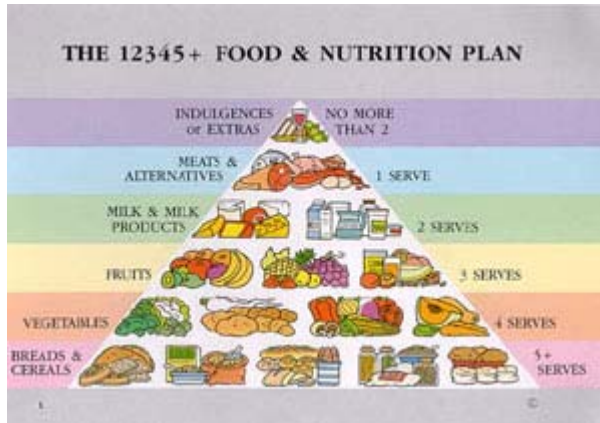


12345+ Food and Nutrition Plan



A simple guide to healthy eating & weight control

Available in English only.

The 12345+ Food and Nutrition Plan has been developed by experienced nutritionists after extensive research. It is different from other commonly used food plans in that it clearly outlines the types and quantities of foods needed to get adequate intakes of vitamins, minerals, protein and fibre without excess calories (kilojoules), fat or salt.

The 12345+ relates to the number of serves you should eat, on average, every day from each of the five main groups of foods, namely:

- meats and their alternatives;
- milk and milk products;
- fruit;
- vegetables and
- breads and cereals.

The plan is flexible enough to cover the needs of most people and can be used as a balanced weight loss plan.

As well as helping you to maintain appropriate body weight, following the plan and being physically active will improve your chances of preventing high blood cholesterol and high blood pressure and avoiding diseases such as heart disease and certain cancers.

The history of the 12345+ Food and Nutrition Plan

From 1991 to 2005 this booklet was available free from CSIRO and the Cancer Council of South Australia. It has not been reprinted, therefore booklets are not now available. Copies may be made from this document.

CSIRO Human Nutrition, PO Box 10041, Adelaide BC South Australia 5000.

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Author information: Based on Baghurst, Hertzler, Record, Spur "The development of a simple dietary assessment and education tool..." Published in Nutrition Education vol. 24, 1992, pages 165-172.

Booklet originally produced by M. Jackson (Anti-Cancer Foundation, SA)



Each day you should try to eat: (on average)

- 1 serve from the meats and alternatives group;
- 2 serves from the milk and milk products group;
- 3 serves from the fruit group;
- 4 serves from the vegetable group; and
- 5 OR MORE serves from the wholegrain breads and cereals group.

In addition you should aim to eat no more than two indulgence or extra food serves each day (eg. cakes, biscuits, soft drinks, alcohol). If you have low energy needs or are wanting to reduce your weight you should skip the indulgences.

Remember to drink plenty of fluids - especially water.

What are the food groups and serve sizes?

When we talk about the various food groups and serve sizes, we mean the following....

Breads and Cereals (five or more serves a day)



Most breads and cereals provide some dietary fibre, protein and a wide range of vitamins and minerals but wholegrain or wholemeal varieties provide the most. Those with lower salt and sugar content are a better choice.

An allowance is made of about one level teaspoon of polyunsaturated margarine for each slice of bread. This will amount to 1-2 tablespoons of fat per day. If this is not used then a similar amount of fat or oil could be used in cooking or salad dressing.

**Zinc, iron, salt, protein, complex carbohydrate,
B vitamins, magnesium, folate, fibre**

SAMPLE SERVES	
1 slice bread	1 cup cooked pasta or noodles

1/2 large bread roll or 1 small roll	1 cup breakfast cereal (30-40g)
4-5 crispbreads	1/2 cup cooked porridge
1 english muffin / scone	1/3 cup muesli

How many serves of breads or cereals should I have each day?



5 serves

5 serves will be adequate if you are elderly and inactive, very small and inactive or trying to lose weight. There is little room for indulgences if your energy needs are generally this low (about 1200 - 1400 calories, 5 500 - 6 000 kilojoules). The breads /cereals should be wholemeal or wholegrain.



7 - 8 serves

7 - 8 serves will be needed by the average woman who is moderately active, by smaller, inactive men or by primary school children (average energy intake of 1600 - 1900 calories, 7 000 - 8 000 kilojoules a day). Most of these cereal / bread serves should be wholemeal but two or three can be refined (eg. white rice, bread or pasta).



