NUTRITION THERAPY INSTITUTE

NTI Eats

Optimal Nutrition eBook

10 Foods To Eat That Boost Your Nutrient Intake

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303-377-3974

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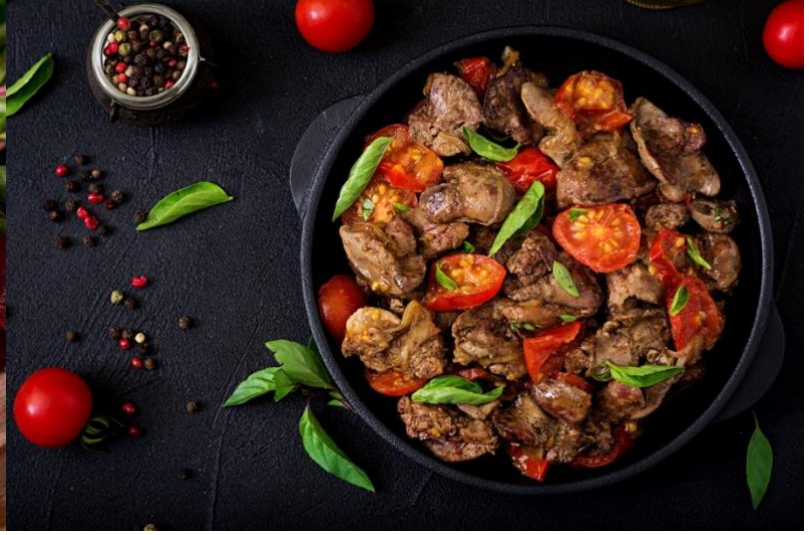
Nutrient Density

NTI places a high priority on our students understanding the nutrient density of foods. Often times, people assess the nutritional value of their diet based on what they eliminate (i.e. fat, sugar or refined grains), but forget they need to increase their nutrient intake by adding other foods into their daily regimen. This booklet describes 10 of the most important foods that one can include in their diet to help boost their nutrient intake. Whether you choose to include them daily or weekly, adding these foods will go a long way to improving the nutritional value of your overall diet.

For more of this type of information about the science of nutrition, apply to become a student at NTI – Choose to create optimal health through nutrition education.



Beets

Beets are a root vegetable many people avoid. "It's too earthy tasting" is a common reason given for passing on them. While beets aren't a powerhouse source of the common vitamins and minerals, they are one of the highest sources of dietary nitrates. This is important because nitrates are precursors to Nitric Oxide (NO), a critical cell signalling molecule necessary to maintaining health. It is required for immune system defense and neuronal communication, but the most well known function is in controlling vascular tone. NO initiates vasodilation which improves blood flow and helps modulate blood pressure. Besides nitrates, beets are a fairly good source of folate, potassium and manganese.

Beets nutrient highlights: (1 cup raw)	
Vitamin C	11%DV
Folate (B9)	37%DV
Potassium	13%DV
Manganese	22%DV
Fiber	15%DV

Source: USDA nutrient data

Serving Suggestions:

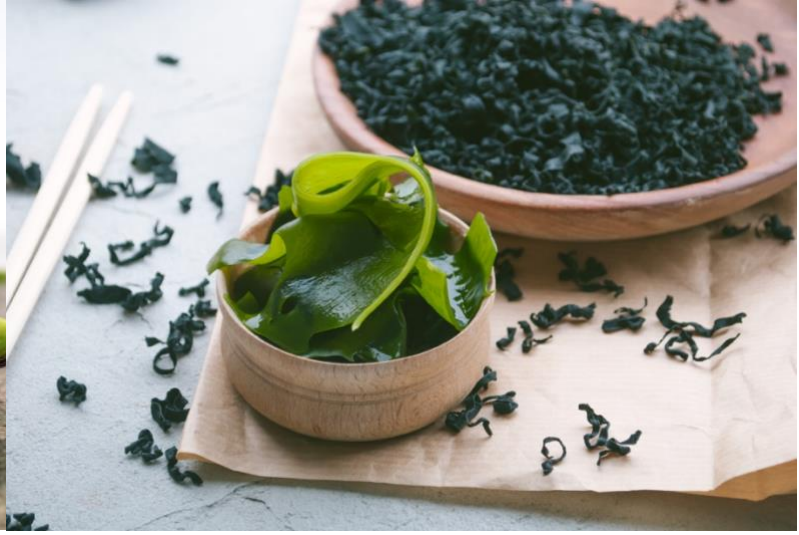
Beets can be eaten raw, roasted, boiled, dehydrated and fermented. Try shredding a raw beet for salad, or roasting beets with garlic and onion.

