

Nutrition 101

Building Blocks



NUTRITION 101

Building Blocks

Introductions:

Courtney Ivey, CalFresh Healthy Living
Project Specialist
Community Service Solutions

*Please speak with a Registered Dietitian or Physician
for medical advice.



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Building Blocks

Nutrient Density

- Macronutrients
- Micronutrients

What is MyPlate

- MyPlate Components
- MyPlate Recommendations

Whole body health

Vegetarian Diets

Materials for parents and families



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NUTRIENT DENSITY



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Nutrient Density

6 CLASSES OF NUTRIENTS

1. Carbohydrate
2. Protein
3. Fat
4. Water
5. Minerals
6. Vitamins

Macronutrients
Micronutrients

What is a nutrient dense diet?

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Nutrient Density

6 CLASSES OF NUTRIENTS

1. Carbohydrate
2. Protein
3. Fat
4. Water
5. Minerals
6. Vitamins

Macronutrients
Micronutrients

What is a nutrient dense diet?

Rich in vitamins & minerals.

Limited in saturated fats, added sugar, & sodium.

Includes fruit, vegetables, whole grains, fish, lean meat, beans, nuts, seeds, dairy.

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MACRONUTRIENTS



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Macronutrients

CARBOHYDRATES

Sugars, starches & fiber

PROTEINS

Amino acids

FATS

Trans, unsaturated,
saturated and
cholesterol

Macronutrients contribute to energy (calories).
How much does your body need?
What are you asking your body to do?



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Macronutrients

CARBOHYDRATES

Sugars
Starches

Your body needs all 3 forms in order to function.

Sugars & starches are broken down into glucose - circulated in blood, used as energy.

Fiber
(soluble & insoluble)

Fiber is not broken down, adds bulk to stool, lower cholesterol, improve glucose, feel full longer.



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Macronutrients

PROTEINS

Protein is important for growth, development and cell repair.

Amino acids

Required for good health

Essential amino acids

Must be supplied by food

Nonessential amino acids

Are made by body from essential amino acids.



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Macronutrients

FAT (oils & solids)

Another source of energy, provides structure for cells.

Unsaturated

“Good” fat, poly & monounsaturated.

Saturated

“Bad” fat, mostly animal based.

Cholesterol

Low vs High Density Lipoproteins.

Trans

“Partially hydrogenated”.

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Macronutrients

UNSATURATED FATS (OILS)

Monounsaturated:
(nuts, seeds, avocados,
olives, canola)

Polyunsaturated:
(omega 3, omega 6
fatty acid - fatty fish,
flax seed, avocado,
veg oils)

Fats that are **liquid** at
room temperature

These fats are known
for their
anti-inflammatory
properties, may
decrease LDL
cholesterol and
increase HDL
cholesterol.

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Macronutrients

SATURATED FAT

Found in animal food sources, coconut oil, palm oil, and cooking margarine.

Solid at room temperature.

May increase the risk of **heart disease**.

Replacing saturated fat with polyunsaturated fat can reduce disease risk.

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Macronutrients

CHOLESTEROL

Found in animal sourced foods

Often accompanied by **saturated fats**

(LDL = Low Density Lipoprotein, “Bad” Cholesterol)

Consumption does not influence the development of heart disease.

However foods containing cholesterol often contain saturated fat, which may promote heart disease.

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Macronutrients

TRANS FAT

Solid at room temperature

Exists in some foods naturally

Slowly being **phased out** of food supply

Most often created artificially to increase shelf life.

Research suggest trans fats increase inflammation, and **decrease HDL** cholesterol.



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Macronutrients

WATER

Regulates body's temperature and blood pressure

Transports materials throughout the body

Can be incorporated in diet through:

Liquid water
Other beverages
Food

4-13 cups per day



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MICRONUTRIENTS



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Micronutrients

MINERALS

VITAMINS

Nutrients are molecules provided by foods and help individuals grow, stay healthy, and provide energy to think, learn and move.

Essential nutrients cannot be made by the body.

Most people can get all required vitamins and minerals from a balanced diet, however some groups are at risk of developing deficiencies.



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Micronutrients

MINERALS

Are compounds found in many foods such as fruits, vegetables, grains, proteins, and dairy.

The main function is to support growth, development and maintenance of tissues and cells in the body.

Important minerals to focus on for maintaining health:

Calcium, iron, potassium, zinc, magnesium.



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NUTRITION 101

Micronutrients

MINERALS

Calcium

Supports bone growth and cell to cell communication. Found in dairy, fortified non-dairy, sardines, citrus, kale.

Iron

Oxygen delivery throughout body. Important for red blood cell growth. Found in red meat, poultry, fish, tofu, spinach.

NUTRITION 101

Micronutrients

MINERALS

Potassium

Supports cell function, supports chemical & metabolism work. Found in baked potatoes with skin, dried apricots & plums, bananas, spinach.

Zinc

Supports immune, brain and muscle function, growth & development & DNA expression. Found in beef, poultry, fish, nuts.

NUTRITION 101

Micronutrients

MINERALS

Magnesium

Important for energy and metabolism, cell to cell communication, generation of DNA, bone structure & muscle contraction. Found in brown rice, nuts, fish, spinach, swiss chard.

NUTRITION 101

Micronutrients

VITAMINS

Are compounds found in many foods such as fruits, vegetables, grains, proteins, and dairy.

The main function is to support growth, development and maintenance of tissues and cells in the body.

Important vitamins to focus on for our health is A,D, E, C, & B complex.



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Micronutrients

VITAMINS

Fat Soluble

Vitamins A, D, E, K.
Small amounts
needed.
Stored in liver or fat
tissue.

Water Soluble

Vitamins C & B
complex.
Needed Daily.
Excreted in urine when
consumed in excess.

NUTRITION 101

Micronutrients

FAT SOLUBLE

Vitamin A

Important for vision, immune function, growth and development, regulation of gene function. Found in sweet potato, liver, pumpkin, carrots, broccoli, spinach.

Vitamin K

Important for blood clotting. Found in green vegetables, plant oils, kiwi.

NUTRITION 101

Micronutrients

FAT SOLUBLE

Vitamin D

Important for bone strength, regulation of gene expression, cell growth, immune function. Found in fortified products, fish, egg yolk.

Vitamin E

Antioxidant. Important for DNA repair, inflammation & immune function, RBC formation. Found in vegetables, nuts, oils, tomatoes, avocados, spinach.

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Micronutrients

WATER SOLUBLE

Vitamin C

Important for cell production against free radicals, collagen production, wound healing, absorption from plant based foods and immune function.

