How much sleep do we really need?

Why garden with kids?

FIT AND STRONG BODIES AT EVERY SIZE

Try our recipes

Tips from athletes

FREE activities for kids
Welcome
to the fourth edition of “Eat Smart. Play Hard. Together.” In its 10th year, this collaborative effort of the North Dakota State University Extension Service and Bison Athletics is a statewide educational program for children and families and often features athletes as role models.

Through the years, the campaign has reached thousands of people with assorted printed materials. Our website (www.ndsu.edu/eatsmart) includes a variety of videos and materials for parents, children, singles/couples and educators. We also host a 4-H club recognition program and poster contests, and our Extension educators provide statewide classroom lessons with information for kids and newsletters for parents. Find us on Facebook to get regular updates on nutrition, fitness and health.

A special thank you goes to our colleagues from North Dakota State University for sharing their expertise in this magazine. We appreciate the ongoing support of our sponsors for their help in bringing these educational messages to thousands of people throughout North Dakota and beyond. We are pleased to include recipes featuring many of North Dakota’s commodities.

We thank you, our readers, for reading the magazine. We hope you enjoy it and learn something valuable to you and your family.

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We acknowledge the support of our sponsors to help us implement statewide nutrition education programs for children.

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Do you want your family to eat more healthfully, but money and time are tight?

The Family Nutrition Program (FNP) and Expanded Food and Nutrition Education Program (EFNEP) can teach you about feeding yourself and your children in healthful, low-cost and delicious ways.

EFNEP and FNP educators across the state offer fun, interactive programs about nutrition, meal planning, food safety and stretching your food dollar.

Contact your local NDSU Extension Service office to find out about programs in your area and if you are eligible for our free classes.

Learn more at www.ag.ndsu.edu/foodwise.

Focus on fruits.

• Eat a variety of fruit
• Choose fresh, frozen, canned or dried fruit
• Go easy on fruit juices

ChooseMyPlate.gov

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How Much Sleep Do We Really Need?

Sharon Query, Ph.D., Extension Youth Development Specialist and Assistant Professor of Practice Center for 4-H Youth Development, NDSU
Sleep needs vary across ages and are especially impacted by lifestyle and health. Thus, to determine how much sleep you need, you must assess not only where you fall on the "sleep needs spectrum," but also examine what lifestyle factors, such as work schedules and stress, are affecting the quality and quantity of your sleep. To get the sleep you need, you must look at the big picture.

How much sleep do you really need?

<table>
<thead>
<tr>
<th>Age</th>
<th>Sleep Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborns (0 to 2 months)</td>
<td>12 to 18 hours</td>
</tr>
<tr>
<td>Infants (3 to 11 months)</td>
<td>14 to 15 hours</td>
</tr>
<tr>
<td>Toddlers (1 to 3 years)</td>
<td>12 to 14 hours</td>
</tr>
<tr>
<td>Preschoolers (3 to 5 years)</td>
<td>11 to 13 hours</td>
</tr>
<tr>
<td>School-age children (5 to 10 years)</td>
<td>10 to 11 hours</td>
</tr>
<tr>
<td>Teens (10 to 17 years)</td>
<td>8.5 to 9.25 hours</td>
</tr>
<tr>
<td>Adults</td>
<td>7 to 9 hours</td>
</tr>
</tbody>
</table>
Although research cannot pinpoint an exact amount of sleep people need at different ages, the preceding table identifies the rule-of-thumb amounts most experts have agreed upon. Nevertheless, paying attention to your needs by assessing how you feel on different amounts of sleep is important.

Are you productive, healthy and happy on seven hours of sleep? Or do you need nine hours of quality ZZZs to get into high gear? Do you have health issues such as being overweight? Are you at risk for any disease? Are you experiencing sleep problems? Do you depend on caffeine to get you through the day? Do you feel sleepy when driving? These are questions you must ask before you can find the number that works for you.

### What You Can Do to Improve Your Sleep

To begin a new path toward healthier sleep and a healthier lifestyle, begin by assessing your needs and habits. See how you respond to different amounts of sleep. Pay careful attention to your mood, energy and health after a poor night's sleep versus a good one. Ask yourself, "How often do I get a good night's sleep?" If the answer is "not often," then you may need to consider changing your sleep habits or consulting a physician or sleep specialist.

