Department of Health & Social Care

Department for Education

Guidance

# School food standards 2027: nutrient analysis

Published 29 October 2026

**Applies to England**

Contents

Analysis of example menus
Nutrient framework
Weighting of menu items
Nutritional analysis outputs
Limitations and assumptions

## Analysis of example menus

We conducted the nutritional analysis using the recipe analysis software Nutritics to calculate the nutritional contribution of an average school lunch, based on the example menus. The nutritional analysis is based on catering provision. It does not take account of estimated consumption or served food that remains uneaten.

We based the recipes on those used in the pilot. Where recipe data from pilot

menus was unclear, we adapted the final products to ensure they were compliant. For example, we substituted the variety of tortilla wrap used in a fajita recipe for a variety that meets the relevant fibre criteria.

We aligned the portion sizes of the individual ingredients with the typical portion sizes detailed in 'Portion sizes and food groups' of the School food standards: resources for schools guidance. Where a portion size range is given in the guidance, we used the mid-point of the range. Where foods were not included in the existing portion size guidance, we used evidence from the pilot to determine an appropriate portion size.

We made assumptions where evidence on uptake of items in specific menu categories was unavailable - for example, uptake of permitted drinks in secondary schools. In this case, we only included the drinks we assumed to be popular among pupils in the average.

# Nutrient framework

This nutrient framework underpins the SFS and specifies levels for 14 nutrients including energy for the average lunchtime meal for both primary and secondary schools.

This nutrient framework is based on government dietary recommendations and weighted according to the age and sex distribution of school pupils in England. The framework assumes that pupils eat 3 meals a day and get about a third of their nutritional requirements through lunch.

In 2025, the Scientific Advisory Committee on Nutrition (SACN) published a statement on expressing fat and carbohydrate recommendations. This clarified the terminology for expressing energy, fat and carbohydrates recommendations as a proportion of energy, excluding ethanol. For the purposes of this report, we have simplified these recommendations to '% energy'.

For more information, see education statistics on pupil characteristics and the guidance 'Government dietary recommendations', available as part of the Eatwell Guide.

The macronutrient and micronutrient values included in the nutrient framework represent either minimum or maximum recommendations. This depends on whether a negative health outcome is associated with either underconsumption or

overconsumption of the nutrient. As a negative health outcome is associated with children consuming either too little or too much energy, we have applied a 5% tolerance to allow for slight variations in energy between menus.

Table 1 shows the recommended amount of nutrients for both primary and secondary school lunches. Each nutrient's target is calculated as a proportion of the relevant recommended daily intake, such as the recommended nutrient intake (RNI) or a SACN recommendation. This is then converted into a specific quantity, such as kilocalories (kcal), grams (g), milligrams (mg) or micrograms (µg).

Table 1: summary of the nutrient framework for both primary and secondary school lunches

| Nutrient | Proportion of recommended daily intake of nutrient | Primary school nutrient framework | Secondary school nutrient framework |
|---|---|---|---|
| **Energy** | 30% (plus or minus 5%) | 487.4kcal (plus or minus 24.4kcal) | 675kcal (plus or minus 33.8kcal) |
| **Carbohydrate** | 50% energy | At least 65g | At least 90g |
| **Free sugars** | 5% energy | No more than 6.5g | No more than 9g |
| **Protein** | 30% RNI | At least 7.5g | At least 13.3g |
| **Fat** | 35% energy | No more than 19g | No more than 26.3g |
| **Saturated fat** | 11% energy | No more than 6g | No more than 8.3g |
| **Fibre** | 30% SACN recommendation | At least 6g | At least 9g |
| **Sodium** | 30% SACN recommendation | No more than 499mg | No more than 714mg |
| **Calcium** | 35% RNI | At least 193mg | At least 350mg |
| **Iron** | 35% RNI | At least 3mg | At least 5.2mg |

| | | | |
|---|---|---|---|
| **Zinc** | 35% RNI | At least 2.5mg | At least 3.3mg |
| **Vitamin A** | 35% RNI | At least 175µg | At least 245µg |
| **Folate (B9)** | 35% RNI | At least 53µg | At least 70µg |
| **Vitamin C** | 35% RNI | At least 10.5mg | At least 14mg |

# Weighting of menu items

## How the weightings were calculated

We used weighted averages to reflect the fact that pupils are likely to choose some menu items more often than others. We weighted the menus according to the estimated uptake of each available choice.

