

External assessment 2025

**Stimulus book**

# Food & Nutrition

## General instruction

- Work in this book will not be marked.



Queensland  
Government

**QCAA**

Queensland Curriculum  
& Assessment Authority

# Stimulus 1

## Test kitchen report

An infant food company has developed three prototype formulations for the lactose-intolerant infant nutrition consumer market (NCM). The company has researched consumer preferences with a focus group from the NCM, while also researching infant nutrition, feeding and safety advice. The prototypes were tested by parents and carers with infants aged nine months. Prototype 1 comes in plastic packaging, while Prototypes 2 and 3 come in a pouch.

### Prototype formulations

- Prototype 1: Savoury pancakes
- Prototype 2: Pasta bolognese
- Prototype 3: Chicken meatballs

### Consumer trends for the NCM

- **Value for money**

When considering a range of options, consumers prefer products with the lowest unit price, even if this means buying a larger amount than desired. The acceptable price range for ready-made infant meals is between \$2.50 and \$3.50 per serve.

- **Convenient**

Consumers are willing to pay more for products that are convenient and quick to prepare.

- **Encourage self-feeding<sup>1</sup>**

Consumers like products that support physical development in infants by encouraging chewing and self-feeding, such as products that infants can eat using their fingers.

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<sup>1</sup> eating independently, for instance using a spoon or by hand

## Recommendations for infant nutrition (based on Food Standards Australia New Zealand and World Health Organization guidelines)

Foods for infants should:

- have less than 15% of their energy from sugar
- have less than 50 mg of sodium per 100 g.

Recommended daily intake (RDI) for infants 8–12 months	
Energy	2600–3260 kJ
Protein	14 g
Fat, total	30 g
– saturated	< 7 g
Carbohydrate	95 g
– sugars	< 15 g
Sodium	170 mg
Iron	11 mg
Calcium	270 mg

## Infant-feeding guidelines

- Avoid hard, uncooked foods and whole nuts, as they are a choking hazard.
- Avoid raw or undercooked eggs due to the risk of salmonella poisoning.
- Test the temperature of food before feeding it to an infant.

Food texture for infants		
		
<b>8 months</b> Mashed and lumpy	<b>10 months</b> Increased textures and foods that allow self-feeding	<b>12 months</b> The same foods as the rest of the family, with a variety of textures

## Stimulus 2

### Prototype 1: Savoury pancakes

**Texture:** Firm with small chunks

**Cost:**

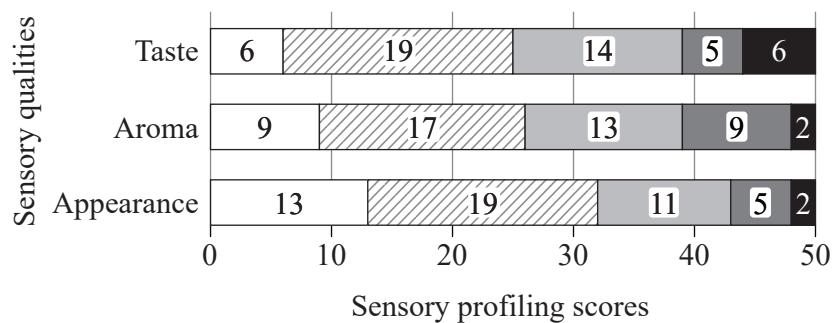
- \$2.55 per serve (120 g)
- \$2.13 per 100 g

Food components	Procedure	Heating instructions
265 g sweet potato 220 g zucchini 20 g spring onion, chopped 20 g chives, chopped 70 g plain flour 3 eggs (60 g each)	<ol style="list-style-type: none"> <li>1. Grate the sweet potato and zucchini into a bowl, making sure to squeeze out all the juice from the zucchini.</li> <li>2. Add spring onion, chives and flour.</li> <li>3. Add eggs and mix well.</li> <li>4. Cook <math>\frac{1}{4}</math> cup of batter at a time in a non-stick pan, turning over, until golden on both sides.</li> </ol>	<p>Remove plastic packaging.</p> <p>Warm in a sandwich press for 30 seconds.</p> <p>Cool slightly and cut into pieces before serving.</p>

### Nutritional information

	Per serve 120 g	Per 100 g
Energy	491 kJ	409 kJ
% energy from sugar		14.5%
Protein	5.9 g	4.9 g
Fat, total – saturated	2.7 g 0.9 g	2.3 g 0.8 g
Carbohydrate – sugars	15.6 g 4.2 g	13 g 3.5 g
Sodium	58 mg	48 mg
Iron	1.1 mg	0.9 mg
Calcium	37.6 mg	31.3 mg

### Sensory profiling data (50 profilers)



## Prototype 2: Pasta bolognaisse

**Texture:** Lumpy with large chunks

**Cost:**

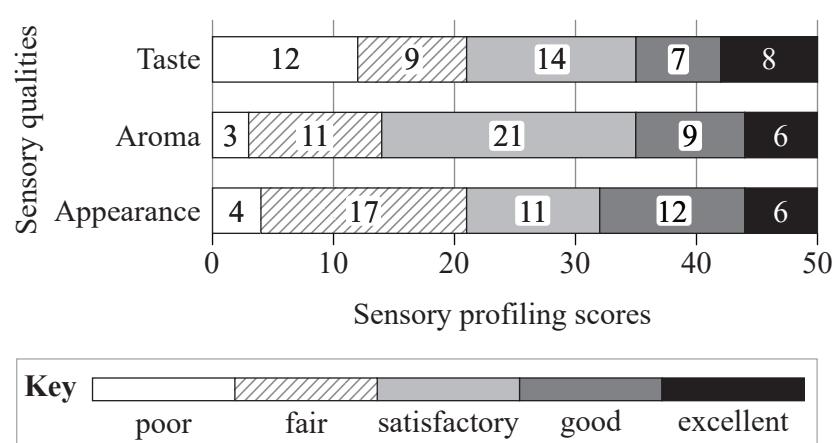
- \$3.35 per serve (175 g)
- \$1.91 per 100 g

