Person

* Weight
* Height
* Age

We can calculate this from above data

* BMI
* RMR
* BMR

**Allergies**

**llergic Rhinitis**

Allergic rhinitis, also called hay fever, mostly occurs during spring and fall due to airborne pollens. It is also called seasonal rhinitis. Allergic rhinitis can occur in response to allergens that are present throughout the year like animal dander, proteins derived from cockroaches, mold spores and dust. This is called perennial allergic rhinitis. Symptoms include sneezing, stuffy or running nose, obstruction of the nasal passage, itching in the conjunctiva, nasal mucosa, pharynx and roof of the mouth. In susceptible people, symptoms generally appear before the fourth decade of life and tend to diminish gradually with aging.

**Urticaria**

Also known as hives, urticaria is characterized by red bumps on the skin of varying sizes that occur in groups. These involve the upper part of the skin and may be associated with swelling and itching. Urticaria is often associated with swelling. Atopic dermatitis or eczema is another skin manifestation of allergy with symptoms like itching, reddening and peeling of the skin. More than half of the people with atopic dermatitis have been found to develop asthma.

**Allergic conjunctivitis**

When eye is exposed to specific allergic agents, it shows the symptoms of allergic conjunctivitis like itching, reddening, swelling of the conjunctiva and watering of the eye.

**Asthma**

Allergy plays a significant role in pathogenesis and manifestation of disease. Details discussed elsewhere.

**Food allergy**

Food allergy occurs when the immune system of the body recognizes a particular food protein as an allergen. Even tiny amount of the food is enough to trigger the allergic reaction. Most common type of food items that trigger allergic reaction are cow’s milk, peanuts, egg protein, wheat, soy, fish, shellfish and tree nuts.

**Allergic Sinusitis**

Sinuses are hollow cavities within the face around our eyes and behind the nose. Allergy can trigger inflammation in these sinuses which produces nasal congestion, cough, fever and thick, dirty nasal discharge. This condition is known as allergic rhino-sinusitis. People with asthma and allergic rhinitis are more likely to suffer from sinusitis because of frequent involvement of airways.

**Anaphylaxis**

Anaphylaxis is a severe form of allergic reaction which is life threatening. It can affect more than one body part at the same time. Symptoms include red itchy rash, lightheadedness, difficulty in breathing, tightness in the throat and chest, anxiety, abdominal cramps, vomiting and diarrhea. Anaphylactic reaction can manifest as shock when there is sudden fall in the blood pressure which leads to loss of consciousness. Agents known to cause anaphylaxis are food items, insect bites, wasp sting, latex and various types of drugs. Since it is a life threatening condition, anaphylaxis requires immediate medical attention which includes maintenance of airway, breathing and circulation as first aid and injection of epinephrine as treatment. Urgent hospital admission is required when symptoms of anaphylaxis are seen. If not treated on time, anaphylactic reactions can also be fatal due to respiratory failure.

Non communicable diseases

**cardiovascular disease**

* **Coronary heart disease**. **Coronary heart disease** occurs when the flow of oxygen-rich blood to the heart muscle is blocked or reduced. ...
* Strokes and TIAs. ...
* Peripheral arterial disease. ...
* Aortic disease.

**Cancer**

* **Bladder Cancer**.
* **Breast Cancer**.
* **Colorectal Cancer**.
* **Kidney Cancer**.
* **Lung Cancer** - Non-Small Cell.
* **Lymphoma - Non-Hodgkin**.
* Melanoma.
* Oral and **Oropharyngeal Cancer**.

**chronic respiratory disease**

* **Asthma**
* **chronic obstructive pulmonary disease (COPD**)
* **lung cancer**
* **cystic fibrosis**
* sleep apnea
* occupational lung diseases

**Diabetes**

**Verdict:** We can’t track all diseases right now. For now we should consider only the most common non-communicable diseases.

Lets take a different approach. People do suffer this from frequently.

* Cough
* Fever
* Gastritis
* diarrhea
* Common cold

My Verdict:

* We shouldn’t consider Religion. It is too annoying. Let’s not include the food which arises problem.
* Adding Veg and non veg will be enough
* As for the diseases, I think only the common should be included.