To pave the way for better sleep, experts recommend that you and your family members follow these sleep tips:

- Establish consistent sleep and wake schedules, even on weekends.
- Create a regular, relaxing bedtime routine such as soaking in a hot bath or listening to soothing music. Begin an hour or more before the time you expect to fall asleep.
- Create a sleep-conducive environment that is dark, quiet, comfortable and cool.
- Sleep on a comfortable mattress and pillows.
- Use your bedroom only for sleep. Keep "sleep stealers" out of the bedroom: Avoid watching TV, using a computer or reading in bed.
- Finish eating at least two to three hours before your regular bedtime.
- Exercise regularly.
- Avoid caffeine and alcohol products close to bedtime and give up smoking.

Most importantly, **make sleep a priority**. You must schedule sleep like any other daily activity, so put it on your to-do list and cross it off every night. But don’t make it the thing you do only after everything else is done. Stop doing other things so you get the sleep you need.

Focus on being healthy, not the number on the scale or the size of his or her clothing.
Many parents struggle with how to help their overweight child. In fact, a study sponsored by WebMD and Sanford Health in 2011 found that parents were more comfortable talking to their kids about teen sex than the risks of being overweight. So, when a child mentions that he or she is fat, parents often do not know what to say. Understanding the reason your child has these feelings can help you decide what to do.

If your child has been teased by a classmate, relative or friend, address the bullying issue first. If your child is feeling insecure about his or her weight because of bullying or something he or she saw on TV or the Internet, reassure him or her of your love and acceptance. Focus on being healthy, not the number on the scale or the size of his or her clothing. Avoid punishing, threatening or coercing your child regarding weight or eating habits. The shame and anger these tactics cause can lead to your child having an eating disorder.

If you have your own concerns about your child’s weight, have a private conversation with your child’s health-care provider. Openly discuss your concerns about your child’s weight and health, and identify resources that can help your family make positive changes. Some resources that can help are a registered dietitian who has experience working with children, and community programs that focus on getting kids active and teaching healthy lifestyles.

If you feel your child is at risk for health problems related to being overweight, then you can take action. Talk with other family members about supporting healthy changes that need to be made. Remember, healthy eating is good for everyone. Here are some healthy changes you can make:

- Use low-fat or fat-free milk and yogurt instead of whole milk or regular yogurt.
- Use whole-grain bread, cereal, pasta and rice instead of refined or enriched grains.
- Use fruits as desserts in place of cookies, cake or ice cream.
- Encourage raw vegetables with low-fat dip, fruit, nuts or low-fat cheese for snacks instead of snack crackers, chips or sweets.
- Make more colorful vegetables as side dishes with meals and less potatoes, rice, pasta or bread.
- Drink more water and less sugar-sweetened drinks such as juice and soda.
- Choose leaner cuts of meat and try baking, broiling or pan frying with less oil or with nonstick cooking spray.
- Find a good cookbook with lower-calorie, lower-fat recipes.
- Don’t be afraid to try new foods.
- Get your family moving. Take family outings to parks, go for walks, have a family bike riding day, play charades, play ball in the yard, sign everyone up for karate or swimming, or do any other activity that your family enjoys. Remember, activity is good for you, too.

Sources:
**MYTH:** Talking to children about eating disorders will cause them to have one.

**FACT:** Having open lines of communication between parents and children is important. Researchers have found no evidence to suggest that defining eating disorders and having a discussion about them will cause the actual development of an eating disorder. On the contrary, discussions help keep individuals informed and better able to recognize potential signs of eating disorders in friends and relatives. We recommend using the media (TV shows, news articles, etc.) as a conversation piece to discuss eating disorders.