Liver

Liver is a quintessential nutrient dense food, rich in B-vitamins and minerals. Many people relegate liver to the list of obsolete foods our great grandparents ate, but it's making a comeback as nose-to-tail eating becomes more popular and as people recognize its value as a nutritional heavyweight. For those squeamish about eating liver because of its implications for toxicity, know this – in a healthy animal, the liver doesn't store toxins. It certainly processes toxins, but they are metabolized and cleared very effectively when the animal is eating and living its physiologically natural diet and lifestyle. Make sure to source only 100% pasture raised or grass-fed liver – to avoid the risk of an unhealthy animal with a toxic liver.

Beef Liver nutrient highlights: (3 oz braised)	
Vitamin A	534%DV
Riboflavin (B2)	168%DV
Niacin (B3)	75%DV
Pyridoxine (B6)	42%DV
Folate (B9)	54%DV
Cobalamin (B12)	987%DV
Iron	30%DV
Copper	600%DV
Zinc	30%DV
Selenium	42%

Source: USDA nutrient data



Avocado

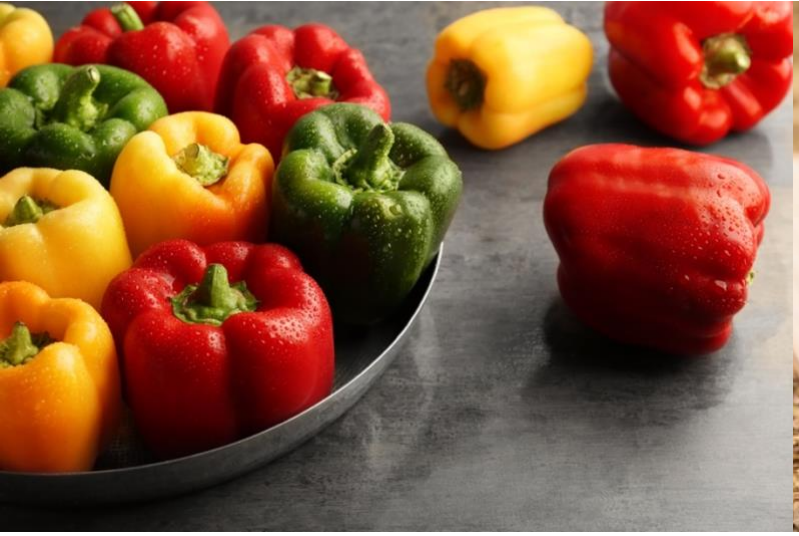
Avocados sometimes get a bad rap because they are high in fat. Yet, their nutrition profile reveals a different interpretation, putting them into the nutrient dense category. Yes, they are a relatively high fat fruit (yes, they are technically a fruit), providing 11gm of fat per ½ cup, but the vast majority of that, 7gm, is monounsaturated. Monounsaturated fats, a key component of the Mediterranean Diet, are known for their cardiovascular benefits in reducing blood cholesterol and triglyceride levels. Chief nutrient contributions of avocados include potassium, vitamin C, vitamin E, vitamin K1, Vitamin B6, folate, pantothenic acid, and fiber. Mashed as guacamole, diced as a topping on chili, soup, or salad, or disguised in raw avocado chocolate pudding, a daily avocado is a great way to boost your nutrient intake.