## Calories in Common Foods

|  |  |  |  |
| --- | --- | --- | --- |
| Food | Serving Size | Calories | kJ |
| **Fruit** | | | |
| Apple | 1 (4 oz.) | 59 | 247 |
| Banana | 1 (6 oz.) | 151 | 632 |
| Grapes | 1 cup | 100 | 419 |
| Orange | 1 (4 oz.) | 53 | 222 |
| Pear | 1 (5 oz.) | 82 | 343 |
| Peach | 1 (6 oz.) | 67 | 281 |
| Pineapple | 1 cup | 82 | 343 |
| Strawberry | 1 cup | 53 | 222 |
| Watermelon | 1 cup | 50 | 209 |
| **Vegetables** | | | |
| Asparagus | 1 cup | 27 | 113 |
| Broccoli | 1 cup | 45 | 188 |
| Carrots | 1 cup | 50 | 209 |
| Cucumber | 4 oz. | 17 | 71 |
| Eggplant | 1 cup | 35 | 147 |
| Lettuce | 1 cup | 5 | 21 |
| Tomato | 1 cup | 22 | 92 |
| **Proteins** | | | |
| Beef, regular, cooked | 2 oz. | 142 | 595 |
| Chicken, cooked | 2 oz. | 136 | 569 |
| Tofu | 4 oz. | 86 | 360 |
| Egg | 1 large | 78 | 327 |
| Fish, Catfish, cooked | 2 oz. | 136 | 569 |
| Pork, cooked | 2 oz. | 137 | 574 |
| Shrimp, cooked | 2 oz. | 56 | 234 |
| **Common Meals/Snacks** | | | |
| Bread, white | 1 slice (1 oz.) | 75 | 314 |
| Butter | 1 tablespoon | 102 | 427 |
| Caesar salad | 3 cups | 481 | 2014 |
| Cheeseburger | 1 sandwich | 285 | 1193 |
| Hamburger | 1 sandwich | 250 | 1047 |
| Dark Chocolate | 1 oz. | 155 | 649 |
| Corn | 1 cup | 132 | 553 |
| Pizza | 1 slice (14") | 285 | 1193 |
| Potato | 6 oz. | 130 | 544 |
| Rice | 1 cup cooked | 206 | 862 |
| Sandwich | 1 (6" Subway Turkey Sandwich) | 200 | 837 |
| **Beverages/Dairy** | | | |
| Beer | 1 can | 154 | 645 |
| Coca-Cola Classic | 1 can | 150 | 628 |
| Diet Coke | 1 can | 0 | 0 |
| Milk (1%) | 1 cup | 102 | 427 |
| Milk (2%) | 1 cup | 122 | 511 |
| Milk (Whole) | 1 cup | 146 | 611 |
| Orange Juice | 1 cup | 111 | 465 |
| Apple cider | 1 cup | 117 | 490 |
| Yogurt (low-fat) | 1 cup | 154 | 645 |
| Yogurt (non-fat) | 1 cup | 110 | 461 |

\* 1 cup = ~250 milliliters, 1 table spoon = 14.2 gram

### 2000, 1500, and 1200 Calorie Sample Meal Plans

|  |  |  |  |
| --- | --- | --- | --- |
| Meal | 1200 Cal Plan | 1500 Cal Plan | 2000 Cal Plan |
| Breakfast | All-bran cereal (125)  Milk (50)  Banana (90) | Granola (120)  Greek yogurt (120)  Blueberries (40) | Buttered toast (150)  Egg (80)  Banana (90)  Almonds (170) |
| Snack | Cucumber (30)  Avocado dip (50) | Orange (70) | Greek yogurt (120)  Blueberries (40) |
| Total | 345 Calories | 350 Calories | 650 Calories |
|  | | | |
| Lunch | Grilled cheese with tomato (300)  Salad (50) | Chicken and vegetable soup (300)  Bread (100) | Grilled chicken (225)  Grilled vegetables (125)  Pasta (185) |
| Snack | Walnuts (100) | Apple (75)  Peanut butter (75) | Hummus (50)  Baby carrots (35)  Crackers (65) |
| Total | 450 Calories | 550 Calories | 685 Calories |
|  | | | |
| Dinner | Grilled Chicken (200)  Brussel sprouts (100)  Quinoa (105) | Steak (375)  Mashed potatoes (150)  Asparagus (75) | Grilled salmon (225)  Brown rice (175)  Green beans (100)  Walnuts (165) |
| Total | 405 Calories | 600 Calories | 665 Calories |

