

The Macronutrients & Micronutrients

There are two types of nutrients - macronutrients & micronutrients. All foods contain both types of nutrients.

Macronutrients - provide calories (energy) for our bodies to use as fuel.

- Carbohydrates – Carbs are the body's main source of energy and easiest form of energy for the body to use. Carbohydrates have the most significant impact on blood sugar levels.
 - 4 calories/gram
- Fats – Fats are essential for brain function and to maintain healthy joints. Healthy fats also digest more slowly compared to carbohydrates which helps us feel fuller. Fats have minimal impact on blood sugar levels.
 - 9 calories/gram
- Protein – Adequate protein is needed for muscle repair and building. High activity levels = higher protein needs. Protein digests the slowest of the three macronutrients meaning it plays a big role in fullness throughout the day. Like fat, protein has minimal impact on blood sugar levels.
 - 4 calories/gram

Micronutrients - do not provide calories, but are required for bodily processes.

1. Vitamins (vitamin C, vitamin A, vitamin B12, etc.)
2. Minerals (iron, magnesium, potassium, etc.)

While it is important to have intakes of both macronutrients and micronutrients, the way to keep things easy is to *focus more on the macronutrients*.

Eating according to the balanced plate model and consuming balanced macronutrients, also ensures your meals have adequate micronutrient content. Additionally, eating a variety of foods also ensures you are meeting your nutrient goals because different foods contain different nutrients.

The Macronutrients

Carbohydrates

Grains

whole wheat breads/bagels
whole wheat english muffins
whole wheat pasta
brown & wild rice
whole wheat tortillas
whole wheat cereals
oatmeal or steel cut oats
air popped popcorn

All of the following are also whole grains:
quinoa, barley, farro, couscous, millet, bulgar, buckwheat, spelt, rye, sorghum, amaranth, teff

Starchy Vegetables

white & sweet potatoes
corn
green & split peas
beans (black, pinto, etc.)
lentils
butternut squash
acorn squash
parsnips
pumpkin
plantain
beets

Fruit

fresh fruit
frozen fruit
dried fruit
canned fruit

Other

honey, milk, maple syrup

Fat

Saturated

cheese
heavy or sour cream
coconut oil
coconut milk
butter
ghee

Unsaturated

olives
olive oil
avocados
avocado oil
guacamole
chia seeds
flaxseed
nut butters
nuts/seeds