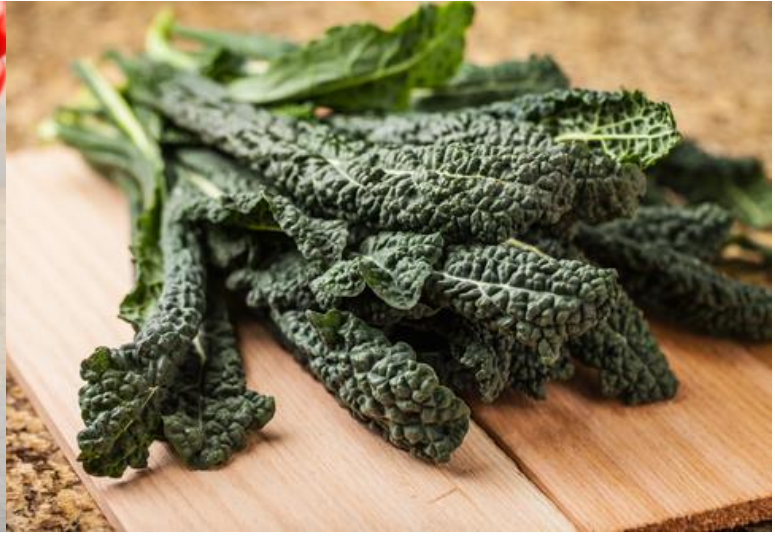
Avocado nutrient highlights: (1/2 cup raw)	
Vitamin C	13%DV
Vitamin K1	19%DV
Vitamin E	8%DV
Pyridoxine (B6)	10%DV
Folate (B9)	15%DV
Pantothenic acid (B5)	10%DV
Potassium	11%DV
Fiber	20%DV

Source: USDA nutrient data

Seaweed

Seaweed is relatively uncommon in our Western diets, usually only consumed as a component of sushi. But if we take a look at our Pacific neighbors, we'd see that in Japan they eat over 20 different species of seaweed and they consume it daily. A cursory look at the nutritional profile of seaweed offers evidence of why routine consumption of this algae is likely a key reason why a traditional Japanese diet is considered so healthy. Due to its marine habitat, seaweed is a rich source of minerals. The amounts vary across the different species, but in general, seaweeds have appreciable amounts of calcium, magnesium, and potassium. Seaweed is a highly reliable source of iodine, with many species providing a full day's iodine requirement in one teaspoon serving. Other nutritional benefits of seaweed include vitamin C, vitamin K1, antioxidants, chlorophyll and fiber. Seaweed can be eaten dried as a crispy, salty snack, added to soups and salads, or used as a seasoning, sprinkled on grains or pasta. A special indulgence is to do a seaweed bath or facial – releases minerals that have topical skin health benefits. Look for high quality sources, hand harvested in clean waters.





Bell Peppers

Bell peppers are a rich source of vitamin C and beta carotene (a carotenoid). Most people know about oranges being a source of vitamin C, but few know that bell peppers provide more of this important nutrient than oranges. Daily consumption of the sweetest variety, red bell pepper, provides more than 100% of your vitamin C needs. Even green, yellow, orange, and hot peppers are excellent sources of vitamin C. The deep, rich color of peppers is the visual sign that they are high in carotenoids – pigments that are fat soluble antioxidants. While cooking may decrease the vitamin C content of red bell peppers, it increases the content of lycopene, an antioxidant beneficial for prostate health, and lutein and zeaxanthin, carotenoid antioxidants required for healthy function of the macula region of the eye's retina. Consume raw as a sweet snack, sliced/diced in salads, used to dip hummus or guacamole, or chopped/cooked in soups, stews, etc.

Red Bell Pepper nutrient highlights: (1 cup sliced raw)	
Vitamin C	196%DV
Pyridoxine (B6)	13%DV
Folate (B9)	11%DV
Vitamin A	58%DV (as carotenoids, majority beta carotene)

