

## 2. Nutritional and dietary needs of different groups of people: dietary needs for different stages of life, food allergies and intolerances ●

1) According to the British Nutrition Foundation, 5532 is the perfect proportion of foods in a diet for toddlers. State what the figures 5532 refer to.

- 5 .....
- 5 .....
- 3 .....
- 2 .....

2) From the foods below, highlight those which are major food allergens.

eggs	oats	prawns	cocoa	lupin
strawberries	milk	lettuce	poppy seed	sesame
wheat	oranges	pumpkin	lobster	seaweed

3) Complete the table below to identify the foods which different dietary groups eat or don't eat based on their health conditions.

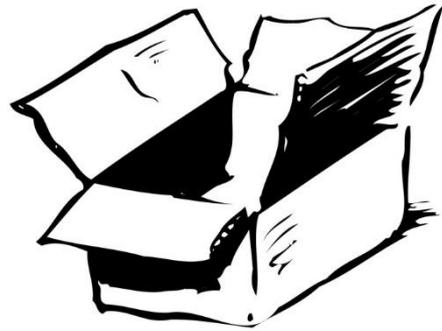
	Cannot eat...	Can eat...
<b>Coeliac</b>		
<b>Lactose intolerant</b>		
<b>Allergic to milk</b>		

4) Link the grains to the correct boxes.

- rye      rice      buckwheat      wheat      oats      quinoa



Gluten-free



Contains Gluten

5) What dietary changes should be implemented at different stages of life, and why? Use the key terms provided. Some of them might be used more than once. You can also use your own ideas.

More milk	Less salt	Less fat	Fewer sweets and sugar	To prevent hypertension
Eat more fish	Cut down on fast foods	Increase physical activity	More meat and legumes	To prevent osteoporosis
Drink water	To prevent obesity	Increase variety of foods	To prevent rickets	To prevent tooth decay
To provide enough protein for proper growth	To prevent constipation	To prevent anaemia	More vegetables and fruit	To provide enough fibre

Group	Dietary changes	Reason
Teenagers		
Adults		
Elderly		

6) Match the macronutrients with the recommended percentage of energy they should provide in a balanced diet.

Fats

Carbohydrates

Proteins

Sugars

50%

15%

Up to 35%

Up to 5%

7) The NHS advises pregnant women to limit their consumption of certain foods. State one reason why the following foods may need to be avoided during pregnancy.

i) Cheese made from unpasteurised milk

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ii) Liver pâté

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iii) Oily fish

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8) The latest guidelines state that children younger than one year old should not be given fruit juice to drink. Explain why this might be.

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## Exam-style Question



A restaurant prepared a vegan pizza using the following ingredients:

- strong wheat flour
- water
- olive oil
- onions
- mushrooms
- yeast
- salt
- tomato sauce
- peppers

Choose one ingredient and explain how you would modify it to make the pizza healthier for school-age children.

*(2 marks)*

## Extension Task

Using the calculator on <http://explorefood.foodafactoflife.org.uk/Calculator/Recipe>

Design and assess a recipe for a meal which will be suitable for a 15-year-old in terms of macro- and micronutrient intake. Justify your choice.

*Use the Extension Task worksheet to help you.*



## 2. Nutritional and dietary needs of different groups of people: dietary needs for different stages of life, food allergies and intolerances

- 1) i) According to the British Nutrition Foundation, what are the correct proportions of macronutrients/foods in a diet for toddlers?

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- ii) Explain why a toddler fed a vegetarian diet may require more portions of protein.

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- 2) There are 14 possible major food allergens which, if present in a food, must be shown on the food label. List five of them.