Protein

Lean

fish
chicken
turkey
venison
bison

Less Lean

beef & pork

Other

whole eggs/egg whites
protein powder
greek yogurt
cottage cheese
jerky
tofu

Non-Starchy Vegetables

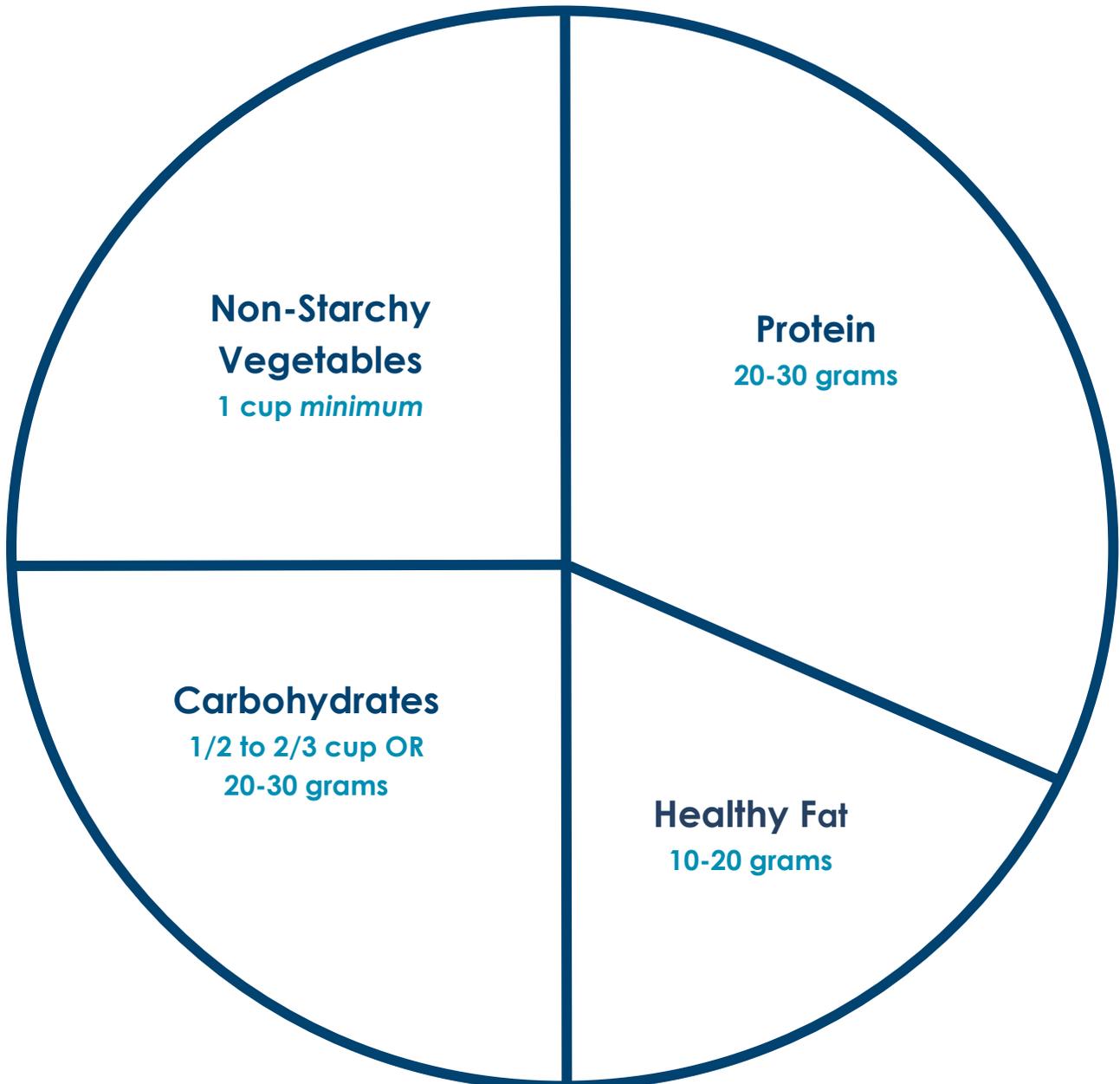
The non-starchy veggie category includes *all other veggies not listed on the starchy veggie list*. Non-starchy veggies technically fall into the carbohydrate category, however, they contain a minimal amount of carbohydrate compared to the starchy veggies. This low carbohydrate content, but high micronutrient content, is why non-starchy veggies make up most of the plate.

Artichoke	Jicama	Sprouts
Asparagus	Kohlrabi	Spaghetti Squash
Broccoli	Leeks	Spinach
Brussels Sprouts	Lettuce	Snap Peas
Cabbage	Mushrooms	Swiss Chard
Carrots	Okra	Tomato
Cauliflower	Onions	Turnips
Celery	Pea pods	Turnip Greens
Collard Greens	Peppers	Yellow Squash
Cucumber	Radishes	Water Chestnuts
Eggplant	Rutabaga	Zucchini
Green Beans	Salad Greens	

Foods that contain more than one macronutrient get categorized into the group that they contain the most of (i.e. peanut butter contains protein and fat, but contains more fat).

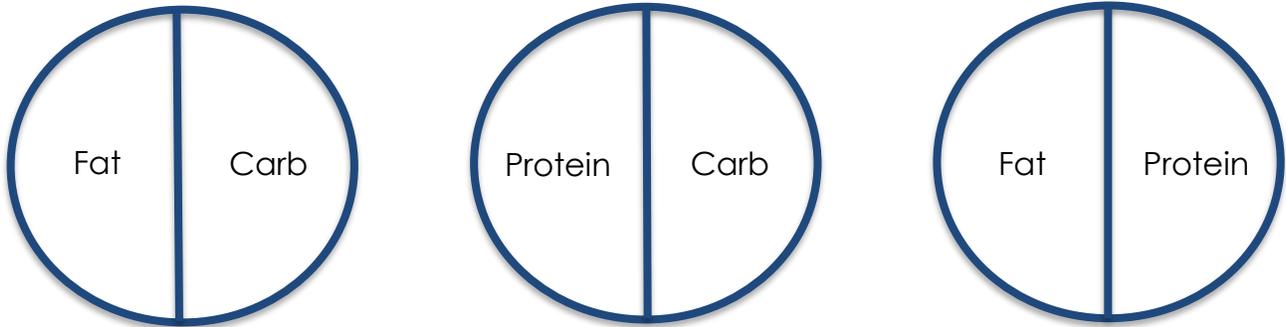
Balancing Macronutrients at Meals

The picture below is how a typical meal should look *most of the time* for lunch and dinner. For breakfast, you can aim for the same portions of carbohydrate, fat and protein, but do not have to have a veggie. If you do not want to focus on measuring grams or portions, simply focus on getting 1/4 of your plate carbohydrate, 1/4 non-starchy vegetable, 1/3 protein, and some healthy fats as well.



