



SORGHUM

Up Close

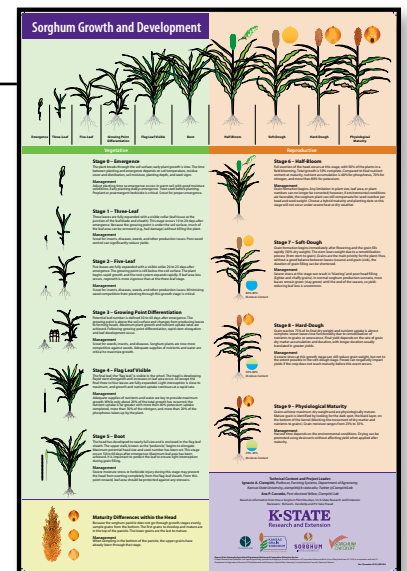
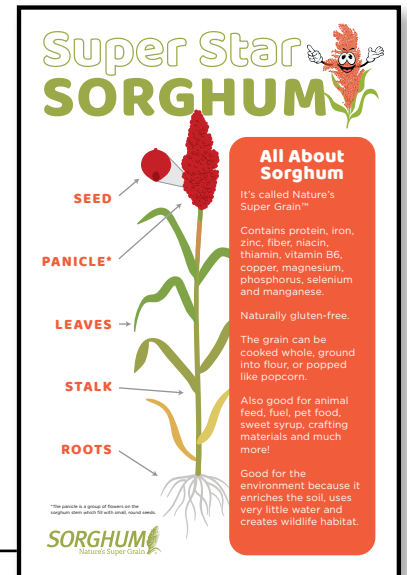
Name _____ Date _____

The growth of a sorghum plant

Reference both the Sorghum Growth and Development poster and the Super Star Sorghum! poster to answer the following questions on a separate sheet of paper.

1. The first six stages of growth of a sorghum plant are known as “vegetative.” What is the term for the next four stages of growth? **Reproductive**
 2. How would you describe stage 0 in the growth and development of the sorghum plant?
Emergence, which is when the plant first breaks through the soil surface
 3. In what stage of growth is the sorghum plant depicted on the Super Star Sorghum! poster?
Stage 9 - Physiological Maturity
 4. About how many days does it take for the plant to reach the boot stage? **50 to 60 days after emergence**
 5. Describe how the information listed beneath each plant stage helps the farmers who grow sorghum.
The management section guides farmers on how best to take care of their sorghum crop, offering advice on planting, harvesting, water, nutrients, pests, weeds and plant diseases.
 6. How can you tell when sorghum reaches stage 9 (maturity)? **Hint: Look closely at the sorghum grains in the package that your teacher shared with the class.**
Look for the black or dark spot on the bottom of the sorghum grain kernel.
- BONUS:** In addition to its use as a human food staple, can you list at least three additional uses for sorghum?

Possible answers include animal feed, fuel, pet food, sweet syrup and crafting materials



SORGHUM
Nature's Super Grain



Nutrition/Health

Use the Power Up With Sorghum handout to answer the following questions. Use another sheet if you need more space.

- Whole grain sorghum contributes a number of nutrients to the diet. Name at least five nutrients present in sorghum.

Possible answers include protein, iron, zinc, fiber, niacin, thiamin, vitamin B6, copper, magnesium, phosphorus, selenium and manganese.

- Sorghum contains plant compounds known as phytonutrients.

Describe the benefits of phytonutrients to human health.

Phytonutrients protect cells, reduce inflammation, and reduce the risk of heart disease and cancer.

- TRUE** or **FALSE** - Sorghum is a high quality complex carbohydrate that supplies long-lasting energy, making it a great choice for active teens.

- Sorghum can be eaten by many people with varying dietary needs. List three eating styles that can include sorghum. **vegetarian, vegan and gluten-free**

BONUS: Describe why certain people are unable to tolerate gluten in their diet. You may need to do additional research to answer this question.

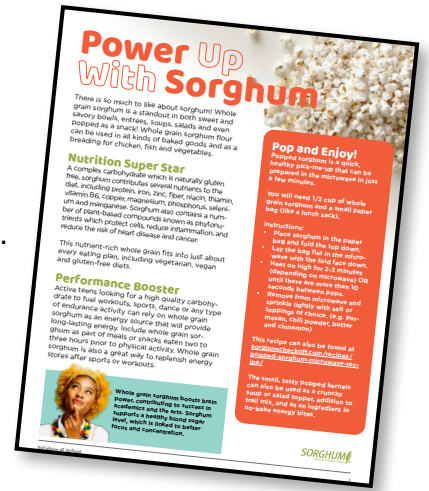
Gluten is avoided by people with celiac disease, a condition where gluten from wheat, rye and barley damages the small intestine. Some people are also intolerant to gluten and find that a gluten-free diet helps them feel better.