Sources - citrus, strawberry, kiwi, broccoli, brussels sprouts, tomato, peppers.

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Micronutrients

WATER SOLUBLE

B COMPLEX VITAMINS

Required in the conversion of food into energy = metabolism.

Thiamin	B1
Riboflavin	B2
Niacin	B3
Pantothenic Acid	B5
Pyridoxal 5' Phosphate	B6
Biotin	B7
Folate	B9
Cobalamin	B12

Folate & B12 have additional roles - DNA synthesis & gene expression.

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Micronutrients

WATER SOLUBLE

Folate

Important for cell division, regulation of DNA & genetic material and pregnancy development.

Sources - liver, fruits, legumes, fortified grains and flours, dark leafy vegetable.

Folate deficiencies associated with neural tube defects and anemia.

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Micronutrients

WATER SOLUBLE

Cobalamin - B12

Important for a series of reactions that affect DNA expression & synthesis.

Sources - seafood, milk, turkey, eggs.

Vegetarians and vegans generally have to supplement B12.

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WHAT IS MYPLATE



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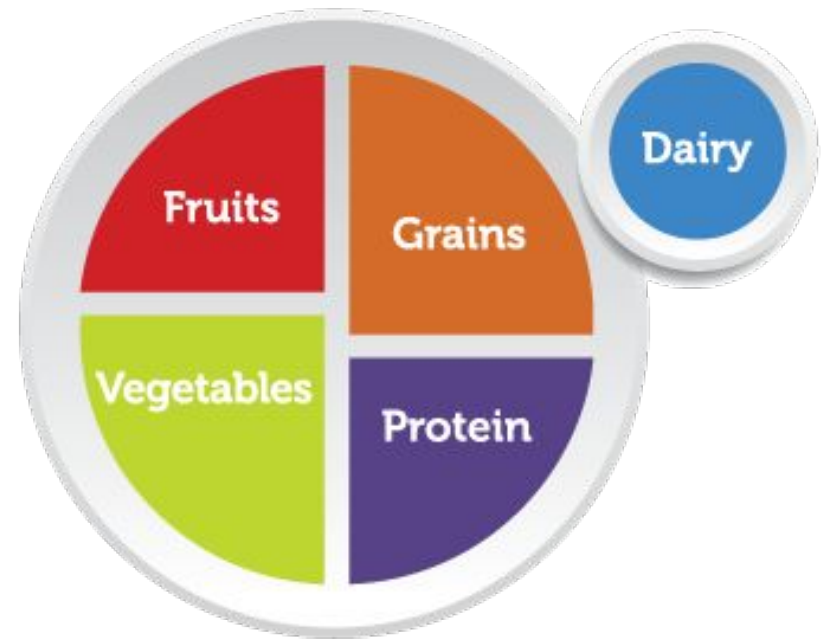
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WHAT IS MYPLATE?

A nutrition guide developed by the US Department of Agriculture (USDA).

Illustrates the 5 food groups that make up a healthy diet.



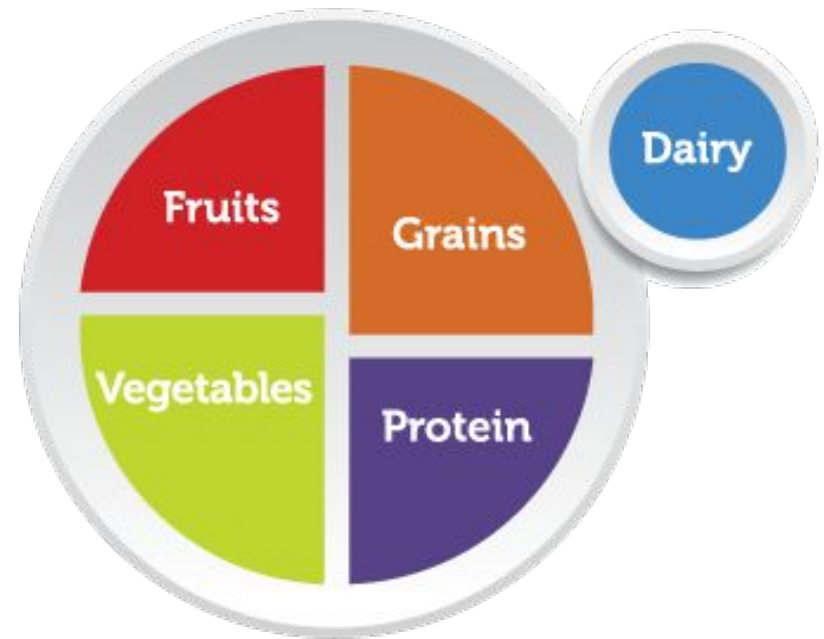
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MyPlate Components

The 5 Food Groups

1. Fruits
2. Vegetables
3. Grains
4. Protein
5. Dairy

(Oils are highlighted as an important component)

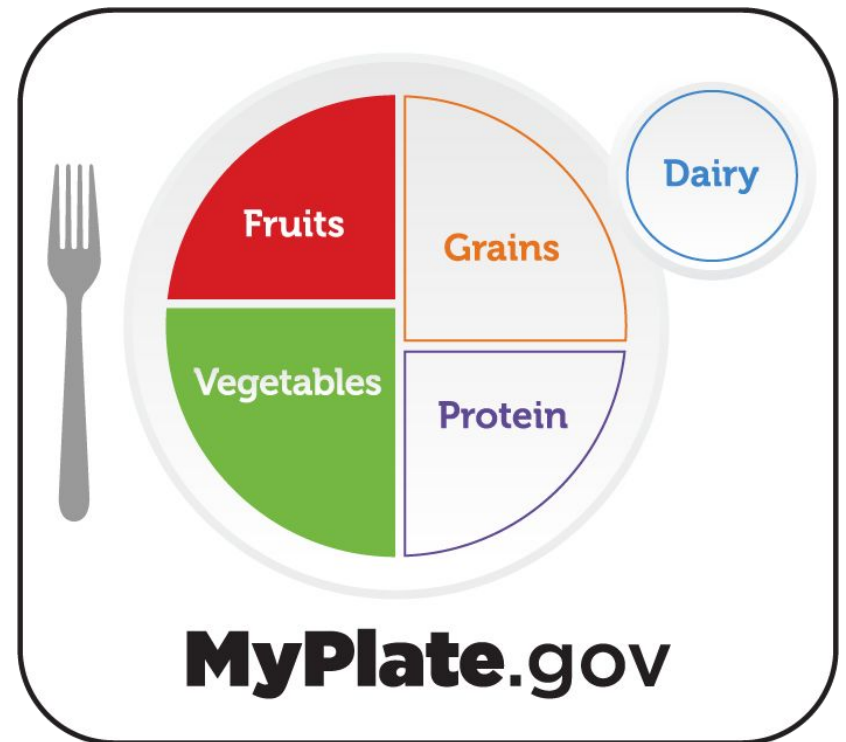


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FRUITS

Important source of vitamins, minerals, and fiber.

