



# UNIT-3

## Principles of Healthy Eating

### Learning Outcomes

By the end of this unit the learner will be able to:

## Unit 3

# Principles of Healthy Eating

## Background For Balancing The Diet

A balanced diet provides the body with energy, protection from disease, and boosts overall health. A balanced diet ensures that the body gets all the essential nutrients it needs to sustain energy levels, protects the body from certain diseases and also promotes overall health. Eating a balanced diet includes eating a variety of foods every day from each of the food groups to ensure the body gets a healthy proportion of carbohydrates, protein, fat, fiber, and vitamins and minerals. A well-balanced diet also includes drinking enough water to replenish the water that is lost throughout the day through normal bodily processes such as sweating, breathing, and waste elimination. Any food can fit into a healthy diet. Additionally, it is important to choose a variety of foods, since a person's overall diet is what matters.

### What Exactly Is A Balanced Diet?

A balanced diet is one which contains carbohydrates, protein, fat, vitamins, minerals and fibre in the correct proportions. A balanced diet that is made up of:

- 45 to 65 percent carbohydrates
- 10 to 20 percent protein
- 25 to 35 percent fat
- 38 grams of fibre per day for men
- 25 grams of fibre per day for women

### Why Eat a Well-Balanced Diet?

Research shows diet plays a role in helping to prevent diseases such as heart disease, certain types of cancer, and obesity. A healthy, balanced diet reduces the risk of diabetes, and studies also show that food has a direct impact on energy and mood. Those who eat a balanced diet that includes food from all food groups may find it easier to maintain or lose weight.

### Maintaining A Healthy, Balanced Diet

In order to maintain a healthy and balanced diet the Food Standards Agency's suggests that people should:

1. Base meals on starchy foods
2. Eat lots of fruit and vegetables
3. Eat more fish
4. Cut down on saturated fat and sugar
5. Try to eat less salt - no more than 6g a day
6. Get active and try to be a healthy weight
7. Drink plenty of water

8. Don't skip breakfast

**The Basics**

The basic principles of healthy eating are quite simple:

- Foods are often categorised into five main groups based on their nutrient content. These are vegetables, breads and cereals, fruit, dairy and meats/alternatives. Each different food group provides unique nutrients to our diet, so it's important to eat a variety of foods from each of the major food groups every day.
- Eating moderate portions of all foods, with the exception of vegetables where we can generally eat plenty! (Except the starchy veggies such as potato, sweet potato and corn, which are higher in kilojoules than other veggies). Choosing smaller, frequent meals and snacks will help keep the variety in the diet.
- Enjoying foods is the key to being able to sustain healthy eating habits in the long term, so a healthy balanced diet can include the occasional treat!

**Calories Count**

While eating a variety of foods is important to a well-balanced diet, calories are also important, especially when trying to lose or maintain a healthy weight. How many calories a person needs depends on a variety of factors including height, weight, age, gender, and those who are physically active will need more calories than individuals who live a sedentary lifestyle.

The following chart will help to estimate the individual needs.

Activity Level	Male			Female		
	Sedentary	Moderate	Active	Sedentary	Moderate	Active
17-18	2400	2800	3200	1800	2000	2400
19-20	2600	2800	3000	2000	2200	2400
21-25	2400	2800	3000	2000	2200	2400

Approximately 45-65% of our total calories should come from carbohydrates.  
 Therefore,  $0.55 \times \text{total calories} = \text{calories from carbohydrates}$   
 calories from carbohydrates divided by four calories per gram = grams of carbohydrates.

Following are examples of carbohydrate sources:

Food	CHO (g)	Food	CHO (g)
Rice, 1 cup	44	Raisins, ¼ cup	29
Potato, Baked, 1 large	49	Banana, 1 large	31

Pasta, 1 cup cooked	39	Orange juice, 1 cup	26
Bagel, 1 regular	56	Pretzels, 1 cup	32
Corn, 1 cup	32	Low fat yogurt, 1 cup with fruit	47

Approximately 10-20% of our total calories should come from protein.

