**Grapes – *Fruit of the Vine***

1. **What is a grape**
2. A grape is the fruiting berry of the **deciduous** woody vine of the genus *vitus*
3. Deciduous literally means “falling off at maturity” but we generally think of it as trees/shrubs that lose their leaves seasonally. In this case it’s a vine and not a tree or shrub that loses it leaves.
4. Grapes grow in clusters of 15-300!
5. Grapes can be crimson, black, dark blue, yellow, green, orange and pink.
6. Grapes are grown on all of the earth’s continents except Antarctica.
7. Seedless grapes are grown using “vegetative propagation” which is a fancy name for saying they do not have seeds or spores. Plants are grown using “cuttings”.
8. Seedless grapes did not come about by genetic manipulation. Most actually came about because of natural mutations from which cuttings were used to grow more.
9. **Can you think of other plants that we might do this with?**
10. There are currently more than a dozen varieties of seedless grapes.
11. There are more than 8,000 varieties of grapes.
12. A raisin is any dried grape, however, the French actually use the term to refer to the fresh fruit. In French, “grappe” refers to the bunch.
13. une grappe de raisin (pronounced **oon** - **grahpay** – **du** - **rayzone**) actually means “a bunch of grapes”
14. North America and the rest of Europe pretty much uses the term raisin like we do.
15. **History of Grapes**
16. Grapes have long been abundant in history, growing wild since prehistoric times. Evidence suggests they were cultivated in Asia as early as 5000 BC.
17. Biblical references to grapes are numerous, often referred to as Fruit of the Vine.
18. Grapes have been depicted in hieroglyphs found in ancient Egyptian burial tombs.
19. In North America, native grapes grew wild across the continent and were part of the diet of many Native Americans.
20. Yeast is naturally found on the skins of grapes, which is what lead to the use of grapes in winemaking.
21. In Greek and Roman civilizations, grapes were revered for their use in winemaking.
22. By the time grape cultivation reached the Rhine Valley (Germany) around the 2nd century AD, over 90 varieties were already known to exist! This is still a major winemaking region.
23. The oldest winery was found in Armenia, dating to around 4,000 BC.
24. European colonists in North America considered the wild species growing here to be unsuitable for winemaking and thus they imported various cultivars for the expressed purpose of winemaking! (snobs!)
25. **Nutrition & Health Benefits**

NOTE: Grapes have been studied extensively, probably more than any other fruit so a lot of research exists to support their health benefits. That said, keep in mind grapes are not a Magic Bullet that can cure anything (except maybe a sweet tooth or hunger).

1. One cup of grapes will vary between 60-70 calories.
2. Like most fruit, grapes are an excellent source of fiber, both soluble and insoluble.
3. The skins provide insoluble fiber which is also called roughage and keeps our colon healthy.
4. The fleshy insides provide soluble fiber or the fiber that helps reduce risk of heart disease.
5. Grapes have a long list of “phytonutrients” or “phytochemicals”. These are just fancy names for what is known as “Plant Compounds that have health benefits.”

Phytonutrients will vary depending on the type of grape although grapes of the same color will be very similar nutritionally. That’s because many of the health benefits are found in the pigments!

