Module 4

NUTRIENT: CARBOHYDRATES

CARBOHYDRATES

- FUNCTIONS IN THE BODY:

➢ Provides the body with energy

➢ Works together with proteins to aid growth and repair the body.

CARBOHYDRATES

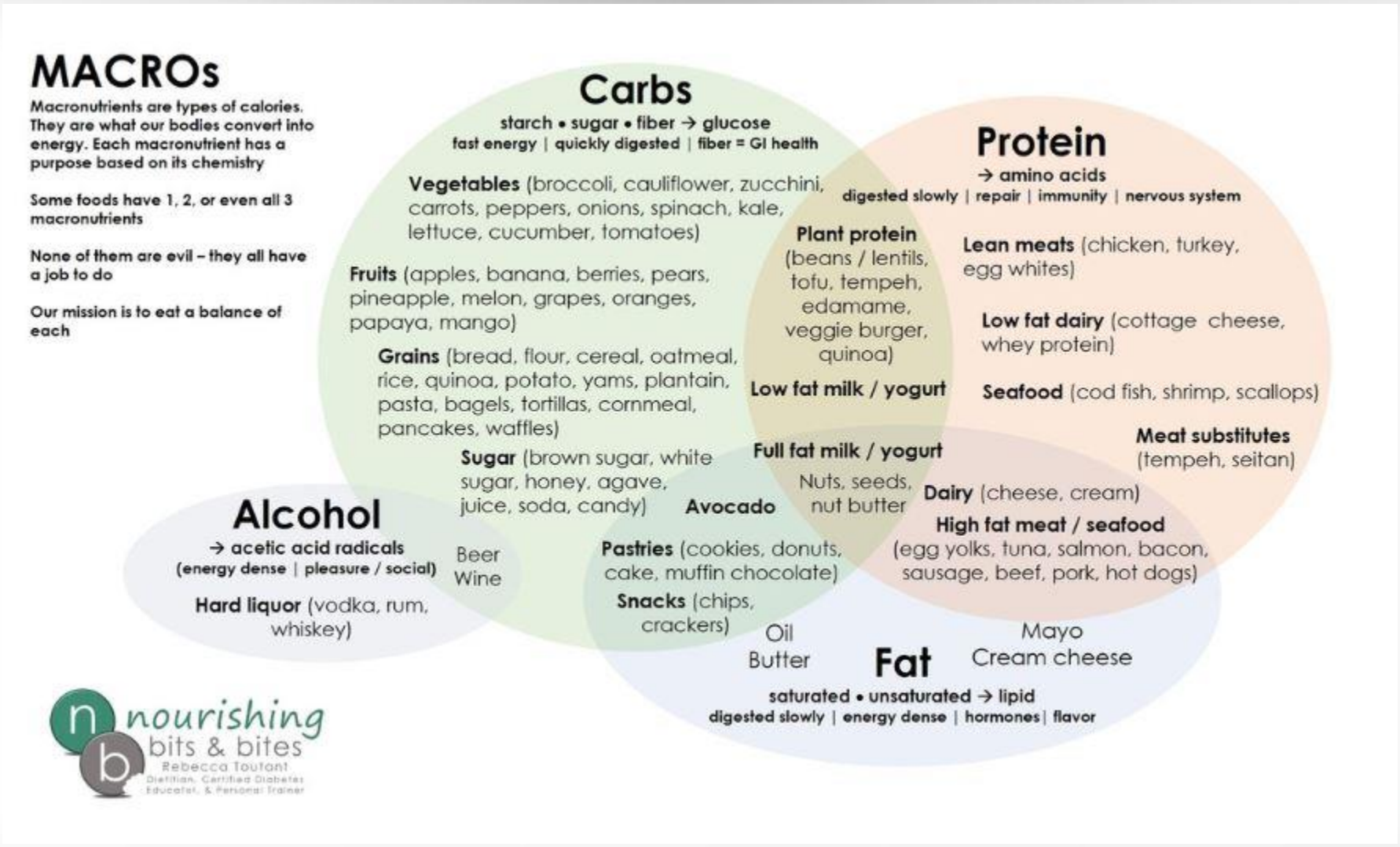
- TYPES OF CARBOHYDRATES:

✓Starch: Polysaccharides (PASTA)

✓Sugar: Monosaccharides (simple sugar)
Glucose and Fructose (fruit sugar)
Disaccharides (double sugar)
Lactose (from milk) and sucrose

✓ NSP: Non-starch polysaccharides (banana)

