



February 2019
Math and Science Worksheet

1. Sunrise Breakfast Grain for Everyone!

Your friend is having a party with 25 people, and your offer to bring Sunrise Breakfast Grain to share. The recipe below that you are using only make enough for 5 people.

Sunrise Breakfast Grain – makes 5 servings

2 cups whole oats
½ cup red quinoa
¼ cup brown sugar
5 cups of water

¼ teaspoon cardamom
1 teaspoon cinnamon
¼ teaspoon ground nutmeg
½ teaspoon salt

How much of each ingredient will you need to make Sunrise Breakfast Grain for all 25 people at the party?

BONUS: How much of each ingredient will you need if only 3 out of 5 people at the party eat the Sunrise Breakfast Grain?

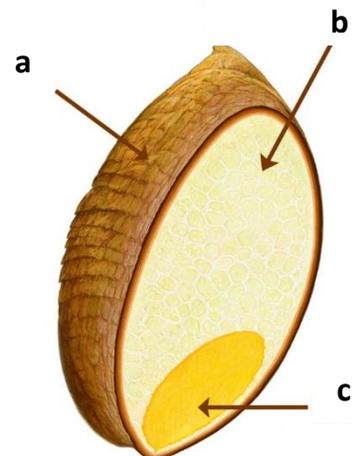
2. Name the Grain

When buying bread, make sure to look at nutrition labels for the word “whole,” like in “whole wheat” or “whole grain” to get the most health benefits out of your food.

Whole grain means the entire grain kernel, instead of just part of it (like in white bread), is used.

Identify the parts of a grain kernel:

- *Bran* – multi-layered, full of fiber and B vitamins
- *Germ* – has the potential to sprout into a new plant, full of B vitamins, minerals, and healthy fats, receives fuel from the endosperm
- *Endosperm* – provides essential energy to the plant when it is young, mostly full of starch



- a) _____
- b) _____
- c) _____

BONUS: Which parts get removed to make white bread? (*Hint: pick 2*)

3. Ginger, a Jack of all Trades

When we eat ginger, we are eating the root of a plant. Ginger root can be eaten whole, ground into a powder, crystalized, or juiced. But ginger isn't *just* useful in the kitchen! Ginger has a variety of other uses too. Can think of any? Conduct research to find three other uses for ginger and describe how it is used.

1.

2.

3.

4. Quinoa, the Protein King/Queen

Did you know that quinoa is one of four plants we consume that contains all 9 essential amino acids? Amino acids are the building blocks of proteins, and essential amino acids cannot be made by the human body, meaning we can only get them from the food we eat. Conduct research and list the 3 other foods.

1. Quinoa

2.

3.

4.

Answers:

1. 10 cups of oats, 2 ½ cups red quinoa, 1 ½ cup brown sugar, 25 cups of water, 1 ¼ teaspoon cardamom, 5 teaspoons cinnamon (1 2/3 tablespoons), 1 1/3 teaspoon nutmeg, 2 ½ teaspoons salt

BONUS: 6 cups of water, 1 ½ cups red quinoa, ¾ cup brown sugar, 15 cups of water, ¾ teaspoon cardamom, 3 teaspoons cinnamon, 2/4 teaspoon nutmeg, 1 ½ teaspoon salt

2. Left: Bran, Center: Endosperm, Right: Germ
Bonus: Bran and germ
3. Examples could include: medicine-- nausea and dizziness, fragrance--soaps and cosmetics, self-care – insect repellent and treating burns
4. Buckwheat, hemp seeds, chia seeds

References:

<https://kidshealth.org/en/teens/grains.html>

<https://kidshealth.org/en/teens/whole-grain-bread.html?WT.ac=t-ra>

<https://www.allrecipes.com/recipe/219696/sugar-and-spice-cookies/?internalSource=hub%20recipe&referringId=1146&referringContentType=Recipe%20Hub&clickId=cardslot%206>

<https://wholegrainscouncil.org/what-whole-grain> (image and information)

<https://www.healthline.com/nutrition/11-proven-benefits-of-quinoa>

<https://medlineplus.gov/ency/article/002222.htm>

<http://www.deliverlean.com/getting-essential-amino-acids-on-a-plant-based-diet/>

<https://www.webmd.com/vitamins/ai/ingredientmono-961/ginger>