Therefore,  $0.15 \times \text{total calories}$  \_\_\_\_\_ = \_\_\_\_\_ calories divided by four calories per gram = \_\_\_\_\_ grams of protein.

Following are examples of protein sources:

Food	Protein (g)	Food	Protein (g)
Chicken, cooked, 4 oz.	35	Milk, 1 cup	8
Hamburger, cooked, 4 oz.	28	Egg, 1	6
Tuna, 3 oz.	22	Cheese, ¼ cup shredded	7
Cottage cheese, ½ cup	14	Peanut Butter, 2 Tbsp.	8
Yogurt, 1 cup	12	Black beans	6

Approximately 25-35% of our total calories should come from fat.

Therefore,  $0.30 \times \text{total calories}$  \_\_\_\_\_ = \_\_\_\_\_ calories divided by nine calories per gram = \_\_\_\_\_ grams of fat.

Following are examples of fat sources:

Food	Fat (g)	Food	Fat (g)
Ranch dressing, 2 Tbsp.	14	Mayonnaise, 1 Tbsp.	11
Italian dressing, 2 Tbsp.	8	Milk, whole, 1 cup	8
Vegetable oil, 1 Tbsp.	14	Butter/margarine, 1 Tbsp.	11
Almonds, ¼ cup	18	Olive oil, 1 Tbsp.	14
Walnuts, ¼ cup chopped	20	Avocado, 1 cup sliced	21

**HOW DOES A DIET ADD UP?**

Do \_\_\_\_\_ CHO cal. + \_\_\_\_\_ Prot. Cal + \_\_\_\_\_ Fat cal. = \_\_\_\_\_ total cal?

Remember, eating healthy requires variety in the diet. No foods are “taboo” and all foods fit into a healthy eating plan. Focusing on eating mostly nutrient-dense foods is the key, but one can have, a treat from time to time.



Vegetable	Calories	Carbs	Water Content
Asparagus	26	1.5 g	90 %
Aubergine	15	2 g	90 %
<u>Calories in Beans</u>	Medium	-	-
Beetroot	38	9 g	82 %
Broccoli (100g)	32	1 g	90 %
1 average Broccoli floret 11g	3 cal	-	-
Brussels Sprouts	40	3.5 g	87 %
Cabbage average	24	2.4 g	93 %
Carrot	32	5 g	90 %
Cauliflower	32	2 g	91 %
Celery	8	1 g	95 %
Chicory	10	3 g	90 %
Courgette	20	2 g	93 %
Cucumber	10	1g	97 %
Fennel	13	1.5 g	95 %
Gherkins	15	2.5 g	93 %
Gourd	12	1 g	90 %
Leek	22	2.5 g	92 %

Lettuce (average)	13	1.5 g	95 %
Marrow	10	1.6 g	95 %
Mushroom	15	0.5 g	93 %
Okra	30	2.5 g	88 %
Onion	35	3 g	92 %
One average Red Onion 150g	49 cal	2.3 g	90 %
Onion Spring	23	2 g	88 %
Parsnip	60	10 g	78 %
<u>Calories in Peas</u>	Medium	-	-
Peppers red average	18	5 g	90 %
<u>Potato Calories ( 100g )</u>	low-med	15 g	80 %
Pumpkin	12	2 g	95 %
Radish	13	2 g	90 %
Spinach	23	1 g	92 %
One average sprout 10 grams	4 cal	-	88 %
Sprouts	43 Calories	4 g	88 %
Swede	22	2 g	96 %
Sweet corn	24	12 g	40 %
Tomatoes	18	2.2 g	93 %
Tomatoes cherry	17	0.5 g	90 %
Turnip	21	2 g	90 %
Watercress	21	0.5 g	90 %
Yam	110	30 g	65 %