9 -12 serves

9 - 12 serves will be required for the average man who is moderately active, teenagers, and taller or highly active women (average energy intake 2 000 - 2 400 calories, 8 500 - 10 000 kilojoules). Most of the serves should be wholemeal but two or three can be refined



Vegetables (four serves a day)

This should include vegetables, raw or slightly cooked, without added fats. Frozen vegetables are fine but avoid vegetables canned in brine. At least one serve should come from each of the starchy, dark green-leafy or cruciferous, orange-yellow and other types as listed.

Starchy vegetables are particularly good for complex carbohydrates. The dark green-leafy or cruciferous vegetables contain cancer-protective factors and folate (a B vitamin). The orange-yellow vegetables provide Vitamin A and other vegetables provide a range of vitamins, minerals and fibre.

Folate, vitamin A, complex carbohydrate, vitamin C, iron, fibre

SAMPLE SERVES (one serve from each group) - Vegetables	
Starchy 1 medium potato or yam 1/2 medium sweet potato 1 medium parsnip	Orange Yellow 1/3 carrot or pumpkin 1/2 medium sweet potato
Dark Green-Leafy or Cruciferous 1/2 cup cabbage, spinach, silverbeet, broccoli, cauliflower, brussels sprouts	Other Vegetables 1/3 cup broad beans, peas, green beans, lettuce, zucchini, mushrooms, tomatoes, capsicum, cucumber, sweetcorn, turnips, swede, sprouts, celery, eggplant
As for all other food groups, additional serves of vegetables can be eaten as "extras".	



Fruit (three serves a day)

This includes raw, stewed or canned varieties.

Fruit juice does not usually provide the same fibre as whole fruit and is not as filling. Dried fruits lose much of their vitamin C, so we recommend no more than one serve per day be taken as fruit juice or dried fruit. When using stewed or canned fruit, try to use those that are low in or have no added sugars. Remember that the skin on fruit can be a useful source of fibre.

Folate, vitamin C, fibre, natural sugars, magnesium, vitamin B6

SAMPLE SERVES - Fruit
1 piece medium sized fruit (apple, orange, mango, mandarin, banana, pear, peach etc.)
3 pieces smaller sized fruit (apricots, plums, kiwi-fruit, figs etc)
1/4 medium sized melon (rockmelon, honeydew)

<p>dried fruits / fruit juice (only one serve per day can count as a fruit serve) 4-6 pieces of dried fruit 2 tablespoons sultanas / raisins 1 small glass of fruit juice (120mls)</p>
<p>small fruits 1 cup berry fruits (eg raspberries) 20 grapes or cherries 10 strawberries</p>



Milk and milk products (two serves a day)

This includes milk, cheese and yoghurt which you need for your calcium requirements, and the best choice is low fat.

Some low-fat cheeses such as cottage and ricotta are low in calcium so they cannot be counted as a milk or milk product serve but they can be used as an "extra". If you want a low-fat cheese which still has a good calcium content and therefore count as a milk serve, look for the cheddar-type cheeses with less than 10% fat.

Milk, yoghurt and cheese are the easiest way to obtain calcium, though there are other sources.

If you cannot eat or are allergic to dairy foods you should seek advice from a dietitian as to alternative sources of calcium. If you simply do not like the taste, try adding milk or milk powder to soups and casseroles or eating custards, rice pudding or other milk based desserts.

Zinc, calcium, cholesterol, protein, salt, fats

SAMPLE SERVES - Dairy
1 large glass milk (300 ml), or calcium-fortified soy milk
40g (just over 1 oz) cheese
200g carton yoghurt (plain or fruit)

Note: Pregnant women, post menopausal women and teenagers need one extra milk serve each day for extra calcium and protein.

Meat and alternatives (one serve a day)

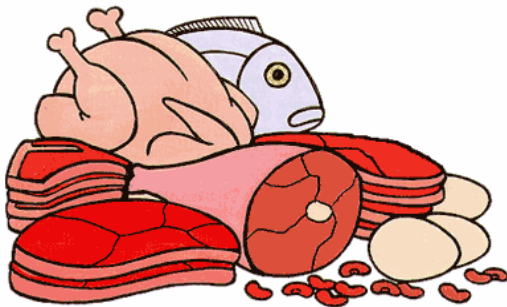
The best selection from this group is lean red meat. Red meat substitutes such as poultry, fish, eggs and legume (eg. beans, chick peas and lentils) do not provide the same amount of zinc and iron as red meat.

