.13 g	0.01 g
Fibre	0.6 g	0
Protein	1.29 g	0.06 g
Micronutrients		
Vitamin A	82 mcg	4 mcg
Vitamin D	0	0
Vitamin E	0.01 mg	0
Vitamin K	0.2 mcg	0
Vitamin B1 (Thiamine)	0.032 mg	0.002 mg
Vitamin B2 (Riboflavin)	0.084 mg	0.004 mg
Vitamin B3 (Niacin)	0.178 mg	0.008 mg
Folate	2 mcg	0
Vitamin B12	0	0
Vitamin C (Ascorbic acid)	4.5 mg	0.2 mg
Calcium	12 mg	0.6 mg
Iron	0.13 mg	0.006 mg
Sodium	33 mg	1.65 mg
Fluoride	-	-
Iodine	-	-
Phosphorus	23 mg	1.15 mg
Potassium	128 mg	6.4 mg
Magnesium	12 mg	0.6 mg

g – grams, mg – milligrams, mcg – micrograms

Storage:

Store in a cool place, away from direct sunlight (after opening, the colour may change, but this won't affect the taste).

Nutritional

Health Benefits:

Capsaicin from the chilli pepper and anti-inflammatory agent, ghrelin, it helps to reduce hunger. For those who are trying to lose weight, Tabasco is a virtually calorie-free, which is a bonus. Compared to other sauces and condiments, Tabasco has very low sodium, the amount of Tabasco (one teaspoon) is usually safe, and it's a good source of Vitamin C.

Allergy and Health Risks:

As Tabasco sauce is very hot, it can cause desensitisation of the taste buds if consumed in small quantities. Its ingredients can cause allergic reactions, so it's always best to check the label for potential allergens.

Alter

For hotness, replace with chilli powder.
For the sour taste, use vinegar.
For colour and spiciness, use cayenne pepper.
For very hot flavour, use cayenne pepper.
For milder hotness, try using Tabasco.
For very mild flavour, replace with Tabasco.

Cooking Uses:

- ☉ **Spice up** marinades, sauces, and dips.
- ☉ **Add** to guacamole or other dips.
- ☉ **Blend into** cocktails, soups, and stews, such as gazpacho.
- ☉ **Season** salads, sandwiches, tacos, tortillas, omelette, and pasta.
- ☉ **Stir into** rice and pasta.
- ☉ **Splash into** chocolate sauce.

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12. BBQ SAUCE



What is It?

Type of sauce made from vinegar, tomato paste, liquid smoke and

Store
Once

Common Confusion:

The first BBQ was manufactured in Atlanta, USA. From there it spread to Europe

Nutritional Information:

These values may differ between similar products.

Nutritional value: typical value	Per 100 g	Per 1 tbsp (15 g)
Energy	129 kcal	19 kcal
Macronutrients		
Fat	0.2 g	0
Saturated fats	0	0
Monounsaturated fats	-	-
Polyunsaturated fats	-	-
Carbohydrates	29 g	4.4 g
Starch (polysaccharides)	6.2 g	0.93 g
Sugars (mono- and disaccharides)	27.8 g	4.2 g
Fibre	0	0.075 g
Protein	0	0.2 g
Minerals		
Vitamin A	84 mcg	12.6 mcg
Vitamin D	0	0
Vitamin E	0.91 mg	0.14 mg
Vitamin K	0	
Vitamin B1 (Thiamine)	0.03 mg	0.004 mg
Vitamin B2 (Riboflavin)	0.02 mg	0.003 mg
Vitamin B3 (Niacin)	0.4 mg	0.06 mg
Folic Acid	5 mcg	0.75 mcg
Vitamin B12	0	0
Vitamin C (Ascorbic acid)	3 mg	0.45 mg
Calcium	17 mg	2.55 mg
Iron	0.6 mg	0.09 mg
Sodium	600 mg	90 mg
Fluoride	-	-
Iodine	1 mcg	0.15 mcg
Phosphorus	27 mg	4.05 mg
Potassium	23 mg	3.45 mg
Magnesium	13 mg	1.95 mg

g – grams, mg – milligrams, mcg – micrograms

Nutritional

Health Benefits:

As BBQ sauce contains tomatoes, it may provide potential health benefits such as lycopene and antioxidants. Lycopene is necessary for proper growth of bones, and vitamin C, which

Allergy and Health Risks:

When reading the label of a product, be different, and different allergens. BBQ sauce is high in sugar. Also, the high content of sugar

Alter

For colour and acidity, use
For colour and flavour, try
For flavour, replace with Vinegar
For the smoky aroma, use

Cooking Uses:

- **Spice up** marinades for
- **Pour over** sandwiches, chops, steaks, grilled meat
- **Mix into** baked beans
- **Add a kick** to spaghetti

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TABASCO SAUCE AND BBQ SAUCE - T

1. Compare the labels of three different BBQ sauces and list the allergens attach a picture of each label to support your answer. [Section B: 6, Section C: 3]

BBQ Sauce 1	BBQ Sauce 2
	

2. Where does Tabasco sauce get its colour from? [Section B: 4]

.....

.....

3. What is the Scoville scale used to measure? [Section A: 11]

.....

.....

4. Research and explain what receptors are most responsive to chilli. [Section

.....

.....

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Extension [Section D: 8]

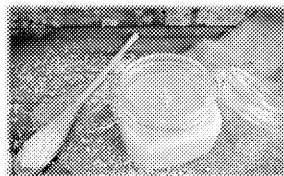
Sugar is added to sauces containing tomatoes, such as BBQ sauce. tomato juice (without any additives) and to each sample add a different what amount is best for the optimum taste of the sauce.

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13. TAHINI



What is It?

Also called sesame butter, it's a thick paste made from seeds.

Common Cuisines:

Tahini is used mostly in North African and Middle Eastern countries as well as to prepare other food products, such as hummus or

Storage:

Tahini can be stored at room temperature. You can use it in crumbly pastries.

Nutritional Information:

These values may differ between similar products.

Nutritional value: typical value	Per 100 g	Per 1 tbsp (16 g)
Energy	586 kcal	94 kcal
Macronutrients		
Fat	50.87 g	8.14 g
Saturated fats	7.124 g	1.14 g
Monounsaturated fats	19.209 g	3.073 g
Polyunsaturated fats	22.296 g	3.567 g
Carbohydrates	0.9 g	0.144 g
Starch (polysaccharides)	0.5 g	0.08 g
Sugars (mono- and disaccharides)	0.4 g	0.06 g
Fibre	2.5 g	0.9 g
Protein	18.08 g	2.89 g
Micronutrients		
Vitamin A	3 mcg	0
Vitamin D	0	0
Vitamin E	2.57 mg	0.41 mg
Vitamin K	-	-
Vitamin B1 (Thiamine)	0.24 mg	0.038 mg
Vitamin B2 (Riboflavin)	0.2 mg	0.032 mg
Vitamin B3 (Niacin)	6.7 mg	1.072 mg
Folate	100 mcg	16 mcg
Vitamin B12	0	0
Vitamin C (Ascorbic acid)	0	0
Calcium	960 mg	141 mg
Iron	10.2 mg	3.07 mg
Sodium	1 mg	2 mg
Fluoride	-	-
Iodine	0	0
Phosphorus	659 mg	105 mg
Potassium	414 mg	62 mg
Magnesium	95 mg	14 mg

g – grams, mg – milligrams, mcg – micrograms

Nutrition

Health Benefits:

Raw, unprocessed tahini is a good source of healthy fats and protein, which make it a popular ingredient in vegetarian and vegan recipes. It also contains folate and iron, necessary for the production of red blood cells and amounts of calcium, which helps to strengthen bones and teeth. As it contains healthy fats, it can help to regulate bowel movements, prevent muscle cramps, and act as a natural electrolyte. It's also a good source of antioxidants that may help to prevent certain diseases.

Allergy and Health Risks:

Tahini is made from sesame seeds, which are a common allergen. It is also high in calories, so should be consumed in moderation on a fat or low-calorie diet. The high sodium content means that it can't be eaten by people with high blood pressure, as the protein can interfere with the body's ability to regulate sodium levels correctly, causing harm to the heart.

Alter

For the creamy texture, replace tahini with almond, cashew or peanut butter.
For a bitter flavour, use a paste made from roasted sesame seeds.
For the flavour and colour, try using tahini in recipes that require a dark colour.
For a smoother texture, try using blended tahini.