We first assigned each item to a category:

- meat main
- vegetarian main
- grab-and-go main
- dessert
- drink

We then weighted the main meal categories to reflect expected uptake. Where more than one option was available within a category on the same day, we weighted those options individually before including them in the overall calculation. Evidence gathered during the pilot informed the weightings, but these should be treated as approximate.

We then calculated the weighted average nutrient content for a full 2-course meal for both the primary and secondary school menus. Details of the weightings we used are as follows.

## Primary school weighting

Primary school main item weighting:

- meat main - 75%
- vegetarian main - 20%
- jacket potato main - 5%

Primary school dessert weighting:

- sweetened baked goods and traditional puddings - 100% uptake on given days
- alternative days - equal weighting of options

Primary school drinks weighting:

- water - 70%
- milk - 30%

## Secondary school weighting

Secondary school main item weighting:

- grab-and-go - 70%
- meat main - 22.5%
- vegetarian main - 7.5%

Secondary school grab-and-go weighting:

- cheese, pastry or processed meat-based meal - 100% uptake on given days
- alternative days - equal weighting of options

Secondary school dessert weighting:

- sweetened baked goods and traditional puddings - 100% uptake on given days
- alternative days - equal weighting of options

Secondary school drinks weighting:

Equal weighting of options assumed to be most popular (plain water, plain milk, still flavoured water and no added sugar fruit-flavoured drinks).

# Nutritional analysis outputs

You should interpret the findings for both primary and secondary school lunch menus as average values across the example 3-week menu cycle.

## Primary school lunch menu

Table 2 shows that the average primary school lunch menu is broadly aligned with the nutrient framework values. The average energy content is 490.7kcal, which falls within the acceptable range of 484kcal (plus or minus 24.4kcal). This shows that the model menu provides an appropriate amount of energy.

The menu exceeds or meets the minimum framework values for carbohydrate, protein, fibre, calcium, iron, zinc, vitamin A, folate and vitamin C. Nutrients that should be limited are also within the nutrient framework values. Fat, saturated fat, free sugars and sodium all remain below their respective maximum thresholds.

Overall, the findings indicate that this example primary school menu closely aligns with the nutrient framework.

Table 2: average nutrient content of primary school lunch, based on the example 3-week menu, compared with the nutrient framework

| Nutrient | Nutrient framework amount | Nutrient content of average primary school meal from example menu |
|---|---|---|
| **Energy** | 487.4kcal (plus or minus 24.4kcal) | 490.7kcal |
| **Carbohydrate** | At least 65g | 68.4g |
| **Free sugars** | Less than 6.5g | 4.7g |

| | | |
|---|---|---|
| **Protein** | At least 7.5g | 23.4g |
| **Fat** | Less than 19g | 13.7g |
| **Saturated fat** | Less than 6g | 4.8g |
| **Fibre** | At least 6g | 8.1g |
| **Sodium** | Less than 499mg | 430.1mg |
| **Calcium** | At least 193mg | 280.3mg |
| **Iron** | At least 3mg | 3mg |
| **Zinc** | At least 2.5mg | 2.8mg |
| **Vitamin A** | At least 175µg | 359.1µg |
| **Folate (B9)** | At least 53µg | 66.7µg |
| **Vitamin C** | At least 10.5mg | 24.1mg |

## Individual primary school lunch menu items

Table 3 shows that individually the average primary school meat, vegetarian and jacket potato menus each largely align with the nutrient framework values.

The average energy content of a meal is 496.3kcal for the meat menu, 465.7kcal for the vegetarian menu and 507kcal for the jacket potato menu. This is within the acceptable range of 484kcal (plus or minus 24.2kcal).

The menus exceed or meet the minimum framework values for carbohydrate, protein, fibre, calcium, zinc, vitamin A, folate and vitamin C. Fat, saturated fat, free sugars and sodium all remain below their respective maximum thresholds. The average meat meal contains 2.8mg of iron, which is marginally below the minimum threshold of 3mg.

Overall, the findings indicate that the example primary school meat, vegetarian and jacket potato menus closely align with the nutrient framework individually.

