

Peanut Classification

Objectives:

Students will be able to:

- identify the structures and functions that differentiate food items considered “nuts” (i.e., legumes, drupes, tree nuts).

National Learning Standards:

Next Generation Science Standards

- 4-LS1-1: Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

Common Core English Language Arts

- Writing Standards K-5, 2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

Activity Description: Students will look at actual samples of culinary nuts from different botanical classifications. Students will identify the structures that are similar and those that are different. As an extension, students will write a short explanatory article about the topic.

Materials

- Examples of botanical nuts (in their shell, if available): chestnuts, hazelnuts, or acorns
- Examples of botanical drupes (in their shell, if available): walnuts, almonds, pecans, cherries, peaches or plums
- Examples of legumes: beans, peas
- Peanuts in shell
- Labels: “Nuts”, “Drupes”, “Legumes”

Activity Steps

Activity Prep: Create large labels by folding three sheets of paper in half. Write one classification on each label: “Nuts”, “Drupes”, “Legumes”. Randomly set peanuts, botanical nuts, and drupe samples out on a central table. Keep legume samples hidden to start.

Step 1: Ask students to look at the samples on the table and ask for observations. Ask students what all of the items have in common. Listen for students to refer to all samples as “nuts.”

Step 2: Affirm student observations and bring out the “Nuts” label. Share with students that, we call all of these items nuts based on how we consume them. “Nuts” is the correct culinary definition of these items.

Step 3: Share with students that there is also a botanical definition. A botanical definition refers to the structure of the plant that provides the food we eat. Shift samples into three groups, bringing out the legume samples and additional labels.²¹ Display pictures of nuts, drupes, and legumes using this resource or a projector.

Step 4: Give each student a piece of paper and coloring utensils. Allow students to pick up a sample nut, drupe, or legume and illustrate on his/her paper. Students should label fruit (on nuts and drupes), shell or pod, and seeds.

Step 5: Have students write a short summary clarifying the botanical classification of these food items.

Step 6: Remind students that all culinary nuts are a delicious and nutritious food choice. Nuts can be a great component to meals, and snacking, morning, noon, and night.




Processing Questions:

1. What is the difference between a culinary definition and a botanical definition?
 - a. Listen for students to share that a culinary definition refers to how we consume a food, while the botanical definition refers to the plant on which it grows.
2. What are the main parts of the plant that determine the botanical definition?
 - a. Listen for students to identify fruit, seed and pod, or shell.

It's A Fact!

Plant based protein, like peanuts, do not contain cholesterol and are low in saturated fat.²²

English Language Arts: Peanut Classification (con't)

		
Nuts	Drupes	Legumes
Examples: chestnuts, hazelnuts, or acorns	Examples: walnuts, almonds, pecans, cherries, peaches, or plums	Examples: peanuts, beans, peas
Structure: hard-shelled pod that contains the fruit and seed of the plant. Chestnuts and hazelnuts are fruit and seed together!	Structure: fleshy fruit surrounds a shell with a seed inside. Walnuts, almonds and pecans are actually seeds! We often don't see the fruit from a walnut, which is used in things like animal feed.	Structure: seeds are grown in long cases called pods. Peanuts, beans, and peas are actually seeds. Legumes are great because they add nitrogen back into the soil!

¹ Agriculture Marketing Resource Center. (2020) Peanuts Retrieved from <https://www.agmrc.org/commodities-products/nuts/peanut-profile>.

² U.S. Department of Agriculture, Agricultural Research Center. (2010). U.S. crop analysis provided by Marshall Lamb, Ph. D., Research Leader, USDA-ARS [Peer Commentary on the paper "The green, blue and grey water footprint of crops and derived crop products" by M. M. Mekonnen, and A. Y. Hoekstra UNES-CO-IHE, Delft, the Netherlands].

³ National Peanut Board. (2015). Peanut country USA. Retrieved from National Peanut Board website: <https://www.nationalpeanutboard.org/peanut-info/peanut-country-usa.htm>

⁴ National Peanut Board. (2015). Peanut country USA. Retrieved from National Peanut Board website: <https://www.nationalpeanutboard.org/peanut-info/peanut-country-usa.htm>

⁵ National Peanut Board. (2015). Peanut country USA. Retrieved from National Peanut Board website: <https://www.nationalpeanutboard.org/peanut-info/peanut-country-usa.htm>

⁶ Food Allergy and Anaphylaxis Connection Team. (2015). Food Allergy Awareness Resources. Retrieved from Food Allergy and Anaphylaxis Connection Team website: http://www.foodallergyawareness.org/education/food_allergy_aware_ress_resources-12/

⁷ Mayo Clinic. (2014). Food allergy. Retrieved from Mayo Clinic website: <http://www.mayoclinic.org/diseases-conditions/food-allergy/basics/symptoms/con-20019293>

⁸ The University of Delaware. (n.d.). Epinephrine. Retrieved June 24, 2015 from <http://www.udel.edu/chem/C465/senior/fall00/Performance1/epinephrine.htm>

⁹ National Peanut Board. (n.d.). Peanut allergy facts. Retrieved June 24, 2015 from National Peanut Board website: <http://peanutallergyfacts.org/resources/peanut-allergy-facts>

¹⁰ National Peanut Board. (2020). Comparing Nuts. Retrieved from National Peanut Board: <https://www.nationalpeanutboard.org/peanut-info/comparing-nuts.htm>

¹¹ National Peanut Board. (2015). History of peanuts and peanut butter. Retrieved from National Peanut Board: <https://www.nationalpeanutboard.org/peanut-info/history-peanuts-peanut-butter.htm>

¹² National Peanut Board. (2015). Peanut country USA. Retrieved from National Peanut Board: <https://www.nationalpeanutboard.org/peanut-info/peanut-country-usa.htm>

¹³ National Peanut Board. (2015). Peanut country USA. Retrieved from National Peanut Board: <https://www.nationalpeanutboard.org/peanut-info/peanut-country-usa.htm>

¹⁴ Bio.com. (2015). George Washington Carver. Retrieved from <http://www.biography.com/people/george-washington-carver-9240299>

¹⁵ Bio.com. (2015). George Washington Carver. Retrieved from <http://www.biography.com/people/george-washington-carver-9240299>

¹⁶ National Peanut Board. (2019). Peanut Nutrition 101. Retrieved from National Peanut Board: <https://www.nationalpeanutboard.org/wellness/peanut-nutrition.html>

¹⁷ Peanut Proud. (2020) About. Retrieved from Peanut Proud, Inc.: <http://www.peanutproud.com>

¹⁸ Peanut Butter for the Hungry. (2020). Get Involved. Retrieved from: pb4h.org/get-involved/peanut-butter-drive-success-kit

¹⁹ National Peanut Board. (2015). History of peanuts and peanut butter. Retrieved from National Peanut Board: <https://www.nationalpeanutboard.org/peanut-info/history-peanuts-peanut-butter.htm>

²⁰ Amidor, T. (2014, December). 5 myths about farming. U.S. News and World Report. Retrieved from <http://health.usnews.com/health-news/blogs/eat-run/2014/12/01/5-myths-about-farming>

²¹ Zalban, L. (2010, April). Nuts vs. drupes: What's the difference? Serious Eats. Retrieved from <http://www.seriousseats.com/2010/04/what-are-the-differences-between-nuts-and-drupes.html>

²² National Peanut Board. (2011). Peanut Nutrition 101. Retrieved from National Peanut Board: <https://www.nationalpeanutboard.org/wellness/peanut-nutrition.htm>