Cooking Uses:

- **Blend** into hummus
- **Spread** on sandwiches and toast
- **Thicken** salad dressings or dips
- **Stir** with honey and/or yogurt for a healthy snack and meat
- **Combine** instead of mayonnaise in recipes
- **Substitute** for butter in cakes and pastries, e.g. peanut butter cookies
- **Cream** with sugar to make ice cream (or use in pastries and cakes)

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TAHINI - TASK SHEET

1. For a 16-year-old of your gender, calculate the percentage of RNI provided by the tahini. Colour-code the traffic light label below to show how a 100 g serving of tahini compares to your dietary needs. [Section B: 6]

Nutritional value: typical for tahini	Reference value for me	Per 100 g	% RNI
Energy		586 kcal	
Fat		50.87 g	
Saturates		7.124 g	
Sugars (mono- and disaccharides)		0.4 g	
Sodium		12 mg	

Energy	Fat	Saturates	Sugars	Salt
586 kcal	50.87 g	7.124 g	0.4 g	0.03 g
___%	___%	___%	___%	___%

2. Discuss with your group which food can be considered a good source of dietary iron.

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3. Tahini is commonly associated with Arabic cuisine. What other cultures use tahini?

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Extension [Section A: 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100]

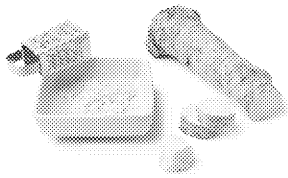
Tahini is used to prepare halva. Create a consumer's guide in which you compare two different brands of halva. Consider the following factors: sesame content, sugar content and other ingredients. Which one would you recommend, and why?

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14. HORSERADISH



What is It?

Horseradish sauce is a hot paste made from grated horseradish root with the addition of vinegar or lemon juice. Interestingly, horseradish is in the same family as cauliflower and Brussels sprouts!

Common Cuisines:

In Eastern European cuisine, horseradish is an important ingredient used to prepare many sauces such as white sauce (served with eggs) or red sauce (made from grated beetroot). In Japan, they use the local version of horseradish – wasabi – which is hotter and green in colour.

Nutritional Information:

These values may differ between similar products.

Nutritional value: typical value	Per 100 g	Per 1 tsp. (approx. 5 g)
Energy	48 kcal	4.25 kcal
Macronutrients		
Fat	0.69 g	0.03 g
Saturated fats	0.09 g	0.004 g
Monounsaturated fats	0.13 g	0.007 g
Polyunsaturated fats	0.339 g	0.017 g
Carbohydrates	11.29 g	0.56 g
Starch (polysaccharides)	0	0
Sugars (monosaccharides and disaccharides)	7.99 g	0.4 g
Fibre	3.3 g	0.2 g
Protein	1.18 g	0.06 g
Micronutrients		
Vitamin A	0	0
Vitamin D	0	0
Vitamin E	0.01 mg	0
Vitamin K	1.3 mcg	0.1 mcg
Vitamin B1 (Thiamine)	0.008 mg	0
Vitamin B2 (Riboflavin)	0.024 mg	0.001 mg
Vitamin B3 (Niacin)	0.386 mg	0.019 mg
Folate	57 mcg	3 mcg
Vitamin B12	0	0
Vitamin C (Ascorbic acid)	25 mg	1.2 mg
Calcium	56 mg	0.0028 mg
Iron	0.22 mg	0.02 mg
Sodium	120 mg	21 mg
Fluoride	-	-
Iodine	0	0
Phosphorus	31 mg	2 mg
Potassium	246 mg	12 mg
Magnesium	27 mg	1 mg

g – grams, mg – milligrams, mcg – micrograms

Nutritional

Health Benefits:

Horseradish itself is low in calories, but it is a good source of folate, calcium and vitamin C. It also contains a compound (namely, sinigrin, which is an isothiocyanate) that can clear blocked sinuses, acts as an antifungal, improves immunity and stimulates the production of saliva. When freshly grated, it has a sharp, pungent taste. Check the label to see what other ingredients are in your horseradish sauce.

Allergy and Health Risks:

Horseradish can irritate the skin and mucous membranes. It contains a lot of sulfites (just as when you eat a onion). You may find yourself crying when you eat it. It is quite high in sodium and should be consumed in small amounts. As it is best avoided by people with thyroid issues should also avoid it.

Alter

For hotness, replace with vinegar.
For the pungent aroma, add lemon juice.
For a milder flavour, try ginger.

Cooking Uses:

- **Serve with** meats and sandwiches
- **Mix with** cream or yogurt to make a dip/sauce/dressing; you can also use it in a salad such as cranberry paste
- **Spice up** béchamel/whipped cream or mashed potato and salad
- **Stir into** soups and salads
- **Spread onto** sushi or other foods

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15. TARTARE SAUCE



What is It?

Type of cold, white sauce based on mayonnaise, cream or pieces of chopped onions, dill and pickled vegetables (garlic mushrooms or capers) and lemon juice.

Common Cuisines:

Tartare sauce was invented in the eastern France in the nineteenth century. It is also popular in Europe, USA and in Australia. It is a common condiment for seafood dishes.

Storage:

Store in a cool place away from direct sunlight. After opening, the colour of this won't affect it.

Nutritional Information:

These values may differ between similar products.

Nutritional value: typical value	Per 100 g	Per 1 tbsp. (approx. 15 g)
Energy	597 kcal	90 kcal
Macronutrients		
Fat	65 g	10 g
Saturated fats	9.1 g	1.4 g
Monounsaturated fats	30 g	4.6 g
Polyunsaturated fats	22.4 g	3.4 g
Carbohydrates	0.6 g	0.1 g
Starch (polysaccharides)	-	-
Sugars (mono- and disaccharides)	0.6 g	0.1 g
Fibre	0 g	0 g
Protein	2.4 g	0.4 g
Micronutrients		
Vitamin A	98 mcg	14.9 mcg
Vitamin D	1.6 mcg	0.2 mcg
Vitamin E	17.3 mg	2.6 mg
Vitamin K	46.2 mcg	7 mcg
Vitamin B1 (Thiamine)	0	0
Vitamin B2 (Riboflavin)	0.1 mg	0 mg
Vitamin B3 (Niacin)	0.1 mg	0 mg
Folate	26.5 mcg	4.0 mcg
Vitamin B12	1 mcg	0.2 mcg
Vitamin C (Ascorbic acid)	10.8 mg	1.6 mg
Calcium	33.7 mg	5.1 mg
Iron	1.5 mg	0.2 mg
Sodium	607.7 mg	92.3 mg
Fluoride	-	-
Iodine	16.4 mcg	2.5 mcg
Phosphorus	5.2 mg	12.6 mg
Potassium	78 mg	11.8 mg
Magnesium	7.1 mg	1.1 mg

g – grams, mg – milligrams, mcg – micrograms

Nutritional

Health Benefits:

Tartare sauce is a source of healthy eyesight, and vitamin build strong bones and teeth. It provides some polyunsaturated fats, which are necessary for the proper work of the nervous system.

Allergies and Health Risks:

Unfortunately, tartare sauce is high in salt, making it unsuitable for people who are obese / trying to lose weight. A recipe based on egg yolk can cause severe allergic reactions. The high amount of fat in tartare sauce can also cause heartburn.

Alter

For the colour, use mayonnaise.
For the creamy texture, try cream.
For flavour, replace with mustard.

Cooking Uses:

- **Serve** as a dip with meat.
- **Spread** on toast and sandwiches.
- **Splash** onto boiled or fried seafood, such as fish.
- **Add** to dishes containing seafood.

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16. AIOLI

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What is It?

A creamy emulsion made from garlic and olive oil blended in a mortar. More modern recipes also use egg yolk, lemon juice and mustard to make the sauce thicker and adjust its flavour.

Common Cuisine:

Aioli comes from Mediterranean countries and is especially popular in the south of Europe. Recipes for aioli are different in Spain, southern France and Italy, but they all use best-quality olive oil and large amounts of garlic as a base.

Storage:

Store in a cool place away from sunlight (a cupboard). The colour of the sauce may change, but its quality or taste will not.

Nutritional Information:

These values may differ between similar products.

