

## HOW YOUR BODY CONVERTS FOOD INTO ENERGY



### Did you Know?

One pound of muscle burns roughly three times as many calories as a pound of fat.



## METABOLISM AND HEALTHY WEIGHT

### Physical activity and exercise,

such as playing tennis, walking to the store or chasing after the dog, is by far the biggest factor in determining how many calories are burned each day. Without enough exercise, your muscles will not grow and, because they are not being used, they will actually decrease in size. This will slow your metabolism and increase your fat stores.



### Age can slow your metabolism.

But it doesn't have to! Research shows that losing muscle and being less active are the biggest reasons your metabolism slows down with age. Incorporate strength training twice a week as a way to build muscle.

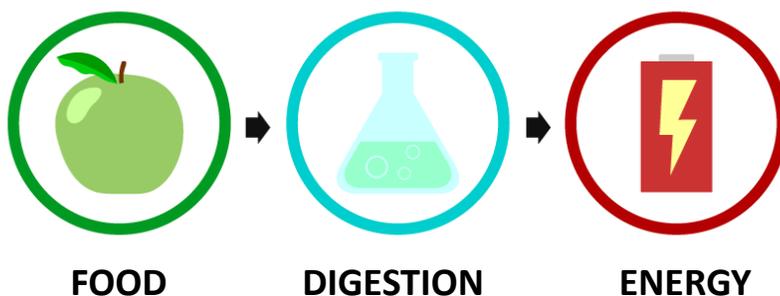


### What is Metabolism?

Metabolism is the process in the body which turns the food you eat into the energy it needs to survive and thrive. It's a vital process for all living things, not just humans. Even when you are at rest, your body needs energy for all the "silent" functions, such as breathing, circulating blood, repairing cells, and adjusting hormone levels. This energy helps fuel both basic and complex functions such as digesting food and physical activity. The number of calories your body uses to carry out these basic functions is known as your basal metabolic rate, or what you may call metabolism.

### So how does metabolism work?

Every food or beverage you consume contains nutrients such as carbohydrates, fats, or protein. Your body absorbs the nutrients and converts them into units of heat —or calories— to be used as energy. The energy provided by food is either used right away or stored by the body for later use. There are many factors that can affect your metabolism, including age, gender, body composition and size.



# ENERGY IN VS. ENERGY OUT, THE ENERGY BALANCE EQUATION



Exact Replica Fat & Muscle, 5lbs. each

Which weighs more – a pound of fat or a pound of muscle?

Trick question – they weigh the same. So where did the idea come from? If you look at them side by side, muscle looks smaller, which may imply that it weighs less. In reality they both weigh the same. What is different is that muscle is more dense than fat, meaning it takes up less space in the body. Therefore, if you look at two people who are the same height and weigh the same, they can have very different physiques based on their muscle mass.

Energy balance is the relationship between “energy in” (calories taken in through food and drink) and “energy out” (calories burned). This is your metabolism at work.

There’s a lot more to energy balance than a change in your weight. Energy balance also has to do with what’s going on within your cells. Overeating and/or under exercising can affect health in many ways:

- Plaques can build up in arteries
- Blood pressure and cholesterol in body can increase
- Insulin resistance can occur, leading to diabetes

Your ENERGY IN and OUT don't have to balance every day. It's having a balance over time that will help you stay at a healthy weight for the long term. If you eat less than the calories you need each day, you will lose weight. If you do the opposite (i.e. eat more than you use), you will gain weight.

Research suggests if you’re eating food from high-quality sources and doing a variety of workouts including strength training, conditioning, and recovery work, together they can help you carry more muscle and less fat. Incorporating healthier foods and increasing daily activity allows you to lose weight in a safe and healthy manner.



**Quick Tip:** Increasing your protein or fiber intake helps increase your sense of fullness, reducing your appetite. Both protein and carbohydrates (which is where fiber is found) help in building lean muscle mass.

## Sources:

Mayo Health Clinic, National Heart, Lung, and Blood Institute

<https://www.precisionnutrition.com/metabolic-damage>

<https://www.precisionnutrition.com/all-about-energy-balance>

<https://www.mayoclinic.org/healthy-lifestyle/weight-loss/in-depth/metabolism/art-20046508>

<https://www.nhlbi.nih.gov/health/educational/wecan/healthy-weight-basics/balance.htm>

<https://www.verywellfit.com/metabolism-facts-101-3495605>

<https://diet.mayoclinic.org/diet/move/what-is-metabolism?xid=nl> MayoClinicDiet\_20150910