Meat Type	Calories	Fat
<u>Bacon Calories</u> (average rashers)	500	45g
<u>Beef Calories</u> (average lean)	275	20g
Lamb breast (roast)	398	30g
Lamb Chops (grilled)	368	28g
Lamb Cutlets (grilled)	375	31g
Lamb Leg (roast)	270	17g
Lamb Shoulder (roast)	320	24g
Pork Belly rashers (grilled)	400	35g
Pork Chops (grilled)	340	24g
Pork Leg (roast)	290	20g
Pork Trotters (boiled)	290	23g
Veal fillet (roast)	240	12g
<u>Chicken Calories</u> (average)	140	12g
Duck (roast)	330	30g
Goose (roast)	350	25g
Partridge (roast)	250	8g
Pheasant (roast)	250	9g
Pigeon (roast)	242	13.5g
Turkey (roast)	165	6g
Hare	155	6g
Rabbit	187	8g
Venison	200	6.5

White Fish	Calories	Fat
Bass (steamed)	125	1.1g
Bloater (grilled)	190	1.8g
Catfish (steamed)	100	1g
Caviar	268	3.5g
Cod fillets (baked)	85	1.2g
Cod in batter (fried)	200	10g
Coley (steamed)	100	1g
Eel jellied	200	2.2g
Flounder (steamed)	68	0.6g
Haddock fresh (steamed)	87	0.7g
Haddock in breadcrumbs (fried)	170	8g
Halibut fresh (steamed)	102	3g
Lemon Sole (steamed)	79	1g
Lobster (meat only)	121	1.3g
Monkfish (steamed)	98	1g
Mullet (steamed)	98	1g
Sole in breadcrumbs (fried)	167	2.7g
Perch	124	1.4g
Pike	97	1.2g
Plaice fresh (steamed)	82	1.5g

Plaice in batter (fried)	260	18g
Pollock	98	1g
Saithe (steamed)	100	1g
Shark	187	2.3g
Sild in oil	273	19g
Skate in batter (fried)	168	10g
Sprats (fried)	350	21g
Sturgeon	96	1.2g
Whiting (steamed)	87	1g
Whiting in breadcrumbs (fried)	189	10g
<b>Oily Fish</b>	<b>Calories</b>	<b>Fat</b>
Anchovies (canned)	276	20g
Herring (grilled)	203	13g
Kippers (baked)	150	9.8g
Mackerel (fried)	254	12g
Pilchards	136	5.7g
Salmon (steamed)	180	12g
Sardines in tomato sauce	170	11g
Sardines in oil	220	14g
Trout (steamed)	99	2.1g
Tuna in oil	179	8g
Tuna in brine	95	0.5g

<b>Milks</b>	<b>Calories</b>	<b>Fat</b>
Milk skimmed (pasteurised)	34	0.1g
Semi-skimmed	47	1.6g
Whole milk full fat	66	3.9g
Condensed Milk whole	320	9.5g
Dried skimmed milk	360	0.6g
Evaporated milk whole	155	9g
Goats milk	62	3.5g
Sheep milk	99	6g
Soya milk	35	2g
<b>Creams (pasteurised)</b>	<b>Calories</b>	
Half cream fresh	150	13g
Single cream	200	19g
Soured cream	209	20g
Whipping cream	370	40g
Double cream	450	49g
Clotted cream	590	62g
<u>Cheese Calories</u>	400	36g

Most calories in milk are calculated in tests. Some values for the milk calories may vary between different products and should only be used for general comparison purposes.

Spreads	Calories
Butter	740

Margarine average	740
Margarine with veg fat	740
Margarine animal & veg fat	740
Very low fat spread average	290

Oils	Calories
Coconut oil	900
Cod Liver oil	900
Olive oil	900
Safflower oil	900
Soya oil	900
Sunflower seed oil	900
Vegetable oil	900

Values correct at time of testing, values for calories in butter will vary between different portion sizes!

