



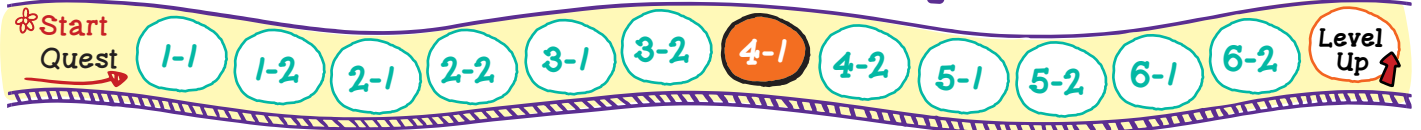
# food heroes

## Challenge 4: Plant Power-Ups

Quest 1 of 3: Build Our Powers



# Plant Power-Ups!



## Introduction

Let kids dive into knowledge of the rich and boosting macronutrients found in plants with the “Plant Power-Ups!” challenge.

Children will be introduced to protein and calcium, and their effect on the human body.

## Lesson Objectives

- ★ Students will identify proteins and calcium and why they are important for the body.
- ★ Students will identify foods that are sources of protein and calcium.

## Getting Ready

★ Power Cards	1 set per group	★ Different colored tape*	2
★ Menu Cards	1 set per group	★ Venn Diagram Poster	1 per group
★ Worksheet 1*	1 per student	★ Printed or digital images of foods rich in protein and calcium*:	
★ Homework Sheet 2*	1 per student	★ Broccoli, mushrooms, soy beans and tofu, nuts, lentils, spinach, orange, egg, fish, sweet potato	
★ Rainbow coloring supplies*			
★ Blank paper*	1 per student		

\*Additional preparation needed



# Lesson Plan

## Class Warm Up

### Discussion Question:

Why do you think fruits and vegetables are so good for our bodies?



## Helpful Hints

Get the class warmed up for this lesson by asking a discussion question.

### Vocabulary Preview

1. **Macronutrients** – Tiny building blocks inside food that help feed our bodies so they can grow strong and healthy
2. **Protein** - Nutrient essential for growing muscles, blood, and other organs
3. **Calcium** - Nutrient essential for growing bones
4. **Venn diagram** - A visual aid comparing and contrasting two groups or items

## Class Story

Welcome back to our adventure with the Food Heroes! Today, Sage has asked Ava to lead the Food Heroes on a morning exercise to start off their week energized and active. It is a perfect day to spent time outside, so Ava leads the Food Heroes in a run around the glittering blue lake. When all the Food Heroes get home, they feel happy and refreshed. Ava remembers she had some leftover oatmeal and bean soup to feed everyone, so they can recover from the run with natural sources of protein. But, as she searches around the kitchen, Ava finds that her oatmeal and bean soup are missing. Everyone starts to look around the kitchen to help her.

"That's funny," says Kai. "I thought we had sunflower seeds and nuts in the cupboard."

"Our sweet potatoes are gone too!" exclaims Clay.

Terra and Jade are searching the refrigerator and find missing food too!



“Where is our yogurt? And tofu? Even our eggs are gone!” yells Jade.

Terra looks over Jade’s shoulder into the fridge and says, “Someone has been in here! The spinach and cauliflower have been stolen as well.”

Ava is mad that someone came into their kitchen and stole their food.

“Quick everyone, think: what do these foods have in common? Who could have done this to us?”

“Well,” says Kai scratching his head, “Eggs, seeds, nuts, and yogurt are all great sources of natural protein...”

“Yes! And sweet potatoes, spinach, and cauliflower are power-packed sources of natural calcium!” adds Terra.

“Someone must be stealing our calcium and protein! It must be, because tofu is a great source of both!” says Jade, jumping up excitedly.

“Well that’s an easy fix,” says Clay. “Protein means meat, right? Let’s go get some chicken nuggets to eat instead.”

Ava shakes her head at Clay. “Chicken nuggets have protein, but they’re unhealthy in other ways. We want to get our protein and calcium from plants, so that we can build our bodies and our powers! Keep searching everyone; I know our foods must be around here somewhere!”


But Clay is still confused about the situation. “But Ava, what is so important about calcium and protein? What are they? Why are they important for us to eat?”

Ava explains to Clay that there are tiny nutrients inside food that our body uses to grow! She explains to him that calcium helps us to have strong bones and teeth and protein builds the muscles we need to run and play!

Clay is amazed at how important calcium and protein are to growing our bodies.

“Thank you for helping me learn! I had no idea that calcium helps grow strong bones and protein helps grow strong muscles. We have to find these foods!” he says.

