



Harvest of the Month

Answer Key for Student Sleuths

DRIED FRUITS

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

- Dietary fibers are the portions of the plant our bodies cannot digest and move through our digestive tract absorbing water.
- Dietary fiber is a complex carbohydrate divided into two categories: water soluble and water insoluble.
- Insoluble fiber does not dissolve in water where soluble fiber does.
- In fruits, the outside skin is usually insoluble and the fleshy pulp is soluble fiber. Wheat bran and vegetables are usually insoluble.
- Soluble fiber has been shown to lower cholesterol and can help maintain steady blood sugar levels.
- Insoluble fiber helps maintain digestive health and has been correlated with a reduced risk of colon cancer. It may also help protect against heart disease.

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

Answers will vary depending on ingredients.

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

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/caprifigies it by brushing pollen onto the female flower.





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4. *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.*

Answers will vary.

Serving Size: 1 cup grapes, Thompson seedless

Nutrition Facts	
Serving Size 1 cup, seedless (160g)	
Amount Per Serving	
Calories 110	Calories from Fat 2
% Daily Value*	
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat	
Cholesterol 0mg	0%
Sodium 3mg	0%
Total Carbohydrate 29g	10%
Dietary Fiber 1g	6%
Sugars 25g	
Protein 1g	
Vitamin A 2%	• Vitamin C 29%
Calcium 2%	• Iron 3%
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.	
NutritionData.com	





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Serving Size: $\frac{1}{4}$ cup raisins (Thomson seedless)

Nutrition Facts	
Serving Size 43g	
Amount Per Serving	
Calories 129	Calories from Fat 2
% Daily Value*	
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat	
Cholesterol 0mg	0%
Sodium 5mg	0%
Total Carbohydrate 34g	11%
Dietary Fiber 2g	6%
Sugars 25g	
Protein 1g	
Vitamin A 0%	• Vitamin C 2%
Calcium 2%	• Iron 4%
<small>*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.</small>	
NutritionData.com	

A few points to address with students include the:

- Change in sugar content (carbohydrate levels);
- Change in water content;
- Change in Vitamin C level (a water soluble vitamin so the raisin has considerably less); and
- Slight changes in iron, calcium and fiber.





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5. ***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 fruits promoting the benefits of potassium.***

- Potassium is an essential mineral needed to regulate water balance, acidity levels and blood pressure.
- It also plays a key role in the contraction of muscles, including the heart and neuron function.
- The body needs potassium to maintain a healthy nervous system and to balance the body's metabolism of carbohydrates and proteins.
- 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.
- Electrolytes are key for maintaining hydration. Some examples of electrolytes are:
 - [sodium](#) (Na+),
 - [potassium](#) (K+),
 - [calcium](#) (Ca++),
 - [magnesium](#) (Mg++),
 - [chloride](#) (Cl-),
 - [phosphate](#) (PO4---). and
 - [bicarbonate](#) (HCO3-).

For information, visit:

www.nutritiondata.com

www.en.wikipedia.org

www.ers.usda.gov/Briefing/FruitAndTreeNuts/fruitnutpdf/Figs.pdf

www.datesaregreat.com