1. All grapes are loaded with antioxidants and other polyphenols. The type may vary with color, but all antioxidants help neutralize harmful substances normally found in the body. Left unchecked, these harmful substances damage cells, which can lead to a number of health conditions and chronic illnesses.
2. The skins and seeds of grapes carry the highest content of antioxidants. Antioxidants are important because they help the body get rid of substances that can damage cells.
3. The dark red, purple, black varieties are **being studied** for potential benefits in reducing cancer risk, specifically breast, colon and prostate cancers.
4. All of the following benefits have been demonstrated in research studies on grapes and grape components:
5. Better blood pressure regulation
6. Better total cholesterol regulation and reduced LDL levels
7. Reduced likelihood of cell adhesion to blood vessel walls and less clumping of platelets when inappropriate *(think reduced risk of stroke)*
8. Better inflammatory regulation in the blood
9. Increased levels of glutathione in the blood *(think reduced cell damage and improved cell repair)*
10. There are many other studies happening with grapes and grape components, but that doesn’t mean you should go out and buy supplements that are made from grape components. Remember...just because a little is good, doesn’t mean a lot is better. Plus, we can’t just remove one compound from a plant and say that it, alone is responsible for the health benefits. These things all work together in the body. It’s all about balance!!
11. **Fresh, juice or wine?** All three will provide their own health benefits and certainly too much of any is not good either.
12. **Grapes or Raisins?** They are both loaded with health benefits so mix it up a little. When using raisins, try to combine with whole grains to reduce the impact to blood sugar.
13. **Other important nutrition/health information**
14. Genetic Engineering-While research is being done to develop a disease resistant grape vine using genetic engineering, at this time you aren’t likely to run across these on your supermarket shelves…yet. Seedless grapes are not the result of genetic engineering.
15. Organic – Buying organic is a very personal decision. It does cost more but some people feel that is worth the extra. (Usually 50% more) Some foods are likely to contain higher levels of pesticide residue. In fact, each year a research & advocacy group creates a “dirty dozen” list of foods that should always be purchased organic. Grapes are typically on that list with emphasis on Chilean imported. If you prefer organic and can’t find them, grapes grown in the US are likely to have fewer pesticides.
16. Some grape varieties will have a white dusty appearance. This is not dust, nor is it an ominous residue from something sprayed on. This is called “bloom” and is a natural coating on some soft fruits that protects it from moisture loss and decay.
17. **Selection & Storage**
18. Grapes don’t ripen once they are picked, so what you buy at the store is what you are going to get!
19. Look for bunches full of plump fruit without wrinkles or sticky skin.
20. Grapes should also be firmly attached to the stem and not leaking juice.
21. One way to help predict sweetness is by color. Green grapes should have a slight yellowish hue, red grapes should be mostly red, while purple and blue-black grapes should be deep and rich in color.
22. You can also use a chef's trick to check for ripeness — grab a stalk of grapes and shake. If the fruit clings to the stems, the grapes are fresh; if they fall off, they're over-the-hill.
23. Grapes should be stored unwashed in a plastic bag in the refrigerator for about a week.
24. **Preparation & Use**
25. Most grapes have been sprayed with pesticides. Wash with cool water thoroughly before eating.
26. You can eat them right off the stem as a snack. You can also pair them with low fat cheese, yogurt, or nuts for a power-packed snack!
27. Freeze them for a chilly snack during the hot months. You could even pair it with some cool whip for a healthy dessert.
28. Add them to salads, sandwiches, pizzas, yogurt, oatmeal, smoothies, etc.
29. **Fun Facts**
30. White grapes are actually green in color, and amazingly they evolved from the purple grape!
31. Grapes are in the top ten in the world for favorite fruits.
32. It takes 2 ½ pounds of grapes to make a bottle of wine.
33. The oldest grapevine in America is 400 years old in North Carolina.
34. The average person in the world eats about 8 pounds of grapes per year.
35. Grapes consist of about 80% water. Raisins are about 15% water.
36. If left alone, a grape vine will spread about 50 feet or more.
37. Approximately 71% of the world’s grapes are used for wine, 27% for fresh fruit, and 2% for dried fruit.
38. In 1869, Thomas Welch decided to pasteurize the juice of the Concord grape to produce a non alcoholic beverage for sacramental use, creating the first preserved grape juice known. He called it “Dr. Welch’s Unfermented Wine” and sold it in burgundy-style bottles. His son Charles, who later took over leadership of the business renamed the product “Dr. Welch’s Grape Juice.”
39. **Activities**
40. Taste test at least 3 different types of grapes to see the difference.
41. Taste test frozen grapes versus fresh grapes.