Nutritional value: typical value	Per 100 g	Per 1 tbsp (approx. 10 g)
Energy	812 kcal	87 kcal
Macronutrients		
Fat	89.6 g	9.6 g
Saturated fats	13 g	1.4 g
Monounsaturated fats	65 g	7 g
Polyunsaturated fats	7.5 g	0.8 g
Carbohydrates	0.6 g	0.1 g
Starch (polysaccharides)	0 g	0 g
Sugars (monosaccharides and disaccharides)	0.1 g	0 g
Fibre	0.2 g	0 g
Protein	1 g	0.1 g
Micronutrients		
Vitamin A	17.8 mcg	1.9 mcg
Vitamin D	0.5 mcg	0.1 mcg
Vitamin E	4.7 mg	0.5 mg
Vitamin K	52.1 mg	5.6 mg
Vitamin B1 (Thiamine)	0	0
Vitamin B2 (Riboflavin)	0	0
Vitamin B3 (Niacin)	0	0
Folate	5.2 mcg	0.6 mcg
Vitamin B12	0.3 mcg	0
Vitamin C (Ascorbic acid)	1.1 mg	0.1 mg
Calcium	10.6 mg	1.1 mg
Iron	0.1 mg	0.01 mg
Sodium	4.5 mg	0.5 mg
Fluoride	-	-
Iodine	5.8 mcg	0.6 mcg
Phosphorus	31.4 mg	3.4 mg
Potassium	39.3 mg	4.2 mg
Magnesium	4.5 mg	0.5 mg

g – grams, mg – milligrams, mcg – micrograms

Nutritional

Health Benefits:

Since aioli is mainly based on olive oil, it is a good source of unsaturated fats. It also helps the working of the nervous system and provides some vitamin A for the eyesight, and iron and folate for the blood cells. Aioli also provides vitamin K, which helps blood clotting. The garlic in aioli helps to prevent many diseases, including heart disease or inflammatory diseases.

Allergy and Health Risks:

Aioli is very high in calories, so it is not recommended on low-fat or low-calorie diets. However, if it can be pretty high in sodium, it can be a problem for people with hypertension. The garlic in aioli can cause severe allergic reactions in some people. Label carefully when choosing aioli.

Alter

For colour and texture, use olive oil.

For the creamy texture, try using guacamole.

For the flavour, replace with garlic or guacamole.

Cooking Uses:

- **Serve** with fish and seafood.
- **Splash** onto boiled potatoes, beetroot, fennel, celery, or beans.
- **Add** to boiled eggs and salads.
- **Spread** on toast, instead of butter.
- **Sprinkle** on top of a pizza.
- **Serve** with a classic cheese.

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HORSE RADISH, TARTARE SAUCE AND AIOLI

1. Why is vinegar or lemon juice added to horseradish? Explain what happens to horseradish, and indicate other foods susceptible to this process. [Section C: 1]

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Other foods susceptible to

include:

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2. It's time to practise your vocabulary. List at least 10 words which could describe the taste and aroma of horseradish. Avoid using words such as 'bad' or 'good', as they are too general. [Section C: 2]



Words to
describe
horseradish



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3. Research three different recipes for aioli and compare their nutritional values using a calculator (for example <http://explorefood.foodafactoflife.org.uk/>). Suggest the healthiest, and why. [Section A: 3, Section A: 1, Section A: 4]

Nutritional value: typical value	100 g recipe 1	100 g recipe 2
Energy		
Macronutrients		
Fat		
Saturated fats		
Monounsaturated fats		
Polyunsaturated fats		
Carbohydrates		
Starch (polysaccharides)		
Sugars (mono- and disaccharides)		
Fibre		
Protein		
Micronutrients		
Vitamin A		
Vitamin D		
Vitamin E		
Vitamin K		
Vitamin B1 (Thiamine)		
Vitamin B2 (Riboflavin)		
Vitamin B3 (Niacin)		
Folate		
Vitamin B12		
Vitamin C (Ascorbic acid)		
Calcium		
Iron		
Selenium		
Fluoride		
Iodine		
Phosphorus		
Potassium		
Magnesium		
g – grams, mg – milligrams, mcg – micrograms		

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4. Compare the labels of three different tartare sauces available in the shop. List the additives used during the production of each sauce. [Section B: 6, Section C: 1]

Tartare sauce 1	Tartare sauce 2	
		

5. Review the label of one tartare sauce again, and try to describe the function of the following ingredients: [Section C: 1, Section B: 4]

Vinegar

Egg yolk

Modified starch

Potassium sorbate

Rapeseed oil



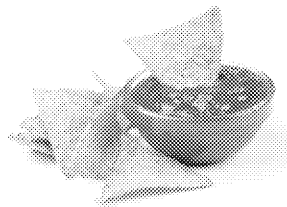
Extension task [Section D]

Design a starter, a soup and a main dish, all of which contain horseradish. What is your experience? Is it easier to use horseradish in some dishes than in others?

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17. SALSA ROJA PICAÑA



What is It?

Red sauce made from tomatoes, with the addition of salt and pepper. The sauce can be made cold or cooked. The flavour, texture and nutritional value varies. Depending on the type of spices used, salsa roja can be more or less hot. The word 'salsa' can be used to name any kind of sauce or dip.

Common Cuisine:

This kind of sauce originated in Mexico, but is now popular everywhere. It is commonly served as a dip with nachos or other savoury snacks. The word 'salsa' is a common name for sauce in Italy and Spain.

Storage:

Store in a cool place, away from sunlight (a cupbottle). The colour of the sauce won't affect its quality.

Nutritional Information:

These values may differ between similar products.

Nutritional value: typical value	Per 100 g	Per 1 tbsp (approx. 30 g)
Energy	21.5 kcal	6.5 kcal
Macronutrients		
Fat	0.1 g	0
Saturated fats	0	0
Monounsaturated fats	0	0
Polyunsaturated fats	0.1 g	0
Carbohydrates	4.6 g	1.4 g
Starch (polysaccharides)	0	0.2 g
Sugars (monosaccharides and disaccharides)	4 g	1.2 g
Fibre	1.2 g	0.4 g
Protein	0.9 g	0.3 g
Micronutrients		
Vitamin A	65.5 mcg	19.8 mcg
Vitamin D	0	0
Vitamin E	0.5 mg	0.1 mg
Vitamin K	6.3 mcg	1.9 mcg
Vitamin B1 (Thiamine)	0.1 mg	0
Vitamin B2 (Riboflavin)	0	0
Vitamin B3 (Niacin)	0.6 mg	0.2 mg
Folate	20.8 mcg	6.3 mcg
Vitamin B12	0	0
Vitamin C (Ascorbic acid)	24.6 mg	7.4 mg
Calcium	14.4 mg	4.3 mg
Iron	0.1 mg	0.1 mg
Sodium	2.3 mg	197.3 mg
Fluoride	-	-
Iodine	2.6 mcg	0.8 mcg
Phosphorus	28 mg	8.5 mg
Potassium	240.7 mg	72.8 mg
Magnesium	11.4 mg	3.5 mg

g – grams, mg – milligrams, mcg – micrograms

Nutrition

Health Benefits:

Salsa, like any other sauce, is a good source of vitamin C, potassium and antioxidants. It also contains vitamins A and E, which are important for the maintenance of healthy skin. Vitamin C lowers blood pressure as usually no oil is used in the recipe, making it suitable for people on low-fat diets. The basic recipe contains no added sugar.

Allergy and Health Risks:

Depending on how much salsa is consumed, it may be suitable for consumption by people with hypertension. If you're buying salsa, check the label carefully as it may contain sulfites and gluten (from starch). Capsaicin from the tomatoes is a mild irritant.

Alter

For hotness, replace with hot sauce.
For texture, replace with a thickener made from Sharon fruit.

For colour, use ketchup, red food colouring.

Cooking Uses:

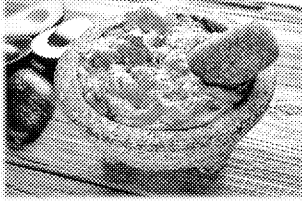
- **Serve** as a dip with nachos or quesadillas
- **Sprinkle** on top of chips
- **Splash** into sandwiches
- **Spice up** a tomato soup
- **Spread** on toast instead of butter
- **Stuff** pancakes and buns

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18. GUACAMOLE



What is It?

Thick sauce/dip made from mashed avocados with a call for the addition of oil, lime juice, chopped red or cherry tomatoes, chopped coriander or ground pepper.

Common Cuisines:

Guacamole originated in Mexico, from where it spread to the USA and then the rest of the world. Today it is a popular sauce used in many countries with savoury dishes and snacks.

Storage:

Store in a cool, dark place away from sunlight (a cup of sunlight can change the colour of the dip) as it won't affect its taste.

Nutritional Information:

These values may differ between similar products.