**MYTH:** Teasing children about food and weight is not harmful.

**FACT:** Parents never should engage in weight, appearance or food-related teasing. Any reinforcement and attention given to appearance, especially in the form of teasing, draws attention to an individual’s body and encourages social comparison with others based on physical attributes. Even though the teaser may view this as harmless, children who are teased have increased rates of body dissatisfaction, dieting behaviors and eating disorders. Siblings are the most active teasers in the family; thus, parents should not only avoid engaging in teasing but attempt to stop siblings from teasing.

**MYTH:** Anorexia is the only type of eating disorder.

**FACT:** Eating disorders include anorexia nervosa, bulimia nervosa, binge eating disorder and eating disorder not otherwise specified. Anorexia nervosa involves restriction, bulimia nervosa involves bingeing and purging, and binge eating disorder involves bingeing without purging. Eating disorder not otherwise specified, which often has characteristics of the other disorders, is the most commonly diagnosed eating disorder. A simple definition of an eating disorder is a definite disturbance of eating habits or weight-control behavior.

**MYTH:** Only white, middle- to upper-class girls have eating disorders.

**FACT:** Eating disorders affect people of all genders, races, ethnicities and socioeconomic statuses. Researchers have found no differences in the prevalence of anorexia nervosa or binge eating disorder across races and ethnicities, and Latino and African American individuals are more likely to suffer from bulimia nervosa than non-Hispanic whites. Males with anorexia and bulimia nervosa account for approximately 10 to 25 percent of people with either condition, and for binge eating disorder, they account for approximately 25 to 40 percent.
**MYTH:** All people with eating disorders are skinny.

**FACT:** Typically, individuals with anorexia nervosa are extremely thin, having lost a substantial portion of their body weight. However, individuals with bulimia nervosa often maintain a normal weight, and individuals with binge eating disorder are often overweight. Do not “judge a book by its cover” but instead watch closely for changes in eating behavior.

**MYTH:** Eating disorders are just a phase. Thus, they are easy to stop and treat.

**FACT:** Eating disorders are serious illnesses, not a choice. Just like physical ailments, eating disorders require extensive treatment. If individuals with eating disorders do not seek treatment, they are at risk for developing serious health problems, such as kidney failure, heart failure, brain damage, osteoporosis and perhaps even death.

The effectiveness of a treatment depends on the person involved. A multidimensional treatment approach is very important and can include information and education, hospitalization, comprehensive refeeding programs, cognitive-behavioral therapies and family therapy.

**MYTH:** BMI (body mass index) is an accurate method of determining if someone is healthy.

**FACT:** BMI is a largely inaccurate measure of body fat and overall health. It ignores multiple important factors such as body type, bone density and muscle mass. According to BMI, many professional athletes are considered overweight due to their muscle mass.

Every body is different, and healthiness should be determined on a person-to-person basis. For instance, a recent trend on social media sites has been a desire among females for a thigh gap, or a clear space between the thighs. However, only a very specific body type has this gap naturally, and for most to achieve it, they would have to starve their body to the point that it began to break down muscle for energy.

**MYTH:** People with eating disorders just do not understand nutrition.

**FACT:** The majority of those who suffer from eating disorders have a very good grasp of proper nutrition; for them, food, calories and eating become an obsession. However, what is important to remember is that eating disorders are not just about food but often are indicative of deeper problems, such as psychological distress or a need to feel control. Eating disorders also can have multiple causes completely unrelated to food, such as genetics.

**MYTH:** Online resources, such as eating disorder support groups, are always useful.

**FACT:** While some websites do provide accurate information and healthful advice about dieting, exercise and weight loss, some websites can be classified as “Pro-Ana” (short for pro-anorexia) or “Pro-Mia” (short for pro-bulimia). Pro-Ana, Pro-Mia and Pro-ED (pro-eating disorder) websites promote extreme weight loss ideals and unhealthy behaviors. You must be careful about what websites you turn to for information and what websites children view.

Pro-ED sites can have a number of “give away” characteristics, including: emphasis on extreme techniques such as fasting, diet pills or purging; glorified images of emaciated models or celebrities; and representation of eating disorders as a lifestyle choice rather than a serious illness. For accurate information on eating disorders, we recommend these reputable websites:

Some people say that in the Midwest, “the women are strong.” However, women tend to wear multiple hats: chauffeur, personal shopper, cook, housekeeper, yard keeper, coach, nurse, etc., and we neglect to take care of ourselves.