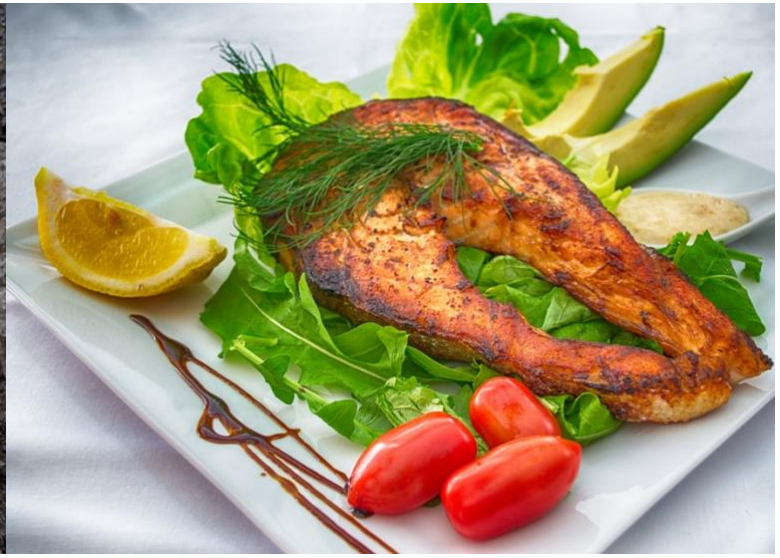
Source: USDA nutrient data

Kale

Kale is a well-recognized healthy food and when you look at the nutrition profile, you understand why. It is one of the highest vegetable sources of lutein and zeaxanthin with cooked kale providing 18,246 mcg/100g of these carotenoids vital to the health of the retina. Kale is high in vitamin K1 and vitamin C. It is a leafy green of choice as a good source of absorbable calcium (spinach is often thought to be great source, but it is high in oxalates that bind calcium and prevent absorption). Kale can be eaten raw or cooked; steamed with a little salt and balsamic vinegar is a good way to neutralize the slight bitterness that many people find distasteful.

Kale nutrient highlights: (1 cup cooked)	
Vitamin A	354%DV (as carotenoids, majority lutein and zeaxanthin)
Vitamin C	89%DV
Vitamin K1	1328%DV
Pyridoxine (B6)	9%DV
Copper	10%DV
Manganese	27%DV
Potassium	8%DV
Calcium	9%DV

Source: USDA nutrient data



Egg Yolks

Many people think they are doing themselves a favor by throwing out the yolk when they eat eggs, but nothing could be further from the truth. The yolk is the most nutrient dense portion – so keep both parts when you consume eggs. Yes, the yolk is where the majority of the fat is and all of the cholesterol, but even the USDA has taken a more progressive stance on dietary cholesterol, and in the 2015 Dietary Guidelines for Americans states it is "not a nutrient of concern for overconsumption". Eggs rank high in their contribution of complete protein to the diet – a benefit provided by the whites. But the yolk is where we get vitamin A, lutein and zeaxanthin, vitamin D, riboflavin, folate, pantothenic acid, B12 and selenium. Eggs from pastured chickens are known to have appreciable amounts of vitamin K2 – a necessary nutrient for healthy bones and teeth.

Egg Yolk nutrient highlights: (1 large raw)

Vitamin A	5%DV (63.1 mcg retinol; 186 mcg lutein and zeaxanthin)
Vitamin D	5%DV
Riboflavin (B2)	5%DV
Folate (B9)	6%DV
Cobalamin (B12)	11%DV (whole egg; 6% in yolk)
Phosphorus	7%DV
Selenium	14%DV