Nutritional value: typical value	Per 100 g	Per 1 tbsp (approx. 15 g)
Energy	94 kcal	14 kcal
Macronutrients		
Fat	9 g	1.4 g
Saturated fats	1.9 g	0.3 g
Monounsaturated fats	5.5 g	0.8 g
Polyunsaturated fats	1.1 g	0.2 g
Carbohydrates	2.4 g	0.4 g
Starch (polysaccharides)	0.7 g	0.1 g
Sugars (mono- and disaccharides)		0.2 g
Fibre	2.9 g	0.4 g
Protein	1.4 g	0.2 g
Micronutrients		
Vitamin A	73 mcg	11 mcg
Vitamin D	0	0
Vitamin E	1.7 mg	0.3 mg
Vitamin K	16 mcg	2.4 mcg
Vitamin B1 (Thiamine)	0.1 mg	0
Vitamin B2 (Riboflavin)	0.1 mg	0
Vitamin B3 (Niacin)	0.8 mg	0.1 mg
Folate	13.5 mcg	2 mcg
Vitamin B12	0	0
Vitamin C (Ascorbic acid)	16.9 mg	2.6 mg
Calcium	18.8 mg	2.8 mg
Iron	0.5 mg	0.1 mg
Sodium	275.4 mg	41.3 mg
Fluoride		
Iodine	0.1 mcg	0.2 mcg
Phosphorus	30 mg	4.5 mg
Potassium	314.2 mg	47.1 mg
Magnesium	18.6 mg	2.8 mg

g – grams, mg – milligrams, mcg – micrograms

Nutrition

Health Benefits:

The main ingredient of guacamole is avocado, which is rich in polyunsaturated fats, helping with the functioning of the nervous system. Guacamole, depending on the recipe, can also be a source of vitamin C (which helps to prevent anaemia) and potassium. It also provides lutein and zeaxanthin, which help to protect the eyes, and beta-sitosterol, which helps to lower cholesterol levels.

Allergy and Health Risks:

As guacamole is quite calorific, it should be eaten in moderation by those on a low-calorie diet. The monounsaturated fatty acids in avocado can increase the risk of auto-inflammatory reactions, but these reactions are very rare – but it's always best to use fresh ingredients.

Alter

For the colour, try green pepper or coriander.

For the creamy texture, replace the avocado with hummus.

For the flavour, try using blended spices.

Cooking Uses:

- **Serve** as a dip with nachos or quesadillas
- **Splash** into sandwiches or burgers
- **Spread** on toast, instead of butter
- **Stuff** tacos, tortillas or burritos
- **Serve** as a salad with rice or beans

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SALSA ROJA PICANTE AND GUACAMOLE

1. Salsa roja picante and guacamole are just two of the many sauces originating from Mexico. Name five other sauces which come from that country. [Section B: 5]

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2. The ingredients for salsa and guacamole are usually sourced locally. What are three examples of locally produced foods? [Section B: 1, Section B: 3]

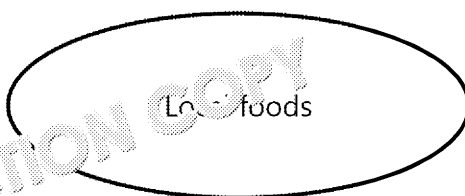
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3. What kind of date mark would appear on the packaging of guacamole?

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4. Avocado (which is the main ingredient of guacamole) is a source of unsaturated fats. Name three other plant foods which are rich in these substances. [Section A: 6]

- a)
- b)
- c)
- d)
- e)



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5. Study the labels of various types of salsa available in a supermarket, and are responsible for their spiciness. [Section B: 4, Section C: 1]

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Extension [Section C: 2]

Only for the bravest! Set up a taste panel to compare three to five different types of salsa. Rank them from the mildest to the hottest. Is there anything you need to consider?



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19. MARMITE



What is It?

Sticky, dark brown, salty paste made of yeast extract, which is brewed from malted barley. It gained popularity during World War I as a source of B vitamins to prevent beriberi disease. Marmite is a source of umami taste.

Common Cuisines:

Marmite is a popular spread and condiment in Great Britain and Australia. A famous slogan suggests, some people love it, some people hate it, but everyone should try it for yourself!

Nutritional Information:

These values may differ in similar yeast extracts.

Nutritional value: typical value	Per 100 g	Per portion (4 g)
Energy	250 kcal	10 kcal
Macronutrients		
Fat	0.5 g	0.002 g
Saturated fats	0.5 g	0.002 g
Monounsaturated fats	-	-
Polyunsaturated fats	-	-
Carbohydrates	24 g	1 g
Starch (polysaccharides)	1.9 g	0.076 g
Sugars (mono- and disaccharides)	1 g	0.04 g
Fibre	0.5 g	0.02 g
Protein	15 g	0.6 g
Micronutrients		
Vitamin A	0	0
Vitamin D	0	0
Vitamin E	0	0
Vitamin K	0	0
Vitamin B1 (Thiamine)	5.8 mg	0.23 mg
Vitamin B2 (Riboflavin)	7 mg	0.28 mg
Vitamin B3 (Niacin)	160 mg	6.4 mg
Folic Acid	2500 mcg	100 mcg
Vitamin B12	15 mcg	0.6 mcg
Vitamin C (Ascorbic acid)	0	0
Calcium	70 mg	2.8 mg
Iron	2.9 mg	0.116 mg
Sodium	3920 mg	156.8 mg
Fluoride	-	-
Iodine	49 mcg	1.96 mcg
Phosphorus	950 mg	38 mg
Potassium	1000 mg	40 mg
Magnesium	160 mg	6.4 mg

g – grams, mg – milligrams, mcg – micrograms

Nutrition

Health Benefits:

Marmite is a source of protein and B vitamins – thiamine, riboflavin, niacin, and folic acid. These vitamins help release energy from foods, prevent anaemia, and calcium. Marmite also provides some fibre for proper functioning of the digestive system. It is gluten-free and contains a high amount of potassium, which is good for heart health.

Allergy and Health Risks:

The original recipe contains wheat, which is an allergen. Also, Marmite is very salty. A portion (4 g) provides 6.5% of the daily value of sodium. It is recommended to use it sparingly to avoid health complications. People with hypertension or kidney disease should use it cautiously.

Alter

- For the colour,** try using malted barley.
- For saltiness,** use a vegetable broth.
- For flavour,** try replacing with yeast extract.

Cooking Uses:

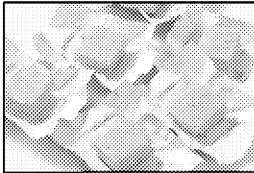
- Spread** on toast, crumpets, or bread.
- Stir** into gravy, onion soup, or potato soup.
- Add a kick** to sauces, soups, or stews.
- Serve with** fried sausages or bacon.

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20. STOCK CUBES



What is It?

Concentrated and dried vegetable, chicken or beef stock flavour to dishes.

Common Cuisines:

Stock cubes significantly facilitate cooking, even for inexperienced cooks, all around the world. The earliest stock cubes were known in seventeenth century England, and became popularised at the beginning of the twentieth century. Nowadays they are used worldwide.

Nutritional Information:

These values may differ between similar products.

Nutritional value: typical value	Per 100 g	Per 1 cube (6 g)
Energy	217 kcal	13 kcal
Macronutrients		
Fat	17.3 g	1.04 g
Saturated fats	-	-
Monounsaturated fats	-	-
Polyunsaturated fats	-	-
Carbohydrates	0	0
Starch (polysaccharides)	0	0
Sugars (mono- and disaccharides)	0	0
Fibre	-	0.11 g
Protein	2.5 g	0.81 g
Minerals		
Vitamin A	-	-
Vitamin D	-	-
Vitamin E	-	-
Vitamin K	-	-
Vitamin B1 (Thiamine)	-	-
Vitamin B2 (Riboflavin)	-	-
Vitamin B3 (Niacin)	-	-
Folic Acid	-	-
Vitamin B12	-	-
Vitamin C (Ascorbic acid)	-	-
Calcium	47 mg	2.82 mg
Iron	2.8 mg	0.17 mg
Sodium	16800 mg	1008 mg
Fluoride	-	-
Iodine	0	-
Phosphorus	120 mg	7.2 mg
Potassium	3.3 mg	23.4 mg
Magnesium	44 mg	2.64 mg

g – grams, mg – milligrams, mcg – micrograms

Nutritional

Health Benefits:

Stock cubes provide flavour. It can be said about their positive impact on chicken stocks usually have fat and sodium.