Sources such as:
Fresh, frozen, dried,
pureed

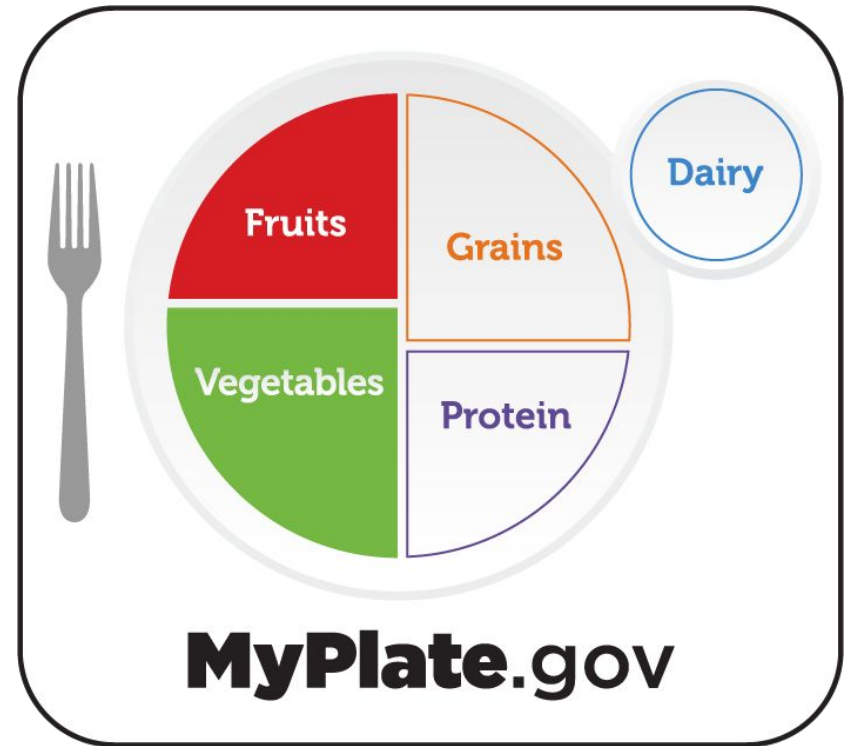


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VEGETABLES

Important source of vitamins, minerals, and fiber.

Sources such as Fresh, canned, frozen, dried, cooked.



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VEGETABLES

Divided into **five subgroups** based on the types of nutrients they contain.

1. **Dark Green:** Fiber, ACK, folate, iron, calcium.
2. **Starchy:** ACBK
3. **Red/Orange:** A, folate, potassium.
4. **Beans:** Fiber, C, potassium, magnesium.
5. **Other:** Ex) beets, avocados, bok choy, cauliflower.

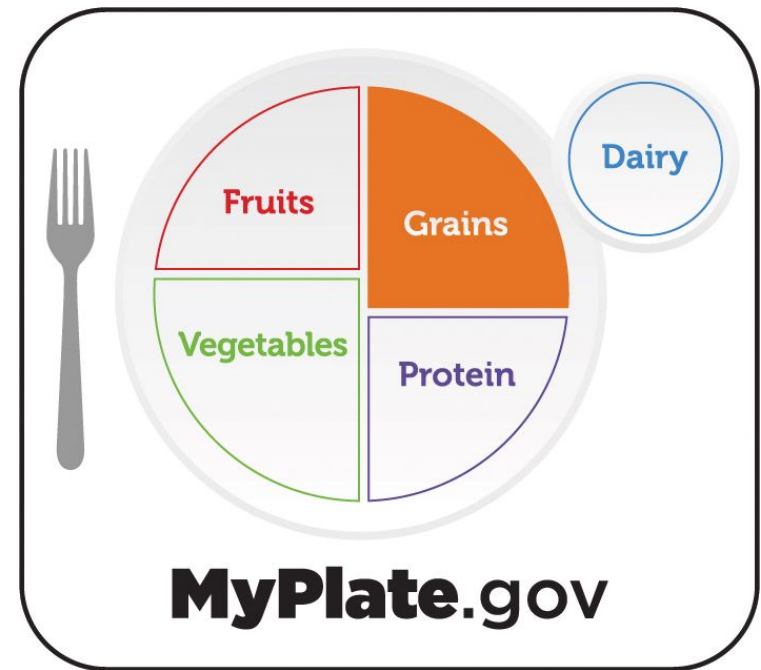
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GRAINS

Provide carbohydrates,
B vitamins,
copper, iron, zinc &
fiber.

Divided into two
subgroups:

Whole grains
Refined grains



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GRAINS

Whole grains have more nutrients and fiber than refined grains.

They contain all parts including bran, germ and endosperm.