By 2020, an estimated 55 million Americans will be over 65 years of age. As we age, we are at increased risk for sarcopenia, the steady loss of lean muscle mass and, along with that loss, loss in strength. Sarcopenia is not an inevitable part of aging, but the risk for sarcopenia increases with sedentary behavior and a low-protein diet.

Because women tend to outlive men and, in reality, have less strength on average, they are at greater risk. A national survey showed that older women generally do not meet the recommended dietary allowance (RDA) for protein (0.8 gram protein per kilogram of body weight).

Living with sarcopenia means limitations in the ability to walk (less stamina), and get up and down from chairs and ladders. Sarcopenia also can increase the risk of falls and result in loss of independence. This article is not so much about finishing a road race, but more about finishing the “race” of life: being able to take care of the family today and also later in life.

At what age do we start to lose muscle?

If you are a female of any age, keep reading. According to recent studies, we start to lose muscle in our 40s, and lifestyle habits established in our 20s and 30s contribute to how early this loss can begin. So, if you want to be a strong contender throughout life, ask yourself two questions:

1. Are you getting daily physical activity, including types that leave you “short of breath” and break a little sweat?
2. Are you getting enough daily protein in your diet?

One way to answer these questions is to log your activities and diet for your average day, assess your status, and then set goals to make small changes for your future.

Let’s get started.

Your protein needs are unique and are based on your weight and how active you are.

What is your weight in pounds? ________
Divide this number by 2.2 ________ = weight in kilogram (kg)
Your weight (kg) ________;
multiply by 0.8 ________ gram = ________ gram protein

Your kg weight x 0.8 = the number of grams of protein you need in your diet every day. If you are not very active (do very little physical activity) your math is done.
However, if you are starting a new exercise program, or are an active person in general on an almost daily basis (see box of activities), you probably need more protein, depending on your level of activity. A registered dietitian can fine-tune this for you, but the following formula can give you a good idea of where to start.

Take your weight in kg times 1________ gram = _______ gram protein

**Enjoy different kinds of protein throughout the day**

- Eggs (6 grams protein / large egg)
- Meat, poultry and fish (about 21 grams protein / 3-ounce piece – about the size of a deck of cards)
- Milk and milk products (8 grams protein / 1 cup milk)
- Nuts and seeds (about 5 grams protein / 1 ounce raw nuts – a small handful)
- Tofu (13 grams protein / ½ cup tofu)
- Legumes, dry beans and peas (8 grams protein / ½ cup beans)
- Add 1 to 2 grams for each serving of bread, pasta, rice or other starchy foods

If you are fairly active, you need about 1 gram of protein for each kg of your weight. Starting in the morning, jot down any protein food consumed. Estimate grams of protein consumed at the end of the day. Did you meet your needs?

**Are we taking full advantage of the protein we consume?**

Now that you’ve figured out how many grams of protein you consumed in a day, did you find you ran short or had extra? Running short can mean losing strength with aging; having extra may mean packing on extra pounds due to extra calories. Mindful eating is key. For example, did you know that many of us have a “protein extravaganza” at dinner (the evening meal) while falling short at breakfast and lunch? New data from the lab of Dr. Douglas Paddon-Jones shows that consuming protein more evenly throughout the day and ensuring that we have more at breakfast and lunch than we currently consume may better maintain healthy muscles and prevent muscle loss as we get older.

**Don’t have time to cook a “protein” breakfast?**

Try making a shake. If you have a blender and whey protein powder on hand, plus a few other ingredients, it’s easy to do. Just add a scoop of whey protein, some low-fat milk, flavored yogurt, ice cubes and fruit. Protein shakes work great for all busy family members on the go.

### Strawberry Protein shake

1 c. 1 percent milk
6-oz. container of low-fat strawberry yogurt
3 Tbsp. whey protein powder
½ c. frozen strawberries

Put all ingredients in a blender and blend. Pour in glass and enjoy.

Makes one serving, with 400 calories, 26 grams (g) protein, 5 g fat, 65 g carbohydrate and 390 milligrams sodium.