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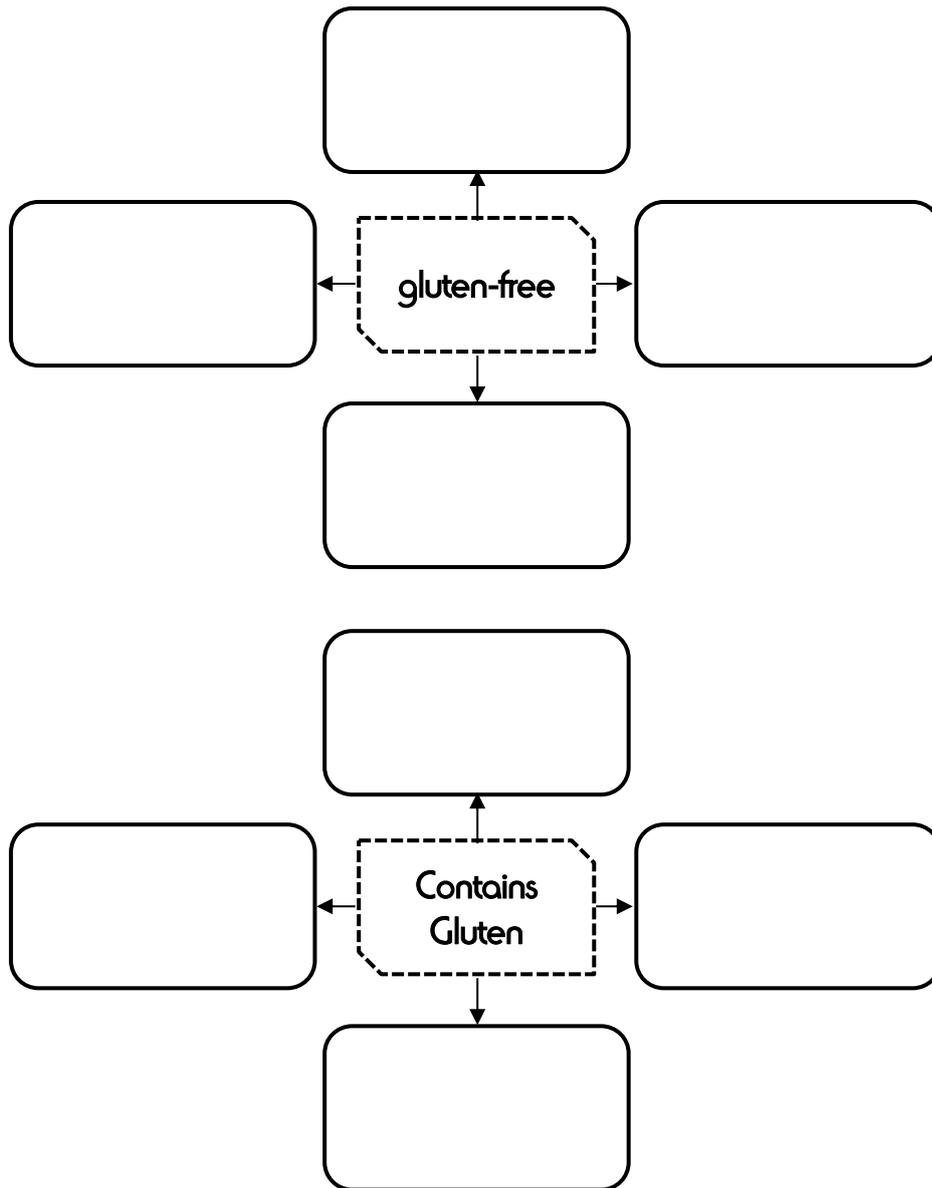
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- 3) Suggest how you would modify the recipes for the dishes and groups shown in the table.

Group	Dish	Suggested modification
Coeliac	Rice pudding	
Lactose intolerance	Strawberry milkshake	
Allergic to milk	Hot chocolate with milk	

4) i) Complete the diagrams below to identify four gluten-free and four non-gluten-free grains.



ii) Explain why avoiding gluten is necessary in coeliac disease.

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- 5) Complete the table below to explain what dietary changes have to be implemented at different stages of life, and give a reason for such changes.

Group	Should eat less...	Should eat more...	Explanation
Babies and small children			
Teenagers			
Adults			
Elderly			

- 6) Complete the table to indicate the recommended percentage of energy intake from various sources in a balanced diet.

Macronutrient	Percentage
Fats	
Carbohydrates	
of which sugars	
Proteins	

- 7) The NHS advises pregnant women to limit their consumption of certain foods. List three examples of such foods and explain why it might be necessary to avoid them during pregnancy.