Milk & Dairy produce	Portion size *	per 100 grams (3.5 oz)	energy content
Cheese average	110 cals (25g)	440 cals	High
Cheddar types average reduced fat	130	260 calories	Medium
Cheese spreads average	90 cals	270	Medium
Cottage cheese low fat	40 calories	80 cals	low - med
Cottage cheese	49 cals	98 cals	Low calorie
Cream cheese	200 cals	428 cals	High

Cream fresh half	128 cal	160 cal	Med-High
Cream fresh single	160 cal	200 cal	Med-High
Cream fresh double	340 cal	430 cal	High
Cream fresh clotted	480 cal	600 cal	High
Custard	210 cal	100 cal	Medium
Eggs ( 1 average size)	90 cal	150 cal	Medium
Eggs fried	120 cal	180 cal	Med-High
Fromage frais	125 cal	125 cal	Low calorie
Ice cream	200 cal	180 cal	Medium
Milk whole	175 cal (250ml/half pint)	70 cal	Med-High
Milk semi-skimmed	125 cal (250ml/half pint)	50 cal	Medium
Milk skimmed	95 cal (250ml/half pint)	38 cal	Low calorie
Milk Soya	90 cal	36 cal	Low calorie
Mousse flavored	120 cal	140 cal	Medium
Omelette with cheese	300 cal	266 cal	Medium
Trifle with cream	290 cal	190 cal	Medium
Yogurt natural	90 cal	60 cal	Low calorie
Yogurt reduced fat	70 cal	45 cal	Low calorie

Fruits & Vegetables	Portion size *	per 100 grams (3.5 oz)	energy content
Apple	44 calories	44 calories	Low calorie
Banana	107 cal	65 calories	Low calorie

Beans baked beans	170 cal	80 calories	Low calorie
Beans dried (boiled)	180 cal	130 calories	Low calorie
Blackberries	25 cal	25 calories	Low calorie
Blackcurrant	30 cal	30 calories	Low calorie
Broccoli	27 cal	32 cal	Very low
Cabbage (boiled)	15 calories	20 calories	Low calorie
Carrot (boiled)	16 calories	25 calories	Low calorie
Cauliflower (boiled)	20 calories	30 calories	Low calorie
Celery (boiled)	5 calories	10 calories	Low calorie
Cherry	35 calories	50 calories	Low calorie
Courgette	8 cal	20 cal	Very low cal
Cucumber	3 calories	10 calories	Low calorie
Dates	100 calories	235 calories	Med-High
Grapes	55 calories	62 calories	Low calorie
Grapefruit	32 calories	32 calories	Low calorie
Kiwi	40 calories	50 calories	Low calorie
Leek (boiled)	10 calories	20 calories	Low calorie
Lentils (boiled)	150 calories	100 calories	Medium
Lettuce	4 calories	15 calories	Very Low
Melon	14 calories	28 calories	Medium
Mushrooms raw one average	3 cal	15 cal	Very low cal
Mushrooms (boiled)	12 calories	12 calories	Low calorie

Mushrooms (fried)	100 calories	145 calories	High
Olives	50 calories	80 calories	Low calorie
Onion (boiled)	14 calories	18 calories	Low calorie
One red Onion	49 cals	33 cals	Low calorie
Onions spring	3 cals	25 cals	Very low cal
Onion (fried)	86 calories	155 calories	High
Orange	40 calories	30 calories	Low calorie
Peas	210 calories	148 calories	Medium
Peas dried & boiled	200 calories	120 calories	Low calorie
Peach	35 calories	30 calories	Low calorie
Pear	45 calories	38 calories	Low calorie
Pepper yellow	6 cals	16 cals	Very low
Pineapple	40 calories	40 calories	Low calorie
Plum	30 calories	39 calories	Low calorie
Spinach	8 calories	8 calories	Low calorie
Strawberries (1 average)	10 calories	30 calories	Low calorie
Sweetcorn	95 calories	130 calories	Medium
Sweetcorn on the cob	70 calories	70 calories	Low calorie
Tomato	30 calories	20 calories	Low calorie
Tomato cherry	6 cals ( 3 toms)	17 Cals	Very low cal
Tomato puree	70 calories	70 calories	Low-Medium
Watercress	5 calories	20 calories	Low calorie