### Sunrise Shake

1 c. orange juice
2½ c. 1 percent milk
3 Tbsp. whey protein powder
4 ice cubes

Put all ingredients in a blender and blend. Pour in glass and enjoy.

Makes one serving, with 300 calories, 17 grams (g) protein, 2.5 g fat, 52 g carbohydrate and 250 milligrams sodium.

The following is in accordance with Centers for Disease Control and Prevention (CDC) and American College of Sports Medicine (ACSM) guidelines.

**Moderate activity**

- Walking to class, work or the store
- Walking for pleasure
- Walking the dog
- Walking as a break from work
- Walking downstairs or down a hill
- Racewalking—less than 5 mph
- Using crutches

**Vigorous activity**

- Jogging or running
- Wheeling your wheelchair
- Walking and climbing briskly up a hill
- Backpacking
- Mountain climbing, biking

For a comprehensive list of other activities, see www.cdc.gov/nccdphp/dnpa/physical/pdf/PA_Intensity_table_2_1.pdf
People are looking for ways to eat more locally grown fruits and vegetables. If kids help grow vegetables, getting youngsters to eat fruits and veggies is easier. Knowing where their food comes from also is important for kids. When you get children involved, you usually also can get their families to participate.

Gardening provides physical activity, saves money on groceries and provides an opportunity to go outside. Many youth have not explored any type of gardening.

**How to Garden With Kids**

Kids like to participate and get their hands dirty. You can start with a container garden approach that will give them experience with minimal resource input.

You will need pasteurized soil from a box store or nursery, a container with drainage holes (food-grade plastic), seeds that do well in a container, fertilizer (slow release) and access to water.

For example: Let’s teach a child how to grow a tomato plant. We will use cherry tomatoes because of their high success rate. Have the child put the soil in the container and mix in the slow-release fertilizer at the same time; fill the container to an inch or so from the top.

What you are growing will determine the depth and width of the container. For a tomato, an adequate container would be 1½ to 2 feet high and about 1 foot or more across (basically a pail with a few holes cut in the bottom).

Plant the tomato plant you purchased or grew from seed into the center of the container after you have removed the bottom set of leaves. This container garden should be watered one or two times per day until water comes out of the bottom.

**Gardening Offers Health Benefits**

The physical exercise that comes with gardening can help reduce obesity. Working hard at gardening and reaping the harvest also provides a healthy-mind benefit.

**What Kids Can Learn**

A survey of youth who used a container garden for the first time showed the following results.

- 25 percent increased their knowledge about fertilizer and how it works.
- 28 percent increased their knowledge about how plants use slow-release fertilizer.
- 24 percent indicated they have confidence in growing plants.
- 81 percent had success in keeping their tomato plant alive.
- 74 percent had plants that produced tomatoes.
- 37 percent had problems, so they went to someone for information.

**What Might Limit Youth From Gardening?**

Kids might not have access to a garden space. Container gardening can overcome this problem. Children can grow vegetables in a large container instead of in a large garden. Gardening will provide ownership, life skills and self-reliance.

**Adult Assistance Not Necessary**

Assistance from an adult is great, but it is not always possible. With a container garden, a child who can read should be able to handle it.
Good Crops for Kids

Here are some suggested crops for youth to try growing.

In a standard garden:
- sunflowers
- pumpkins
- Yukon gold potatoes
- hybrid short-season tomatoes

In a container garden:
- peppers
- cherry tomatoes
- lettuce
- eggplant

Here’s How to Preserve Just About Any Kind of Food

Visit www.ag.ndsu.edu/food and click on the food preservation tab to learn more.

Vary your veggies.

- Eat more dark green veggies
- Eat more orange veggies
- Eat more dry beans and peas
Get your calcium-rich foods.
- Go low-fat or fat-free
- If you don’t or can’t consume milk, choose lactose-free products or other calcium sources

Make at least half your grains whole.
- Eat at least 3 ounces of whole-grain bread, cereal, crackers, rice or pasta every day
- Look for "whole" before the grain name on the list of ingredients

Go lean with protein.
- Choose low-fat or lean meats and poultry
- Bake it, broil it or grill it
- Vary your choices — with more fish, beans, peas, nuts and seeds

Time with a child is time well spent.
For more information about parenting and 4-H, visit www.ag.ndsu.edu/family and www.ndsu.edu/4h

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The first countertop microwave oven appeared in 1967. Today, most households have a microwave oven and use it nearly every day.