Ava runs over to the pantry on the side of the kitchen. She realizes it’s locked! Do you remember when we unlocked the Rainbow Table to help boost our heroes? Ava unlocks her superpower of super strength and super speed to bust down the door with a kick!



**Food Heroes!**  
Everyday we do our part  
to protect our body,  
mind and heart.



*WHAM! The door falls down and the Food Heroes find a girl in the closet! She is wearing athletic clothes and crouching among all the missing foods, trying to hide them.*

*“I know you!” yells Ava. “I see you all the time at my running and swimming competitions. You’re Thirsty Trixie!”*

*“That’s right,” yells Trixie. “And I’m always there losing to you because you’re so fast, no matter what sport you do! I train and train so hard, but you still beat me at every competition. Let’s see how fast you are without protein and calcium to power you up!” She looks at Ava angrily.*

*All the Food Heroes are surprised when Ava stares back at Trixie for a while, and then starts to laugh!*

*“Trixie! I don’t think of us as competitors; I think of us as friends. You’re always there to push me during my competitions; I couldn’t go that fast without you!”*

*Trixie’s eyes go wide. She drops the bag of beans in surprise.*

*Ava laughs again, happily. “Instead of being enemies, let’s be partners! We can push each other to be better!” Ava says.*

*Ava steps forward and holds out her hand to Trixie. Trixie doesn’t move for a moment. But then she smiles a warm smile and shakes Ava’s hand.*

*“Yes, I’m tired of being jealous. I never thought about it that way, but you push me, too. Let’s be partners instead.”*

*The Food Heroes cheer.*

*“Now join us for some oatmeal, please! We need to build our powers... together!” says Ava.*

What exercise were the Food Heroes doing? What happened when they got home? What were some of the foods that were missing? What was in common with all of those foods? Do you know what calcium and protein are?





## Mini-Lesson


### Protein & Calcium:

Teach class what protein and calcium are to help Clay! Using the Posters of foods rich in calcium and protein.

They are both nutrients that provide our body with different types of building blocks. When we eat food, our body breaks it down into tiny, little bits in our stomach. Those good bits that help us grow are called nutrients. Two essential nutrients to build our body and our powers are protein and calcium. You can find them in a lot of plant Superboost foods.

Protein is a type of food that helps build muscles. It also keeps us very full when we eat it. Remember: protein builds muscles. Protein is often found in meat, but some plants also have lots of protein. Things like tofu, beans, and seeds have protein. Nuts, eggs, and yogurt (with no sugar) are also good sources of protein.

Calcium is the most important nutrient to helping our body grow strong bones. We need both protein and calcium because strong muscles and strong bones give us extra strength to grow and stay healthy. We can get calcium from many plants too!



Show posters of foods rich in protein and calcium. Go through them multiple times until all students can identify these foods.



## Class Activity

### Macros:

Using the Power Cards and Menu Cards, students will sort whether the foods they have calcium, protein, or both!

On the ground, draw 2 circles that overlap in the middle: one for protein, one for calcium and the space between is for both.

**Preparation:** Use the following cards to make the sorting of more clear for students.

	Menu Cards	Power Cards
<b>Protein (Muscles)</b>	Chicken Soup, Mixed Nuts,	Chickpea, Egg, Mushroom, Sunflower Seed
<b>Calcium (Bones)</b>	Lentil Soup, Sautéed Spinach	Broccoli, Kale, Sweet Potato, Orange
<b>Both</b>	Granola & Yogurt, Grilled Salmon,	Tofu, Sardines, Salmon

An alternative to taping on the floor is drawing the Venn Diagram on a whiteboard, then letting students tape the Menu Card cut-outs to the appropriate places on the board.

You may also use the posters of foods from the mini-lesson.

## Worksheet

On the “Protein and Calcium” worksheet, draw a protein food in the left circle and a calcium food in the right.

### At-Home Mission (Optional)

On the “Plant Power-Ups” homework sheet, circle which foods have protein in the first row, and which foods have calcium in the second row.

































# Venn Diagram Poster Activity

Put the food cards in one of the four categories:

