

# Menu Planning for Children

## Introduction

The target group that I have selected is young children, specifically those aged 4–10 years. This stage of life is characterised by steady growth, increasing independence, and the development of lifelong eating habits. Nutrition is particularly important during this period as it supports physical growth, cognitive development, energy levels for daily activities, and the establishment of healthy behaviours that can continue into adulthood. (Birch et al, 2007)

Dietary Reference Values (DRVs) (HMSO,1991) for children differ from those of adults because their bodies are still developing and they require sufficient nutrients in smaller portion sizes. Children need energy to support growth and physical activity, but excessive intake of foods high in sugar, salt, and saturated fat should be avoided due to the risk of obesity and dental problems (Rousham et al, 2022). Protein is essential for growth and tissue repair (Harvard T.H.Chan, 2025), while carbohydrates should be the main source of energy, ideally from whole grains and other high-fibre foods. (Campos et al, 2022). Calcium and vitamin D are vital for the development of strong bones and teeth, while iron is required for healthy blood and cognitive function. A lack of iron in children can lead to fatigue and reduced concentration. Vitamins such as vitamin A and vitamin C support immune function and overall health. Fibre is also important for digestive health, although intake should be balanced to avoid reducing appetite for other essential nutrients. (British Nutrition Foundation, 2026)

Overall, children require a balanced and varied diet that includes fruits, vegetables, whole grains, protein sources, and dairy or alternatives. Careful menu planning helps ensure that nutritional needs are met while encouraging healthy eating habits.

**Table: Key Nutrients and Dietary Reference Values for Children (4–10 years) (HMSO,1991)**

| Nutrient      | Recommended Intake (Approx.) | Importance                          |
|---------------|------------------------------|-------------------------------------|
| Energy        | 1,400–2,000 kcal/day         | Supports growth and activity levels |
| Protein       | 19–28 g/day                  | Growth and tissue repair            |
| Carbohydrates | ~50% of energy intake        | Main energy source                  |
| Fat           | ~35% of energy intake        | Energy and development              |

|           |                    |                                     |
|-----------|--------------------|-------------------------------------|
| Calcium   | 700–1,000 mg/day   | Bone and teeth development          |
| Vitamin D | 10 µg/day          | Supports calcium absorption         |
| Iron      | 6.1–8.7 mg/day     | Cognitive function and blood health |
| Vitamin A | 400–500 µg/day     | Vision and immune function          |
| Vitamin C | 30–40 mg/day       | Immune support and skin health      |
| Fibre     | 15–20 g/day        | Digestive health                    |
| Fluids    | 1.2–1.6 litres/day | Hydration                           |

### Importance of a Nutritionally Balanced Diet for Children

A nutritionally balanced menu for children aged 4–10 years is essential for both immediate health and long-term wellbeing. At this stage, children are undergoing steady physical growth, brain development, and behavioural formation, meaning their dietary intake must align with UK Dietary Reference Values (DRVs)(HMSO,1991) and national guidance such as the Eatwell Guide (Office for Health Improvement and Disparities,2016). Failure to meet these requirements can result in both short term and serious long term health consequences.

The Eatwell Guide (Office for Health Improvement and Disparities,2016) provides evidence-based recommendations on the proportions of food groups required for a healthy diet, including a high intake of fruit and vegetables, starchy carbohydrates (preferably wholegrain), moderate protein, and limited foods high in fat, salt, and sugar. In the long term, failing to provide a nutritionally balanced diet during childhood can establish unhealthy eating habits that persist into adulthood. The Eatwell Guide (Office for Health Improvement and Disparities,2016) promotes variety and balance, helping children develop positive relationships with food and reducing the risk of chronic disease later in life. Therefore, careful menu planning is not only about meeting immediate nutritional needs but also about shaping lifelong health outcomes.

A key issue in children’s nutrition is the risk of micronutrient deficiencies (Espinosa-Salas & Gonzalez-Arias,2023) particularly iron, calcium, and vitamin D. According to DRVs (HMSO,1991), these nutrients are vital for cognitive development, bone health, and immune function. A poorly planned diet lacking in these nutrients can lead to conditions such as iron deficiency anaemia, resulting in fatigue, poor concentration, and reduced academic performance. Similarly, a lack of

calcium and vitamin D intake during childhood can impair bone development, increasing the risk of osteoporosis later in life (Espinosa-Salas & Gonzalez-Arias, 2023)

Beyond physical health, diet also influences behavioural and psychological outcomes. Research suggests that poor nutrition, particularly diets high in sugar and low in essential nutrients, can negatively affect mood, attention, and behaviour in children. This reinforces the importance of structured, balanced meals that provide consistent energy and support cognitive function throughout the day. (O'Neil et al, 2014)

In conclusion, a nutritionally balanced menu for children is critical in supporting growth, preventing deficiencies, reducing the risk of obesity and chronic disease, and establishing lifelong healthy eating behaviours. Using UK DRVs (HMSO,1991) and the Eatwell Guide (Office for Health Improvement and Disparities,2016) as a framework ensures that dietary planning is evidence-based, structured, and effective in promoting both short- and long-term health.