CARBOHYDRATES



CARBOHYDRATES

CONVERSION OF CARBOHYDRATES INTO ENERGY

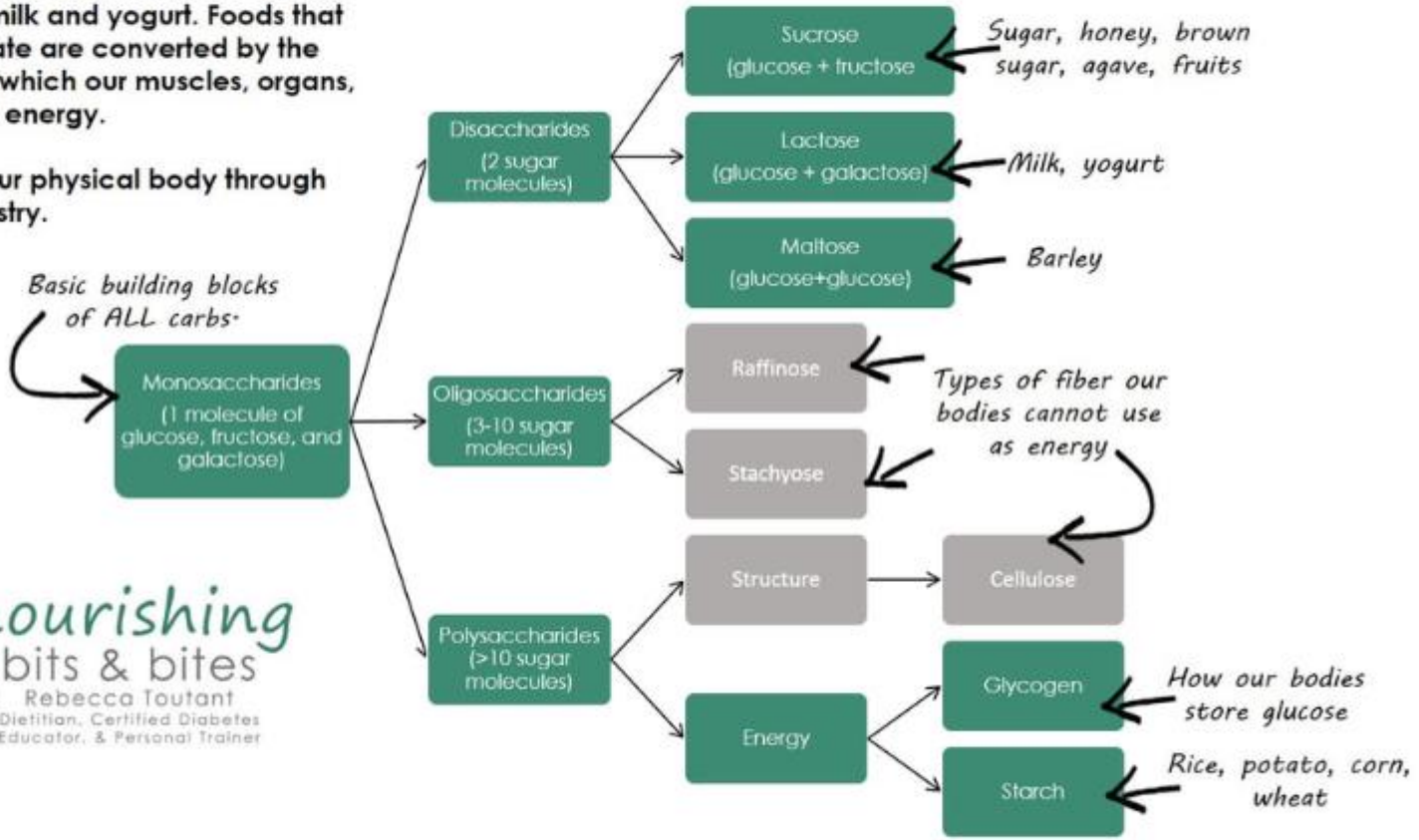
Complex **carbohydrates** are an efficient source of **energy** that fuel muscle contractions. Once eaten, **carbs** are broken down **into** smaller sugars (glucose, fructose, and galactose) **to** be used **as energy** for immediate tasks. Any unused glucose will be **converted into** glycogen and stored **in** the muscles and liver for future use

CARBOHYDRATES

Carbs

Carbohydrates come from any food that is a plant as well as milk and yogurt. Foods that have carbohydrate are converted by the body to glucose which our muscles, organs, and brain use for energy.

