

## ENERGY REQUIREMENTS

### OVERVIEW

For a weight loss diet, we need to subtract 2000 KJ from our recommended energy intake according to our body's build and activity level.

### CALCULATING ENERGY REQUIREMENTS

Calculating energy requirements involves estimating the number of calories (or kilojoules) needed to maintain, lose, or gain weight based on factors such as; age, gender, weight, height, physical activity level, and overall health. Here are the steps to calculate an estimate of daily energy requirements:

#### Harris-Benedict Equation:

##### FOR MEN:

$$\text{BMR} = 88.362 + (13.397 \times \text{weight in kg}) + (4.799 \times \text{height in cm}) - (5.677 \times \text{age in years})$$

##### FOR WOMEN:

$$\text{BMR} = 447.593 + (9.247 \times \text{weight in kg}) + (3.098 \times \text{height in cm}) - (4.330 \times \text{age in years})$$

#### Total Daily Energy Expenditure (TDEE):

Once you have the Basal Metabolic Rate (BMR), you can determine the Total Daily Energy Expenditure (TDEE) by multiplying the BMR by an activity factor that represents physical activity level:

#### TDEE=BMR×Activity Factor

##### Activity Factors:

- Sedentary (little or no exercise): ×1.2
- Lightly active (light exercise/sports 1-3 days/week): ×1.375
- Moderately active (moderate exercise/sports 3-5 days/week): ×1.55
- Very active (hard exercise/sports 6-7 days a week): ×1.725
- Extremely active (very hard exercise/sports & physical job or 2x training): ×1.9

#### Example Calculation:

##### 1. Calculate BMR:

For a 30-year-old woman weighing 70 kg and with a height of 165 cm:

- $\text{BMR} = 447.593 + (9.247 \times 70) + (3.098 \times 165) - (4.330 \times 30)$
- $\text{BMR} \approx 447.593 + 647.29 + 510.87 - 129.9$
- $\text{BMR} \approx 1475.853$

## ENERGY REQUIREMENTS

### 2. Calculate TDEE:

Assuming a moderately active lifestyle (activity factor =  $\times 1.55$ ):

- $TDEE = 1475.853 \times 1.55$
- $TDEE \approx 2287.80 \text{ kcal/day} \times 4.2$
- $TDEE \approx 9608.76 \text{ KJ/day}$

This estimated TDEE represents the number of calories the individual needs to maintain their current weight given their level of physical activity. To lose weight, a calorie deficit is typically recommended, while a calorie surplus is advised for weight gain.

Keep in mind that these calculations provide estimates, and individual variations exist. Adjustments may be needed based on real-world outcomes, and consulting with a registered dietitian or healthcare professional can provide personalized guidance.

### 3. TDEE for Weight Loss:

Subtract 2000 KJ from the calculated TDEE for weight loss energy requirements:

- $TDEE \approx 9608.76 \text{ KJ} - 2000 \text{ KJ}$
- $TDEE \approx 7608.76 \text{ KJ/day}$



## DIET 1

### 6000 KJ Weight Loss Diet

#### BREAKFAST OPTIONS (Approximately 1000 KJ each)

##### Option 1: Scrambled Eggs with Spinach and Whole-Grain Toast

- Scrambled eggs (1 egg) with spinach (½ cup), tomatoes (½ cup), and a slice of whole-grain toast - 800 KJ
- Orange juice (½ cup) - 200 KJ

##### Option 2: Greek Yogurt Parfait with Mixed Berries and Whole-Grain Cereal

- Low fat Greek yoghurt (¾ cup) with mixed berries (½ cup) and whole-grain cereal (¾ cup) or Granola (3 tablespoons) - 1000 KJ

##### Option 3: Whole-Grain Cereal or Weetbix with Skim Milk and Sliced Banana

- Whole-grain cereal (¾ cup) or Weetbix (1 bar) with skim milk (½ cup) and sliced banana (1 medium) - 1000 KJ

##### Option 4: Avocado Toast with Poached Egg and Cottage Cheese with Pineapple

- Whole-grain toast (2 slices) with avocado (¼ avocado) and poached egg - 800 KJ
- Low-fat cottage cheese (½ cup) with pineapple chunks (½ cup) - 200 KJ