BREADS & CEREALS	Portion size *	per 100 grams (3.5 oz)	energy content
Bagel ( 1 average )	140 cal (45g)	310 cal	Medium
Biscuit digestives	86 cal (per biscuit)	480 cal	High
Jaffa cake	48 cal (per biscuit)	370 cal	Med-High
Bread white (thick slice)	96 cal (1 slice 40g)	240 cal	Medium
Bread wholemeal (thick)	88 cal (1 slice 40g)	220 cal	Low-med
Chapatis	250 cal	300 cal	Medium
Cornflakes	130 cal (35g)	370 cal	Med-High
Crackerbread	17 cal per slice	325 cal	Low Calories
Cream crackers	35 cal (per cracker)	440 cal	Low / portion
Crumpets	93 cal (per crumpet)	198 cal	Low-Med
Flapjacks basic fruit mix	320 cal	500 cal	High
Macaroni (boiled)	238 cal (250g)	95 cal	Low calorie
Muesli	195 cal (50g)	390 cal	Med-high
Naan bread (normal)	300 cal (small plate size)	320 cal	Medium
Noodles (boiled)	175 cal (250g)	70 cal	Low calorie
Pasta ( normal boiled )	330 cal (300g)	110 cal	Low calorie
Pasta (wholemeal boiled )	315 cal (300g)	105 cal	Low calorie
Porridge oats (with water)	193 cal (350g)	55 cal	Low calorie
Potatoes** (boiled)	210 cal (300g)	70 cal	Low calorie
Potatoes** (roast)	420 cal (300g)	140 cal	Medium

Rice (white boiled)	420 cals (300g)	140 cals	Low calorie
Rice (egg-fried)	500 cals	200 cals	High in portion
Rice ( Brown )	405 cals (300g)	135 cals	Low calorie
Rice cakes	28 Cals = 1 slice	373 Cals	Medium
Ryvita Multi grain	37 Cals per slice	331 Cals	Medium
Ryvita + seed & Oats	180 Cals 4 slices	362 Cals	Medium
Spaghetti (boiled)	303 cals (300g)	101 cals	Low calorie

Fruit	Calories per piece	Carbs (grams)	Water Content
Apple (1 average)	44 calories	10.5	85 %
Apple cooking	35 calories	9	88 %
Apricot	30 calories	6.7	85 %
Avocado	150 calories	2	60 %
Banana	107 calories	26	75 %
Blackberries each	1 calorie	0.2	85 %
Blackcurrant each	1.1 calorie	0.25	77 %
Blueberries (new) 100g	49 Cals ( 100g )	15 g	81 %
Cherry each	2.4 calories	0.6	83 %
Clementine	24 cals	5	66 %
Currants	5 calories	1.4	16 %

Damson	28 calories	7.2	70 %
One average date 5g	5 cal	1.2	14 %
Dates with inverted sugar 100g	250 calories	63	12 %
Figs	10 calories	2.4	24 %
Gooseberries	2.6 calories	0.65	80 %
Grapes 100g Seedless	50 cal	15	82 %
one average Grape 6g	3 calories	0.9	82 %
Grapefruit whole	100 calories	23	65 %
Guava	24 calories	4.4	85 %
Kiwi	34 calories	8	75 %
Lemon	20 calories	3.4	85 %
Lychees	3 calories	0.7	80 %
Mango	40 calories	9.5	80 %
Melon Honeydew (130g)	36 calories	9	90 %
Melon Canteloupe (130g)	25 cal	6	93 %
Nectarines	42 calories	9	80 %
Olives	6.8 calories	trace	63 %
Orange average	35 calories	8.5	73 %
Orange large 350g	100 Cals	22g	75 %
Papaya Diced (small	67 Cals (20g)	17g	-

handful)			
Passion Fruit	30 calories	3	50 %
Paw Paw	28 calories	6	70 %
Peach	35 calories	7	80 %
Pear	45 calories	12	77 %
Pineapple	50 calories	12	85 %
Plum	25 calories	6	79 %
Prunes	9 calories	2.2	37 %
Raisins	5 calories	1.4	13 %
Raspberries each	1.1 calories	0.2	87 %
Rhubarb	8 calories	0.8	95 %
Satsuma one average 112g	29 cals	6.5	88 %
Satsumas 100g	35 calories	8.5	88 %
Strawberries (1 average)	2.7 calories	0.6	90 %
Sultanas	5 calories	1.4	16 %
Tangerine	26 calories	6	60 %
Tomatoes (1 average size)	9 cals	2.2	93 %
Tomatoes Cherry (1 average size)	2 calories	0.5	90 %

