Adapted from AICR’s “Foods that Fight Cancer.” http://www.aicr.org/foods-that-fight-cancer/

**Phytochemicals** are naturally occurring plant chemicals that are found in many fruits and vegetables. Research has shown that these components have protective or disease prevention properties. Unlike vitamins and minerals which are needed to sustain life, phytochemicals are non essential. In nature, plants produce these chemicals to protect themselves, but it has been discovered that they are protective against disease for humans as well. An apple a day, keeps the doctor away, may very well be true!

**Antioxidants** are phytochemicals, antioxidants and other nutrients that protect our cells from damage from free radicals. This is associated with preventing heart disease and cancer. Vitamins C and E are examples of well-known antioxidants.

Phytochemicals? 
Antioxidants? 
What are they and why should I have more in my diet?
Examples of some Foods rich in Phytochemicals and Antioxidants

**Apples** are a good source of fiber and vitamin C. Most of the antioxidant power they provide comes from phytochemicals, including:

- **Quercetin**: a flavonoid that shows anti-inflammatory and antioxidant properties
- Other flavonoids, including **epicatechin** and, in red apples, **anthocyanins**

**Triterpenoids** are found especially in apple peel.

**Blueberries** are one of the most highly potent fruits for antioxidants, largely due to their high quantities of phytonutrients. They are also an excellent source of Vitamins C, K and manganese.

- **Anthocyanins**, **catechins**, **quercetin**, **kaempferol** and other flavonoids
- **Ellagitannins** and **ellagic acid**
- **Pterostilbene** and **resveratrol**

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**Dark Green Leafy Vegetables,** such as spinach, kale, and romaine provide folate, fiber, potassium and carotenoids. Carotenoids act as antioxidants, destroying free radicals preventing many types of cancer cells.

- **Carotenoids** such as *lutein* and *zeaxanthin,*
- **Saponins**
- **Flavonoids**

**Broccoli & Cruciferous Vegetables,** such as cabbage, brussel sprouts and cauliflower, are excellent or good sources of vitamin C and some are good sources of manganese. Dark greens are high in vitamin K.

- **Glucosinolates** are sulfur containing compounds found in all cruciferous vegetables which are protective against lung cancer and digestive tract cancers.

**Garlic** also contains sulfur based compounds such as *allicin, alliin, allyl sulfides and diallyl disulfide.* These are known to prevent certain types of cancers and promote healthy cholesterol. However, in order to activate these compounds the garlic needs to be chopped and exposed to air for 10 minutes before cooking! Watch [this video](http://www.aicr.org/foods-that-fight-cancer/) to learn more!
Winter squash such as acorn, butternut, and hubbard, are excellent sources of vitamin A, good sources of vitamin C and dietary fiber. They are also a good way to get potassium.

Winter squash, rich in carotenoids, including:

- **beta-carotene** and **alpha-carotene**: these carotenoids can act as antioxidants. Also, our bodies convert these to vitamin A, a nutrient important for immune function and maintaining healthy cells among other roles.
- **lutein** and **zeaxanthin**: these yellow pigmented carotenoids help protect eye health by filtering high-energy ultraviolet rays that can damage our eyes’ lens and retina. They act as antioxidants here and possibly elsewhere in our bodies.