## Calories Burned from Common Exercises:

|  |  |  |  |
| --- | --- | --- | --- |
| Activity (1 hour) | 125 lb person | 155 lb person | 185 lb person |
| Golf (using cart) | 198 | 246 | 294 |
| Walking (3.5 mph) | 215 | 267 | 319 |
| Kayaking | 283 | 352 | 420 |
| Softball/Baseball | 289 | 359 | 428 |
| Swimming (free-style, moderate) | 397 | 492 | 587 |
| Tennis (general) | 397 | 492 | 587 |
| Running (9 minute mile) | 624 | 773 | 923 |
| Bicycling (12-14 mph, moderate) | 454 | 562 | 671 |
| Football (general) | 399 | 494 | 588 |
| Basketball (general) | 340 | 422 | 503 |
| Soccer (general) | 397 | 492 | 587 |

## Energy from Common Food Components

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Food Components | kJ per gram | Calorie (kcal) per gram | kJ per ounce | Calorie (kcal) per ounce |
| Fat | 37 | 8.8 | 1,049 | 249 |
| Proteins | 17 | 4.1 | 482 | 116 |
| Carbohydrates | 17 | 4.1 | 482 | 116 |
| Fiber | 8 | 1.9 | 227 | 54 |
| Ethanol (drinking alcohol) | 29 | 6.9 | 822 | 196 |
| Organic acids | 13 | 3.1 | 369 | 88 |
| Polyols (sugar alcohols, sweeteners) | 10 | 2.4 | 283 | 68 |

**Revised Harris-Benedict Equation:**

For men:

BMR = 13.397W + 4.799H - 5.677A + 88.362

For women:

BMR = 9.247W + 3.098H - 4.330A + 447.593

where:

W is body weight in kg  
 H is body height in cm  
 A is age  
 F is body fat in percentage

**Body fat percentage (BFP) formula for males:**

SI, Metric Units:

BFP =[ 495/1.0324 - 0.19077×log10(waist-neck) ) + 0.15456×log10(height] - 450

**Body fat percentage (BFP) formula for females:**

SI, Metric Units:

BFP =[ 495/1.29579 - 0.35004×log10(waist+hip-neck) + 0.22100×log10(height)] - 450

Note that results of these calculations are only an estimate since they are based on many different assumptions to make them as applicable to as many people as possible. For more accurate measurements of body fat, the use of instruments such as bioelectric impedance analysis or hydrostatic density testing is necessary.

**Fat mass (FM) formula:**

FM = BF × Weight

**Lean Mass (LM) formula:**

LM = Weight - FM

**BMI Method:**

Another method for calculating an estimate of body fat percentage uses BMI. Refer to the BMI Calculator to obtain an estimate of BMI for use with the BMI method, as well as further detail on how BMI is calculated, its implications, and its limitations. Briefly, the estimation of BMI involves the use of formulas that require the measurement of a person's height and weight. Given BMI, the following formulas can be used to estimate a person's body fat percentage.

**Body fat percentage (BFP) formula for adult males:**

BFP = 1.20 × BMI + 0.23 × Age - 16.2

**Body fat percentage (BFP) formula for adult females:**

BFP = 1.20 × BMI + 0.23 × Age - 5.4

**Body fat percentage (BFP) formula for boys:**

BFP = 1.51 × BMI - 0.70 × Age - 2.2

**Body fat percentage (BFP) formula for girls:**

BFP = 1.51 × BMI - 0.70 × Age + 1.4

**Jackson & Pollard Ideal Body Fat Percentages**

|  |  |  |
| --- | --- | --- |
| Age | Women | Men |
| 20 | 17.7% | 8.5% |
| 25 | 18.4% | 10.5% |
| 30 | 19.3% | 12.7% |
| 35 | 21.5% | 13.7% |
| 40 | 22.2% | 15.3% |
| 45 | 22.9% | 16.4% |
| 50 | 25.2% | 18.9% |
| 55 | 26.3% | 20.9% |