**protein**, **calcium**, **both**, or **fake foods**.

fake foods

protein

both

calcium







**Chicken Noodle  
Soup**



**Mixed Nuts**



**Lentil Soup**



**Sautéed Spinach**





**Granola and  
Yogurt**



**Grilled Salmon**



**Soda**



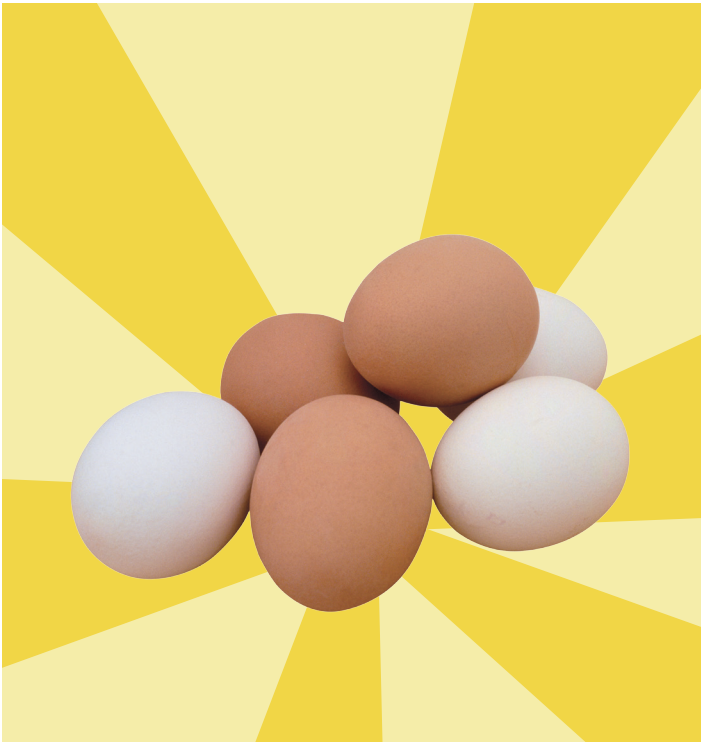
**Candy**



**Sandwich Cookie**



**Chickpea**



**Egg**



**Mushroom**



**Sunflower Seeds**



**Broccoli**



**Spinach**



**Kale**



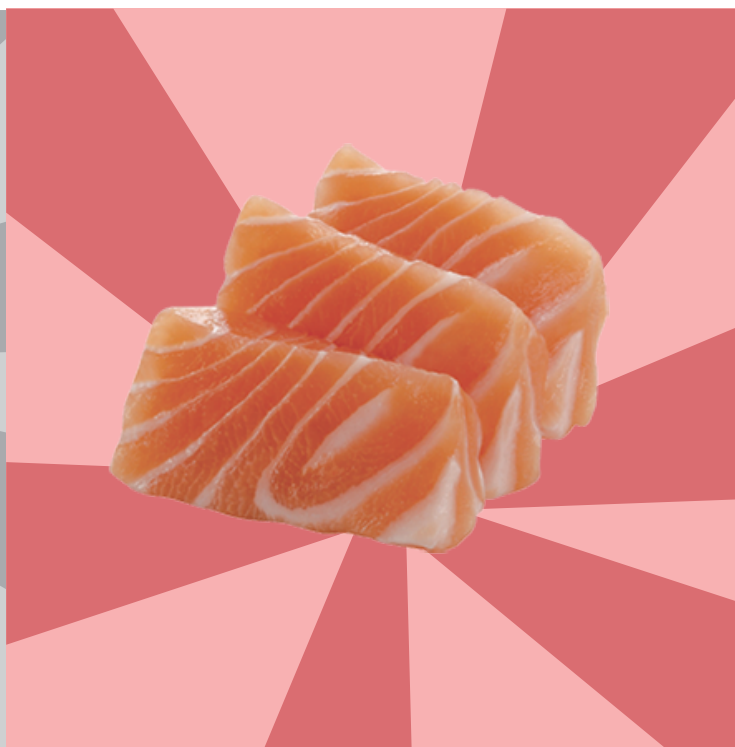
**Sweet Potato**



**Soybean**



**Sardines**



**Salmon**



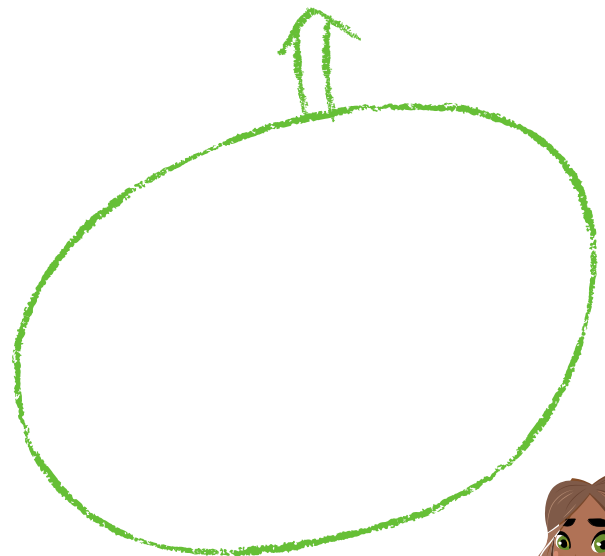
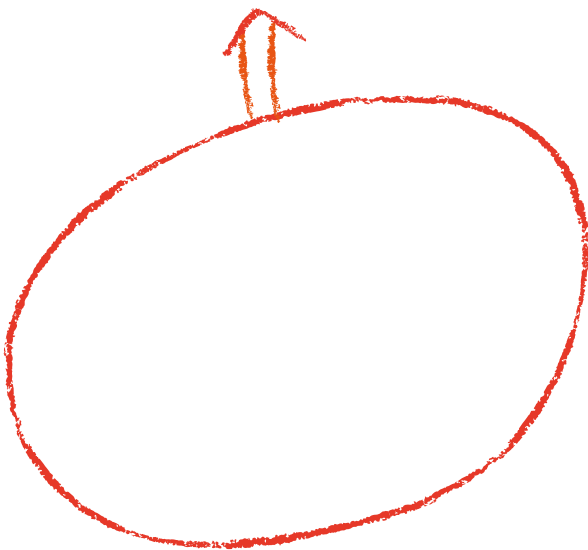
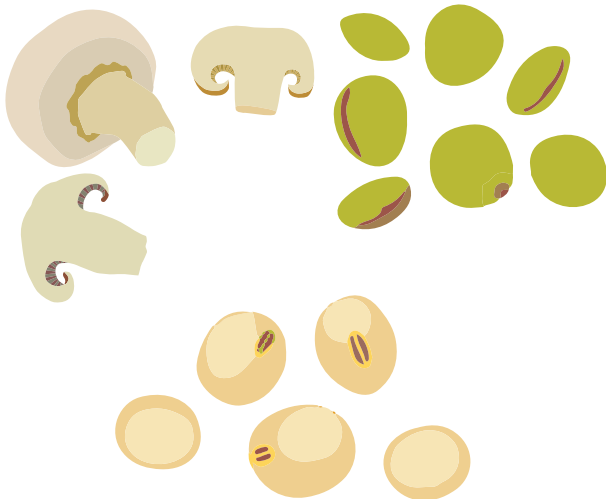
# Activity

Name: \_\_\_\_\_

## Plant PowerUps

Draw a plant that  
has **protein** in it

Draw a plant that  
has **calcium** in it



Parent's Signature: \_\_\_\_\_



# At-Home Mission

Name: \_\_\_\_\_

## Plant PowerUps

Circle the five foods that have **protein**.

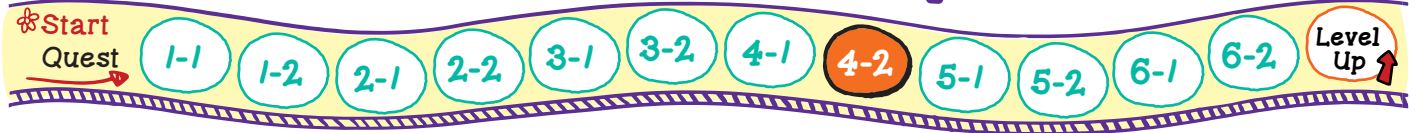


Circle the three foods that have **calcium**.



Parent's Signature: \_\_\_\_\_

# Plant Power-Ups!



## Introduction

Kids will continue learning about the rich and boosting macronutrients found in plants with the “Plant Power-Ups!” challenge.

Children will learn about where to find protein and calcium, as well as its effect on different body parts.

## Lesson Objectives

- ★ Review fruits and vegetables that are sources of protein or calcium from previous class.