Source: USDA nutrient data

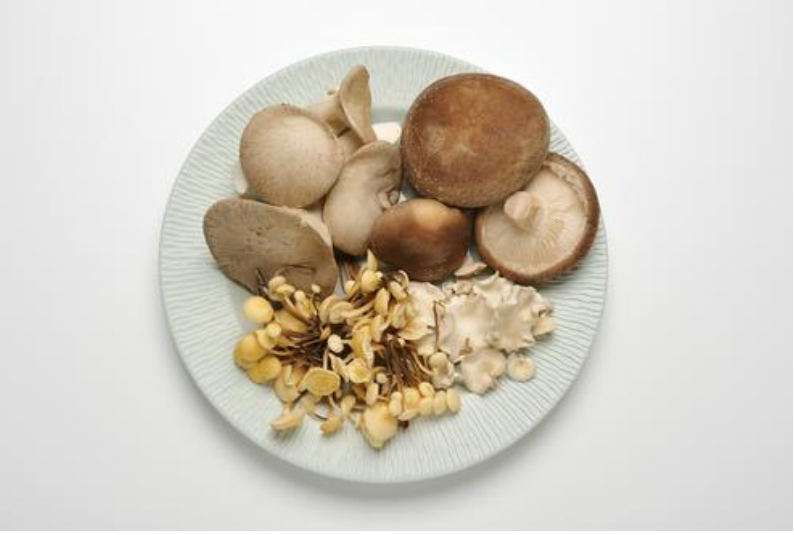
Salmon

It is likely no surprise that salmon is classified a nutrient dense food – it is rich in the essential fatty acids EPA and DHA as well as vitamins and minerals. Canned salmon with bones has an added benefit of being a large contributor of absorbable calcium. EPA is a potent anti-inflammatory fatty acid and DHA is required for proper brain and retina function – 1 lb of salmon provides 3836 mg EPA and 3659 mg DHA. For those who avoid ocean fish due to potential mercury contamination, salmon is known as a low mercury fish. Additionally, there is evidence that fish with high selenium levels is protective against mercury toxicity, and salmon is very high in selenium. Look for wild-caught salmon from the Pacific Northwest (i.e. Alaska) which has high fishing standards to prevent over harvesting.

Salmon nutrient highlights: (1 lb (454gm), canned with bones)

Vitamin D	708%DV	Potassium	42%DV
Vitamin E	15%DV	Calcium	97%DV
Riboflavin (B2)	50%DV	Zinc	28%DV
Niacin (B3)	148%DV	Copper	23%DV
Folate (B9)	17%DV	Iron	21%DV
Cobalamin (B12)	333%DV	Magnesium	39%DV
Selenium	215%DV		

Source: USDA nutrient data



Garlic & Onions

You probably won't be eating garlic and onions by the pound and they likely won't to be a staple consumed with every meal of the day, but they are a good source of some unique nutrients which makes them an important addition to the diet. These allium family vegetables are among the oldest cultivated plants, used for both food and medicine. Therapeutic benefits, reported as early as 1550 BC, include antibacterial, antifungal, antiparasitic, helpful for prevention of cancer, intestinal disturbance, hypercholesterolemia, asthma, liver disease and more. Many of these biological effects are due to their content of thiosulfinates, the sulfur compounds that give garlic and onions their characteristic pungent taste. Other notable constituents include saponins, sapogenins, and flavonoids. Onions have been shown to have the highest total flavonoid content as compared to many other vegetables, which makes them an important source of dietary antioxidants.

Many credit much of the health benefits of the Mediterranean diet to the substantial use of garlic and onions. Rather than thinking of these unique foods as flavor additives, think of them more like another vegetable to include in your daily meal planning. Eat them roasted, sautéed, baked, and grilled. Although they can be eaten raw, it can be challenging for many; raw onions are little more tolerable than raw garlic.

Mushrooms

Mushrooms are the fungus you either love to eat or hate. Many people are downright afraid of eating mushrooms because of the association with toxicity of some wild mushroom varieties. However, mushrooms have been part of the human diet for thousands of years, millions of people around the world eat them every day, and the number of edible mushrooms probably outnumbers those that are toxic. So, if you stick with those sold in a grocery store and don't take chances harvesting wild mushrooms, you'll be adding a good source of both well known and not so well known nutrients. Of the more commonly consumed varieties – shitake and cremini (which includes white button, brown button, and portobello) – they are pretty good sources of the B vitamins niacin and riboflavin (between 15%-20%DV of each nutrient), and appreciable sources of minerals like manganese, copper and selenium. Mushrooms are also unique sources of some very specialized active compounds that have anti-bacterial, anti-inflammatory, anti-cancer, and immune enhancing effects – ergosterols (a form of vitamin D), sesquiterpenoid hydroquinones, triterpenes, illudins, and leaianafulvene are just a few of them. Mushrooms are best eaten cooked; their cell membranes have a tough structural component called chitin which isn't easily digested.