Micro wave ovens cook food using a magnetron to convert electric power to very short radio waves of about 2,450 megahertz. At this frequency, water, fats and sugars absorb the waves and vibrate very fast to create high temperatures that cook the food.

Do you ever use margarine tubs, take-out containers, foam trays or brown paper bags to heat food in your microwave? These are considered unsafe for microwave oven use unless they are labeled “microwave safe.” The concern is that the container could melt and leach chemicals into your food. Instead, reheat foods in glass, ceramic cookware and those labeled safe for microwave use. Micro wave-safe plastic wraps, wax paper, cooking bags, parchment paper and white microwave-safe paper towels also are considered safe for microwave use. However, be sure to discard containers that hold prepared microwaveable meals after you use them because they are meant for one-time use.

Wattage and Hot Spots

Do you know the wattage of your microwave oven? Cooking times vary depending on the wattage of your oven. Follow the package label or recipe instructions to be sure you are heating microwaveable foods properly.

Microwave ovens often have hot and cold spots. If you are curious about the “marshmallow test,” here is how to do it. Use a microwaveable plate or flip the turntable upside down so it does not rotate. Line the plate or turntable with miniature marshmallows. Place in the microwave oven, then set the timer for one minute.

Watch carefully. If the marshmallows begin to burn, turn off the microwave oven. The marshmallows that expand first show where your microwave oven’s hot spots are. Remember that uneven cooking (hot and cold spots) can lead to undercooked food that is unsafe to eat.

Because of the uneven cooking that can occur, be sure to rotate the container during the cooking process and stir the food if possible, even if your microwave oven has a turntable. Covering the dish with a microwave-safe lid or plastic wrap also promotes even cooking.

After heating food in a microwave oven, be sure to allow a standing time of at least three minutes. During the standing time, the food continues to cook. Many microwaveable packaged foods list an endpoint temperature, such as 165 F. Measure the temperature using a food thermometer to ensure that the food has reached a safe internal temperature.
Many Americans are preoccupied with losing weight. However, permanent weight loss is rare if one is following a restrictive diet. It seems the thinner we try to become, the fatter we actually become.

So why is this? Although cutting calories is the cornerstone of weight loss, restricting calories can lead to hunger, which results in bingeing. The cycle of dieting with too few calories and then too many calories leads to yo-yo weight cycling. This weight cycling does not improve health or self-esteem.

So what can a person do about this?

Eating a healthful, nonrestrictive diet is more important than the number on the scale. People come in all sizes and shapes, so what is important for health is to feed your body for health, not just eat to eat. The real focus should be on choosing nutrient-dense food and participating in exercise, not to prevent obesity but to promote health. This mind shift can promote a more positive you.

In fact, bodily movement (exercise) is critical to improving health overall. Dr. Steven Blair has shown that those who are overweight or slightly obese (a body mass index, or BMI, of 25 to 33) and exercise generally are fitter than those who are of normal BMI (19 to 24.9) and don’t exercise. Movement of any type promotes health, and if you do it long enough, wellness increases. Limit sedentary entertainment. Move more when you have fun.

So getting back to your relationship with food and appetite:

- **Never diet.** Choose foods that are lower in calories but high in vitamins and minerals. This also means being aware (mindful) of what you are eating.
- **Pay attention to what can be influenced or chosen.**
- **Savor every bite.** When the foods stop tasting wonderful, then is the time for you to stop eating; don’t wait until all the food on your plate is gone.
- **Eat at regular intervals.** Eat when you are moderately hungry, not famished. During the day, try not to go more than four hours between eating something.
- **Have a protein source for breakfast.** This should be within two hours after rising.
- **Eat what you want, but be conscious of how the food makes you feel.** Pay attention to your body.
- **Enjoy your food.**
- **Set a goal to eat well and be active.** That goal is not about the number on the scale or BMI number; it is about health and feeling strong.
Wash Your Hands!
Protect Your Family From Germs!