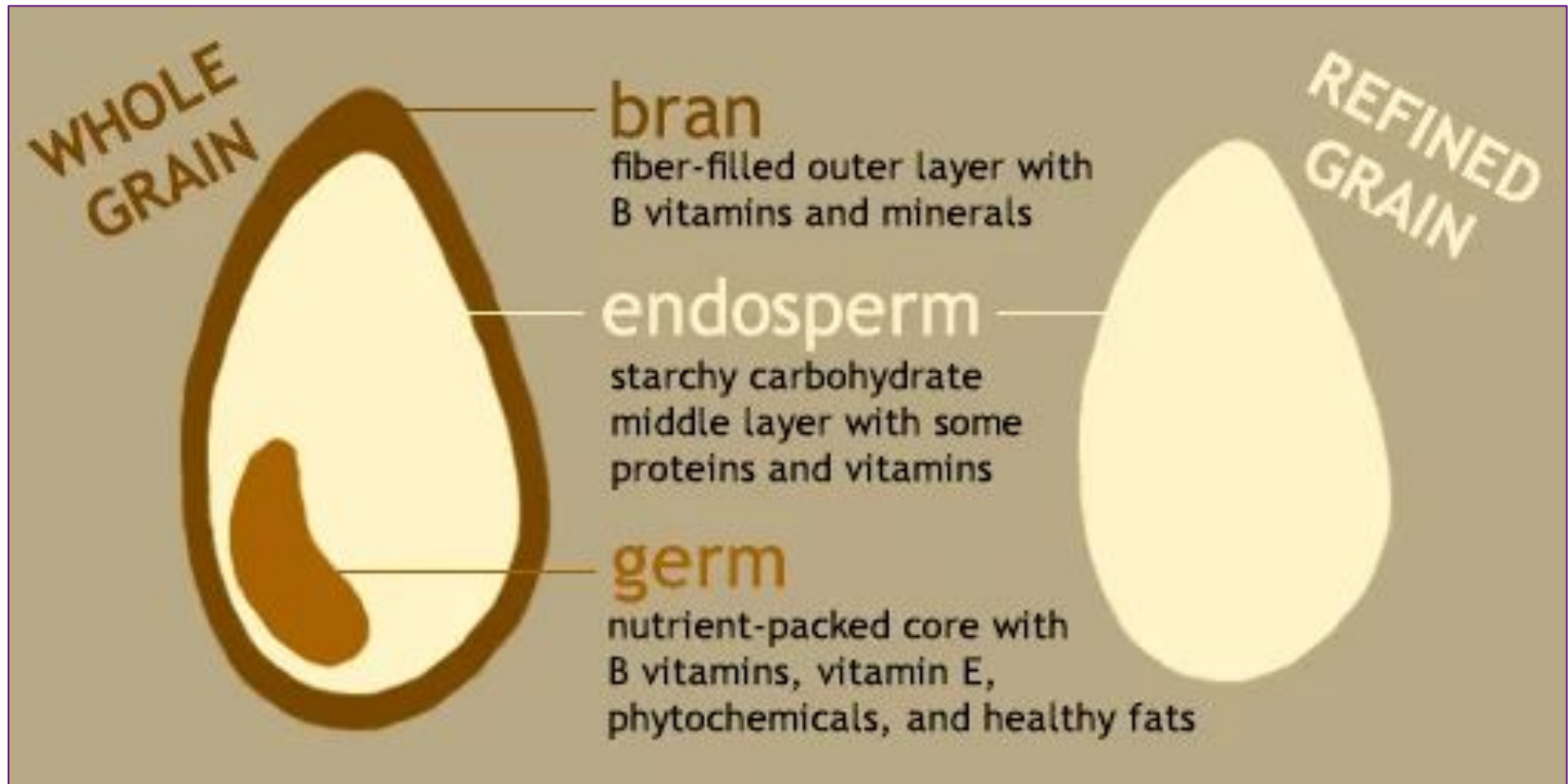
Refined grains have been milled to remove the bran and germ, leaving only the endosperm.

Refined have a finer texture and longer shelf life.

Lack in nutrients like B vitamins and fiber. (many are enriched).

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GRAINS

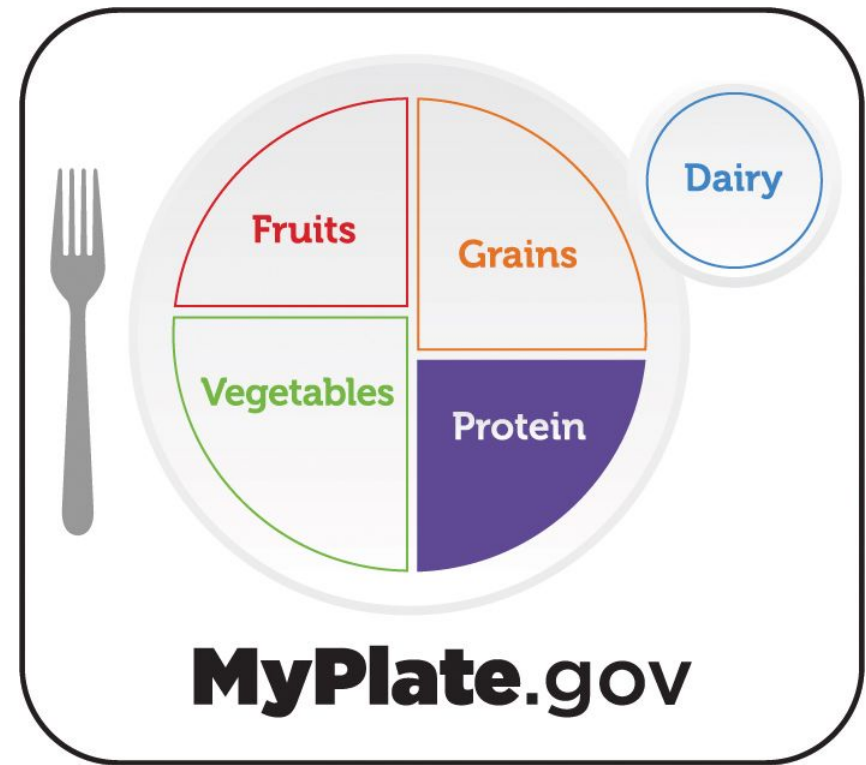


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PROTEIN

Provide nutrients like iron and vitamin B.

Include essential and non-essential amino acids.



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PROTEIN

Complete Protein:

Contain all essential amino acids in sufficient quantities, usually available in animal products.

Example: fish, poultry, eggs, or beef.

Incomplete Protein:

Lack one or more essential amino acids, available in most plant products. Can be combined to provide complete amino acid.

Example: Bean, tofu, legumes, must be paired to complete the protein.



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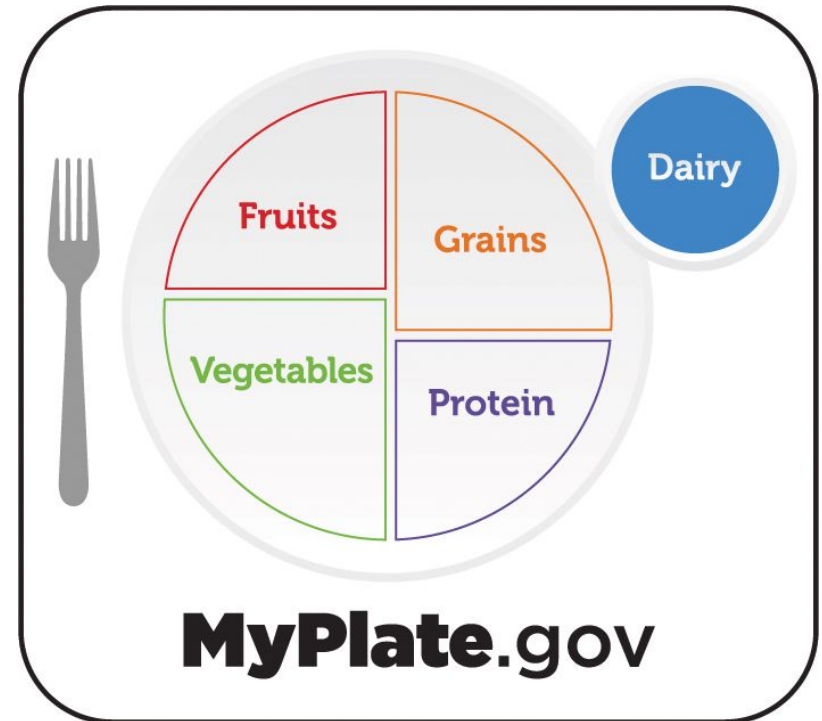
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DAIRY

Provides important nutrients to the diet, like protein, vitamins, and minerals such as calcium.