#### AM SNACK OPTIONS (Approximately 800 KJ each)

##### Option 1: Greek Yogurt with Mixed Berries

- Greek yoghurt (1 cup) with mixed berries (½ cup) - 800 KJ

##### Option 2: Hummus with Vegetable Sticks and Whole-Grain Crackers

- Hummus (2 tablespoons) with cucumber (1 cup), carrot sticks (1 cup), and 2 whole-grain crackers - 800 KJ

##### Option 3: Apple Slices with Almond Butter

- Apple slices with almond butter (1 small apple, 1 tablespoon) - 800 KJ

##### Option 4: Mixed Nuts and Dried Fruits Trail Mix

- Mixed nuts and dried fruits trail mix (2 tablespoons) - 800 KJ

#### LUNCH OPTIONS (Approximately 1200 KJ each)

##### Option 1: Lentil and Vegetable Stir-Fry with Brown Rice

- Lentil and vegetable stir-fry (1 cup) with brown rice (½ cup) - 1200 KJ

##### Option 2: Grilled Chicken Breast with Quinoa

- Grilled chicken breast (100g) with cooked quinoa (½ cup) - 1200 KJ

##### Option 3: Turkey/Chicken and Avocado Whole-Grain Wrap

- Turkey breast (80g) or grilled, skinless chicken breast (0.5 cup or 65g) and avocado (¼ avocado) whole-grain wrap - 1200 KJ

##### Option 4: Mixed Bean Salad with Feta Cheese and Balsamic Vinaigrette

- Mixed bean salad (1 cup) with feta cheese (¼ cup), cherry tomatoes (½ cup) and balsamic vinaigrette (1 tablespoon) - 1200 KJ

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## DIET 1

6000 KJ Weight Loss Diet

### PM SNACK OPTIONS (Approximately 800 KJ each)

#### Option 1: Hummus with Vegetable Sticks and Whole-Grain Crackers

- Hummus (2 tablespoons) with cucumber (1 cup), carrot sticks (1 cup), and 2 whole-grain crackers - 800 KJ

#### Option 2: Cottage Cheese with Pineapple Chunks

- Low-fat cottage cheese (½ cup) with pineapple chunks (½ cup) and sliced mango (½ cup) - 800 KJ

#### Option 3: Apple Slices with Almond Butter

- Apple slices (1 medium) with reduced sugar peanut butter (1 tablespoon) - 800 KJ

#### Option 4: Whole-grain bread topped with Cream Cheese, Cucumber Slices, and Smoked Salmon

- Whole-grain bread (1 slice) topped with low-fat cream cheese (1 tablespoon), cucumber slices, and smoked salmon (50g) - 800 KJ

### DINNER OPTIONS (Approximately 2200 KJ each)

#### Option 1: Baked Fish with Sweet Potato and Steamed Vegetables

- Baked fish (200g) with sweet potato (¾ cup) - 1200 KJ
- Green salad with vinaigrette dressing (1 cup) - 200 KJ
- Steamed broccoli (1 cup) - 200 KJ

#### Option 2: Grilled Portobello Mushrooms with Mixed Greens Salad and Lentil Soup

- Grilled portobello mushrooms (½ cup) with mixed greens salad (1 cup) and vinaigrette dressing (1 tablespoon) - 860 KJ
- Lentil soup (1 cup) - 590 KJ
- Whole grain bread roll (1 roll) - 750 KJ

#### Option 3: Chicken Stir-Fry with Brown Rice and Steamed Green Beans

- Chicken stir-fry (1 cup) with mixed vegetables (1 cup) and brown rice (½ cup) - 1500 KJ
- Side of steamed green beans (½ cup) - 200 KJ
- Side of sliced bell peppers with hummus (½ cup peppers, 2 tablespoons hummus) - 400 KJ

#### Option 4: Stir-Fried Tofu with Mixed Vegetables and Brown Rice

- Stir-fried tofu (1 cup) prepared with fish sauce (1 tablespoon), mixed vegetables (1 cup) and brown rice (¾ cup) - 1400 KJ
- Side of steamed broccoli (1 cup) - 200 KJ
- Whole grain bread roll (1 small) - 500 KJ