Wash your hands for at least 20 seconds before you begin preparing food and after any activity that could contaminate your hands.

**Safe Cooking Temperatures**
as measured with a food thermometer

<table>
<thead>
<tr>
<th>Food Type</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ground Meat and Meat Mixtures</strong></td>
<td></td>
</tr>
<tr>
<td>Beef, veal, lamb, pork</td>
<td>160 F</td>
</tr>
<tr>
<td>Chicken, turkey</td>
<td>165 F</td>
</tr>
<tr>
<td><strong>Fresh Beef, Veal, Lamb</strong></td>
<td></td>
</tr>
<tr>
<td>- medium-rare</td>
<td>145 F*</td>
</tr>
<tr>
<td>- medium</td>
<td>160 F</td>
</tr>
<tr>
<td>- well-done</td>
<td>170 F</td>
</tr>
<tr>
<td><strong>Fresh Pork</strong></td>
<td></td>
</tr>
<tr>
<td>- medium-rare</td>
<td>145 F*</td>
</tr>
<tr>
<td>- medium</td>
<td>160 F</td>
</tr>
<tr>
<td>- well-done</td>
<td>170 F</td>
</tr>
<tr>
<td><strong>Ham</strong></td>
<td></td>
</tr>
<tr>
<td>Fresh (raw)</td>
<td>160 F</td>
</tr>
<tr>
<td>Precooked (to reheat)</td>
<td>140 F</td>
</tr>
<tr>
<td><strong>Poultry</strong></td>
<td>165 F</td>
</tr>
<tr>
<td><strong>Eggs and Egg Dishes</strong></td>
<td></td>
</tr>
<tr>
<td>Eggs</td>
<td>Cook until yolk and white are firm 160 F</td>
</tr>
<tr>
<td>Egg dishes</td>
<td></td>
</tr>
<tr>
<td><strong>Seafood</strong></td>
<td></td>
</tr>
<tr>
<td>Fin fish</td>
<td></td>
</tr>
<tr>
<td>Shrimp, lobster and crabs</td>
<td>145 F</td>
</tr>
<tr>
<td>Clams, oysters and mussels</td>
<td>or flesh is opaque and separates easily with fork</td>
</tr>
<tr>
<td>Scallops</td>
<td>160 F</td>
</tr>
<tr>
<td><strong>Leftovers and casseroles</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>165 F</td>
</tr>
</tbody>
</table>

*Allow three-minute rest time

Source: U.S. Department of Agriculture

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**Portion Size**

Size up your portions with these visual clues. As shown, one-half of a baseball is the same size as ½ cup of mashed potatoes.

<table>
<thead>
<tr>
<th>Visual clue</th>
<th>Portion size</th>
</tr>
</thead>
<tbody>
<tr>
<td>½ baseball</td>
<td>½ cup of mashed potatoes</td>
</tr>
<tr>
<td>large egg OR golf ball</td>
<td>¼ cup of dried cranberries</td>
</tr>
<tr>
<td>pingpong ball</td>
<td>2 tablespoons of peanut butter</td>
</tr>
<tr>
<td>check book</td>
<td>3 ounces of fish</td>
</tr>
<tr>
<td>card deck</td>
<td>3 ounces of meat or poultry</td>
</tr>
<tr>
<td>6 dice</td>
<td>1½ ounces of natural cheese</td>
</tr>
<tr>
<td></td>
<td>(cheddar, Swiss)</td>
</tr>
<tr>
<td>thumb tip</td>
<td>1 teaspoon of margarine or butter</td>
</tr>
</tbody>
</table>
ENJOY FAMILY MEALS

Most people recognize the value of eating together as a family. Children who eat with their families tend to do better in school, engage in fewer risky behaviors such as smoking and drinking alcohol, eat a more healthful diet and are less likely to be overweight. Despite all these benefits, busy schedules can make putting family mealtimes into practice a challenge. Whether it’s a breakfast or evening snack, eating together at any time of day counts as a family meal. You can learn more about making family meals a reality and find menus, recipes and cooking demonstrations by visiting www.ndsu.edu/eatsmart.