### BMI table for adults

|  |  |
| --- | --- |
| Category | BMI range - kg/m2 |
| Severe Thinness | < 16 |
| Moderate Thinness | 16 - 17 |
| Mild Thinness | 17 - 18.5 |
| Normal | 18.5 - 25 |
| Overweight | 25 - 30 |
| Obese Class I | 30 - 35 |
| Obese Class II | 35 - 40 |
| Obese Class III | > 40 |

**SI, Metric Units:**

BMI = mass (kg)/ height2 (m

### Macronutrients in Common Foods

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Food | Serving Size | Protein | Carbs | Fat |
| **Fruit** | | | | |
| Apple | 1 (4 oz.) | 0.27g | 14.36g | 0.18g |
| Banana | 1 (6 oz.) | 1.85g | 38.85g | 0.56g |
| Grapes | 1 cup | 1.15g | 28.96g | 0.26g |
| Orange | 1 (4 oz.) | 0.79g | 11.79g | 0.23g |
| Pear | 1 (5 oz.) | 0.54g | 21.91g | 0.17g |
| Peach | 1 (6 oz.) | 1.2g | 12.59g | 0.33g |
| Pineapple | 1 cup | 0.84g | 19.58g | 0.19g |
| Strawberry | 1 cup | 1.11g | 12.75g | 0.5g |
| Watermelon | 1 cup | 0.93g | 11.48g | 0.23g |
| **Vegetables** | | | | |
| Asparagus | 1 cup | 2.95g | 5.2g | 0.16g |
| Broccoli | 1 cup | 2.57g | 6.04g | 0.34g |
| Carrots | 1 cup | 1.19g | 12.26g | 0.31g |
| Cucumber | 4 oz. | 0.67g | 2.45g | 0.18g |
| Eggplant | 1 cup | 0.98g | 5.88g | 0.18g |
| Lettuce | 1 cup | 0.5g | 1.63g | 0.08g |
| Tomato | 1 cup | 1.58g | 7.06g | 0.36g |
| **Proteins** | | | | |
| Beef, regular, cooked | 2 oz. | 14.2g | 0g | 10.4g |
| Chicken, cooked | 2 oz. | 16g | 0g | 1.84g |
| Tofu | 4 oz. | 7.82g | 2.72g | 3.06g |
| Egg | 1 large | 6.29g | 0.38g | 4.97g |
| Fish, Catfish, cooked | 2 oz. | 9.96g | 4.84g | 8.24g |
| Pork, cooked | 2 oz. | 15.82g | 0g | 8.26g |
| Shrimp, cooked | 2 oz. | 15.45g | 0.69g | 1.32g |
| **Common Meals/Snacks** | | | | |
| Bread, white | 1 slice (1 oz.) | 1.91g | 12.65g | 0.82g |
| Butter | 1 tablespoon | 0.12g | 0.01g | 11.52g |
| Caesar salad | 3 cups | 16.3g | 21.12g | 45.91g |
| Cheeseburger | 1 sandwich | 14.77g | 31.75g | 15.15g |
| Hamburger | 1 sandwich | 14.61g | 26.81g | 10.97g |
| Dark Chocolate | 1 oz. | 1.57g | 16.84g | 9.19g |
| Corn | 1 cup | 4.3g | 30.49g | 1.64g |
| Pizza | 1 slice (14") | 13.32g | 33.98g | 12.13g |
| Potato | 6 oz. | 4.47g | 36.47g | 0.22g |
| Rice | 1 cup cooked | 4.2g | 44.08g | 0.44g |
| Sandwich | 1 (6" Subway Turkey Sandwich) | 18g | 46g | 3.5g |
| **Beverages/Dairy** | | | | |
| Beer | 1 can | 1.64g | 12.64g | 0g |
| Coca-Cola Classic | 1 can | 0g | 39g | 0g |
| Diet Coke | 1 can | 0g | 0g | 0g |
| Milk (1%) | 1 cup | 8.22g | 12.18g | 2.37g |
| Milk (2%) | 1 cup | 8.05g | 11.42g | 4.81g |
| Milk (Whole) | 1 cup | 7.86g | 11.03g | 7.93g |
| Orange Juice | 1 cup | 1.74g | 25.79g | 0.5g |
| Apple cider | 1 cup | 0.15g | 28.97g | 0.27g |
| Yogurt (low-fat) | 1 cup | 12.86g | 17.25g | 3.8g |
| Yogurt (non-fat) | 1 cup | 13.01g | 17.43g | 0.41g |