TOTAL: 6000 KJ

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## DIET 2

### 7000 KJ Weight Loss Diet

#### BREAKFAST OPTIONS (Approximately 1400 KJ each)

##### Option 1: Veggie-Packed Scrambled Eggs

- Scrambled eggs (1 egg) cooked with spinach (1 cup) and mushrooms (½ cup) - 860 KJ
- Whole grain toast (1 slice) - 380 KJ
- A small apple - 160 KJ

##### Option 2: Greek Yogurt Parfait with Strawberries and Almonds

- Greek yoghurt (¾ cup) with sliced strawberries (½ cup) and a sprinkle of almonds (1 tbsp) - 700 KJ
- Whole grain cereal (½ cup) with skim milk (½ cup) - 670 KJ

##### Option 3: Banana Oatmeal with Boiled Egg

- Oatmeal (½ cup) cooked with water, topped with sliced small banana (½) and a drizzle of honey (1 teaspoon) - 810 KJ
- Boiled egg - 330 KJ
- Orange juice (½ cup) - 260 KJ

##### Option 4: Creamy Green Smoothie

- Smoothie made with spinach (1 cup), banana (1 small), almond milk (1 cup), pineapple cubes (½ cup), mango slices (½ cup), and a scoop of protein powder - 1400 KJ
- For a creamier texture, freeze the fruits beforehand.

#### AM SNACK OPTIONS (Approximately 800 KJ each)

##### Option 1: Nutritious Carrot Sticks and Pear

- Carrot sticks (½ cup) with hummus (1 tablespoon) - 250 KJ
- Small handful of nuts (1/8 cup) - 270 KJ
- Medium-sized pear - 280 KJ

##### Option 2: Cottage Cheese with Cherry Tomatoes and Kiwi

- Low-fat or fat free cottage cheese (½ cup) with cherry tomatoes (½ cup) - 350 KJ
- Whole grain crackers (6 crackers) - 250 KJ
- Kiwi fruit - 200 KJ

##### Option 3: Two Open Turkey Rice Cake Sandwiches

- Plain rice cakes (1 rice cake) with 1 iceberg lettuce leaf, deli turkey (2 slices), tomato (1 slice), 1 pickles (4 slices) and mustard (2 teaspoons) - 400 KJ
- The above is one serving, prepare yourself two servings - 800 KJ

##### Option 4: Mixed Nuts and Dried Fruits

- Mixed nuts and dried fruits trail mix (1/2 cup) - 800 KJ

## DIET 2

### 7000 KJ Weight Loss Diet

#### LUNCH OPTIONS (Approximately 1400 KJ each)

##### Option 1: Grilled Chicken with Quinoa and Salad

- Grilled chicken breast (80 grams) with steamed broccoli (½ cup) and quinoa (¼ cup) - 850 KJ
- Mixed green salad (½ cup) with balsamic vinaigrette dressing (1 tablespoon or 15 ml) - 150 KJ
- Small whole grain dinner roll - 450 KJ

##### Option 2: Tuna Salad with Pita Bread and Watermelon

- Tuna salad made with salt water canned tuna (56 grams or 1/3 can), mixed greens (¼ cup), cherry tomatoes (¼ cup), cucumber (¼ cup), and olive oil-lemon dressing (1 tablespoon) - 800 KJ
- Whole grain pita bread (½ pocket) - 400 KJ
- Watermelon chunks (½ cup) - 100 KJ

##### Option 3: Mediterranean Quinoa Bowl

- Cooked quinoa (½ cup): Approximately 470 KJ
- Chickpeas (2 tablespoon): Approximately 110 KJ
- Cherry tomatoes (¼ cup): Approximately 14 KJ
- Cucumber (¼ cup, diced): Approximately 20 KJ
- Kalamata olives (1 tablespoon): Approximately 190 KJ
- Red onion (1 tablespoon, diced): Approximately 20 KJ
- Fresh parsley (1 tablespoon, chopped): Approximately 6 KJ
- Lemon juice (½ tablespoon): Approximately 14 KJ
- Extra virgin olive oil (½ tablespoon): Approximately 520 KJ
- Salt and pepper to taste