Allergy and Health Risks:

Stock cubes are usually quite healthy (good quality) and are very high in sodium. Cardiovascular health.

Alter

For saltiness, use salt, soy sauce, seasoning.

For flavour, use home-made stock.

Cooking Uses:

- **Season** soups, stews, sauces.
- **Spice up** marinades for meat, fish, vegetables.
- **Add** to meatballs, burgers, pasta.
- **Improve the flavour** of soups, stews, sauces.
- **Colour** cooked rice, noodles.

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MARMITE AND STOCK CUBES - TASK

- Calculate what percentage of the daily RNI for salt is provided in one portion of Marmite and stock cube. What colour would you mark it if you were using the traffic light system?
[Section B: 6, Section C: 3]

Amount of sodium/salt in one portion of Marmite		Amount of sodium/salt in one portion of stock cube
RNI for sodium		RNI for sodium
% RNI provided in one portion of Marmite		% RNI provided in one portion of stock cube

The label would be coloured

- Discuss whether stock cubes can be considered a vegetarian food product.

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Task 2

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3. Assess the nutritional value of a portion of Marmite (4 g) and indicate how many times it provides for a 16-year-old individual of your gender for each of the nutrients below.

Nutritional value: typical value	RNI for 16-year-old	Portion of Marmite (4 g)	% RNI for 16-year-old
Energy		10 kcal	
Macronutrients			
Fat		0.002 g	
Carbohydrates		1 g	
Starch (polysaccharides)		0.076 g	
Sugars (mono- and disaccharides)		0.04 g	
Fibre		0.14 g	
Protein		1.56 g	
Micronutrients			
Vitamin B1 (Thiamine)		0.23 mg	
Vitamin B2 (Riboflavin)		0.28 mg	
Vitamin B3 (Niacin)		6.4 mg	
Folate		100 mcg	
Vitamin B12		0.6 mcg	
Calcium		2.8 mg	
Iron		0.116 mg	
Sodium		156.8 mg	

Now evaluate whether it's a good idea for a 16-year-old to eat this Marmite portion. Use the recommendations for your age and gender.

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Extended Task [Section C: 2]

Dissolve various kinds of stock cubes and rank them in order from the least salty to the most salty. Compare your results with the statement on each of the labels – does the label correspond with the perceived saltiness of the solutions? Try to explain any differences.

21. VINEGAR



What is It?

Acidic solution made of fermented alcohol, wine or cider. Cook contains from 5% to 20% of acetic acid.

Common Cuisines:

There are many types of vinegar, and some of them are specific to different countries or regions. For example, balsamic vinegar comes from Italy, while rice vinegar is more popular in Asian cuisine. The most popular vinegar is distilled spirit vinegar.

Store
Vinegar
in a cool, dark
ambient

Nutritional Information:

These values may differ between similar products. Data is shown for a distilled spirit vinegar.

Nutritional value: typical value	Per 100 g	Per 1 tbsp (15 g)
Energy	18 kcal	3 kcal
Macronutrients		
Fat	-	-
Saturated fats	-	-
Monounsaturated fats	-	-
Polyunsaturated fats	-	-
Carbohydrates	0.04g	-
Starch (polysaccharides)	-	-
Sugars (monosaccharides and disaccharides)	0.04g	0.04g
Fibre	-	-
Protein	-	-
Micronutrients		
Vitamin A	-	-
Vitamin D	-	-
Vitamin E	-	-
Vitamin K	-	-
Vitamin B1 (Thiamine)	-	-
Vitamin B2 (Riboflavin)	-	-
Vitamin B3 (Niacin)	-	-
Folic Acid	-	-
Vitamin B12	-	-
Vitamin C (Ascorbic acid)	-	-
Calcium	6 mg	10 mg
Iron	0.02 mg	0 mg
Sodium	2 mg	0 mg
Fluoride	-	-
Iodine	-	-
Phosphorus	4 mg	1 mg
Potassium	2 mg	0 mg
Magnesium	1 mg	0 mg

g – grams, mg – milligrams, mcg – micrograms

Nutritional

Health Benefits:

Depending on the type of vinegar and health outcomes. Apple cider vinegar may help with weight loss by decreasing insulin sensitivity, which helps with diabetes. Balsamic vinegar can be effective in lowering LDL cholesterol and helping healthy blood pressure. By breaking down proteins, it makes them more digestible.

Allergy and Health Risks:

All vinegars are very acidic. The acid in vinegar can wear away tooth enamel. Also, the acid can be an irritant, especially in people suffering from acid reflux.

Alternatives

For a milder flavour, try red or distilled white vinegar.
For an acidic but sweeter taste, try apple cider vinegar.
For use in dressings, marinades and dips, try balsamic vinegar.
For marinades, especially for meat, try buttermilk.

Cooking Uses:

- **Use in marinades** for all kinds of meats and vegetables.
- **Use in dressings** (e.g. sherry vinegar).
- **Stir into** salad dressings, BBQ sauce, etc.
- **Splash onto** chips and stir-fries.
- **Add** apple cider vinegar to coffee for a refreshing drink.
- **Add** a few drops to vegetable soup for extra taste.
- **Pickle** vegetables, such as shrimps.
- **Intensify the flavour** of ice cream with balsamic cream.
- Vegans may choose to use apple cider vinegar whites in recipes, such as for

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22. PICKLED GHERKIN



What is It?

Cucumbers pickled in vinegar or brine. Depending on the method, they will contain different flavour, herbs and additives added, and hence

Store
Store
Refrigerate
spoils

Common Cuisines:

Cornichons (pickled cucumbers) are pickled in a vinegar solution, are a characteristic of French cuisine. In Poland, cucumbers are pickled in salt water, which leads to fermentation and the production of lactic acid, which provides certain health benefits. In Sweden and Denmark, cucumbers are pickled in beer, which gives them a specific sweet taste.

Nutritional Information:

These values may differ between similar products. Data shown is for a cornichon (average).

Nutritional value: typical value	Per 100 g	Per 1 cucumber (60 g)
Energy	61 kcal	36.6 kcal
Macronutrients		
Fat	0.1 g	0.06 g
Saturated fats	-	-
Monounsaturated fats	-	-
Polyunsaturated fats	-	-
Carbohydrates	2.6 g	1.56 g
Starch	-	0.12 g
Sugars (monosaccharides and disaccharides)	2.4 g	1.44 g
Fibre	1.5 g	0.9 g
Protein	0.9 g	0.54 g
Micronutrients		
Vitamin A	-	-
Vitamin D	0	0
Vitamin E	-	-
Vitamin K	-	-
Vitamin B1 (Thiamine)	0	0
Vitamin B2 (Riboflavin)	0.02 mg	0.012 mg
Vitamin B3 (Niacin)	0.1 mg	0.06 mg
Folate	6 mcg	3.6 mcg
Vitamin B12	0	0
Vitamin C (Ascorbic acid)	1 mg	0.6 mg
Calcium	20 mg	12 mg
Iron	0.01 mg	0.006 mg
Sodium	690 mg	414 mg
Fluoride	-	-
Iodine	-	-
Phosphorus	22 mg	13.2 mg
Potassium	117 mg	70 mg
Magnesium	7 mg	4.2 mg

g – grams, mg – milligrams, mcg – micrograms

Nutrition

Health Benefits:

As cucumbers pickled in vinegar, they are considered a source of probiotics, which are very beneficial for human health. They help prevent constipation and protect against pathogens and produce vitamins. Cucumbers are low in calories and contain group B vitamins. Some herbs and flavourings used in pickling, such as horseradish, will improve digestion and help to lower blood pressure.

Allergy and Health Risks:

Although cucumbers are generally safe, it is recommended to carefully choose products. They may contain allergens, such as gluten, and are generally high in sodium, so it is best to opt for a low-salt diet.

Alter

For flavour and texture, replace with capers.

For colour and flavour, use pickled gherkins. For crunchiness, try fresh gherkins.

Cooking Uses:

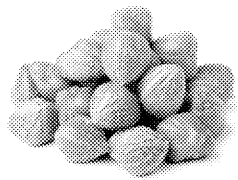
- **Serve** as a snack, use in salads.
- **Slice** to add to sandwiches (e.g. with salad).
- **Grate** brine gherkins and use in salads.
- **Grate or chop** into cold dishes.
- **Serve whole or cut** with cheese.
- **Grate or chop finely** to use as a garnish for cheese with gherkins and

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23. CAPERS



What is It?