- ★ Identify certain foods that are beneficial for specific body parts.

## You Will Need...

- |                              |                   |  |
|------------------------------|-------------------|--|
| ★ Power Cards                | 1 set per group   | ★ Labeled body parts posters*                    |
| ★ Worksheet 1*               | 1 set per student | ★ Tape*  |
| ★ Worksheet Sheet 2*         | 1 set per student | ★ Scratch paper*                                 |
| ★ Homework Sheet             | 1 set per student | ★ Eat a Rainbow Everyday Placemats 1 per student |
| ★ Rainbow coloring supplies* |                   |  |

\*Additional preparation needed

# Lesson Plan

## Class Warm Up

### Review:

Review what proteins and calcium are, and which plants contain them. Share objective that students will learn certain foods that are good for certain parts of the body.

### Discussion Question:

Can you name different parts of the body?

### Vocabulary Preview

1. **Stomach** - Where food is broken down to get nutrients
2. **Brain** - Control center for the body
3. **Heart** - Pumps blood through the body
4. **Skin** - Protective barrier between the body and the outside
5. **Eyes** - Help us see the beautiful world

## Class Story

Because of your help last time, the Food Heroes learned the importance of protein and calcium. And, they made a new friend Trixie. Trixie and Ava became great work-out partners and now are leading the Food Heroes on their morning run.

