

NAME:

# ALL ABOUT...

## FOOD SCIENCE

HEY KIDS!

Have you ever been told not to play with your food? Well, this is exactly what food scientists do every day! Food science is the study of food.

From eating a variety of foods at each meal to storing food in the refrigerator so it doesn't spoil, science is always happening in your kitchen. Let's explore some tasty experiments to better understand the science behind our food!



This week we have a mission,  
to learn something new about nutrition!

pork

## EXPERIMENT #1: USING OUR SENSES

Scientists want to understand how things work. They learn about things by observing, describing and experimenting. Let's be curious scientists and use all of our senses to see what new things we discover.

**ACTIVITY:** Write down something in your classroom that you want to investigate. It could be a crayon, a door knob, a backpack snack, a class pet — whatever interests you! Next, write down your observations. What do you see, hear, smell, taste or feel? You may not use all your senses, but see what you notice!

I'm investigating: \_\_\_\_\_

I see: \_\_\_\_\_

I hear: \_\_\_\_\_

I smell: \_\_\_\_\_

I taste: \_\_\_\_\_

I feel: \_\_\_\_\_

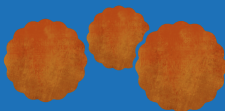
## EXPERIMENT #2:

### ARE ALL PROTEINS CREATED EQUAL?

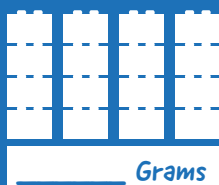
Did you know a student your age eats about 65 grams of protein a day? Protein is like a building block in your body. It helps you build strong muscles! Let's see how different proteins "stack up" against each other.

**ACTIVITY:** Let's start with your hypothesis.  
Do you think plants have the same amount of protein as meats? Circle your answer: YES or NO

Next, count and color each building block below to see how many grams of protein are in each food. Then write your answer on the line!



1/2 cup cooked ground pork



\_\_\_\_ Grams



1/2 cup cooked oatmeal



\_\_\_\_ Grams



1/2 cup cooked quinoa



\_\_\_\_ Grams



1/2 cup black beans



\_\_\_\_ Grams

## EXPERIMENT #3: THE SCIENCE OF COOKING

















































Why does bread rise in the oven? Why does food brown when cooked? Learning about food is so much fun! During the cooking process there are many changes that happen to our foods.

### ACTIVITY:

Have you ever thought about what happens when we cook foods in different ways? For example, what happens when we grill foods vs. cook them in water? Do they look, smell and taste the same despite the cooking method? Use this chart to record your hypotheses! Give each food a thumbs up or down based on how you think it will look, smell and taste. Also indicate which food you would like to eat.

YOU CAN TEST YOUR  
HYPOTHESES AT HOME IN  
YOUR KITCHEN!



FOOD	LOOK	SMELL	TASTE	EAT
GRILLED PORK CHOP	 	 	 	 
PORK CHOP COOKED IN WATER	 	 	 	 
GRILLED POTATO	 	 	 	 
POTATO COOKED IN WATER	 	 	 	 
GRILLED TOMATO	 	 	 	 
TOMATO COOKED IN WATER	 	 	 	 

### DID YOU KNOW?

The MAILLARD REACTION, sometimes called the browning reaction, is one of the fastest ways food changes in cooking. You can see this happen when you bake bread or grill meat.

Yum!

#### REFERENCES:

1. WHAT WE EAT IN AMERICA. NHANES 2017-2018. INDIVIDUALS 2 YEARS AND OVER (EXCLUDING BREAST-FED CHILDREN). DAY 1. AVAILABLE: [WWW.ARS.USDA.GOV/NEA/BHNR/FSRG](http://WWW.ARS.USDA.GOV/NEA/BHNR/FSRG)
2. U.S. DEPARTMENT OF AGRICULTURE. AGRICULTURAL RESEARCH SERVICE. FOODDATA CENTRAL. 2019 FDC.NAL.USDA.GOV.. ITEMS 169192, 702764, 168917, 785471, 173787.



# PUZZLE TIME

## SEARCH THE CASTLE

Can you circle 8 words in this word search?

SCIENCE MAGIC FOOD SPELLS  
WIZARD FUEL RECIPE COOKING

A	D	L	W	O	V	I	D	E	S	T
E	S	C	I	E	N	C	E	M	H	W
Y	G	E	Z	L	O	U	Z	F	J	N
S	K	C	A	P	X	S	G	U	I	E
P	I	W	R	L	K	R	O	E	Y	C
Z	N	O	D	S	P	E	L	L	S	O
L	G	R	T	Y	G	C	X	K	E	O
F	M	A	G	I	C	I	R	A	M	K
O	C	E	O	K	Q	P	L	T	S	I
O	W	R	Y	X	T	E	K	G	Z	N
D	Q	G	L	E	K	C	M	I	O	G

*Magic Mix Up*  
CAN YOU WORK  
OUT WHAT WORD  
IS JUMBLED?

## SPOT SCRAMBLE

WHAT WORD IS MIXED UP IN THE SPOTS?

## LEAP FROG

CAN YOU WORK  
OUT WHAT WORD  
IS JUMBLED IN THE  
MAGIC STREAM?