- i) .....
- .....
- .....
- ii) .....
- .....
- .....
- iii) .....
- .....
- .....

- 8) Assess whether fruit juices should be a part of a healthy diet for babies and children under one year old.

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## Exam-style Question



Cottage pie is a classic British dish. It is made from the following ingredients:

- potatoes
- carrots
- butter
- tomatoes
- various seasonings
- onions
- beef mince
- milk
- beef stock

Choose two of the ingredients listed above and explain how you would modify them to make the cottage pie suitable for a person with lactose intolerance.

*(4 marks)*

## Extension Task

Using the calculator at <http://explorefood.foodafactoflife.org.uk/Calculator/Recipe>

Design and assess a meal which would be suitable for a 15-year-old, and justify your choice. Then indicate how you would modify it so it could be suitable for:

- an elderly person
- a school-age child

## 2. Nutritional and dietary needs of different groups of people: dietary needs for different stages of life, food allergies and intolerances

- 1) i) ●■ Higher ability to provide similar answer to lower-ability worksheet  
The 5532 guideline means:
- 5 portions of food per day
  - 5 portions of fruit and vegetables per day
  - 3 portions of milk and dairy products per day
  - 2 portions of protein-rich food per day
- ii) ■ only  
Toddlers who are fed a vegetarian diet require more protein because most plant foods contain only low biological value protein – this poses a risk of protein deficiency, which could affect young children’s growth and development.

- 2) ●  
eggs, prawns, lupin, milk, sesame, wheat, lobster

- 2) ■  
Any five from:
- cereals containing gluten (wheat, rye, barley, oats)
  - crustaceans (prawns, crabs, lobsters, crayfish)
  - molluscs (clams, mussels, oysters)
  - fish
  - eggs
  - milk
  - peanuts
  - tree nuts (almonds, hazelnuts, walnuts, Brazil nuts, pistachios)
  - soybeans
  - celery
  - mustard
  - sesame
  - lupin
  - sulfur dioxide

- 3) ● (Other correct responses possible)

	Cannot eat...	Can eat...
<b>Coeliac</b>	Gluten, wheat, rye, barley, oat products, bread, pasta, dumplings, pancakes, breaded fish, ham	Corn and cornstarch, potatoes and potato starch, rice, quinoa, buckwheat, milk and dairy, fruit and vegetables, meats and fish, eggs
<b>Lactose intolerant</b>	Milk and dairy, pancakes, some meats, sauces which contain milk or added lactose, milk chocolate and milk desserts, rice puddings, fudge, some bread and bakery products	All foods that do not contain lactose, such as bread, fruit and vegetables, meat, fish, eggs, rice, honey, fermented dairy products such as cheese and yoghurt
<b>Milk allergic</b>	Milk or dairy in any form, including fudge, milk chocolate, some biscuits, pancakes	All foods made without milk in any form, such as some bread and bakery products, fruit and vegetables, meat, fish, eggs, rice, honey

- 3) ■

Group	Meal	Suggested modification
Coeliac	Rice pudding	Doesn't need changes
Lactose intolerant	Strawberry milkshake	Exchange milk for a plant milk such as soy, rice or almond milk
Allergic to milk	Hot chocolate with milk	Exchange milk for a plant milk such as soy, rice or almond milk; exchange milk chocolate for plain cocoa powder or dark chocolate

Or any other relevant answer.

- 4) i) ●■ Higher ability to provide similar answer to lower-ability worksheet
- Gluten-free grains include: rice, quinoa, buckwheat, amaranth, millet, sorgo, teff, certified oats
  - Non-gluten-free grains include: wheat, rye, barley, spelt and non-certified oats
- ii) ■ only
- In coeliac disease, gluten cannot be ingested properly in the intestines.
  - Instead, inflammation occurs and the immune system attacks the gut, causing pain, bloating, and diarrhoea.
  - Also, intake of gluten and inflammation will lead to cilia damage which will affect ingestion in general.