Also includes calcium fortified soy beverages.

High fat, low calcium dairy is not included.



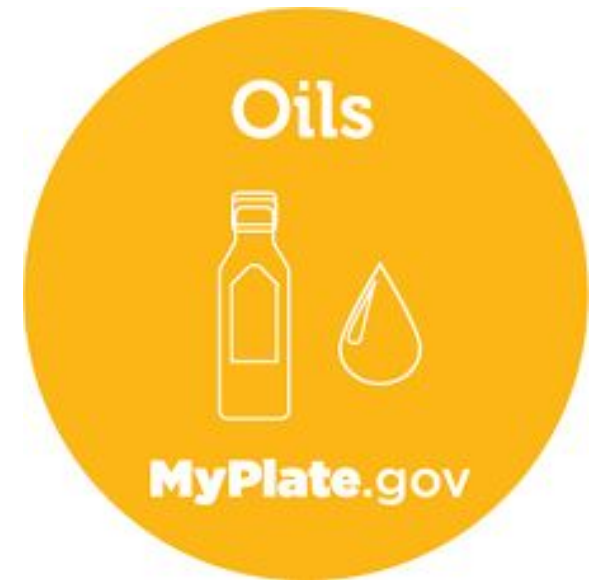
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OILS

Type of fats that are liquid at room temperature.

Not one of the MyPlate groups.

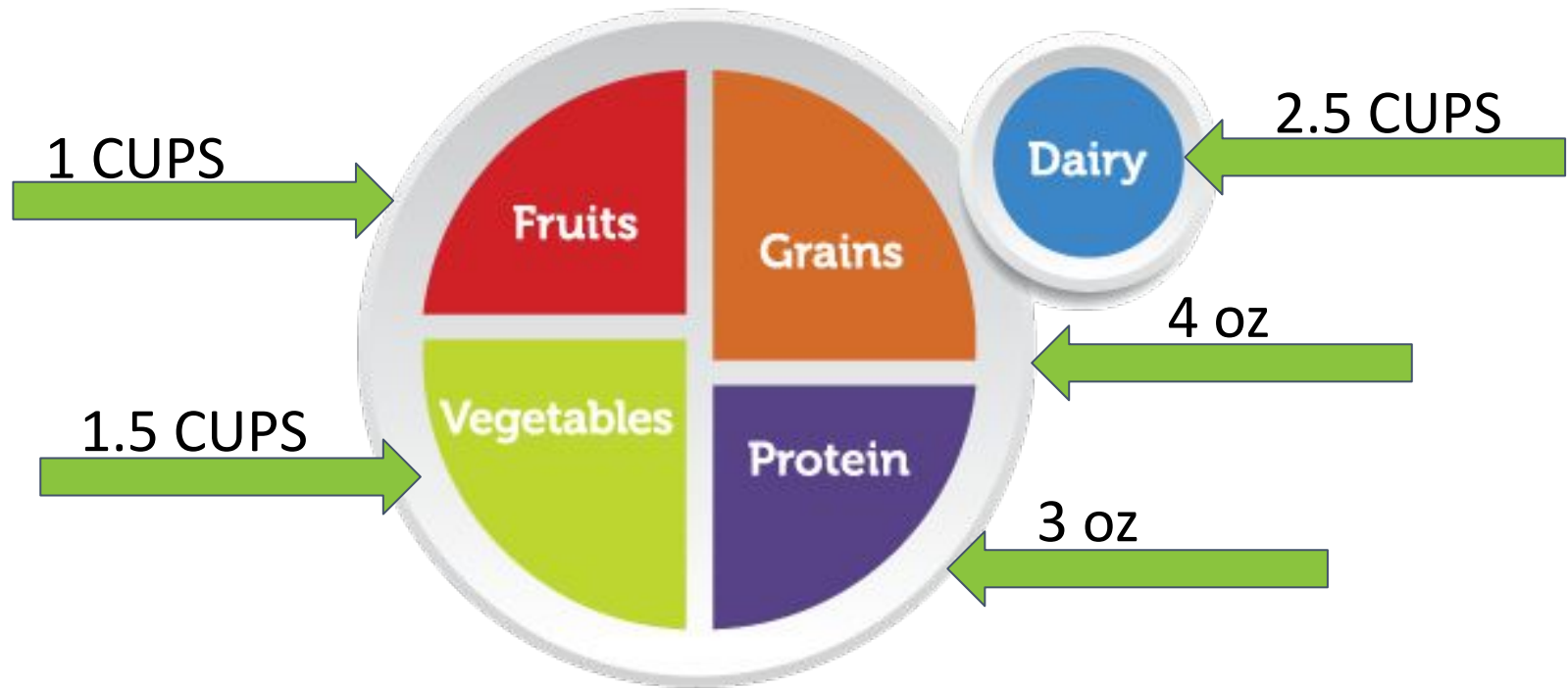
Included in MyPlate because they are an important source of nutrients, such as essential fatty acid.