Edible flower buds of the caper bush, about the size of a green olive. Their flavour places them between mustard, black pepper and horseradish. Usually used salted. Capers leaves may be used instead of rennet in the production of cheese.

Common Cuisines:

Capers are a traditional ingredient of the Mediterranean countries, from Morocco and Spain to Italy. They are added to salads, meat dishes and pasta, as well as sauces such as tartare sauce.

Nutritional Information:

These values may differ between similar products.

Nutritional value: typical value	Per 100 g	Per 1 tbsp (8 g)
Energy	23 kcal	2 kcal
Macronutrients		
Fat	0.86 g	0.07 g
Saturated fats	0.233 g	0.02 g
Monounsaturated fats	0.063 g	0.005 g
Polyunsaturated fats	0.304 g	0.026 g
Carbohydrates	4.89 g	0.42 g
Starch (polysaccharides)	-	-
Sugars (mono- and disaccharides)	0.04 g	0.04 g
Fibre	3.2 g	0.3 g
Protein	2.36 g	0.2 g
Micronutrients		
Vitamin A	7 mcg	1 mcg
Vitamin D	0	0
Vitamin E	-	-
Vitamin K	24.6 mcg	2.1 mcg
Vitamin B1 (Thiamine)	0.018 mg	0.002 mg
Vitamin B2 (Riboflavin)	0.139 mg	0.012 mg
Vitamin B3 (Niacin)	0.023 mg	0.002 mg
Folate	23 mcg	2 mcg
Vitamin B12	0	0
Vitamin C (Ascorbic acid)	4.3 mg	0.4 mg
Calcium	40 mg	3 mg
Iron	1.67 mg	0.14 mg
Sodium	18 mg	202 mg
Fluoride	-	-
Iodine	-	-
Phosphorus	10 mg	1 mg
Potassium	40 mg	3 mg
Magnesium	33 mg	3 mg
g – grams, mg – milligrams, mcg – micrograms		

Nutrition

Health Benefits:

Capers contain some beta carotene, which improves eyesight and healthy skin, and helps to lower the LDL cholesterol levels in the blood. They also contain quercetin, which inhibits inflammation and, therefore, alleviates allergic reactions. They also contain a lot of kaempferol, which has antibacterial and anti-inflammatory properties, and helps to prevent diabetes.

Allergy and Health Risks:

Due to their production method, capers can be high in sodium. They should, therefore, be avoided by people with hypertension and other cardiovascular diseases. Excessive consumption can cause an allergic reaction, especially in children. The consumption of capers lowers the blood pressure, so they are best avoided by people with low blood pressure.

Alter

For colour and flavour, use capers in a salad.
For spiciness, try using pickled capers.
For flavour and texture, try capers in a salad.
For colour and saltiness, use capers in a salad.

Cooking Uses:

- Rinse before use to remove salt.
- **Add whole** to salads, soups and stews.
- **Sprinkle** on top of roasted meats.
- **Spice up** roasted chicken.
- **Use** in starters, snacks, and dips.
- **Serve with** cold cuts and sandwiches.
- **Chop** to add to sauces and dressings.
- **Improve** the flavour of fish and shellfish.
- **Fry** in a little oil to open up the flavour.

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VINEGAR AND PICKLES – TASK

1. Briefly describe how vinegar is made. Is the same process used in the products? [Section B: 2, Section B: 4]

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2. Suggest why vinegar can help when poaching eggs. [Section C: 1]

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3. Cucumbers pickled in brine undergo a kind of fermentation. What is the production of what other food products uses the same process? [Section C: 2]

During fermentation

Other food products produced using fermentation include:

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4. Vinegar is an ingredient of many sauces and condiments. List at least three.

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3.

Task C

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5. Compare the nutritional values of distilled spirit vinegar and balsamic vinegar. Which is healthier to use, and why. [Section A: 3]

Nutritional value: typical value	Per 100 g distilled spirit vinegar	Per 100 g balsamic vinegar
Energy	18 kJ	
Carbohydrates	4 g	
Sugars (including polyols and saccharides)	0.04 g	
Calcium	6 mg	
Iron	0.03 mg	
Sodium	2 mg	
Phosphorus	4 mg	
Potassium	2 mg	
Magnesium	1 mg	

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Extension [Section D]

Design five different starters / finger foods / canapés which use pickles of ingredients.

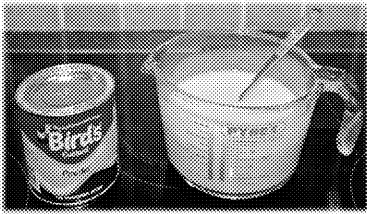


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24. CUSTARD



What is It?

Dessert sauce made from milk or cream and the addition of sugar and flavourings, such as vanilla, nutmeg, and sometimes cornstarch for thickening. Ready-made in tins, cans and plastic pots. To mix with water or milk.

Common Cuisines:

Custard is very popular in British cuisine, where it is poured over desserts and puddings. In French cuisine, custard is thickened with cornstarch to make a crème pâtissière, which is used to fill choux pastry and other types of baked goods.

Nutritional Information:

These values may differ between similar products.

Nutritional value: typical value	Per 100 g	Per 1 tbsp (10 g)
Energy	95 kcal	9.5 kcal
Macronutrients		
Fat	3.4 g	0.34 g
Saturated fats	1.57 g	0.16 g
Monounsaturated fats	1.07 g	0.1 g
Polyunsaturated fats	0.28 g	0.03 g
Carbohydrates	10.9 g	1.09 g
Starch (polysaccharides)	-	-
Sugars (mono- and disaccharides)	10.9 g	1.09 g
Fibre	-	-
Protein	5.9 g	0.59 g
Micronutrients		
Vitamin A	43 mcg	0.43 mcg
Vitamin D	0.6 mcg	0.06 mcg
Vitamin E	0.28 mg	0.028 mg
Vitamin K	-	-
Vitamin B1 (Thiamine)	0.04 mg	0.004 mg
Vitamin B2 (Riboflavin)	0.3 mg	0.03 mg
Vitamin B3 (Niacin)	0.1 mg	0.01 mg
Folate	12 mcg	1.2 mcg
Vitamin B12	1.3 mcg	0.13 mcg
Vitamin C (Ascorbic acid)	1 mg	0.1 mg
Calcium	130 mg	13 mg
Iron	0.37 mg	0.04 mg
Sodium	73 mg	7.3 mg
Fluoride	-	-
Iodine	2.2 mcg	0.22 mcg
Phosphorus	129 mg	12.9 mg
Potassium	129 mg	12.9 mg
Magnesium	9 mg	0.9 mg

g – grams, mg – milligrams, mcg – micrograms

Nutritional

Health Benefits:

As custard contains milk and eggs, it is a good source of calcium, vitamin D, and a source of HBV proteins. Calcium is necessary for the proper function of bones and potassium, necessary for blood pressure.

Energy and Health Risks:

As custard is usually a sweet dessert, it contains calories, so shouldn't be eaten in excess if you want to lose weight. Also, as it contains lactose, so should be avoided by those with lactose intolerance. Remember that milk and eggs contain cholesterol, which can be a risk for those struggling with high blood cholesterol.

Alter

For texture and flavour, custard can also be used in an egg-free custard.
For thickening mixtures and

Cooking Uses:

- **Drizzle** over desserts, such as sponge, ice creams and puddings.
- **Thicken** with cornstarch or flour. Ideal for filling puff pastries.
- **Set** with gelatine and use as a base for fruit sauces.
- **Sweeten** a natural yoghurt.
- **Freeze** to obtain custard ice cream.

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CUSTARD - TASK SHEET

1. What ingredients/components of custard increase the risk of cardiovascular disease?

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2. Describe the stages in making custard (you can draw a picture of each what happens). Each stage in terms of heat transfer and scientific principles.
[Section C]

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3. Why, when cooking custard, does it require constant stirring? [Section C: 1]

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4. Depending on the ingredients and their amount, custard can be called any of [Section B: 5]

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5. Compare the labels from five or six different brands of custard, and list brand. [Section C: 3]

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Extension [Section C: 1]

Custard is usually made of milk/cream, egg yolk, sugar and cornstarch. Do investigate how various ingredients affect the quality of custard.

