

Dried Fruit

1. **Dates, dried plums, dried figs, and raisins all provide a source of fiber. What are the benefits of consuming fiber? What is the difference between soluble and insoluble fiber?**

Primary-level response:

There are many health benefits to eating fiber. Fiber helps you feel full, helps keep your blood sugar level normal, and helps to avoid constipation. Fiber may also help lower the risk of high blood pressure, heart disease, stroke, and some types of cancer. Soluble fiber helps to control blood sugar levels and keep food in the stomach longer so that you feel full. Insoluble fiber helps move food through the body to prevent constipation.

Secondary-level response:

There are many health benefits to eating fiber. Fiber helps you feel full, helps keep your blood sugar level normal, and helps to avoid constipation. Fiber can also help people maintain a healthy weight. Fiber comes in two forms: soluble and insoluble. Soluble fiber dissolves in liquid forming a gel that helps to remove things like cholesterol from our system. It also helps to control blood sugar levels and keep food in the stomach longer so that you feel full. Insoluble fiber is also known as “roughage” and does not dissolve in water, moving through the colon mainly intact. It helps move food through the body to prevent constipation.

2. **Complete a nutrient analysis of your trail mix recipe (from Cooking in Class activity on page 1). Develop a Nutrition Facts label for your product. (Hint: Use the analysis tools available on www.nutritiondata.com.)**

Primary/Secondary-level response:

Answers will vary depending on ingredients. Refer to Nutrition Information on page 1 of newsletter for approximate values.

3. **The standard portion size for fruits and vegetables (fresh, frozen, or canned) is one-half cup. For dried fruit, it is one-quarter cup. Why do you think it is different for dried fruit?**

Primary/Secondary-level response:

Answers will vary.

When fruits and vegetables are dried, they shrink a lot in weight due to water loss, but they do not lose all their nutrients. When fruit is dried, the carbohydrates and some nutrients (such as minerals) in the fruit may become more concentrated. Dried fruit tends to have more calories than fresh fruit, which is also why a smaller portion size is recommended.

4. **What is potassium and what does it do for the body? When playing sports, what other minerals are needed for hydration? Develop an advertisement for dried fruit promoting the benefits of potassium.**

Primary-level response:

Potassium is a mineral that helps your brain tell your muscles when to move. When playing sports or doing moderate to vigorous physical activity, your body needs electrolytes, such as potassium, sodium, calcium, and magnesium.

[Student advertisements will vary.]

Secondary-level response:

Potassium is an essential mineral that helps your brain tell your muscles when to move. Potassium also helps keep a healthy blood pressure and helps the body use the energy found in carbohydrates. Critical to heart function, potassium also plays a key role in skeletal and smooth muscle contraction, making it important for normal digestive and muscular function.

Potassium is also an electrolyte, a substance that conducts electrical impulses in the body. Electrolytes are key for maintaining hydration. Potassium is not stored in the body and is easily lost with perspiration (e.g., when exercising or playing sports). Muscle cramping is a common symptom of the body not having enough potassium. Other electrolytes include: sodium (Na^+), potassium (K^+), calcium (Ca^{2+}), magnesium (Mg^{2+}), chloride (Cl^-), phosphate (PO_4^{4-}), and bicarbonate (HCO_3^{3-}).

[Student advertisements will vary.]

5. **What is a *Blastophaga psenes*? What is its role in the propagation of figs? Describe the pollination process called caprifigation.**

Primary/Secondary-level response:

Figs are classified into two varieties based on the tree's pollination and fertilization needs to produce fruit. The Smyrna fig (Calimyrna variety in California) requires pollination for fruit set

to occur, while the common type fig (Mission, Kadota, Adriatic) do not. The blastophaga psenes is a tiny wasp responsible for pollination of the Smyrna fig. The stingerless insect, smaller than a gnat, enters the flower at the open “eye” or bottom of the fig and pollinates/caprifries it by brushing pollen onto the female flower.

- 6. Develop a Venn diagram to compare and contrast various characteristics of grapes and raisins, including nutrient values. Give a presentation that explains the changes in nutrient composition when grapes are dried.**

Primary/Secondary-level response:

Answers will vary. Recommend students use ¼ cup and ½ cup serving sizes. Here are a few points to address with students:

- Change in sugar content (carbohydrate levels)
- Change in water content
- Change in vitamin C levels
- Slight changes in iron, calcium, and fiber values

Sources:

www.datesaregreat.com

www.fruitsandveggiesmatter.gov

www.calraisins.org

www.tablegrape.com

Updated: May 2011