Food components	Procedure	Heating instructions
400 g zucchini	1. Finely dice the zucchini, carrot, onion, celery and garlic.	Do not microwave in pouch.
130 g carrot	2. Heat the oil and sauté the carrot, onion, celery and garlic.	Open pouch and place in a pot of simmering water until warm, approximately 3–4 minutes.
150 g onion	3. Add the beef mince and sauté until brown.	Remove pouch and shake to evenly distribute heat. Squeeze into a bowl.
100 g celery	4. Add the basil, tomatoes, zucchini and tomato paste. Simmer for 45 minutes.	Test temperature before serving.
10 g garlic	5. Cook pasta spirals in boiling water for 12 minutes or until al dente. Drain.	
20 g olive oil	6. Stir cooked pasta into bolognaisse sauce.	
500 g beef mince		
10 g basil, chopped		
800 g tinned diced tomatoes		
30 g tomato paste		
150 g pasta spirals		

### Nutritional information

	Per serve 175 g	Per 100 g
Energy	523 kJ	299 kJ
% energy from sugar		12.5%
Protein	19.4 g	11.1 g
Fat, total – saturated	4.6 g 1.6 g	2.6 g 0.9 g
Carbohydrate – sugars	6.6 g 3.8 g	3.8 g 2.2 g
Sodium	88 mg	50 mg
Iron	1.4 mg	0.8 mg
Calcium	40.3 mg	23 mg

### Sensory profiling data (50 profilers)



## Prototype 3: Chicken meatballs

**Texture:** Firm with large chunks

**Cost:**

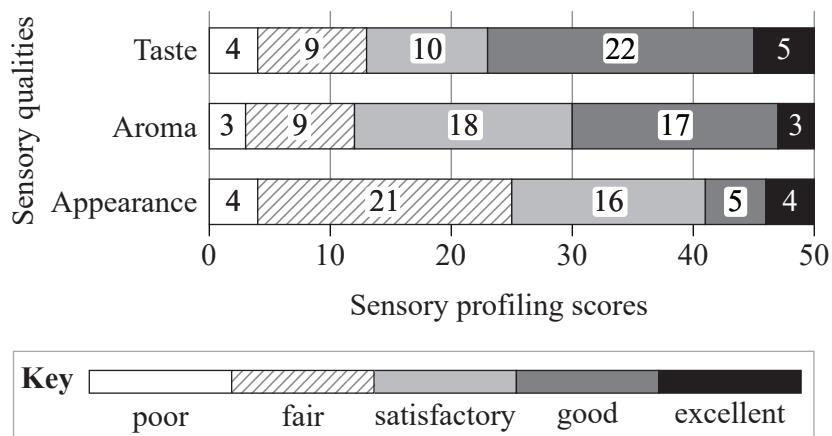
- \$3.10 per serve (150 g)
- \$2.07 per 100 g

Food components	Procedure	Heating instructions
150 g onion	1. Finely chop the onion, carrot and spring onion. Sauté in oil until tender.	Do not microwave in pouch.
120 g carrot		Open pouch and place in a pot of simmering water until warm, approximately 2–3 minutes.
20 g spring onion	2. Grate the apple into a bowl, squeezing out the juice.	
20 g olive oil	3. Add sautéed vegetables, chicken mince, breadcrumbs and dried thyme to the bowl and mix well.	Remove pouch and shake to evenly distribute heat. Squeeze into a bowl.
100 g apple	4. Form the mixture into 40 g balls.	
500 g chicken mince	5. Bake at 180 °C for 20 minutes until meatballs are golden.	Test temperature before serving.
40 g breadcrumbs		
2 g dried thyme		

### Nutritional information

	Per serve 150 g	Per 100 g
Energy	813 kJ	542 kJ
% energy from sugar		9.1%
Protein	12.5 g	8.3 g
Fat, total – saturated	9.9 g 2.5 g	6.6 g 1.7 g
Carbohydrate – sugars	8.5 g 4.4 g	5.7 g 2.9 g
Sodium	117 mg	78 mg
Iron	0.94 mg	0.63 mg
Calcium	28.6 mg	19.1 mg

### Sensory profiling data (50 profilers)



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## References

Data sourced from the National Health and Medical Research Council 2006, *Nutrient Reference Values for Australia and New Zealand*.

Adapted from Whiteford, A 2023, 'Savoury Waffles', *Healthy Little Foodies*, <https://www.healthylittlefoodies.com/savoury-waffles/>.

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World Health Organization, *Guideline: sugars intake for adults and children*, [https://iris.who.int/bitstream/handle/10665/149782/9789241549028\\_eng.pdf](https://iris.who.int/bitstream/handle/10665/149782/9789241549028_eng.pdf).

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