## How To Count Calories In Food

Suppose a person has consumed 33 grams of a food. The product already lists total calorie count in 100g we can count the calories consumed by the person, by using this calculation:

1. Find calorie count for 100g (3.5 ounces) of food (check the label!)
2. Now multiply it by 33%
3. This will be the calorie count for the portion size of 33grams

If the person had 150 grams (5 ounces) of the food we can multiply the calorie count for 100g by 150%. This will work for any size portion and is an accurate way to count calories to help lose weight.

### 1200 Calorie Diet sample Day 1

#### Breakfast:

- Small Bowl breakfast cereal with skimmed milk - 200 calories
- Fruit Juice unsweetened - 60 cal

#### Lunch:

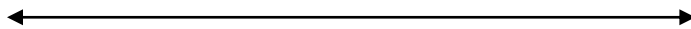
- 1 Banana - 107 cal
- 1 Orange - 23 calories

#### Snack:

- Non fat yogurt small pot - 50 cal
- Fruit - 40 calories

#### Dinner:

- Vegetable Curry with Fried Rice - 700 calories
- Total calories = 1180 Calorie Diet



### 1200 calorie Diet sample Day 2

#### Breakfast:

- 1 large hard boiled egg - 90 calories
- 2 slices wholemeal toast with thin smear butter - 200 cal
- Large slice melon - 47 calories

#### Lunch:

- Baked potato with 100g baked beans - 300 cal
- Cottage Cheese reduced fat 100g - 80 calories

**Snack:**

- meal replacement bar - 200 calories

**Dinner**

- Pasta Salad made with a little olive oil & a little sauce to flavour - 200 - 300 calories ( 250 average )
- 50g Tinned Tuna in brine - 50 cal

Total calories = 1217 Calorie Diet



**1200 calorie Diet sample Day 3**

**Breakfast:**

- 2 pieces grilled meat- 200 cal
- Tinned Tomatoes 100g - 16 calories
- 2 slices wholemeal bread/toast with little butter & jam - 220 calories
- Piece of fruit or fruit juice 50 cal

**Lunch:**

- Cream of Mushroom soup - 96 calories
- Slice of bread with butter- 108 calories

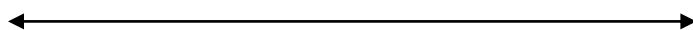
**Snack:**

- Packet of low fat chips - 110 calories
- Fruit - 80 calories

**Dinner:**

- Chicken Chow Mein 280g - 240 calories
- vegetables - 100 calories

Total calories = 1220 Calorie Diet



**1200 calorie Diet sample Day 4**

**Breakfast:**

- Small Bowl breakfast cereal with skimmed milk - 200 calories
- Fruit Juice unsweetened - 60 cal

**Lunch:**

- Pasta salad - 320 calories
- Fresh Vegetables - 150 cal

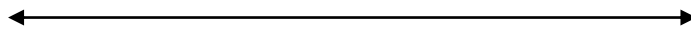
**Dinner:**

- Caribbean Rice & Peas recipe - 434 cal

**Snack:**

- low fat Yogurt - 60 calories
- piece of fruit - 50 cal

Total calories = 1274 Calorie Diet



**1200 calorie Diet sample Day 5**

**Breakfast:**

- cornflakes with skimmed milk small Bowl - 350 calories
- Fruit juice unsweetened - 60 calories

**Lunch:**

- French bread Pizza 150 grams - 300 cal
- Mixed Salad Large portion - 80 calories
- Apple - 49 cal

**Dinner:**

- Lasagne 250g - 317 calories
- Mixed Vegetables fresh or frozen 200g - 100 cal

Total calories = 1256 Calorie Diet