You could check: different types of milk (e.g. skimmed, semi-skimmed, whole cream (e.g. single, whipping, double, low fat), different amounts or types of sugar (e.g. granulated, caster, icing), different amounts or types of flour (e.g. cornstarch, plain flour)

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Soy sauce, miso, fish sauce

- Any five recipes using miso, e.g. *misoshiru* (miso soup), stir-fry, miso-glazed fish, etc.
- First the soybeans are soaked in water and then cooked.
 - Wheat is roasted and crushed.
 - Then the soybeans are mixed with the wheat and *Aspergillus oryzae* fungus.
 - The whole mixture is broken into pieces and fermented.
 - After fermentation is finished, the liquid is drained and collected by pressing.
 - The soy sauce is then pasteurised to stop any further fermentation and to preserve it.
- Burmese, Chinese, Filipino, Hawaiian, Indonesian, Japanese, Korean, Taiwanese, Vietnamese, Singaporean, etc.
Also, soy sauce is used more and more often in cuisines all around the world.
- Salt and umami

Curry paste and coconut milk

- Yellow curry usually contains: shallot, lemongrass, yellow chilli, ginger, garlic, cinnamon, nutmeg, cumin, tamarind, coriander, lime, Kaffir lime peel

Green curry usually contains: garlic, shallot, green chilli, lemongrass, galangal, coriander seeds, white pepper, turmeric, paprika

Red curry usually contains: red chilli, garlic, lemongrass, shallot, galangal, shallot, white pepper
- Coconut milk can be seen as healthier than cow's milk because:
 - It is not an allergen so it is safe for those allergic to milk
 - It doesn't contain lactose so it is safe for lactose-intolerant people
 - It is low in saturated fats
 - It contains a lot of potassium, which lowers blood pressure
 - It is cholesterol free
 - It provides magnesium to support muscle contractions

Cow's milk can be seen as healthier than coconut milk because:

 - It contains vitamin A to support eyesight, healthy skin and membranes
 - It contains vitamin D to support calcium absorption and bone health
 - It provides more calcium than coconut milk
 - It is low in calories
- The hardest nut is macadamia, which requires around 300 pounds of pressure to crack.

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Mustard, mayonnaise and ketchup

- Students should indicate either ketchup or mustard as being the healthiest of the two, and provide a relevant explanation behind their choice.

Ketchup might be considered healthier because:

- It is low in calories
- It is fat-free
- It is rich in vitamin A
- It provides antioxidants
- It is high in potassium, which lowers blood pressure

Mustard might be considered healthier because:

- It is low in fat
- It is low in sugars
- It provides dietary fibre
- It is a source of group B vitamins
- It is rich in potassium, which lowers blood pressure
- It provides selenium, which acts as an anticarcinogenic
- It provides lutein and zeaxanthin, which support proper vision
- It improves digestion and prevents heartburn

- Calculated with the use of <https://www.nutrition.org.uk/nutritionscience/nutrients/ingredients/nutrient-requirements.html?limit=1&start=2>

Nutritional value: typical value	RNI for boys aged 16	RNI for girls aged 16	Per 100 g
Energy	2,964 kcal	2,414 kcal	692 kcal
Fat	115 g	92 g	77 g
saturates	21 g	11.5 g	11.54 g
Sugars (mono- and disaccharides)	18.5 g	15 g	3.85 g
Sodium	1,600 mg	1,600 mg	692 mg

Students should leave the 'energy' traffic light white.

- Sugar – green
- Fats – red
- Saturates – red
- Sodium/salt – red

Energy	Fat	Saturates	Sugars	Salt
692 kcal	77 g	11.54 g	3.85 g	1.73 g
23%/28%	67%/82%	100%	25%/15%	43%

- Students briefly describe the stages of mayonnaise production, in the correct order:
 - Fish fingers are washed to remove bacteria and prevent salmonellosis.
 - Eggs are broken and separated into yolk and white (although dried eggs are used).
 - The egg yolk is mixed with milk and/or water, and spices (salt, sugar, vinegar).
 - Then the oil is added slowly and blended into the mixture.
 - The mixture is then pumped through membranes to homogenise it and prevent separation in the future.

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Functions of the ingredients:

- oil is the main ingredient of mayonnaise; it is a bulking agent, provides nutrition
 - egg yolk is an emulsifier and colourant, and provides nutritional value
 - milk or water is added for texture and to act as a solvent for other ingredients
 - vinegar, salt, sugar and other ingredients, such as paprika, are added for flavour
4. When buying a ketchup it is important to pay attention to (students should indicate the following):
- Use-by date – to make sure the product is not overdue
 - Amount of tomatoes used – if it is indicated as '100 g of product was made from 50 g of tomatoes', then it means that for every 100 g of product, there are 50 g of tomatoes
 - Amount of oil added
 - Amount of salt added
 - Other ingredients, such as preservatives and potential allergens
 - A buyer can also pay attention to such features as: the provenance of ingredients (organic, Fairtrade), if any GM ingredients or animals were used during production, whether the ingredients used are kosher, what the cost of a bottle/jar/kilogram/litre is

5. Students indicate at least three from:

Health benefits:

- a source of lycopene (prevents cancer/slow down ageing)
- a source of Vitamin C (boosts immunity, stimulates production of collagen)
- contains vitamin C to boost immunity
- provides vitamin A (necessary for healthy eyesight)

Disadvantages:

- has high sodium levels which may increase blood pressure
- contains sugar and acid which together may cause faster tooth decay
- has a lot of sugar so cannot be eaten by diabetics

HP brown sauce and Worcester sauce: British favourites

1. Students indicate the stages of Worcester sauce production in the correct order:
- Pickled onions and garlic are put into a pickling barrel with malt vinegar, and salt.
 - In other barrels, anchovies cured in salt are stored for several months.
 - Once the other ingredients (onion/garlic mix and anchovies) are matured, they are prepared as a preliminary stage of the actual production of the sauce.
 - First, malt and white vinegar are put into a large vat, then tamarind, molasses and sugar are added.
 - The liquid is mixed and then the pickled onions and garlic are added, together with the anchovies.
 - The mixture is mixed again, and then salt, sugar and spices are added.
 - The whole mixture is pumped into maturation tanks, where it is kept for several weeks.
 - The sauce is then pressed through a sieve to remove larger bits, and blended.
 - The sauce is then pasteurised and bottled.
2. The sauces should be avoided in such health conditions:
- Hypertension and kidney diseases (high amount of sodium)
 - Diabetes (high amount of sugar)
 - Fish allergy – anchovies in Worcester sauce
 - Coeliac disease – gluten from malt vinegar
 - Stomach and gut ulcers (high amount of vinegar may be an irritant)
3. The sauce should be stamped with a 'best before' date mark as it is naturally preserved, therefore, shouldn't be susceptible to spoilage.
4. Worcester sauce is not a perishable food, despite the fact that it is moist and contains a lot of water. It is naturally preserved with vinegar and, therefore, is not susceptible to spoilage.
5. The common ingredient is tamarind.

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Tabasco sauce and BBQ sauce

- Depending on the brand, BBQ sauce may contain various ingredients which act as preservatives, mustard and celery.

Students should study three labels to pick at least three out of the 14 allergens include on a food label (from: celery; cereals containing gluten: wheat, barley, lupin; milk; molluscs; mustard; nuts; peanuts; sesame seeds; soya; sulfur dioxide).

- Tabasco sauce owes its colour to the chilli peppers used during the production of the sauce. It also contains natural colourants in original Tabasco sauce.
- It is a scale used to measure the pungency (hotness) of chilli peppers (in Scoville units).
- Pain receptors on the tongue and in the mouth.
 - Pungency/spiciness/hotness of chilli peppers is not a taste so it is not recorded on the tongue.
 - It is, in fact, a pain experience.

Tahini

- Calculated with the use of <https://www.nutrition.org.uk/nutritionscience/nutrients/ingredients/nutrient-requirements.html?limit=1&start=2>

Nutritional value: typical value	RNI for boys aged 16	RNI for girls aged 16	Per 100 g
Energy	2,964 kcal	2,414 kcal	586 kcal
Fat	115 g	94 g	50.87 g
saturates	11.5 g	11.5 g	7.124 g
Sugars (mono- and disaccharides)	18 g	15 g	0.4 g
Sodium	1,600 mg	1,600 mg	12 mg

Energy	Fat	Saturates	Sugars	Salt
586kcal	50.87 g	7.124 g	0.4 g	0.03 g
20%/24%	44%/54%	62%	2%/2.7%	0.75%

(Energy stays white, fat and saturates – red, sugars and salt – green)

- Although tahini is quite rich in iron, it has to be remembered that it is not absorbed by the digestive system.
 - Also, there is no vitamin C in tahini, which could increase the absorption of iron.
 - Overall, tahini cannot be considered a good dietary source of iron, despite its high iron content.
- Tahini is also used in Chinese, Sichuan cuisine, Greek, Israeli, Korean, Japanese under different names.

