* Three types of nutrients provide energy
	+ protein
	+ Carbohydrates
	+ fats
* **Carbohydrates:** Starches and sugars found in foods which provide your body’s main source of energy.
* you should get 45 - 60 % of your calories from carbs
* Three types:
	+ simple - Sugars such as fructose and lactose found in fruit and milk.
	+ complex- starches, these are long chains of sugars linked together (grains, pasta, beans, root vegetables..)
		- The difference in simple and complex is in how quickly they are digested and their chemical makeup.
	+ fiber- complex carb that the body cannot digest.  It helps move waste throughout your digestive system.
		- help you feel full and can prevent cancer, heart disease and type 2 diabetes
		- Girls - 28grams/day boys - 38 grams/day
		- fruits, vegetables, whole grains, nuts, seeds
	+ Your body uses Carbs by breaking them down to their simplest forms.  Usually they are broken into a simple sugar called glucose which is the main source of fuel for the body.  It can also be stored in tissue and used at a later time.  (weight gain)
* Carbs: <https://www.youtube.com/watch?v=-fSt7aWaVqE>
* **Protein:** nutrients the body uses to build and maintain its cells and tissues.
* Your body uses 20 amino acids.  11 are produced by your body and called non-essential, the other 9 come from foods you eat and are called essential.
* meat, eggs, dairy products, Quinoa and soy are called complete proteins because they contain all 9 essential amino acids.
* You can get all 9 from eating a variety of nuts, beans and vegetables.
* Protein is the basic building material of your body cells, muscles, bones, skin and internal organs.
* Protein does a variety of other things as well, for example.  Hemoglobin in your blood carries oxygen in your bloodstream to other parts of your body.
* Protein can also provide energy but takes much longer for your body to break down so is not an ideal source for energy.
* boys - 52 grams/day girls - 46 grams/day
* Protein: <https://www.youtube.com/watch?annotation_id=annotation_927023009&feature=iv&src_vid=-fSt7aWaVqE&v=CzBGa8KnM3Q>
* **Fats:**
* Two types of fat:
	+ Saturated: More saturated with Hydrogen molecules, Less healthy fat
	+ Unsaturated: Less saturated with Hydrogen molecules.  Healthier Fat, Vegetable oils, nuts and seeds
		- Trans Fat: Formed by a process of hydrogenation, the oils solidify. They raise cholesterol and increase risk of heart disease
* Your body needs a certain amount of fat but eating too much can result in weight gain.
* Fats provide energy, help brain development, blood clotting and controlling inflammation.
* Calories not used are stored as fat deposits called adipose tissue.
* Eating saturated fats and trans fat increase the level of cholesterol which is a waxy fat like substance in your blood stream.
* Fat takes 100 times longer to metabolize than Carbohydrates
* Fats can be used for energy during endurance activities
* Teens should consume less than 25% - 30% of their diet in fats
* Vitamins are compounds found in foods that help regulate many body functions
* Vitamin C, Folic Acid, and B Vitamins are water soluble which means they are easily dissolved in the digestive process
* s and pass into the bloodstream.  The body doesn’t store these vitamins.  Unused vitamins are removed by the kidneys
* Vitamin A, D, E, K are fat soluble which means that they are stored in body fat for later use.   If consumed in large amounts, they can be stored and eventually become harmful.
* Common Vitamins:
	+ A- night vision, stimulates production of white blood cells, regulates cell growth, repairs bones and tissue, aids immunity, maintains healthy skin.
		- Carrots Sweet Potatoes, Tomatoes, Leafy vegetables, fish, liver, fortified milk and cereal, egg yolks
	+ D - needed for building bones, aids immune function, regulates cell growth
		- fortified cereals and dairy products, fatty fish like salmon and tuna, sunlight
	+ E - Protects Cells, aids blood flow, helps repair body tissue
		- Fish, milk, eggs, veg. oil, fruits, nuts, peas, beans, broccoli, spinach, fortified cereal
	+ K - essential for blood clotting, aids bone formation
		- leafy vegetables, veg. oil, cheese, broccoli, tomatoes
	+ B1 -  Helps use carbs to produce energy, promotes health of nervous system
		- lean pork, liver, enriched and whole grain cereal
	+ B2 - Helps use carbs, protein and fat, helps maintain healthy skin
		- lean beef, pork, organ meats, legumes, eggs, cheese, milk, nuts, enriched grain products
	+ B3 - helps body process proteins and fats, maintains health of skin, nervous system and digestive system
		- liver, poultry, fish, beef, peanuts, beans, enriched grain
	+ B6 - helps body use protein and fat, supports immune and nervous sys, helps blood carry oxygen, helps maintain blood sugar, breaks down iron and copper
		- organ meats, pork, beef, poultry, fish, eggs, peanuts, bananas, carrots
	+ 
* Minerals are elements found in food that are used by the body.
* Your body cannot produce minerals so you must get them from food.
* One very important mineral is calcium which promotes bone health.
* Eating foods high in calcium can help prevent osteoporosis
* Osteoporosis - a condition in which the bones become fragile and break easily.  It is most common in women over the age of 50
* You can prevent this now because bone mass builds most rapidly
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<https://www.youtube.com/watch?v=ISZLTJH5lYg>

Water

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<https://www.youtube.com/watch?v=9iMGFqMmUFs>