5) ●■ Higher ability to provide similar answer to lower-ability worksheet

Group	Dietary changes	Reason
Babies and small children ■ only	Increase variety of foods, increase physical activity, drink milk, eat fish, cut down on sugars and sweets	To prevent obesity, to prevent rickets, to prevent tooth decay
Teenagers	Eat more fish, increase physical activity, more meat and legumes, drink water, increase variety of foods, drink more milk, eat fewer sweets and sugar, eat more fruit and vegetables	To prevent obesity, to prevent rickets, to prevent tooth decay, to provide enough protein for proper growth, to prevent anaemia, to provide enough fibre
Adults	Cut down on fast foods, drink milk, eat more fish, eat less salt, less fat, fewer sweets and sugar, increase physical activity, drink water, more fruit and vegetables  Cut down on alcohol	To prevent osteoporosis, to prevent obesity, to provide enough fibre and avoid constipation, to prevent hypertension  To prevent addiction, liver disease, stroke or heart attack, obesity, hypertension
Elderly	Cut down on fast foods, drink milk, eat more fish, eat less salt, less fat, fewer sweets and sugar, increase physical activity, drink water, more fruit and vegetables	To prevent osteoporosis, to prevent obesity, to provide enough fibre and avoid constipation, to prevent hypertension

6) ●■ Higher ability to provide similar answer to lower-ability worksheet

- Fats should provide up to 35% of energy
- Proteins 15%
- Carbohydrates 50%
- of which sugars 5%

7) ●■ Higher ability to provide similar answer to lower-ability worksheet

- i) unpasteurised cheese is not recommended due to the increased risk of listeriosis and salmonellosis, which could cause miscarriage or stillbirth
- ii) liver pâté is not recommended due to very high levels of vitamin A, which, in excess, can be harmful to the foetus
- iii) oily fish is not recommended in large amounts due to high mercury levels, which can affect the development of the nervous system in the foetus
  - Other examples could include:
    - all types of pâté, including vegetable pâté due to the high risk of listeriosis
    - raw and undercooked meat (e.g. rare steak) and cured meats due to increased risk of toxoplasmosis, which can affect the development of the foetus (e.g. cause deafness)
    - raw shellfish, due to increased risk of many diseases (including listeriosis)
    - liquorice, as it may affect the development of the nervous system and the brain in the foetus

8) ●

Fruit juices contain no dietary fibre, but they are high in sugar; this can contribute to the development of tooth decay and obesity in children.

8) ■

Fruit juices are not part of a healthy diet for babies and children under one year old. This is because fruit juices contain no dietary fibre, but are they high in sugar; this can contribute to the development of tooth decay and obesity in children.

### Exam-style Question

- 1) ● 1 mark for stating whether an ingredient should be changed/modified, and 1 mark for explaining how (max. 2 marks)

To make the pizza more suitable for school-age children, one could modify the following ingredients:

- strong wheat flour – can be replaced with wholemeal flour to include more fibre in the dish; the pizza base in general can be substituted with a vegetarian alternative, e.g. cauliflower pizza
- salt – the amount could be reduced, e.g. by using herbs and spices
- tomato sauce – could be made healthier by adding puréed vegetables (such as carrots) to increase the fibre content
- mushrooms – could be substituted with another ingredient as children may find it difficult to digest mushrooms; also, mushrooms from unknown sources may be poisonous, posing a threat to health (and, possibly, life), tofu, or vegetables such as aubergine
- olive oil – does not need to be replaced as it is a healthy oil containing poly- and monounsaturated fats
- onions – do not have to be changed for health reasons; however, some children may not like the taste of onions, in which case the onions could be either puréed and incorporated into the tomato sauce, or caramelised to provide a sweeter flavour, more acceptable for children

Other suitable answers may be accepted.

- 1) ■ 1 mark for stating whether an ingredient should be changed/modified, and 1 mark for explaining how (max. 4 marks)

Indicative content:

- butter – is made from fresh milk, and, therefore, may contain traces of lactose; it could be substituted with a vegetable fat spread to make the mashed potato topping, and with lard or vegetable oil to fry the vegetables and mince
- milk – is a natural source of lactose; in the pie it is used to make mashed potato topping, and, therefore, could be substituted with soy milk, oat milk, or another plant-based milk that is neutral in flavour
- potatoes / onions / carrots / beef mince / tomatoes / beef stock / seasonings – do not need to be changed