Balancing Macronutrients at Snacks

At meals, it is important to get a balance of all three of the macronutrients. At snacks, however, aim for at least two of the macronutrients. The examples below are how you can combine the macronutrients at your snacks.



Here are some examples of snacks that have a combination of macronutrients.

- 1 medium piece of fruit (C) + 1 TB nut butter (F)
- 3/4-1 cup of sliced fruit (C) + 1 low-fat cheese stick (F+P)
- 2 oz low-sodium turkey or ham (P) + 15 whole grain crackers (C)
- 1 cup non-starchy veggies (C) + 2 TB hummus (F)
- 5.3 oz container greek yogurt (P) + 1/2 cup sliced fruit (C)
- 1/2 cup cooked oatmeal (C) + 1 TB nut butter (F)
- 10 almonds (F) + 2 TB raisins (C)
- 1 pc whole wheat toast (C) + 1 TB nut butter (F)
- 2 TB avocado (F) + 15 baby carrots (C)

Fat

Each portion size listed below equals about **5 grams** of fat. Fat grams for items not listed can be found on the food's nutrition label by checking serving size and total fat grams.

- ✓ 1 tsp oil, butter or mayonnaise
- ✓ 1 Tbsp salad dressing or cream cheese
- ✓ 1 Tbsp seeds (pumpkin, sesame, etc.)
- ✓ 16 pistachios
- ✓ 10 peanuts
- ✓ 6 almonds, cashews, or mixed nuts
- ✓ 4 pecans or walnut halves
- ✓ 2 Tbsp avocado
- ✓ 1.5 tsp natural peanut butter
- ✓ 8 to 10 olives
- ✓ 2 Tbsp half and half
- ✓ Cheeses vary in fat content, check the nutrition label

Protein

- 1 oz of protein = 7 grams of protein
- Measure protein ounces after cooking
- The size of a deck of cards equals 2-3 oz of protein

Carbohydrates

Each portion of carbohydrate listed below equals around **15 grams** of carbohydrate. When looking for carbohydrate content on the nutrition label, look at serving size and total grams of carbohydrate.

- ✓ 1 small apple
- ✓ 1 apricot
- ✓ 1/2 banana
- ✓ 3/4 cup blueberries
- ✓ 3/4 cup blackberries
- ✓ 15 cherries
- ✓ 1/2 cup fruit salad
- ✓ 15 medium grapes
- ✓ 1 large kiwi
- ✓ 1 cup melon
- ✓ 1 medium orange
- ✓ 1/2 mango
- ✓ 1 cup papaya
- ✓ 1 large peach
- ✓ 1 medium pear
- ✓ 3/4 cup pineapple
- ✓ 2 small plums
- ✓ 1/2 pomegranate
- ✓ 1 cup strawberries
- ✓ 1 cup raspberries
- ✓ 1/2 cup corn
- ✓ 1/2 cup peas
- ✓ 1/2 cup potatoes
- ✓ 1 small baked potato (3")
- ✓ 1/2 cup beans, cooked
- ✓ 1/2 cup lentils, cooked
- ✓ 1 cup dairy milk
- ✓ 1/3 cup rice, cooked
- ✓ 1/3 cup quinoa, cooked
- ✓ 1/2 english muffin
- ✓ 1/4 large bagel
- ✓ 1/2 cup oatmeal, cooked
- ✓ 4" pancake
- ✓ 3 cups popcorn
- ✓ 3/4 oz pretzels
- ✓ 1 slice wheat bread
- ✓ 15 whole grain crackers
- ✓ 1/2 cup pasta, cooked
- ✓ 6" tortilla
- ✓ 1 Tbsp honey or syrup

Homework

Use the foods list on page 3 to complete the table below. Pick one day during your week and list what foods fall within each macronutrient group for each meal and snack on that day.

Breakfast	Lunch	Dinner
Protein:	Protein:	Protein:
Fat:	Fat:	Fat:
Carb:	Carb:	Carb:
Non-Starchy Veg:	Non-Starchy Veg:	Non-Starchy Veg:

Snack 1	Snack 2	Snack 3
Protein:	Protein:	Protein:
Fat:	Fat:	Fat:
Carb:	Carb:	Carb:
Non-Starchy Veg:	Non-Starchy Veg:	Non-Starchy Veg: