



# The Power of Food

by Jamie Bonczyk and Kathryn Costello

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In December of 2010, President Obama signed into law The Healthy, Hunger-Free Kids Act. This law expanded the availability of nutritious meals served in Early Childhood settings that received USDA funding. One of the provisions of the HHFKA was to update the Child and Adult Care Food Program meal pattern requirements to better align them with the Dietary Guidelines for Americans. The new meal pattern requirements were implemented on October 1, 2017. These updates to the

science-based standards will elevate the nutritional quality of meals and snacks provided in centers and family child care homes as well as increase access to healthy beverages, including low-fat and fat-free milk and water, and encourage breast-feeding. This law was influential not only in increasing the amount of nutritious meals getting to low-income children, but in highlighting an area of early childhood that had been getting little to no attention, yet

is so vital to the healthy development of the children in our care settings.

According to current child development research, 90 percent of neural connections are formed by the time a child is five. These early years provide the foundation for children's future health, academic success, and social and emotional well-being. This is the most important time to develop children's healthy eating habits, and to educate children and families



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Photo by Scott Bilstad

about the role nutrition plays in child development.

What is known about the connection between nutrition and brain development?

- The most rapid brain growth occurs during the first year of life. The brain triples in size from birth to the child's first birthday.
- During the first year, around 50 percent of an infant's daily calories come from fat.
- Fats influence brain development and performance in growing infants.
- Fats are a major component of the brain cell membrane and the myelin sheath around each nerve. The myelin sheath surrounds and insulates the axon. Myelin production is the primary reason why pediatricians recommend increased levels of fat including whole milk in a child's diet until the child turns two.
- Getting enough of the right kinds of fat such as Omega-3 fatty acids can greatly affect brain development and performance. Examples of Omega-3 fatty acids include foods containing salmon, tuna, enriched eggs and dairy products, olive oil, canola oil, flax, legumes, and black beans.
- Glucose is a primary source of energy for the brain.

If we don't take the opportunity to ensure children in our care get the proper nutrients, they may become undernourished. Poor nutrition over a period of time can lead to a health condition known as malnutrition. Malnutrition can come from not having enough food, but it can

also come from not having the right kinds of food. Even if children have plenty to eat, if they are not getting enough nutrient-dense food, they can still become malnourished. When children do not get the right kinds of food, their growth can be stunted. Malnutrition can also inhibit brain development in very young children.

Early childhood professionals have the potential to greatly influence what children eat, and the foods they learn to enjoy. Children in full-day, full-year learning environments could eat up to 780 meals in one year while in child care. In addition to determining nutritional guidelines, adults control the eating environment, which helps children to develop good feeding behaviors and attitudes toward food.

Preparing and serving healthy foods to children is only successful if children actually accept the foods in front of them. Many children are fearful of new foods, so preparing them to try new items is an important step in getting children to accept a wider variety of foods. Introducing new foods can happen during or between mealtimes; wherever it happens, this education helps children make decisions about what foods to eat.

### Becoming and Creating Informed Eaters

Foods are dynamic, meaning that they contain dozens of compounds that interact with one another to supply our bodies with the nourishment they need. Macronutrients — carbohydrates, fats, and protein — are the energy-giving nutrients. They are the building blocks of all foods, and all humans need a balance of all three macronutrients to function optimally. Vitamins and minerals do not provide energy, but do have impor-

tant qualities that help build, repair, and maintain each cell in our bodies.

### Macronutrients

**Carbohydrates** are the first source of energy the body uses, and they are the major source of energy for the central nervous system. Whole grains and fresh fruits and vegetables (not juice!) contain fiber that slows digestion and promotes a feeling of fullness. Sources:

- Whole grains (i.e., whole grain bread, oats, farro, barley, spelt, wheatberries)
- Fruits
- Vegetables

**Fats** are the second source of energy the body uses. Functions of fats include cushioning of organs, maintaining body temperature, and promoting healthy skin. Sources:

- Avocado
- Nuts
- Flax seeds/flax seed oil
- Salmon
- Olive oil

**Proteins** are the third source of energy the body uses and it is the major building block in our bodies. Protein builds new cells and aids in the repair of damaged tissue. Sources:

- Lean meat and poultry
- Fish and seafood
- Eggs
- Tofu
- Quinoa

### Vitamins

**A** is needed for good vision, healthy skin, and strong bones.

- Source: breastmilk or formula; fish; milk; eggs; yellow, orange, and green leafy vegetables; and yellow and orange fruits.

**B** is needed to convert our food into fuel.

- **Thiamin:** essential for carbohydrate metabolism so that energy can be released and used. Source: breast milk, nuts, grains, green leafy vegetables.
- **Riboflavin:** promotes healthy skin, eyes and clear vision. Source: breast milk, milk products, fish, eggs, legumes, and leafy vegetables.
- **Niacin:** promotes healthy nerves and skin and aids in digestion. Source: breast milk, meat, poultry, fish, whole grains, enriched cereals, and green leafy vegetables.
- **Folic Acid:** during pregnancy, infancy, and early childhood, when rapid cell division is occurring, folic acid is a must! Contained in breast milk, dark green leafy vegetables, legumes, liver, and nuts.

**C** helps fight disease and protect the body by healing wounds and maintaining healthy blood vessels.

- Source: citrus fruits, cabbage, Brussels sprouts, broccoli, and bell peppers.

**D** is needed to help calcium make strong bones and teeth.

- Source: infant formula, fortified milk, fatty fish, eggs, butter, and liver. Vitamin D is produced naturally in the skin when it gets sunshine.

**E** protects muscles, the cardiovascular system, and nerve cells from damage.

- Source: breast milk, whole grains, nuts, seeds, vegetable oils, kiwi, and spinach.

#### Minerals

**Iron** helps the immune system resist infection and helps enzymes release energy to the body. Deficiency in iron

causes anemia. Anemia is one of the major health problems among children in the United States.

- Source: breast milk, green leafy vegetables, whole grains, legumes, meats, and dried fruit.

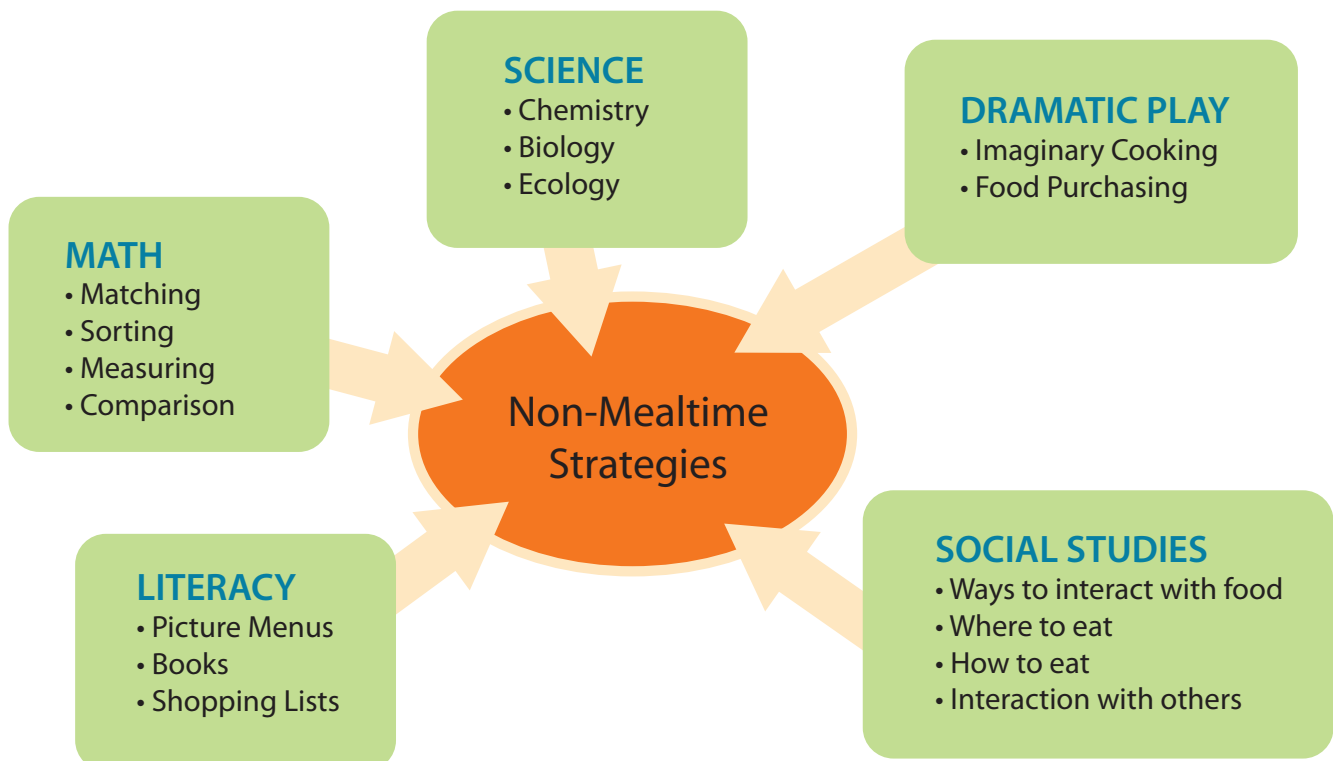
**Calcium** helps to regulate the body systems, promotes normal nerve transmission, and functions in normal muscle contraction and relaxation.