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MyPlate Recommendations

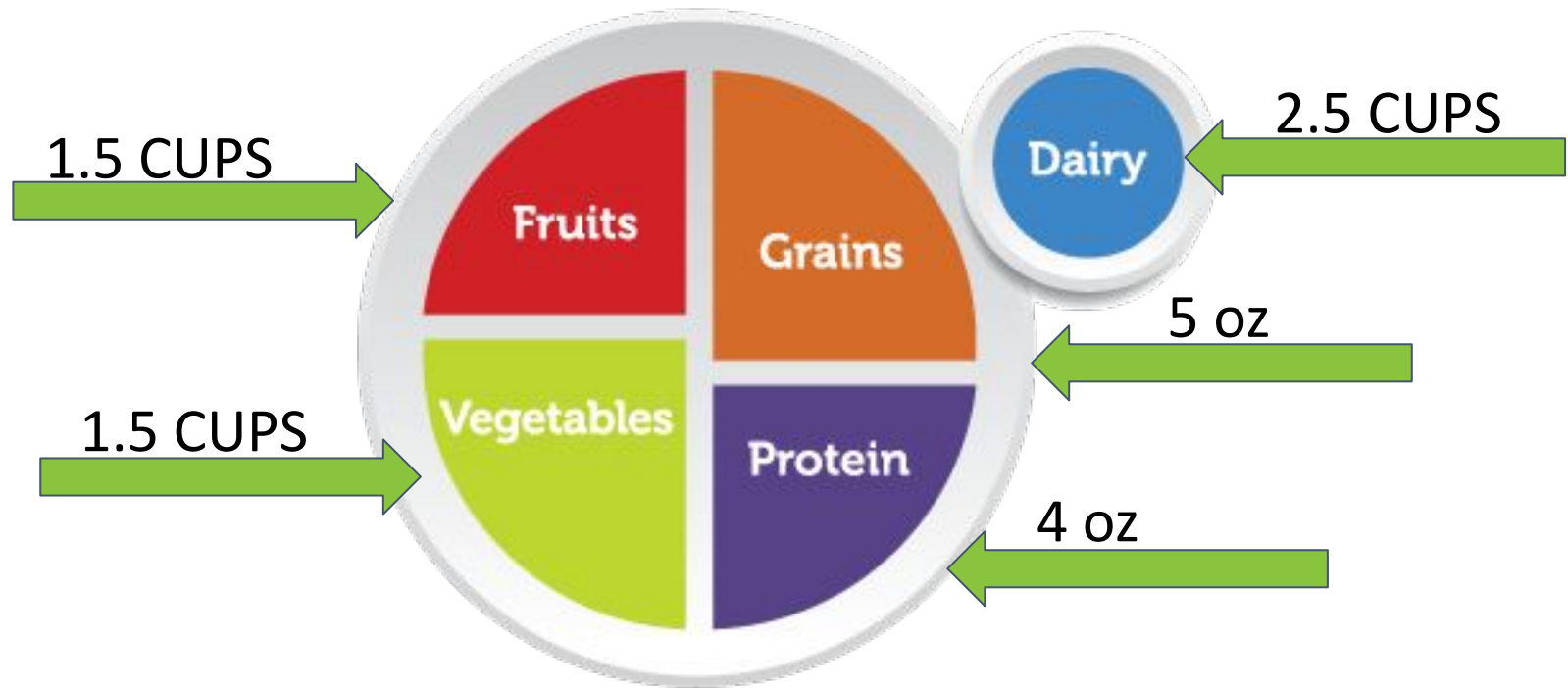
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MyPlate Recommendations