If you want to use the alternatives to red meat regularly (ie. more than 2-3 times a week), you will need to ensure that you get enough iron and zinc in your diet by making your bread and cereal choices mainly wholegrain or wholemeal.

Iron, protein, cholesterol, zinc, vitamin B12

SAMPLE SERVE
60-100g (cooked weight) lean beef, lamb or pork (e.g. 1/2 cup lean mince, 2 small or 1 large lamb chop, 2 slices of roast meat)
OCCASIONALLY Two eggs 2/3 cup cooked dried beans or lentils or chick peas 100g fish, seafood or poultry 60-100g liver or kidney
The meat should be trimmed of fat and cooked without extra fat if possible (e.g. grilled, dry roasted or microwaved).

Note: Pregnant women and teenagers need one extra meat serve each day for extra iron, zinc and protein.



Indulgences or extras (*no more than two serves a day*)

Where do cakes, chocolate, pies and pasties fit in to all this?

For most people, if you eat according to the 12345+ Food and Nutrition Plan there is still room to indulge yourself a little in some of those foods and drinks often found on the nutritionists' "forbidden" lists. We have called these "indulgences". If you prefer you can have "extra" serves from foods in the main food groups instead.

Most people can have, on average, up to two indulgences a day without seriously affecting the quality of their diet.

Salt, fats, refined sugars, alcohol

ONE INDULGENCE (approx. equal to 150 calories; 600kj)	
2 standard glasses of an alcoholic drink, soft drink or cordial	1 medium piece of plain cake or 1 bun
1 small piece of rich cake or sweet pastry	2-3 sweet biscuits
30g toffee (5 toffees) or nuts (1 heaped tablespoon)	60g jam, honey (1 tablespoon)
40-50g processed meats or pate	30g potato crisps or similar snack (about 1 small packet)
2 scoops icecream	1 meat pie = 3 indulgences
1 pasty = 3 indulgences	1 sausage roll = 2 indulgences
1 slice pizza (120g) = 2 indulgences	1 chocolate covered bar = 2 indulgences

SAMPLE MENUS

<p>Menu 1</p> <p>1 2 3 4 5</p>	<p>Menu 2</p> <p>1 2 3 4 8 Vegetarian + 2 indulgences</p>	<p>Menu 3</p> <p>1 2 3 4 12 + 2 indulgences</p>
<p>about 5,500 kilojoules / 1,310 calories</p>	<p>about 8,500 kilojoules / 2,030 calories</p>	<p>about 9,800 kilojoules / 2,330 calories</p>
<p>Breakfast 1 bowl wholegrain breakfast cereal with 1/2 cup milk piece of fruit of choice Tea / coffee</p> <p>Morning tea 1 slice wholemeal toast Tea / coffee / water</p> <p>Lunch 1 wholemeal cheese sandwich (made with 2 slices of bread) 1 piece of fruit of choice</p> <p>Afternoon tea 1 wholemeal scone Tea / coffee / water</p> <p>Evening meal 1 cup thick pea soup 2 slices roast meat 1 baked potato 1/2 cup broccoli 1/3 cup carrot Orange Tea / coffee / water</p>	<p>Breakfast 1 bowl wholegrain breakfast cereal with 1/2 cup milk 2 slices wholemeal toast with jam / marmalade / honey 1 piece of fruit</p> <p>Morning tea 1 wholegrain muffin Tea / coffee</p> <p>Lunch 1 bowl vegetable soup Bread roll - wholemeal Cup mixed salad Water / tea / coffee</p> <p>Afternoon tea Piece of fruit Tea / coffee / water</p> <p>Evening meal Bean and vegetable stir-fry Cup rice Fruit salad Ice cream</p> <p>Glass wine</p>	<p>Breakfast 1 bowl cereal with 1/2 cup milk piece of fruit of choice 2 pieces wholemeal toast with jam / marmalade / honey</p> <p>Morning tea 2 wholemeal scones 1 piece of fruit Tea / coffee / water</p> <p>Lunch 2 wholemeal cheese and salad sandwich Piece of fruit</p> <p>Afternoon tea 1 slice toasted fruit loaf Tea / coffee</p> <p>Evening meal 1 small steak 1/2 baked sweet potato 1/2 cup cauliflower 1/3 cup peas</p> <p>1 cup rice pudding Glass beer</p> <p>Supper Slice bread / toast Tea / coffee / water</p>
<p>An allowance is made of about 1 level teaspoon of polyunsaturated or monosaturated margarine for each muffin, scone or slice of bread.</p>		

How to calculate your energy needs

Did you know that your height, age and activity level can determine your body's need for energy (ie. kilojoules/calories)?