##### Option 4: Grilled Salmon with Sweet Potatoes and Spinach

- Grilled salmon fillet (85 grams) with roasted sweet potatoes (¾ cup) and sautéed spinach (½ cup) - 1100 KJ
- Pineapple slices (½ cup) - 290 KJ

#### PM SNACK OPTIONS (Approximately 800 KJ each)

##### Option 1: Peachy Cottage Cheese and Rice Cakes with Mixed Berries

- Low-fat or Fat Free Cottage cheese (¼ cup) with sliced peaches (¼ cup) - 340 KJ
- Rice cakes (1 rice cake) with hummus (1 tablespoon) - 310 KJ
- Mixed berries (½ cup) - 130 KJ

##### Option 2: Apple Slices with Yogurt and Honey

- Low-fat or Fat Free Greek yogurt (½ cup) with a drizzle of honey (½ teaspoon) and sliced apples (½ cup) - 800 KJ

##### Option 3: Guacamole and Crackers with String Cheese

- Whole grain crackers (6 crackers) with guacamole (2 tablespoon) - 445 KJ
- Low-fat string cheese (½ stick) - 170 KJ
- Small orange - 200 KJ

##### Option 4: Peppers with Popcorn and Banana

- Sliced bell peppers (½ cup) with tzatziki sauce (1 tablespoon) - 110 KJ
- Plain air-popped popcorn (1.5 cup) - 220 KJ
- Medium-sized banana - 440 KJ

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## DIET 2

7000 KJ Weight Loss Diet

### DINNER OPTIONS (Approximately 2450 KJ each)

#### Option 1: Tofu Stir-Fry with Brown Rice and Salad

- Grilled tofu (95 grams) with stir-fried mixed vegetables (3/4 cup) and brown rice (1/2 cup) - 1100 KJ
- Side salad of your choice (1 cup) with vinaigrette dressing (2 tablespoon) - 280 KJ
- Steamed green beans or edamame (1/2 cup) - 280 KJ
- Roasted pumpkin or butternut cubes (1/2 cup) - 220 KJ
- Small fruit on the side or fruit salad (1/2 cup) or a glass of orange juice (optional) - 200 KJ

#### Option 2: Turkey Chili with Sweet Potato and Broccoli

- Turkey chili made with lean ground turkey (110g), kidney beans (1/2 cup), tomatoes (1/2 cup), and spices - 900 KJ
- Baked sweet potato (medium) - 600 KJ
- Steamed broccoli (3/4 cup or 125 ml) - 210 KJ
- Fruit salad (1 cup) - 450 KJ

#### Option 3: Healthy Seafood Pasta

- Whole wheat pasta (100g)
- Shrimp (100g, peeled and deveined)
- Scallops (100g)
- Cherry tomatoes (1 cup, halved)
- Spinach leaves (1 cup)
- Garlic (2 cloves, minced)
- Olive oil (1 tablespoon)
- Lemon juice (1 tablespoon)
- Red pepper flakes (1 teaspoon, optional)
- Salt and black pepper (to taste)
- Fresh parsley (for garnish)
- Lemon wedges (for serving)

*Check page 10 for a basic Healthy Seafood Pasta recipe.*

#### Option 4: Baked Chicken with Brussels Sprouts and Pineapple

- Baked chicken breast (85 grams) with roasted Brussels sprouts (1/2 cup or 125 ml) and mashed cauliflower (1/4 cup or 60 ml) - 840 KJ
- Whole grain dinner roll - 120 KJ
- Grilled pineapple slices (1/4 cup or 60 ml) - 280 KJ

TOTAL: 6850 KJ

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## DIET 3

8000 KJ Weight Loss Diet

### BREAKFAST OPTIONS (Approximately 1500 KJ each)

**Option 1: Scrambled Tofu with Spinach and Whole-Grain Toast:**

- Scrambled tofu (200g) cooked with spinach (1 cup) and mushrooms (½ cup), served with two slices of whole-grain toast - 1500 KJ

**Option 2: Overnight Oats with Sliced Bananas and Almonds:**

- Overnight oats made with rolled oats (½ cup), almond milk (½ cup), chia seeds (1 tablespoon), topped with sliced bananas (1 medium) and almonds (¼ cup) - 1500 KJ