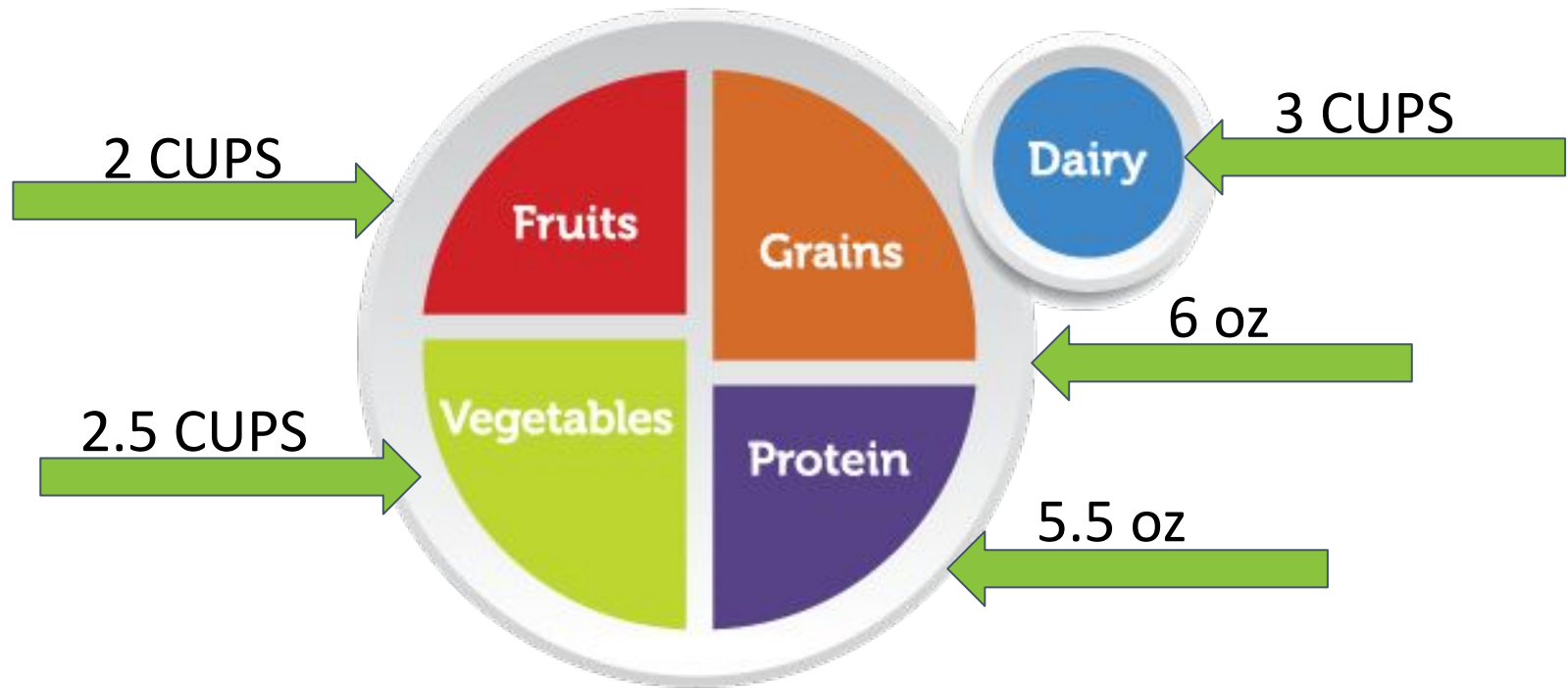
AGES 4-8



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MyPlate Recommendations

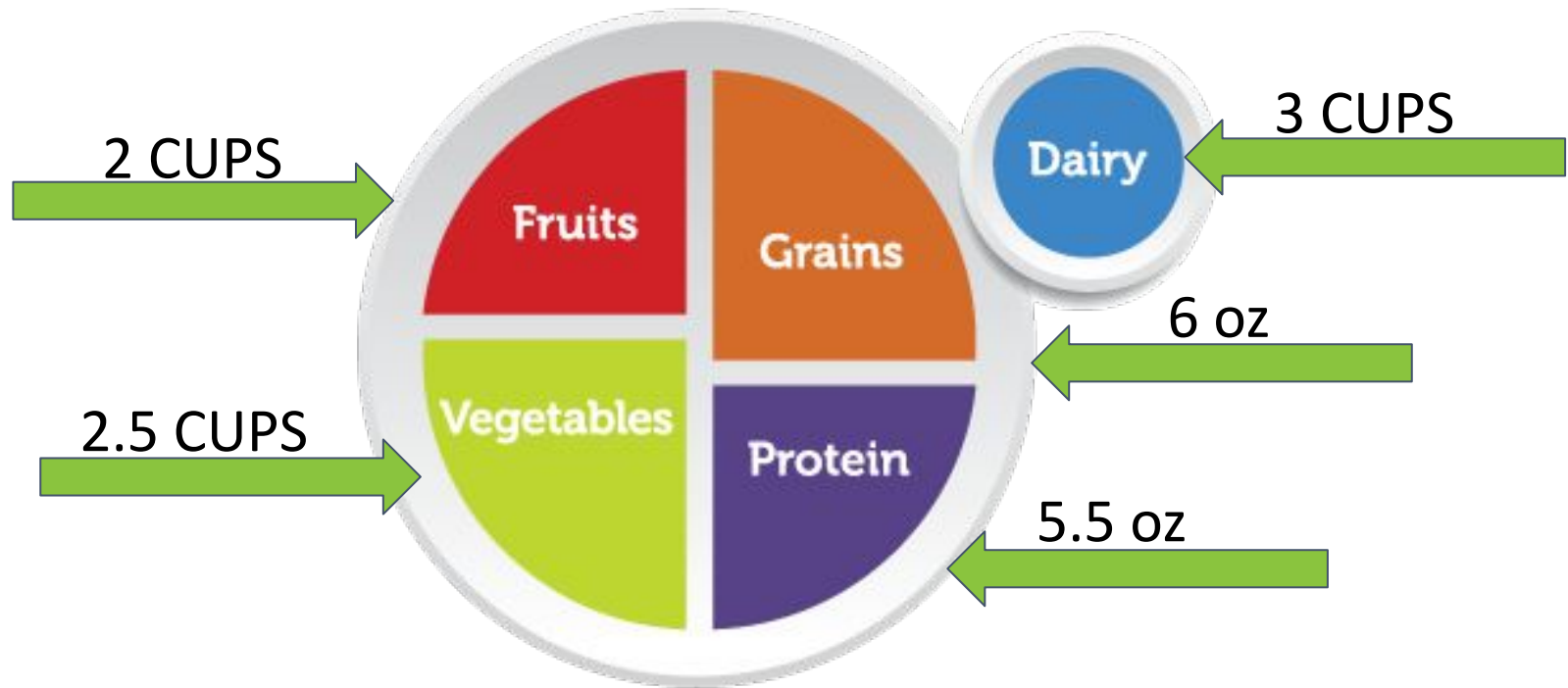
AGES 9-13



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MyPlate Recommendations

AGES 14 & up



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WHOLE BODY HEALTH



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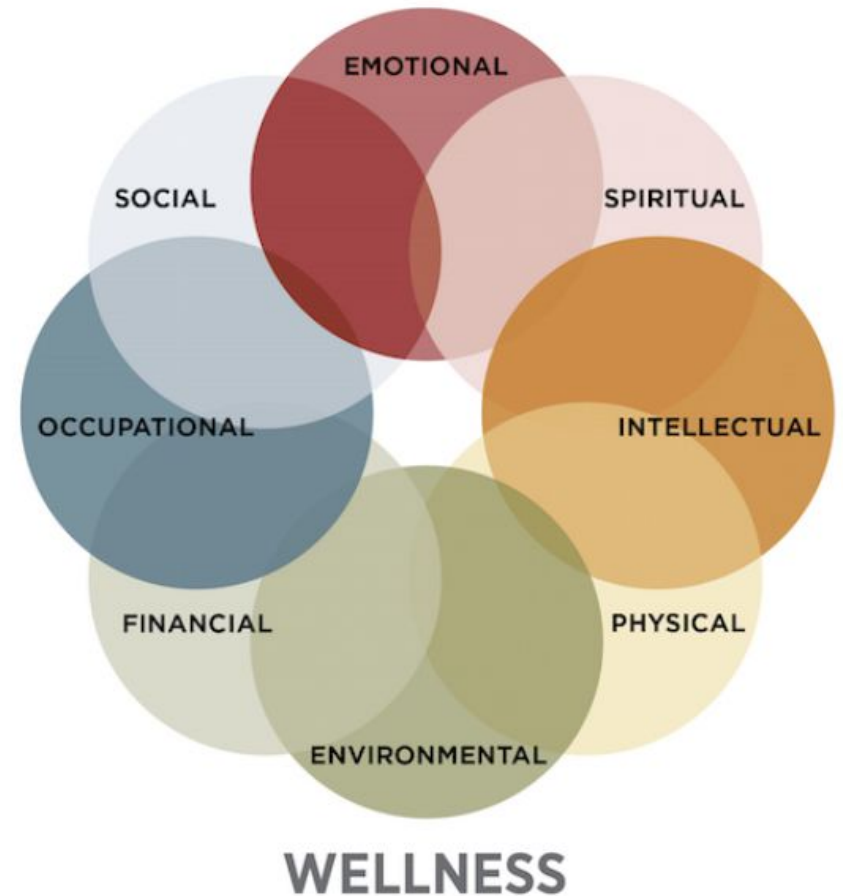
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Whole Body Health

How does diet or nutrition link to wellness?

SAMHSA Model:

1. Emotional
2. Spiritual
3. Intellectual
4. Physical
5. Environmental
6. Financial
7. Occupational
8. Social



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Whole Body Health

Trauma Informed Nutrition recognizes the relationship between adversity, chronic disease and nutritional health.

Understanding Trauma

Physically or emotionally harmful or a life threatening event that can have lasting adverse effects on an individual's health and well being, including their relationship with food.