Food nourishes our physical body through balanced chemistry.



nourishing bits & bites
Rebecca Toutant
Dietitian, Certified Diabetes Educator, & Personal Trainer

CARBOHYDRATES

Highest Carbohydrate

The seed portion of the plant has the most carbohydrate. This includes things like grains (rice, wheat, oats, etc), corn, peas, and beans

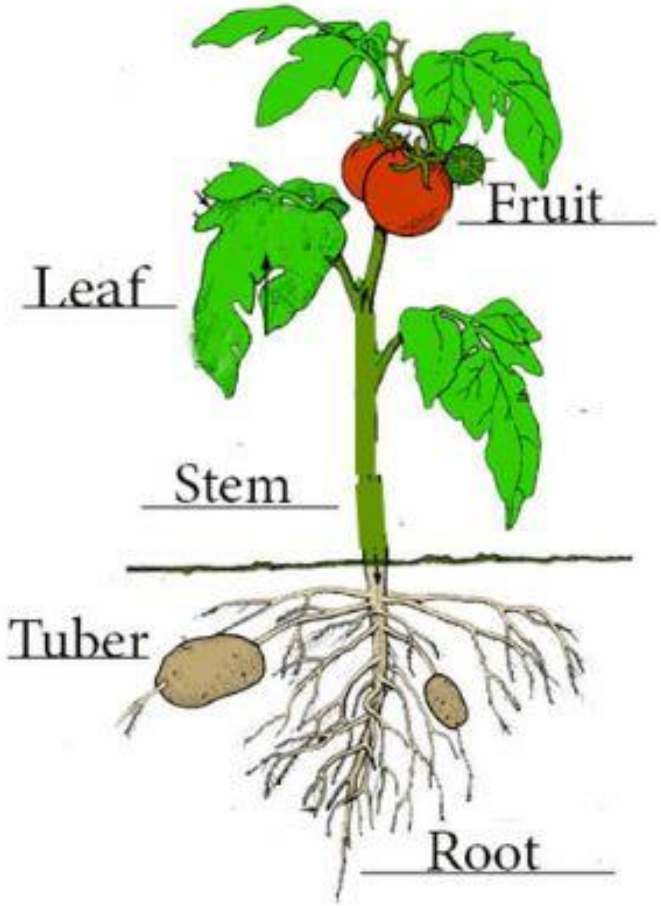
The tuber portion of the plant has the 2nd most carbohydrate. These are the swollen underground stems. This includes things like potato, yucca, taro root

The fruit portion of the plant has the 3rd most carbohydrate. This is the fleshy part that we eat. It includes things like apples, bananas, squash, berries, etc

The root portion of the plant has the 4th most carbohydrate. This is the part that is underground. This includes things like radishes, carrots, parsnips, turnips

The vegetable portion of the plant has the least carbohydrate. These are the leaves, stems, and immature flowers of plants. This includes things like cabbage, lettuce, celery, cauliflower

Lowest Carbohydrate



CARBOHYDRATES

Orange juice

Fruit juice

Orange juice is the liquid extract of the fruit of the orange tree, produced by squeezing oranges. It comes in several different varieties, including blood orange, navel oranges, valencia orange, clementine, and tangerine. Wikipedia

Nutrition Facts

Orange juice

Amount Per 1 cup (248 g)

Calories 111	
	% Daily Value*
Total Fat 0.5 g	0%
Saturated fat 0.1 g	0%
Polyunsaturated fat 0.1 g	
Monounsaturated fat 0.1 g	
Cholesterol 0 mg	0%
Sodium 2 mg	0%
Potassium 496 mg	14%
Total Carbohydrate 26 g	8%
Dietary fiber 0.5 g	2%
Sugar 21 g	
Protein 1.7 g	3%

~75% of the carbs come from sugar

Oatmeal

Oatmeal is made of hulled oat grains – groats – that have either been ground, steel-cut, or rolled. Ground oats are also called "white oats". Steel-cut oats are known as "coarse oatmeal" or "Irish oatmeal" or "pinhead oats". Wikipedia

Nutrition Facts

Oatmeal

Amount Per 1 cup, cooked (234 g)

Calories 158	
	% Daily Value*
Total Fat 3.2 g	4%
Saturated fat 0.5 g	2%
Polyunsaturated fat 1 g	
Monounsaturated fat 0.9 g	
Trans fat 0 g	
Cholesterol 0 mg	0%
Sodium 115 mg	4%
Potassium 143 mg	
Total Carbohydrate 27 g	
Dietary fiber 4 g	
Sugar 1.1 g	
Protein 6 g	12%

~75% of the carbs come from starch and fiber

CARBOHYDRATES

- Consider the above labels comparing orange juice and oatmeal. Both have the same amount of total carbohydrate (27 grams)
- Both will create blood glucose (quick energy)
- BUT oatmeal will keep you fuller longer and create less total blood sugar
- Why? 77% of the carbohydrate in orange juice comes from sugar (21 / 27 grams).
- But in oatmeal, 77% of the total carbohydrate comes from starch (21 grams) and fiber (4 grams) - which take longer to digest. The oatmeal also has 6 grams of protein which takes longer to digest