By following the simple steps below, you can calculate your usual daily energy needs, and then use this figure to select your 12345+ personal food plan. Remember though, a steady weight is the best indication that you are balancing your body's energy needs with your physical activity and lifestyle.

		For females (presumed height = 162 cm)		For males (presumed height = 172 cms)	
Adjustments		Kilojoules	Calories	Kilojoules	Calories
Step 1	Age				
	15-22 yrs	7 900	1 900	10 900	2 600
	23-50 yrs	7 500	1 800	9 600	2 300
	51-65 yrs	7 100	1 700	8 400	2 000
Step 2	Height				
	For every 4 cms above presumed height add 420 kj (100 cal)				
	For every 4 cms below presumed height subtract 420 kj (100 cal)				
Step 3	Exercise / activity level (figures above are for average activity)				
	For very inactive people subtract 840 kj (200 cal)				
	For very active people add 2 100 kj (500 cal)				
	For exceptionally active people add 4 200 kj (1 000 cal)				

EXAMPLE

For a female, aged 50yrs, height 166 cm and very inactive

Energy needs (in kilojoules) = basic need + height adjustment - exercise adjustment

Energy needs (in kilojoules) = 7 500 + 420 - 840 = 7 080 kilojoules

Healthy Weight Range (for men and women 18 years and onwards)

centimetres	feet & inches	kilograms	stones & pounds
142	4'8"	40 to 50	6-4 to 7-12
145	4'9"	42 to 52	6-8 to 8-3
147	4'10"	44 to 55	6-13 to 8-9
150	4'11"	45 to 56	7-1 to 8-12
152	5'0"	46 to 58	7-4 to 9-2
155	5'1"	48 to 60	7-8 to 9-7
157	5'2"	50 to 62	7-12 to 9-11
160	5'3"	51 to 64	8-0 to 10-1
163	5'4"	53 to 66	8-5 to 10-6
165	5'5"	55 to 68	8-9 to 10-10

168	5'6"	56 to 71	8-11 to 11-3
170	5'7"	58 to 72	9-2 to 11-5
173	5'8"	60 to 75	9-6 to 11-12
175	5'9"	62 to 77	9-11 to 12-2
178	5'10"	63 to 79	9-13 to 12-7
180	5'11"	65 to 81	10-4 to 12-11
183	6'0"	68 to 85	10-10 to 13-6
185	6'1"	69 to 86	10-13 to 13-8
188	6'2"	71 to 88	11-3 to 13-13
190	6'3"	72 to 90	11-7 to 14-4

Adapted by the Commonwealth Department of Health from Garrow 1981, *Treat Obesity Seriously - a clinical manual*, A classification of obesity p3. Churchill Livingstone.

HOW TO WORK OUT YOUR PERSONAL FOOD PLAN

	YOUR USUAL DAILY ENERGY NEEDS												
	ELDERLY & INACTIVE PERSON SMALL & INACTIVE PERSON DIETING PERSON			AVERAGE WOMAN SMALLER, INACTIVE MAN PRIMARY SCHOOL CHILD				AVERAGE MAN TALLER, ACTIVE WOMAN				PREGNANT WOMAN	TEENAGER
kilojoules calories	5500 1310	6000 1430	6500 1550	6500 1550	7000 1670	7500 1790	8000 1910	8500 2030	9000 2150	9500 2270	10000 2390	variable energy needs	variable energy needs
RECOMMENDED SERVES PER DAY													
MEATS & ALTERNATIVES	1	1	1	1	1	1	1	1	1	1	1	2	2
MILK & MILK PRODUCTS	2	2	2	2	2	2	2	2	2	2	2	3	3
FRUITS	3	3	3	3	3	3	3	3	3	3	3	3	3
VEGETABLES	4	4	4	4	4	4	4	4	4	4	4	4	4
BREADS/ CEREALS	5	6	6	6	6	7	8	9	10	11	12	5+	9-12
If you base your daily eating plan on the above pattern then, as shown below, up to two indulgences a day can be included for people whose daily energy needs (calories/kilojoules) are above 1550 calories (about 6500 kilojoules)													
INDULGENCES OR EXTRAS	0	0	1	1	2	2	2	2	2	2	2	2	2
*Pregnant women and teenagers will need 1 extra meat serve for extra iron, zinc and protein, and 1 extra milk serve for extra calcium and protein.													