- Source: breast milk, milk, dairy products, dark green leafy vegetables, turnips, dried beans and peas, almonds, and molasses.

**Zinc** is necessary for healing of wounds and proper growth.

- Source: shellfish, fish, legumes, whole grains, and meats.

**All parts of a curriculum can be non-mealtime strategies to teach about healthful foods and behaviors.**



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## Creating Consistent Messages About the Importance of Food

How do we communicate this information in a way children will understand? Both mealtimes and non-mealtimes present great opportunities to help children become familiar with new foods and educate them about the importance of eating healthfully.

Early childhood education and care environments provide good modeling for entire families. Ways that parents can be involved with nutrition services include asking parents to be part of the menu planning committee, asking for copies of their favorite healthy recipe for use in a class cookbook, or planning a parent engagement opportunity with a food tasting or preparation activity. Like all aspects of early childhood, when we create a positive home/school connection, the children benefit from hearing

the same messages in multiple environments.

## Food Education Outside of Mealtimes

Non-mealtime education equips children with the tools they need to make informed decisions about what to eat when they're at the table. Incorporating education about new foods at non-mealtimes is important because it helps build an understanding of what food is, where it comes from, and why it's good to eat.

Try some of these non-mealtime strategies:

When asked what children can gain from non-mealtime food lessons, toddler teacher Kristin Skunberg stated,

"It is possible to plan learning in all of the developmental domains. In

the cognitive domain there are math skills taught such as counting, adding, measuring, and shape recognition. For science and problem solving, we can teach how food grows, about the five senses, and about making predictions, by asking questions such as, "What happens when you mix these ingredients or these colors?" In the social and emotional domains kids learn cooperation, collaboration, sharing, interacting with others, self-confidence, self-help skills, and a sense of achievement. In the language and early literacy domain they learn new vocabulary. We can talk about foods, colors, textures, tools, and similar topics. As for communication skills, listening, following directions, and speaking are an important part of learning about food preparation.

"In the approaches to learning domain, cooking activities may appeal to their sense of curiosity, risk taking, imagination, or persistence. Also, physical and

motor development is enhanced by addressing fine motor skills such as tearing, mashing, stirring, pouring. Children's physical health and well-being is addressed as they learn about nutrition, vitamins, food groups, and sanitary guidelines while preparing food."

### Suggested Free Nutrition Curricula

For many children, developing a preference for healthy foods takes time and effort. It can take between 8–20 repeated exposures to help some children develop a comfort with new food items. Using an intentional nutrition curriculum and regularly scheduled lessons about food gives children the opportunity to delve into new ideas about food when they are not being asked to eat it for sustenance.

#### Exploring Food Together

[cookingmatters.org/exploring-food-together](http://cookingmatters.org/exploring-food-together)

Exploring Food Together is a toolkit of simple activities that adults who work with young children can use in the classroom or in the home, in order to help kids learn about new foods and start building the skills to make healthy food choices. The toolkit features lessons around key topics:

- Food Identification and Tasting
- Food Purchasing
- Food Preparation
- Food Origins
- Food Culture

#### Farm to Child Care

[www.iatp.org/issue/farm-to-childcare](http://www.iatp.org/issue/farm-to-childcare)

The curriculum and associated materials include practical, experience-tested strategies to try out new approaches in child care settings including menu innovations, classroom activities, and family engagement ideas.

#### Learning About Nutrition Through Activities

[www.health.state.mn.us/lana](http://www.health.state.mn.us/lana)

The goal of the LANA Preschool Program is to help young children learn to taste, eat, and enjoy more fruits and vegetables in order to promote good health, including healthy weight and reduced risk of chronic disease.

In a field where there are daily competing priorities, it is important to remember that children will need food every day for the rest of their lives. Food offers a full sensorial experience. In the first five years of life, we have the opportunity to build extensive food vocabularies and introduce mealtime rituals and routines that should be the foundation of their food experiences. The time to help our children develop a healthy and meaningful relationship with food is now!

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