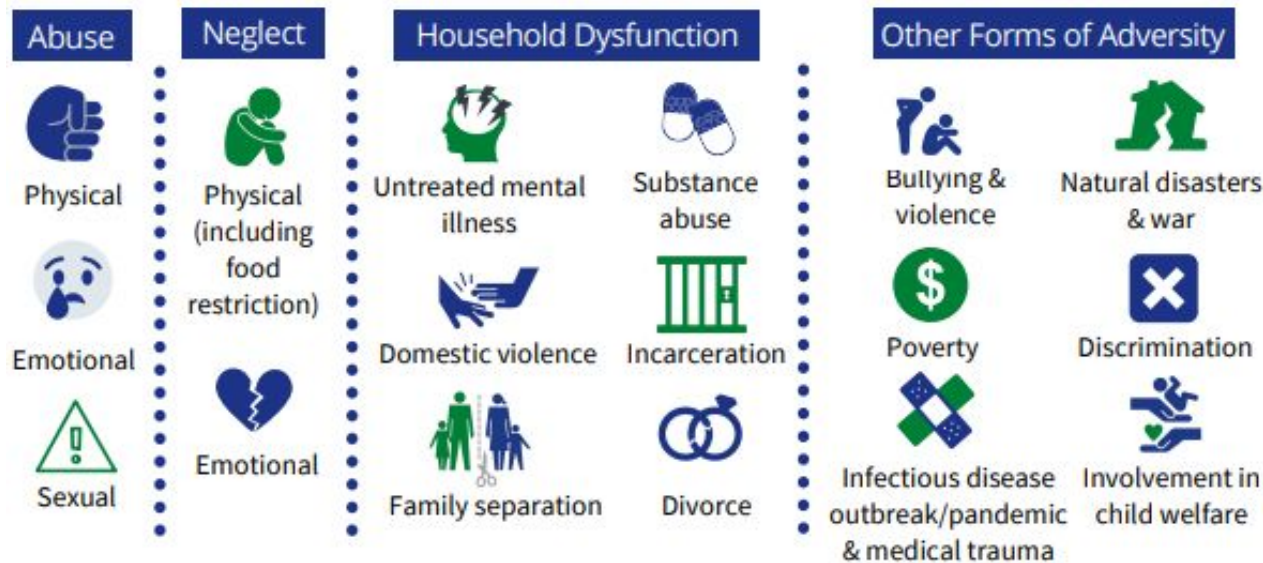
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Whole Body Health

Adverse childhood experiences (ACEs)



Potentially traumatic childhood events, resulting in toxic stress. Prolonged exposure is linked to long term health problems.

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Whole Body Health

Why TI Nutrition?

Trauma and adversity can disrupt biology & exacerbate an unhealthy relationship with food, leading to poor nutritional health. The relationship with food must be treated with compassion & a holistic perspective that acknowledges individual, historical and systemic

Adverse Food Exp.

Unreliable meals
Restriction over food
Body shaming
Loss of traditions

Behaviors Resulting

Hoarding, Binging
High fat, sugar/salt diet
Eating disorder
Decision making to meet short-term, rather than long-term



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Whole Body Health

What is TI Nutrition?

TI nutrition acknowledges the role ACEs and other forms of adversity play in a person's life, recognizes symptoms of trauma, and promotes resilience.

A trauma-informed approach is characterized by an understanding that unhealthy dietary habits, chronic disease, & poor health outcomes may be a result of adverse experiences & not individual choices, therefore aims to avoid shaming, stigma & blame.



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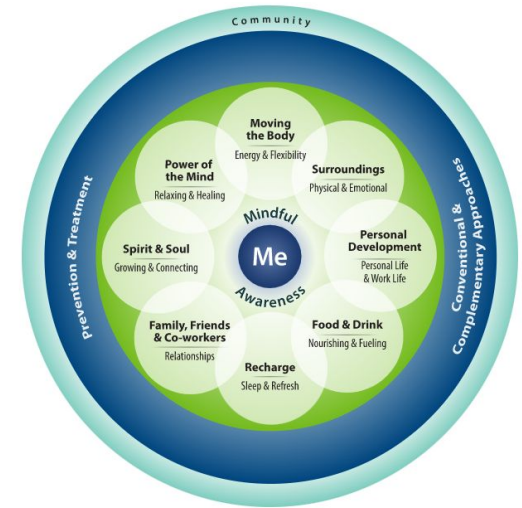
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Whole Body Health

Other examples or models:

VA Circle of Health (US Dept of Veteran Affairs)

WSSC Model, CDC (Whole School, Whole Child, Whole Community)



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VEGETARIAN DIETS



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Vegetarian Diets

A vegetarian diet focuses on plants for food. These include fruits, vegetables, dried beans and peas, seeds and nuts.

- **Vegan** - plant foods
- **Raw vegan** - 75-100% uncooked, only plant
- **Lacto vegetarian** - dairy products & plant foods
- **Ovo vegetarian** - eggs & plant foods
- **Pesco vegetarian** - fish & plant foods
- **Lacto ovo vegetarian** - eggs, dairy & plant foods

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Vegetarian Diets

5 Important Nutrients For Vegetarians

1. **Calcium** - low fat, fat-free dairy, fortified milk alternatives, leafy green veg, broccoli
2. **Iron** - fortified cereals, eggs, beans (soy), spinach, chard
3. **Protein** - legumes, whole grains, soy products, nuts, eggs, dairy
4. **Vit B12** - found in all foods of animal origin. Fortified foods recommended (Eggs, dairy products)
5. **Vit D** - Few foods are naturally high in VD. Fortified foods recommended. (Eggs, mushrooms)

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Vegetarian Diets

Vegetarian Recipes

Learn how to make:

PUMPKIN RICOTTA STUFFED SHELLS

Resources and more great recipes provided at end of presentation.



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MATERIALS



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Materials

Parent Handouts:

[Healthy Eating: Healthy Tips for Your Family](#)

[Eat Smart, Move More activity](#)

[Healthy Eating For Families](#)

[Kitchen Helper Activities](#)

Recipes and Cooking:

[NIH Vegetarian Recipes](#)

[Spice it Up! Cooking with Herbs](#)

[Kitchen Time Savers](#)

[Mastering Flavorful Cooking Methods](#)



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Materials

References:

[USDA Dietary Guidelines](#)

[CalFresh Healthy Living UC Davis](#)

[SAMHSA](#)

[Kelty Eating Disorders](#)

[Drexel ACES](#)

[MyPlate](#)

[MyPlate Vegetarian Meals](#)

[5 Important Nutrients for Vegetarians Eat Right.Org](#)

[Eating Vegetarian USDA](#)



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Alcance del Formulario AD-475-B SNAP y FOPPR /Revisado May 2022



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Courtney Ivey *Project Specialist*, [CalFresh Healthy Living](#)
Community Service Solutions
civeycss@gmail.com