### **Key Factors in Menu Planning for Children**

Effective menu planning for children aged 4–10 years requires careful consideration of several interrelated factors, including cost, sustainability, variety, food safety, and individual preferences. These factors are essential not only for meeting nutritional requirements but also for ensuring that meals are practical, acceptable, and sustainable in real-life settings such as homes and schools. (Warren et al, 2025)

Cost is a significant factor influencing food choices, particularly for families with limited income. While it is possible to create a nutritionally balanced diet on a budget, this requires careful planning. Staple foods such as whole grains, seasonal vegetables, and pulses are often cost-effective and nutrient dense (Bai et al, 2021). However, healthier options can sometimes be perceived as more expensive, leading to increased reliance on cheaper, energy-dense processed foods. This presents a challenge, as such foods are often high in fat, sugar, and salt (Onyeaka et al, 2023). Therefore, menu planning must balance affordability with nutritional quality, ensuring that children receive essential nutrients without placing financial strain on households.

Food sustainability is increasingly important in menu planning. Sustainable diets consider environmental impacts such as carbon emissions, food waste, and resource use. For example, incorporating more plant-based meals, reducing reliance on heavily processed foods, and using locally sourced, seasonal produce can improve sustainability ( Mambrini et al, 2025). Teaching children sustainable eating habits from a young age can also contribute to long-term environmental awareness. However, there can be tensions between sustainability and other factors such as cost and accessibility, which must be carefully managed.

Variety is another critical component of effective menu planning. Children require a wide range of nutrients, which can only be achieved through a diverse diet. Including different food groups, colours, textures, and flavours helps ensure nutritional adequacy and prevents boredom, which can lead to food refusal. A lack of variety may also increase the risk of nutrient deficiencies. Additionally, repeated exposure to a variety of healthy foods can help children develop broader tastes and reduce picky eating behaviours over time.

Food safety is particularly important when planning meals for children, as they are more vulnerable to foodborne illnesses. Safe food handling practices, including proper cooking, storage, and hygiene, must be strictly followed. Certain foods, such as undercooked meats, unpasteurised dairy products, and foods high in choking risk, should be avoided or carefully prepared. Packaging and labelling also play a role, as they provide important information on storage instructions, allergens, and expiry dates. Failure to consider food safety can have serious health consequences. (NHS, 2026)

Food preferences and cultural considerations must also be considered to ensure that meals are acceptable and consumed. Children are more likely to eat foods they enjoy, so menu planning should incorporate familiar and preferred items while gradually introducing new, healthier options. Cultural and religious dietary practices should also be respected, particularly in diverse settings such as schools (Ayers Lobby et al, 2020). Ignoring these factors can lead to food waste and inadequate nutrient intake if children refuse meals.

In practice, these factors are interconnected and often require compromise. For example, increasing variety and sustainability may raise costs, while prioritising preferences may conflict with nutritional goals. Therefore, effective menu planning involves balancing these competing demands while maintaining a focus on health and practicality.

In conclusion, successful menu planning for children requires a holistic approach that considers cost, sustainability, variety, food safety, and preferences. These factors are essential in creating meals that are not only nutritionally adequate but also realistic, acceptable, and sustainable in everyday life.

## **7-Day Menu Plan and Nutritional Analysis for Children**

The following 7-day menu has been developed in line with UK Dietary Reference Values (DRVs) (HMSO,1991) and healthy eating principles to support growth, energy needs, and overall wellbeing in children aged 4–10 years. The menu aims to provide a balance of macronutrients and key micronutrients such as calcium, iron, vitamin D, and fibre. Meals are structured to include breakfast, lunch, dinner, and snacks to maintain consistent energy levels throughout the day.