Half-way on the trail through the woods, Ava and Trixie decide to let the group have a break. They stop and drink water to hydrate. Trixie brings out nuts and dried fruit for everyone to snack on. She feels very happy to have a great group of superheroes to train with. As they eat their snacks, they sit in a circle under the shade of the tall trees.

"Thanks for our snacks, Trixie!" says Jade. "They're great sources of

## Helpful Hints

Get the class warmed up for this lesson by asking a discussion question.





*protein for our workout!”*

*“No need to thank me!” says Trixie. “We need calcium to help our bones grow strong.”*

*“And thanks for joining us today for our run!” says Ava to everyone. “Good exercise habits are just like good eating habits: we have to keep at it everyday.”*

*“Yes, Ava is right,” replies Trixie. “But we have to be sure to power up our body with the right foods while we train. Do you all want to know a secret of how to power up your body?”*

*Everyone goes quiet and leans closer to hear. Even Ava is interested and looks up at Trixie. “Wow, I’m surprised you all don’t know the foods that power up our bodies?” asks Trixie. “Food is one of the most important parts of training because it helps our whole body: our brain, our stomach, our heart, our eyes, and our skin. I guess it won’t be a secret anymore, because I’m going to share everything I know with you about plant power-ups!” she says.*

*The Food Heroes are so excited to learn which foods help different parts of their bodies, that they quickly run the rest of the trail. “Wow, you’re all home early from your run!” says Sage, laughing as the Food Heroes scramble into the kitchen.*

*“Trixie is going to teach us all the foods that are good for our brain, heart, stomach, eyes, and skin. We were so excited, we rushed home to tell you!” replies Terra.*

*“I have an idea!” Says Clay. “Let’s cook a meal with the foods we learn are good for different body parts! I want to see if we can make a meal that has all of these ingredients!”*

*Sage is so proud of the Food Heroes that she gives them all a big hug. “I love seeing your excitement to cook!” she says. “Trixie, after you teach the Food Heroes, you must stay to share the meal with us. Sometimes our greatest teachers are our friends. And everyone, I want to give you a little reward for your learning. I want to give you these Rainbow Table mats so that you can eat the healthy Food Heroes way with your family. At home, don’t forget to ask your parents to help you.”*

*Trixie is thankful to have found friends to be with and sit with at the Rainbow Table together. She jumps up and says to everyone, “I know that we should Eat a Rainbow Every Day so that we can stay healthy, strong, focused and happy! But thanks for letting me do it with you all, the Food Heroes.”*

*“Of course!” replies everyone.*

**Food Heroes!**  
Everyday we do our part  
to protect our body,  
mind and heart.



## Mini-Lesson

### Plant Power-Ups:

Overview with the class different parts of our bodies: Brain, Stomach, Heart, Eyes, and Skin.

Overview these Power Cards with the class and link them with the body part they benefit most:

Body Part	Power Cards
Brain	Yellow Pepper, Beet, Celery
Stomach	Apple, Cauliflower, Pear
Heart	Peach, Tomato, Purple Cabbage
Eyes	Kale, Carrot, Corn
Skin	Lychee, Sweet Potato

## Class Activity

### Macros and Body Parts:

Using the Power Cards, students will sort which part of the body is powered-up by the macronutrients in these foods!

**Preparation:** Create separate areas in the classroom for each body part that are labelled. This can be done on a large sheet of paper or simply on a table with labelled categories.

Distribute these select game cards and begin to play and brainstorm!

Body Part	Power Cards
Brain	Yellow Pepper, Beet, Celery
Stomach	Apple, Cauliflower, Pear
Heart	Peach, Tomato, Purple Cabbage
Eyes	Kale, Carrot, Corn
Skin	Lychee, Sweet Potato



## Worksheet

On the “Plant Power-Ups” sheet, draw a Food Hero and one food that is good for each body part.