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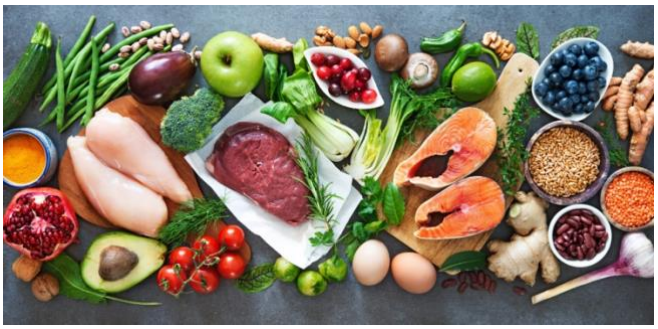
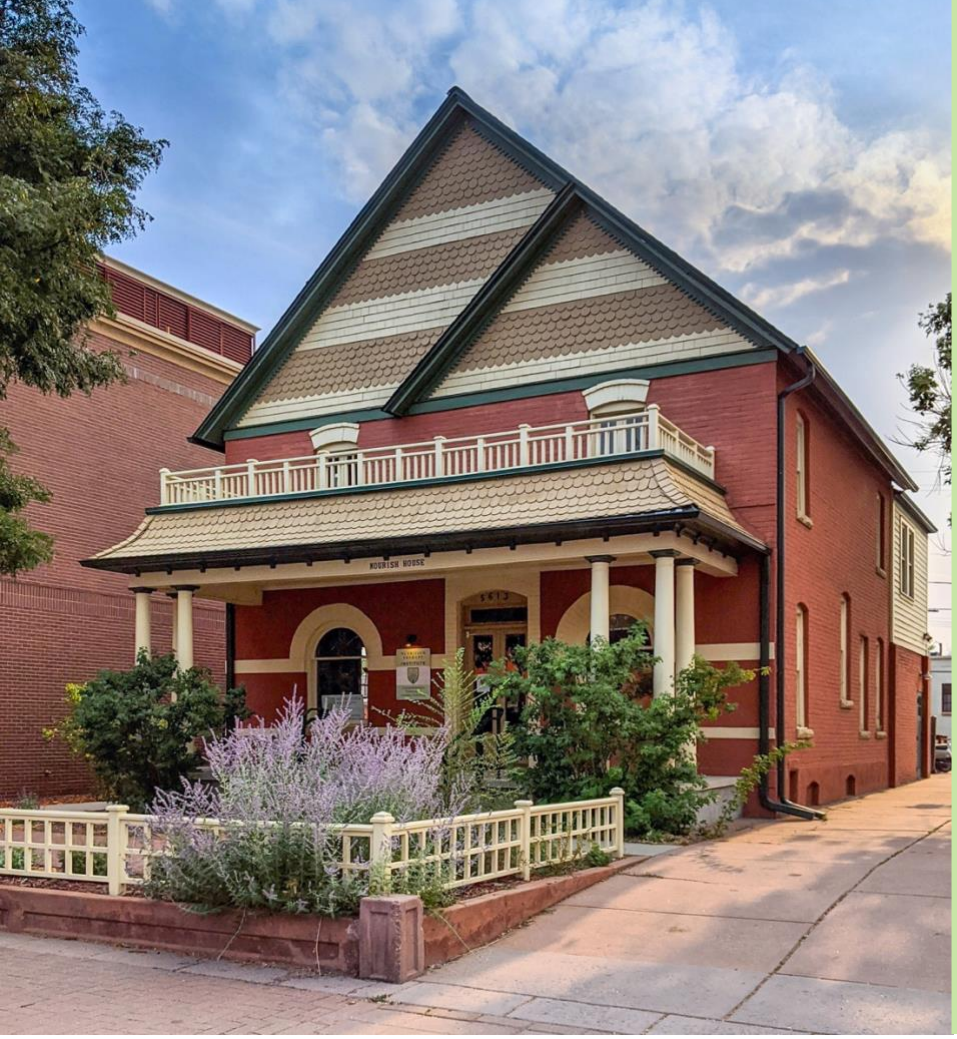


A good principle to remember: Eat a wide variety of foods, prepared in a wide variety of ways.

Other tips for eating nutrient dense include:

- Choose organic over conventional – less exposure to toxic agricultural chemicals.
- Choose 100% pastured or grassfed – animals are eating their biologically optimal diet; foods are higher in certain nutrients like vitamin D, Vitamin K2, and conjugated linoleic acid (CLA – known for its anticancer and weight loss benefits).
- Consume fats along with fat-soluble nutrients – vitamins A, D, E, K, and carotenoids are fat soluble and need to have fat in order to be properly absorbed. Nut butters, avocado, olive oil, ghee, butter – all are good fats to enhance absorption of fat-soluble nutrients.
- Try adding a new food to your repertoire every week.
- Eat some raw, some cooked, and sprinkle in a little fermented as well.
- Make vegetables a corner stone of the diet – focus on those with deep, dark, or bright colors.



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5613 Olde Wadsworth Blvd
Arvada, CO 80002
303-377-3974
office@ntischool.com