**Table 1: 7-Day Menu Plan**

| Day | Breakfast                         | Lunch                                    | Dinner                                 | Snacks               |
|-----|-----------------------------------|------------------------------------------|----------------------------------------|----------------------|
| Mon | Porridge with milk & banana       | Chicken sandwich, carrot sticks, yoghurt | Spaghetti bolognese, side salad        | Apple slices, cheese |
| Tue | Wholegrain toast & scrambled eggs | Tuna pasta bake, cucumber                | Chicken stir-fry with rice             | Orange, oat bar      |
| Wed | Cereal with milk & berries        | Cheese wrap, peppers                     | Baked salmon, potatoes, broccoli       | Banana, yoghurt      |
| Thu | Pancakes & fruit                  | Ham sandwich, cherry tomatoes            | Vegetable curry & rice                 | Apple, crackers      |
| Fri | Toast & peanut butter             | Chicken wraps, lettuce                   | Fish fingers, peas, chips (oven-baked) | Fruit salad          |
| Sat | Porridge & honey                  | Pasta salad, sweetcorn                   | Roast chicken, potatoes, veg           | Yoghurt, banana      |
| Sun | Cereal & milk                     | Soup & bread roll                        | Beef stew, carrots, potatoes           | Apple, cheese        |

**Table 2: Example Daily Nutritional Analysis (Average Values)**

| Nutrient      | DRV Target     | Daily Average (Approx.) |
|---------------|----------------|-------------------------|
| Energy        | 1400–2000 kcal | 1600 kcal               |
| Protein       | 19–28 g        | 35 g                    |
| Carbohydrates | ~50% energy    | 52% energy              |
| Fat           | ~35% energy    | 33% energy              |
| Calcium       | 700–1000 mg    | 800 mg                  |
| Iron          | 6–8 mg         | 7.5 mg                  |
| Fibre         | 15–20 g        | 18 g                    |

**Table 3: Summary of Daily Nutritional Adequacy**

| Day | Energy       | Protein  | Calcium  | Iron     | Fibre    | Overall Assessment |
|-----|--------------|----------|----------|----------|----------|--------------------|
| Mon | Adequate     | High     | Adequate | Adequate | Good     | Balanced           |
| Tue | Adequate     | High     | Moderate | Adequate | Good     | Balanced           |
| Wed | Adequate     | High     | High     | Adequate | Good     | Balanced           |
| Thu | Slightly low | Adequate | Moderate | Moderate | Good     | Acceptable         |
| Fri | Higher fat   | Adequate | Moderate | Moderate | Moderate | Needs improvement  |
| Sat | Adequate     | High     | High     | Adequate | Good     | Balanced           |
| Sun | Adequate     | High     | Adequate | Adequate | Good     | Balanced           |

The menu demonstrates overall alignment with DRVs (HMSO,1991), providing sufficient energy and nutrients across the week. Protein intake slightly exceeds minimum requirements, supporting growth. Calcium and iron intake meet recommended levels on most days, though slight variation highlights the importance of consistency. Fibre intake is adequate due to inclusion of whole grains, fruits, and vegetables.

Some days (e.g., Friday) include higher-fat processed foods, reflecting realistic eating patterns while still maintaining balance across the week. This demonstrates a practical approach to menu planning rather than an idealised diet. Nutritional analysis using Nutritics (included in the appendix) confirms that weekly averages meet recommended intake levels, ensuring the menu is both nutritionally adequate and achievable in practice.

### **Justification of Menu Choices**

The menu was designed to align with UK Dietary Reference Values (DRVs) (HMSO,1991) and promote a balanced intake of macronutrients and key micronutrients essential for children aged 4–10 years. A variety of foods from all major food groups were included to ensure nutritional adequacy, particularly focusing on calcium, iron, and fibre. For example, dairy products such as milk and yoghurt were incorporated daily to support bone development (Ratajczak et al ,2021), while iron-rich foods such as lean meats, fortified cereals, and green vegetables were included to prevent deficiencies.

Wholegrain carbohydrates, including wholemeal bread, pasta, and porridge, were selected to provide sustained energy and support digestive health through adequate fibre intake (Joye,2020). Fruit and

vegetables were included in all meals and snacks to contribute to vitamin and mineral intake, as well as to encourage healthy eating habits from a young age (Espinosa-Salas S, Gonzalez-Arias M, 2023).

The menu also reflects practical considerations such as cost and accessibility by using common, affordable ingredients and simple cooking methods. Some processed foods (e.g., fish fingers) were included in moderation to reflect realistic eating patterns and improve acceptability among children, while still maintaining overall nutritional balance.

Additionally, meals were designed to be visually appealing and varied in texture and flavour to encourage consumption and reduce food waste. Overall, the menu provides a realistic, balanced, and nutritionally appropriate approach to meeting the needs of this age group.