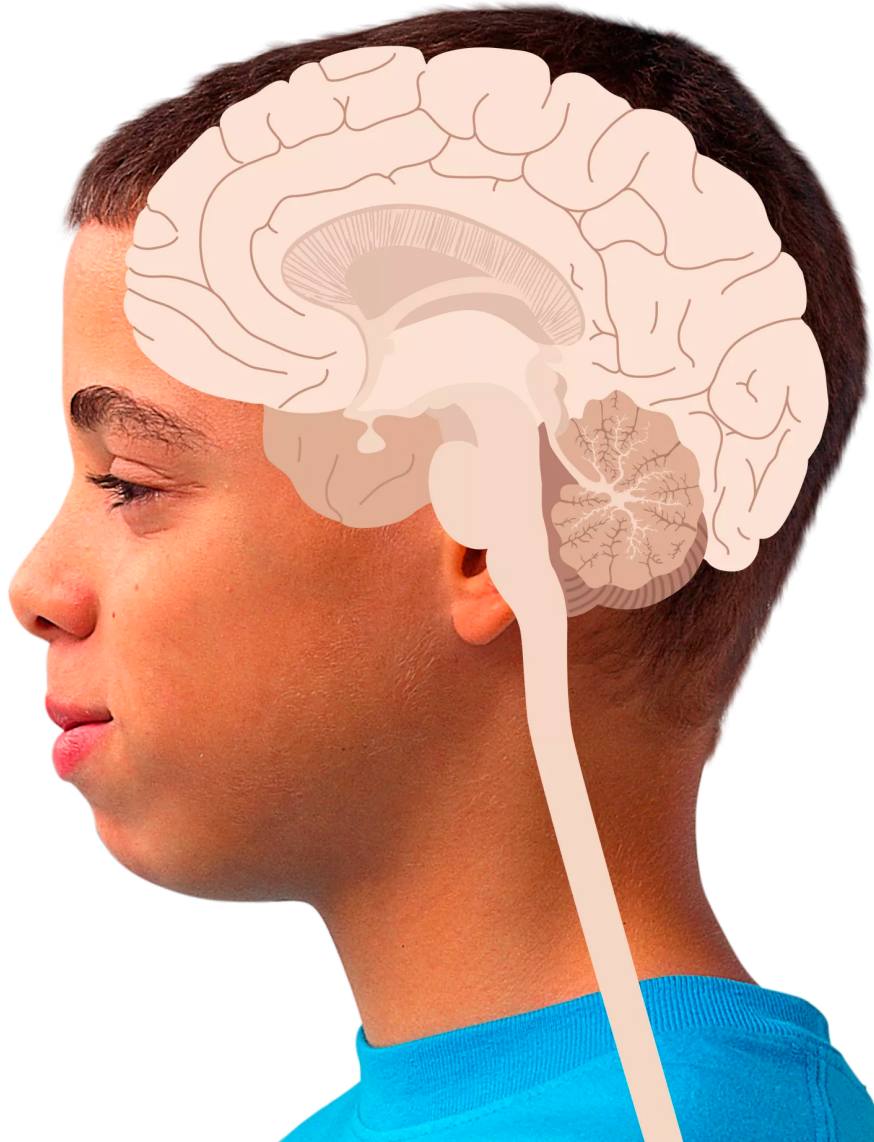
## At-Home Mission (Optional)

On the “Plant Power-Ups” homework sheet, connect the Dots to find one food with lots of protein and one with lots of calcium.

Take home Rainbow Placemat Page so children can share  
Eat a Rainbow Everyday with their families.