Table 3: average nutrient content of a meal from each of the individual primary

school lunch menu categories, based on the example 3-week menu, compared with the nutrient framework

| Nutrient | Nutrient framework amount | Nutrient content of average primary school meat meal based on example menu | Nutrient content of average primary school vegetarian meal based on example menu | Nutrient content of average primary school jacket potato meal based on example menu |
|---|---|---|---|---|
| **Energy** | 487.4kcal (plus or minus 24.4kcal) | 496.3kcal | 465.7kcal | 507kcal |
| **Carbohydrate** | At least 65g | 68.6g | 67.6g | 69.9g |
| **Protein** | At least 7.5g | 24.6g | 19.2g | 22.2g |
| **Fat** | Less than 19g | 13.8g | 13.2g | 15.4g |
| **Saturated fat** | Less than 6g | 4.8g | 4.5g | 5.6g |
| **Fibre** | At least 6g | 7.3g | 10.2g | 11.9g |
| **Free sugars** | Less than 6.5g | 4.6g | 4.8g | 5.3g |
| **Sodium** | Less than 499mg | 419.4mg | 494.2mg | 334.2mg |
| **Calcium** | At least 193mg | 276.4mg | 291.7mg | 291.9mg |
| **Iron** | At least 3mg | 2.8mg | 3.4mg | 3.9mg |

| | | | | |
|---|---|---|---|---|
| **Zinc** | At least 2.5mg | 2.8mg | 2.9mg | 2.8mg |
| **Vitamin A** | At least 175µg | 339.1µg | 440.1µg | 334.5µg |
| **Folate (B9)** | At least 53µg | 59.6µg | 84.3µg | 102.1µg |
| **Vitamin C** | At least 10.5mg | 22.7mg | 24.9mg | 41mg |

## Secondary school lunch menu

Table 4 shows that the average secondary school lunch menu broadly aligns with the nutrient framework values and meets most of the nutrient criteria.

The average energy content is 702.1kcal, which is within the acceptable range of 675kcal (plus or minus 33.8kcal). Carbohydrate, protein, fibre, calcium, zinc, vitamin A, folate and vitamin C all meet or exceed the minimum framework values. Nutrients that should be limited are also within the nutrient framework values. Fat, saturated fat and sodium all remain below their respective maximum thresholds.

There are 2 nutrients that do not meet the framework values for the secondary school lunch menu.

The average free sugar content is 9.6g, which is above the maximum framework value of 9g. Following feedback from the consultation, secondary schools will be permitted to serve 2 sweetened baked products and desserts per week, rather than moving to one in line with primary schools. Guidance will encourage secondary schools to move towards offering one per week as best practice, to help schools meet free sugar recommendations.

The average iron content is 4.6mg, which is below the minimum framework value of 5.2mg. This is not unexpected, given the higher average iron requirements for this age group, particularly girls. When considered separately, iron recommendations for boys are met. As the example menus are based on dishes commonly served in the pilot, we will publish guidance for caterers that explains the importance of iron in children’s diets. We will also provide advice on how to include good dietary sources

of iron in recipes and across a menu.

Table 4 shows the average secondary school example menu that meets the nutrient framework for most nutrients.

Table 4: average nutrient content of secondary school lunch, based on the example 3-week menu, compared with the nutrient framework

| Nutrient | Nutrient framework amount | Nutrient content of average secondary school meal from example menu |
|---|---|---|
| **Energy** | 675kcal (plus or minus 33.8kcal) | 702.1kcal |
| **Carbohydrate** | At least 90g | 94.6g |
| **Protein** | At least 13.3g | 35.7g |
| **Fat** | Less than 26.3g | 20.2g |
| **Saturated fat** | Less than 8.3g | 7.2g |
| **Fibre** | At least 9g | 12.1g |
| **Free sugars** | Less than 9g | 9.6g |
| **Sodium** | Less than 714mg | 606.8mg |
| **Calcium** | At least 350mg | 360.8mg |
| **Iron** | At least 5.2mg | 4.6mg |
| **Zinc** | At least 3.3mg | 4.1mg |
| **Vitamin A** | At least 245µg | 317.8µg |
| **Folates (B9)** | At least 70µg | 120.5µg |
| **Vitamin C** | At least 14mg | 46.2mg |

# Individual secondary school lunch menu items

Table 5 shows that the average secondary school meat menu broadly aligns with the nutrient framework values and meets most of the nutrient criteria.

The energy content of the average secondary school meat meal is 706.5kcal, which is within the acceptable range of 675kcal (plus or minus 33.8kcal). Carbohydrate, protein, fibre, calcium, zinc, vitamin A, folate and vitamin C all meet or exceed the minimum framework values. Most nutrients that should be limited are also within the nutrient framework values. Fat, saturated fat and sodium all remain below their respective maximum thresholds. However, free sugars are 0.8g above the maximum threshold. Iron is also below the minimum threshold by 0.8mg.