**Option 3: Whole-Grain Pancakes with Greek Yogurt and Mixed Berries:**

- Whole-grain pancake batter made with whole-grain flour (1 cup), almond milk (½ cup), eggs (2), topped with Greek yogurt (½ cup), mixed berries (½ cup), and a drizzle of honey (1 tablespoon) - 1500 KJ

**Option 4: Avocado Toast with Sliced Tomatoes and Poached Egg:**

- Mashed avocado (½ avocado) on two slices of whole-grain toast, topped with sliced tomatoes (½ cup) and a poached egg - 1500 KJ

### AM SNACK OPTIONS (Approximately 1000 KJ each)

**Option 1: Greek Yogurt with Honey and Mixed Nuts:**

- Greek yogurt (1 cup) topped with honey (1 tablespoon) and mixed nuts (¼ cup) - 1000 KJ

**Option 2: Rice Cakes with Almond Butter and Sliced Strawberries:**

- Two rice cakes topped with almond butter (2 tablespoons) and sliced strawberries (½ cup) - 1000 KJ

**Option 3: Cottage Cheese with Pineapple Chunks and Sunflower Seeds:**

- Cottage cheese (1 cup) served with pineapple chunks (½ cup) and sunflower seeds (2 tablespoons) - 1000 KJ

**Option 4: Apple Slices with Cinnamon and Walnuts:**

- Sliced apple (1 medium) sprinkled with cinnamon and served with a handful of walnuts (¼ cup) - 1000 KJ

### LUNCH OPTIONS (Approximately 2000 KJ each)

**Option 1: Grilled Chicken Salad with Mixed Greens:**

- Grilled chicken breast (150g) served over mixed greens (2 cups), cherry tomatoes (½ cup), cucumber slices (½ cup), avocado (¼ avocado), and dressed with balsamic vinaigrette (2 tablespoons) - 2000 KJ

**Option 2: Quinoa and Black Bean Salad with Roasted Vegetables:**

- Quinoa (1 cup) mixed with black beans (½ cup) and roasted vegetables (bell peppers, zucchini, and onions - 1 cup), dressed with lime-cilantro dressing (2 tablespoons) - 2000 KJ

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## DIET 3

8000 KJ Weight Loss Diet

### LUNCH OPTIONS (Approximately 2000 KJ each)

#### Option 3: Whole-Grain Wrap with Smoked Salmon and Cream Cheese:

- Whole-grain wrap filled with smoked salmon (100g), cream cheese (2 tablespoons), spinach leaves (½ cup), and sliced cucumbers (½ cup) - 2000 KJ

#### Option 4: Lentil Soup with Side Salad and Whole-Grain Bread:

- Lentil soup (2 cups) served with a side salad (mixed greens, cherry tomatoes, cucumbers - 2 cups) and a slice of whole-grain bread - 2000 KJ

### PM SNACK OPTIONS (Approximately 800 KJ each)

#### Option 1: Carrot and Cucumber Sticks with Hummus:

- Carrot sticks (1 cup) and cucumber sticks (1 cup) served with hummus (3 tablespoons) - 800 KJ

#### Option 2: Edamame Beans with Sea Salt:

- Edamame beans (1 cup) boiled and sprinkled with sea salt - 800 KJ

#### Option 3: Whole-Grain Crackers with Guacamole:

- Whole-grain crackers (6 crackers) served with guacamole (½ avocado mashed with lime juice and salt) - 800 KJ

#### Option 4: Greek Yogurt with Sliced Peaches:

- Greek yogurt (1 cup) topped with sliced peaches (½ cup) - 800 KJ

### DINNER OPTIONS (Approximately 2500 KJ each)

#### Option 1: Grilled Salmon with Quinoa Pilaf and Roasted Broccoli:

- Grilled salmon fillet (200g) served with quinoa pilaf (1 cup) and roasted broccoli (1 cup) - 2500 KJ

#### Option 2: Tofu Stir-Fry with Brown Rice and Mixed Vegetables:

- Tofu (200g) stir-fried with mixed vegetables (bell peppers, broccoli, carrots - 2 cups) and served with brown rice (1 cup) - 2500 KJ