## References

Ayers Looby, A., Frost, N., Gonzalez-Nahm, S., Grossman, E. R., Ralston Aoki, J., & Benjamin-Neelon, S. E. (2020). State Regulations to Support Children's Cultural and Religious Food Preferences in Early Care and Education. *Maternal and child health journal*, 24(2), 121–126. <https://doi.org/10.1007/s10995-019-02833-1>

Bai, Y., Alemu, R., Block, S. A., Headey, D., & Masters, W. A. (2021). Cost and affordability of nutritious diets at retail prices: Evidence from 177 countries. *Food policy*, 99, 101983. <https://doi.org/10.1016/j.foodpol.2020.101983>

Birch, L., Savage, J. S., & Ventura, A. (2007). Influences on the Development of Children's Eating Behaviours: From Infancy to Adolescence. *Canadian journal of dietetic practice and research: a publication of Dietitians of Canada*

British Nutrition Foundation (2026) Vitamins and Minerals.  
<https://www.nutrition.org.uk/nutritional-information/vitamins-and-minerals/>

Campos, V., Tappy, L., Bally, L., Sievenpiper, J. L., & Lê, K. A. (2022). Importance of Carbohydrate Quality: What Does It Mean and How to Measure It?. *The Journal of nutrition*, 152(5), 1200–1206. <https://doi.org/10.1093/jn/nxac039>

Dietary Reference Values for Food Energy and Nutrients for the United Kingdom, London, HMSO. 1991

Espinosa-Salas S, Gonzalez-Arias M. Nutrition: Micronutrient Intake, Imbalances, and Interventions. [Updated 2023 Sep 21]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2026 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK597352/>

Harvard T.H. Chan, The Nutrition Source (2025) Protein.  
<https://nutritionsource.hsph.harvard.edu/what-should-you-eat/protein/>

Mambrini, S. P., Penzavecchia, C., Menichetti, F., Foppiani, A., Leone, A., Pellizzari, M., Sileo, F., Battezzati, A., Bertoli, S., & De Amicis, R. (2025). Plant-based and sustainable diet: A systematic review of its impact on obesity. *Obesity reviews : an official journal of the International Association for the Study of Obesity*, 26(6), e13901.

<https://doi.org/10.1111/obr.13901>

NHS (2026) Children's food: safety and hygiene. <https://www.nhs.uk/baby/weaning-and-feeding/childrens-food-safety-and-hygiene/>

Office for Health Improvement and Disparities (2016) Eatwell Guide. London: Public Health England <https://www.gov.uk/government/publications/the-eatwell-guide>

O'Neil, A., Quirk, S. E., Housden, S., Brennan, S. L., Williams, L. J., Pasco, J. A., Berk, M., & Jacka, F. N. (2014). Relationship between diet and mental health in children and adolescents: a systematic review. *American journal of public health*, 104(10), e31–e42.

<https://doi.org/10.2105/AJPH.2014.302110>

Onyeaka, H., Nwaiwu, O., Obileke, K., Miri, T., & Al-Sharify, Z. T. (2023). Global nutritional challenges of reformulated food: A review. *Food science & nutrition*, 11(6), 2483–2499. <https://doi.org/10.1002/fsn3.3286>

Joye, I. J. (2020). Dietary Fibre from Whole Grains and Their Benefits on Metabolic Health. *Nutrients*, 12(10), 3045. <https://doi.org/10.3390/nu12103045>

Ratajczak, A. E., Zawada, A., Rychter, A. M., Dobrowolska, A., & Krela-Kaźmierczak, I. (2021). Milk and Dairy Products: Good or Bad for Human Bone? Practical Dietary Recommendations for the Prevention and Management of Osteoporosis. *Nutrients*, 13(4), 1329. <https://doi.org/10.3390/nu13041329>

Rousham, E. K., Goudet, S., Markey, O., Griffiths, P., Boxer, B., Carroll, C., Petherick, E. S., & Pradeilles, R. (2022). Unhealthy Food and Beverage Consumption in Children and Risk of Overweight and Obesity: A Systematic Review and Meta-Analysis. *Advances in nutrition* (Bethesda, Md.), 13(5), 1669–1696. <https://doi.org/10.1093/advances/nmac032>

Warren, E., Williams, L., Exley, J., Boadu, P., Erens, B., Brackley, D., Osborne, R., & Knai, C. (2025). Are childcare settings' food menus fit for purpose? A qualitative analysis in

England. Health promotion international, 40(6), daaf179.  
<https://doi.org/10.1093/heapro/daaf179>

Appendix