Sorghum & the Planet

Use the Power Up With Sorghum handout and word bank to complete the puzzle.

WORD BANK:
 Carbon
 Habitat
 Kansas
 Nitrogen
 Pheasant
 Rain
 Sorghum
 Water

1	K												
2	W	A	T	E	R								
	N					3	N						
	S						I						
4	H	A	B	I	T	A	T						
	S						R						
						5	S	O	R	G	H	U	M
							G						
							E						
		6	C										
7	P	H	E	A	S	A	N	T					
			R										
			B										
			O										
8	R	A	I	N									



ACROSS

- Sorghum requires 30 percent less of this important resource when compared to other grains.
- Growing sorghum creates an important _____ for wildlife, protecting them from harsh winters and extreme summer heat.
- This grain is a dietary staple for 500 million people in 30 countries in Africa and Asia.
- This bird is one of many species that benefits from sorghum agriculture.
- This is the primary source of water for 91 percent of the sorghum grown in the U.S.

DOWN

- This state leads the nation in sorghum production.
- Sorghum plants help retain this important soil nutrient.
- Sorghum helps to clean the air by removing this element from the atmosphere and storing it in the soil.

BONUS: To learn more about how sorghum helps the environment, visit <https://www.sorghumcheckoff.com/sustainability/>.





Sorghum Search

Did you know that sorghum is an ingredient in many of the foods that we eat? You may have eaten sorghum without even knowing it! Below are seven examples which represent foods similar to the ones that you can find in the grocery store.

1. Find and circle sorghum in the product ingredient lists.
2. Ingredient labels list the amount of ingredient from most to least. Can you put a check mark in the box beside the products that contain sorghum as one of the main ingredients?
HINT: If a sorghum product is the first or second ingredient, the product contains sorghum as a main ingredient.
3. Can you match the food with its ingredient label? Draw a line from the ingredient list dot on left to the correct food product dot at right.

BONUS: Can you find a product in the store or online that has sorghum as an ingredient? Be sure to check the gluten-free section!

Check if sorghum is a main ingredient	Product Ingredient List 	Product Name 
<input checked="" type="checkbox"/>	Whole grain sorghum meal, corn meal, sunflower oil, cheese seasoning, butter, iron.	Gluten-Free Buttermilk Pancake Mix Hint: Look for buttermilk in the ingredient list.
<input checked="" type="checkbox"/>	Rice flour, whole grain sorghum flour, sugar, soybean oil, baking soda, salt, xanthan gum, buttermilk.	Spicy Popped Sorghum Snack Hint: Which product uses a spicy hot seasoning?
<input checked="" type="checkbox"/>	Whole grain sorghum flour, brown rice flour, whole grain millet flour, rice flour, xanthan gum.	Baby Cheddar Snacks Hint: Do you see a product with a cheese flavor?
<input type="checkbox"/>	Whole wheat, water, sugar, 10 Whole Grains and Seeds mix (whole sorghum flour, sunflower seeds, ground flax seeds, sesame seeds, pumpkin seeds, oats, cornmeal, buckwheat flour, rye flour, poppy seeds), molasses, sea salt, yeast.	Gluten-Free Berry Fig Bar Hint: Which of these products includes figs and berries in the ingredient list?
<input type="checkbox"/>	Brown rice flour, fig paste, blueberry jam, canola oil, sugar, gluten-free grain flour mix (sorghum, amaranth, millet, teff), oats, flaxseed, baking soda, salt, xanthan gum.	Gluten-Free Flour Hint: Gluten-free flour often includes a mixture of flours.
<input checked="" type="checkbox"/>	Peanut Butter, whole grain sorghum flour, oats, sugar, vegetable oil, peanuts, honey, chocolate bits, sea salt, vegetable oil, molasses, almond butter.	10 Grains and Seeds Bread Hint: Look for an ingredient label with lots of seeds!
<input checked="" type="checkbox"/>	Popped sorghum, sunflower oil, spicy hot seasoning, habanero pepper, garlic powder.	Nut butter snack bar Hint: This bar contains two nut butters.

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