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Horseradish, tartare sauce and aioli

- The reason why acid is added to grated horseradish is to prevent enzymic browning.
 - When grated, the cells of horseradish are damaged, and the enzymes inside are released.
 - The oxygen in the air activates those enzymes, causing them to transform the phenols in the horseradish into brown pigments (melanin).
 - Adding vinegar or lemon juice deactivates the enzymes and, therefore, prevents browning.
 - Other food ingredients susceptible to enzymic browning are bananas, potatoes, etc. but not many name but a few.

- Students should use words such as pungent, hot, spicy, nippy, aromatic, bitter, etc.
- Students should prepare three different recipes for aioli (e.g. one using egg yolk, oil, and a little salt; one using low-sodium salt).

Students identify at least two macro- or micronutrients which make one of the two, e.g. high content of polyunsaturated fatty acids, low content of sodium, etc.

- Students carefully read the labels and identify various food additives in tartare sauce. Examples include: acidity regulator (acetic acid), modified maize (thickener), stabiliser (guar gum), flavour enhancer (glucose fructose syrup), thickener (xanthan gum), preservative (potassium sorbate), colourant (turmeric), acidity regulator (citric acid).
- Vinegar – preservative, flavouring
Egg yolk – emulsifier, nutritional value, colour
Modified starch – thickener
Potassium sorbate – preservative
Rapeseed oil – bulking agent, nutritional value, texture
Or any other suitable answer.

Salsa roja picante and guacamole

- Students list at least five other sauces originating in Mexico, e.g. pico de gallo, salsa negra, mango salsa, chipotle sauce, corn salsa, or any other suitable example.
- Students show their knowledge and understanding about how food production affects food quality. Students list at least four advantages of locally produced foods:
 - no need for transportation
 - low carbon footprint, low gas emission
 - supporting local farmers
 - supporting local economy
 - food is fresher
 - food is cheaper
- There are two kinds of guacamole available on the market.
 - Fresh guacamole is packed in plastic bowls/containers and has a use-by date and no preservatives.
 - Processed guacamole is packed in glass bottles/jars and sealed, often with a vacuum process, and would display a best before date, but, once opened, should be used within a few days to a week.
- Students list at least five other plant foods rich in unsaturated fatty acids, e.g. peanut oil, almonds, cashew nuts, sunflower seeds, flaxseeds, chia seeds, plain chocolate. Cocoa butter and coconuts should **not** be considered as they contain mainly saturated (chain triglycerides) fatty acids.
- Students list ingredients used in salsa sauces which make them hot and spicy, e.g. chilli extract, cayenne pepper, chilli extract, guajillo peppers, dried jalapeno.

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Marmite and stock cubes

1. A portion of marmite (4 g) provides 9.8% of RNI for sodium, while a portion of stock cube provides 10% of RNI for sodium.

Both should be labelled as red.

2.
 - Vegetable stock cubes contain only herbs and spices so can be considered vegetarian.
 - Chicken stock cubes contain small amounts (around 1%) of chicken-derived ingredients and cannot be considered vegetarian.
 - Beef stock cubes contain 40% beef extract, and also cannot be considered vegetarian.
 - The exercise should encourage students into checking various stock cube labels and paying attention to detail – the animal-derived ingredients are listed.

3. i)

Nutritional Value: typical value	RNI for boys aged 16	RNI for girls aged 16	Portion of Marmite
Energy	2,964 kcal	2,414 kcal	10 kcal
Macronutrients			
Fat	115 g	94 g	0.002 g
Carbohydrates	370 g	301.75 g	1 g
Starch (polysaccharides)	351.5 g	287 g	0.07 g
Sugars (mono- and disaccharides)	18.5 g	15 g	0.04 g
Fibre	25 g	25 g	0.1 g
Protein	111 g	90 g	1.5 g
For nutrients			
Vitamin B1 (Thiamine)	1.3 mg	0.8 mg	0.23 mg
Vitamin B2 (Riboflavin)	1.3 mg	1.1 mg	0.28 mg
Vitamin B3 (Niacin)	18 mg	14 mg	6.4 mg
Vitamin B12	200 mcg	200 mcg	100 mcg
Calcium	1,000 mg	800 mg	2.8 mg
Iron	11.3 mg	14.8 mg	0.116 mg
Sodium	1,600 mg	1,600 mg	156.8 mg

- ii) Students should consider points for and against the idea of consuming two portions daily:

For consuming two portions daily:

- Two portions of Marmite would provide around 50% of RNI for thiamine, 90% of RNI for niacin, 100% RNI for folate and 80% RNI for vitamin B12.
- As thiamine, riboflavin, folate and vitamin B12 are water-soluble, the body can excrete them from the body, preventing the effects of overdosage, so from the point of view of vitamins, it is a good part of an everyday diet.
- Also, it is high in vitamin B12, which rarely occurs in plant-derived foods, making it a good choice for vegetarians and vegans who might otherwise lack that vitamin.

Against consuming two portions daily:

- Two portions of Marmite a day would provide almost 20% of the recommended daily intake of sodium. Even though this mineral is widely present in many foods, it is best to limit sodium intake to a minimum – for that reason, Marmite consumption should be limited.

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Vinegar and pickles

- Students indicate fermentation as the process used in the production of vinegar.
 - First, alcoholic fermentation is conducted by yeast.
 - During that process, the sugars in the liquid are transformed into alcohol.
 - This same process is used in the production of wine, beer and cider.
 - Yeast fermentation is also used in bread manufacturing.
 - The second step is acidic fermentation conducted by bacteria.
 - During this stage, the alcohol is turned into acid, changing the flavour of the liquid.
- Poached eggs are cooked with vinegar – instead the egg yolk and egg white are cooked. The addition of vinegar speeds up the process of egg white denaturation, which is why poached eggs are cooked without so-called ‘feathering’).
- The fermentation is conducted by *Lactobacillus* – as a result, lactic acid is produced. The same kind of fermentation is used in the production of sauerkraut, yogurt and cheese.
- Vinegar is commonly used to prepare mayonnaise, mustard, ketchup, some chutneys and horseradish, etc., or any other appropriate examples.

Nutritional value: typical value	Per 100 g distilled spirit vinegar	
Energy	18 kcal	85
Carbohydrates	0.04 g	17
Sugars (mono- and disaccharides)	0.04 g	14
Calcium	6 mg	27
Iron	0.03 mg	0.5
Sodium	1 mg	23
Phosphorus	4 mg	19
Potassium	2 mg	11
Magnesium	1 mg	12

Balsamic vinegar might be healthier to use because:

- It is higher in calcium, which is needed for bone health
- It is higher in potassium, which lowers blood pressure
- It contains magnesium, which supports muscle contractions

Distilled spirit vinegar might be healthier to use because:

- It is lower in sugars, so doesn't contribute towards obesity or tooth decay
- It is very low in calories
- It is lower in sodium, so doesn't increase blood pressure

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Custard

1. Saturated fats, sugar, sodium and cholesterol all increase the risk of cardiovascular disease.
2. A basic recipe for custard goes as follows:
 1. First the egg yolk is beaten with sugar – whisking – mechanical leavening
 2. Then the cornstarch is added – beating – mechanical leavening – incorporation
 3. Separately, milk and cream are cooked together – conduction and convection
 4. Meanwhile, milk and cream can be infused with vanilla – infusion
 5. Hot milk/cream mixture is slowly added to eggs – the temperature causes the eggs to coagulate
 6. The whole mixture is cooked again together – conduction and convection – cooking for gelatinisation, potentially sugar caramelisation
3. During cooking, starch particles from cornstarch absorb water and burst. If not stirred constantly, they would set at the bottom of the pan forming an unappetising skin.
4.
 - Crème anglaise is a thin, sauce-like custard poured over desserts.
 - Crème patissière is a thick, creamy version, used to fill pastries, doughnuts.
 - Crème brûlée and Spanish flan are very similar, but contain no starch.
 - Custard cream should **not** count as it is a kind of a biscuit, not a cream/sauce.
5. The allergens present in custard include milk, cream (milk), egg yolk (egg). Some ready-to-use products may also contain other allergens, such as butter or wheat flour (gluten), etc.

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