# BRAIN

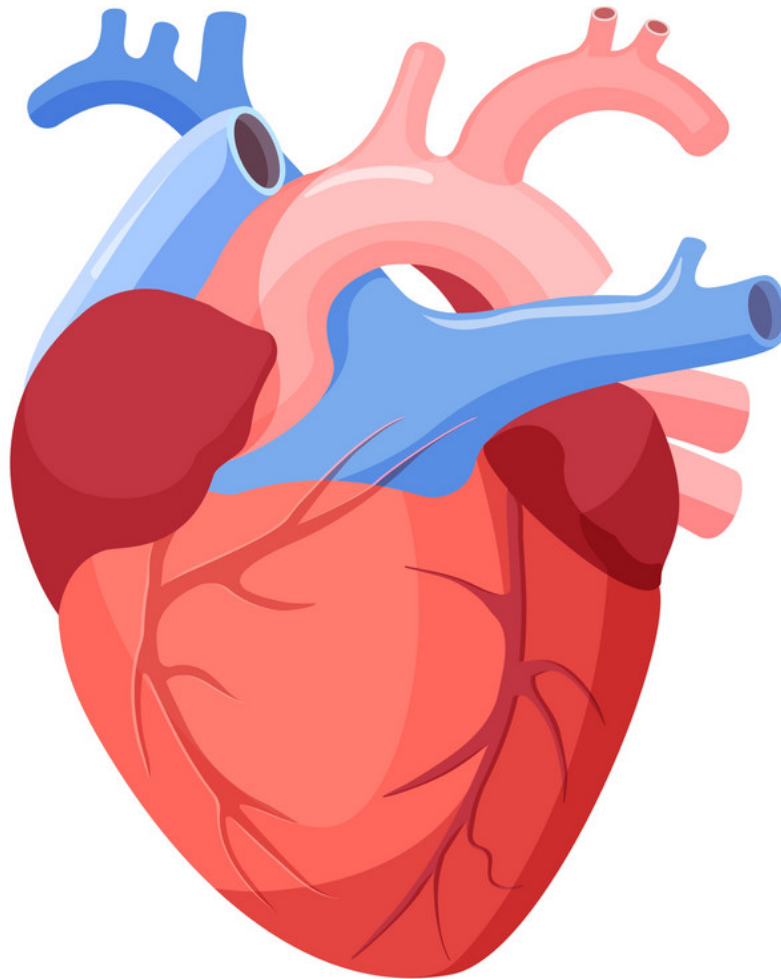


# STOMACH

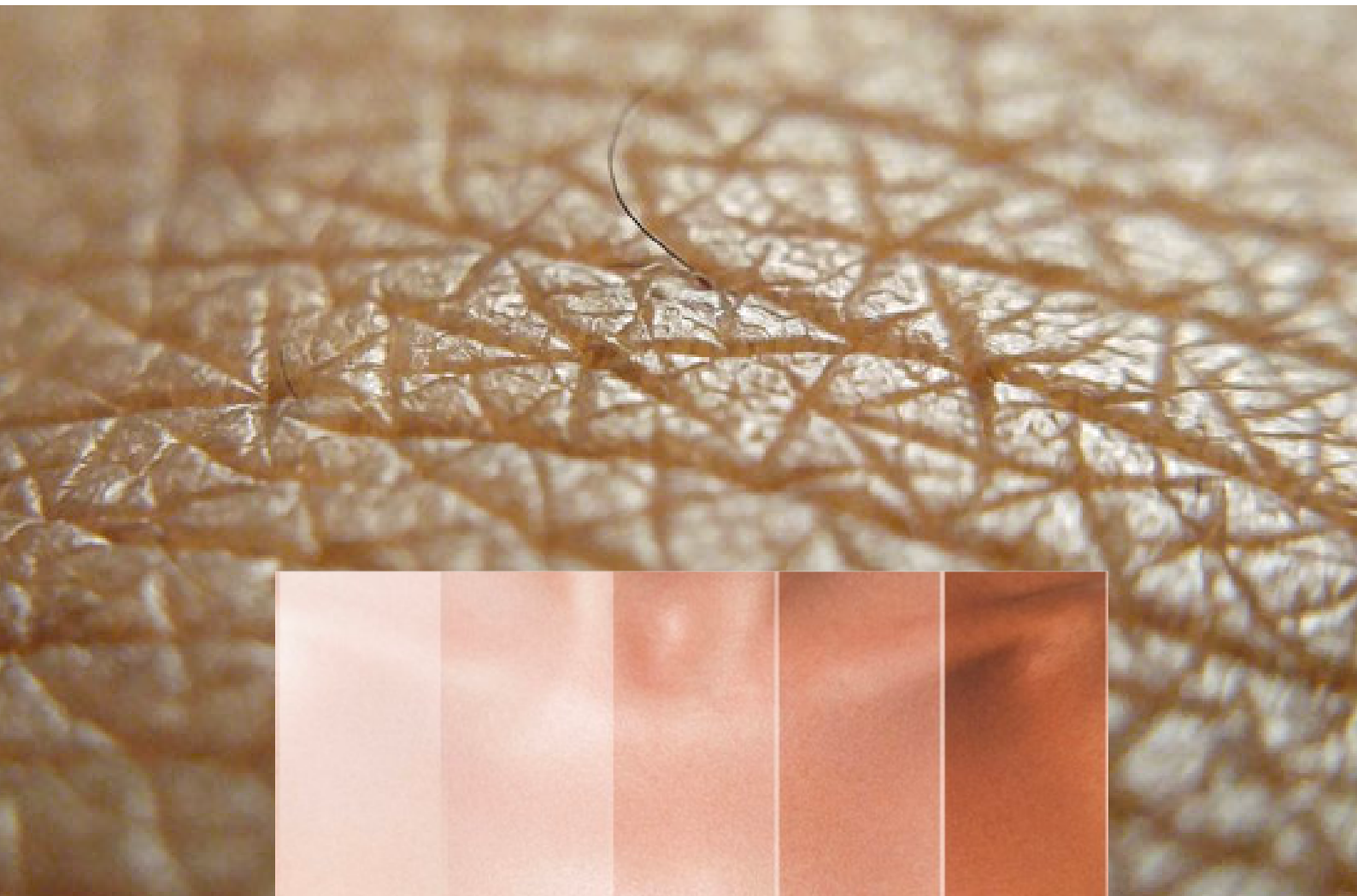


# EYES





# HEART



# SKIN





# Eat a Rainbow Every Day





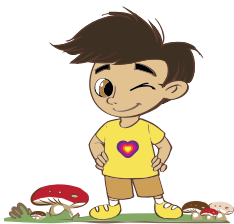
# Activity



## Plant Power-Ups



Draw a Food Hero!