#### Option 3: Turkey Meatballs with Whole-Grain Pasta and Marinara Sauce:

- Turkey meatballs (200g) served with whole-grain pasta (1 cup) and marinara sauce (½ cup) - 2500 KJ

#### Option 4: Baked Sweet Potato with Black Beans and Avocado:

- Baked sweet potato (1 large) topped with black beans (½ cup), avocado slices (½ avocado), salsa (½ cup), and Greek yogurt (2 tablespoons) - 2500 KJ

TOTAL: 7800 KJ

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## HEALTHY SEAFOOD PASTA

### INGREDIENTS

- Whole wheat pasta (100g)
- Shrimp (100g, peeled and deveined)
- Scallops (100g)
- Cherry tomatoes (1 cup, halved)
- Spinach leaves (1 cup)
- Garlic (2 cloves, minced)
- Olive oil (1 tablespoon)
- Lemon juice (1 tablespoon)
- Red pepper flakes (1 teaspoon, optional)
- Salt and black pepper (to taste)
- Fresh parsley (for garnish)
- Lemon wedges (for serving)

### INSTRUCTIONS

1. Cook the whole wheat pasta according to package instructions until al dente. Drain and set aside.
2. In a skillet, heat olive oil over medium heat. Add minced garlic and red pepper flakes (if using), sauté for 1-2 minutes.
3. Add shrimp and scallops to the skillet. Cook for 2-3 minutes on each side until opaque and cooked through. Season with salt and black pepper.
4. Remove cooked seafood from skillet and set aside.
5. In the same skillet, add cherry tomatoes. Cook for 2-3 minutes until they start to soften.
6. Add cooked pasta to skillet along with spinach leaves. Toss until spinach wilts slightly.
7. Drizzle lemon juice over pasta and toss to combine. Adjust seasoning with salt and black pepper.
8. Return cooked seafood to skillet and gently toss with pasta and vegetables until heated through.
9. Serve garnished with chopped parsley and lemon wedges on the side.

## WEIGHT LOSS GUIDELINES

### GUIDELINE POINTS

#### 1. Hydration is Key:

- Aim to drink at least 8 glasses (about 2 litres) of water per day.
- Consider drinking herbal teas or infused water for added variety.

#### 2. Balanced Nutrition:

- Include a variety of food groups in your meals, emphasizing fruits, vegetables, lean proteins, whole grains, and healthy fats.
- Limit processed foods, sugary snacks, and high-calorie beverages.

#### 3. Portion Control:

- Be mindful of portion sizes to avoid overeating.
- Use smaller plates and bowls to help control portions.

#### 4. Regular Meals and Snacks:

- Aim for three balanced meals and 1-2 healthy snacks per day.
- Include a source of protein in each meal to help maintain muscle mass.

#### 5. Mindful Eating:

- Eat slowly, savouring each bite, and pay attention to your body's hunger and fullness cues.
- Avoid distractions, such as watching TV or using electronic devices, while eating.

#### 6. Physical Activity:

- Engage in at least 150 minutes of moderate-intensity aerobic exercise or 75 minutes of vigorous-intensity exercise per week.
- Include strength-training exercises at least twice a week.

#### 7. Meal Timing:

- Try to eat meals at regular intervals throughout the day to maintain steady energy levels.
- Consider having a balanced meal or snack within 2-3 hours of waking up.

#### 8. Limit Added Sugars:

- Minimize the intake of foods and beverages high in added sugars, such as sodas, candies, and sugary snacks.

#### 9. Fiber-Rich Foods:

- Include fibre-rich foods like whole grains, legumes, fruits, and vegetables to support digestive health and promote a feeling of fullness.

#### 10. Sleep and Stress Management:

- Aim for 7-9 hours of quality sleep per night.
- Manage stress through activities like deep breathing, meditation, or regular exercise.

#### 11. Regular Monitoring:

- Keep a food diary to track your meals, snacks, and water intake.
- Monitor progress through regular check-ins and adjust the plan as needed.

#### 12. Consult a Professional:

- If you have any medical conditions or specific dietary needs, consult with a registered dietitian or healthcare professional for personalized advice.