The average secondary school vegetarian meal broadly aligns with the nutrient framework values. The average energy content is 668.4kcal, which is within the acceptable range of 675kcal (plus or minus 33.8kcal). The menu exceeds the minimum framework values for carbohydrate, protein, fibre, calcium, zinc, vitamin A, folate and vitamin C. Fat, saturated fat, free sugars and sodium all remain below their respective maximum thresholds. However, iron is below the minimum threshold by 0.4mg.

The average secondary school grab-and-go meal also broadly aligns with the nutrient framework values. The average energy content is 704.3kcal, which is within the acceptable range of 675kcal (plus or minus 33.8kcal). The menu exceeds or meets the minimum framework values for carbohydrate, protein, fibre, calcium, zinc, vitamin A, folate and vitamin C. As with the average secondary school meat menu, most nutrients that should be limited are also within the nutrient framework values. Fat, saturated fat and sodium all remain below their respective maximum thresholds. However, free sugars exceed the maximum threshold by 0.6g. Iron is also below the minimum threshold by 0.5mg.

Table 5: average nutrient content of a meal from each of the individual secondary school lunch menu categories, based on the example 3-week menu, compared with the nutrient framework

| Nutrient | Nutrient framework amount | Nutrient content of average secondary | Nutrient content of average secondary | Nutrient content of average secondary school grab- |
|---|---|---|---|---|

| | | school meat meal based on example menu | school vegetarian meal based on example menu | and-go meal based on example menu |
|---|---|---|---|---|
| **Energy** | 675kcal (plus or minus 33.8kcal) | 706.5kcal | 668.4kcal | 704.3 kcal |
| **Carbohydrate** | At least 90g | 92.7g | 101.9g | 94.4g |
| **Free sugars** | Less than 9g | 9.8g | 8.8g | 9.6g |
| **Protein** | At least 13.3g | 35.4g | 27.8g | 36.6g |
| **Fat** | Less than 26.3g | 21.5g | 16.6g | 20.2g |
| **Saturated fat** | Less than 8.3g | 7.7g | 5.8g | 7.2g |
| **Fibre** | At least 9g | 11g | 15.8g | 12.1g |
| **Sodium** | Less than 714mg | 649.7mg | 586.8mg | 595.2mg |
| **Calcium** | At least 350mg | 359.6mg | 350.5mg | 362.4mg |
| **Iron** | At least 5.2mg | 4.4mg | 4.8mg | 4.7mg |
| **Zinc** | At least 3.3mg | 4.1mg | 4mg | 4.1mg |
| **Vitamin A** | At least 245µg | 326.2µg | 398.5µg | 306.5µg |
| **Folate (B9)** | At least | 116.5µg | 131.9µg | 120.5µg |

| | | | | |
|---|---|---|---|---|
| | 70µg | | | |
| **Vitamin C** | At least 14mg | 49.3mg | 40.3mg | 45.9mg |

# Limitations and assumptions

We made a series of assumptions while developing the example menus and calculating the average nutrient content. These were as follows.

The meals and recipes we used in this modelling exercise are based on those used by the schools that took part in the autumn 2025 pilot. These may not be representative of menus provided by other schools in England.

We based portion sizes on the typical portion sizes detailed in the SFS guidance. These may not be representative of the portion sizes used by all schools for all foods.

The proposed updated SFS were amended following the pilot and public consultation. The menus designed by pilot schools do not directly align with the finalised updated SFS published in the consultation response. To create menus that comply with the finalised updated SFS, we modified some recipes. For example, we added a portion of pulses to some main items and substituted a type of bread for one that meets the increased fibre recommendation. However, these adaptations may not reflect how school caterers would redesign recipes and menus to achieve compliance.

This modelling exercise was based on existing information rather than practical testing. As a result, we have not assessed whether there are any practical considerations for any menu items adapted for the purpose of creating a compliant example menu.

We based weightings on the information gathered as part of the autumn 2025 pilot. Where there were gaps in this data, we applied an equal weighting, which may not reflect uptake patterns in all schools.

These example menus are intended for illustrative purposes only. They may not be representative of the number of options available to pupils in all schools.

Free sugars information is largely unavailable from manufacturers and so is inconsistently reported on the nutrient analysis software Nutritics. We estimated free sugars using the decision tree in the ‘Nutrient profiling model 2018: technical guidance’, available as part of the Nutrient profiling model 2018. Where nutrition data was missing, we used figures from the National Diet and Nutrition Survey free sugar data, held by DHSC, as an estimate.

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