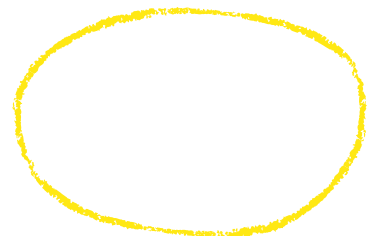
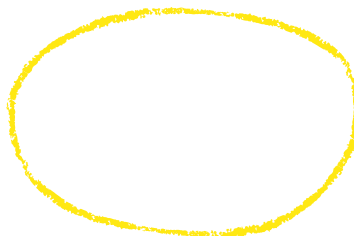


Draw one food that is  
good for each body part:

Brain

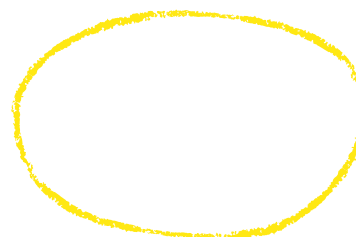
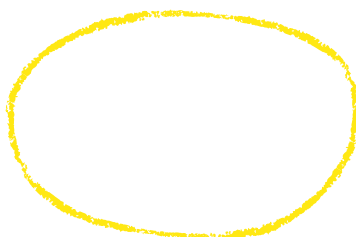
Stomach

Heart



Eyes

Skin



Parent's Signature: \_\_\_\_\_

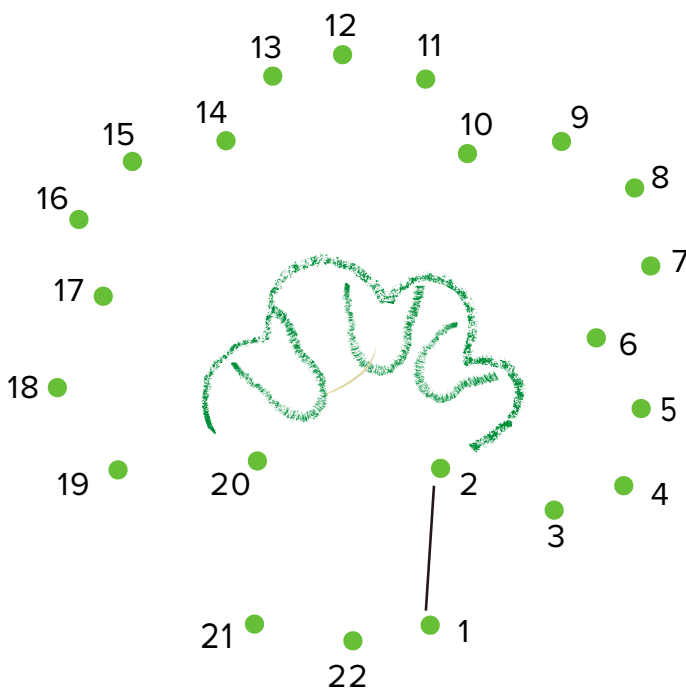
# At-Home Mission

Name: \_\_\_\_\_

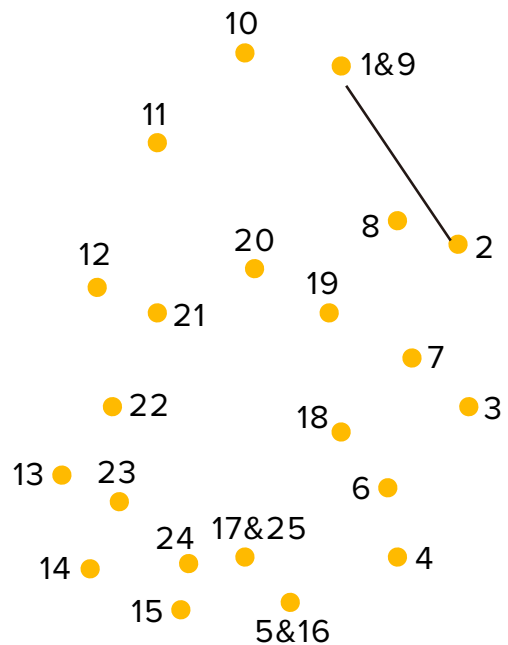
## Plant PowerUps

Trace the numbers in order then color in the shapes to find one protein food and one calcium food.

### Calcium



### Protein



Can you guess what they are?



Parent's Signature: \_\_\_\_\_