Kids enjoy cooking. Try these kid-friendly recipes, and invite them in the kitchen to help.

**Key to abbreviations**

c. = cup  lb. = pounds
Tbsp. = tablespoon  g = grams
tsp. = teaspoon  mg = milligrams
oz. = ounce

Recipes were analyzed using Food Processor SQL software.

**Prairie Potato Wedges**

Recipe courtesy of Red River Valley Potato Growers Association

3 medium (1½ lb.) red potatoes, scrubbed
¾ c. Corn Flake crumbs
¼ c. Parmesan cheese
½ tsp. salt
½ tsp. pepper
½ c. margarine or olive oil

Preheat oven to 425 degrees. Lightly butter a 10½- by 15½-inch jellyroll pan. Cut each potato lengthwise into eight equal wedges; set aside. In a shallow baking dish, mix the Corn Flake crumbs, Parmesan cheese, salt and pepper. Dip each wedge into melted butter or olive oil, then coat with crumb mixture. Place wedges on pan. Pour remaining butter around wedges. Bake for 30 to 40 minutes, or until fork tender.

Makes six servings. Each serving has 280 calories, 20 g fat, 4 g protein, 22 g carbohydrate, 3 g fiber and 280 mg sodium.

**Do you know what the dates mean?**

**Sell-by date:** Stores should pull items from the shelves if they are not sold by this date. The products are still good for a while if they’re stored properly at home.

**Use-by date:** Food is guaranteed to be at high quality until this date. Although the foods are still safe to consume after the date, these items may have lower quality.

**Expiration date:** Consume food or beverage by this date or throw it.

**Want to save money on food?**

Visit http://tinyurl.com/PinchinPennies to check out the “Pinchin’ Pennies in the Kitchen” series of publications. Create your own soup, casseroles, quesadillas and several other dishes from your leftover foods.
Whole-wheat Chocolate Chip Cookies
Recipe courtesy of North Dakota Wheat Commission

¾ c. butter or margarine
½ c. white sugar
½ c. brown sugar
2 large eggs
1 tsp. vanilla
1 tsp. baking soda
½ tsp. salt
2 c. whole-wheat flour
¾ c. oats, quick-cooking or old-fashioned
½ c. mini semisweet chocolate chips

Preheat oven to 375 F. In a large bowl with an electric mixer, cream together butter and sugars. Add eggs and vanilla; mix. Combine soda and salt with flour and gradually add to the mixture; mix well. Blend in oats and chocolate chips. Drop by spoonfuls onto an ungreased baking sheet and bake for about eight minutes or until a light golden brown. Let cool on pan for one minute and remove to cooling rack.

Makes 48 servings. Each serving has 80 calories, 4 g fat, 1 g protein, 12 g carbohydrate, 1 g fiber and 80 mg sodium.

Apple Sandwiches

1 medium apple
3 Tbsp. nut butter
3 Tbps. granola

Slice the apple into half-inch rounds. Using a knife, spoon or melon baller, remove the apple’s core. Spread ½ tablespoon of nut butter onto each apple round. Top with granola and enjoy.

Makes three servings. Each serving has 150 calories, 8 g fat, 5 g protein, 16 g carbohydrate, 3 g fiber and 75 mg sodium.

Yogurt Granola Cups With Fruit

4 Tbsp. butter or margarine
¼ c. honey
2 tsp. cinnamon
¼ tsp. salt
¼ c. applesauce
1 tsp. vanilla extract
2 c. old-fashioned oats
½ c. shredded coconut
¼ c. ground flax seed
¼ c. sliced almonds
¼ c. dried fruit
1 c. fat-free yogurt
2 c. fruit for topping (blueberries, raspberries, strawberries, etc.)

In a small saucepan, add the butter, honey, cinnamon and salt. Heat over medium-high heat until all ingredients are combined. Remove from heat and stir in the applesauce and vanilla. In a separate bowl, mix together the oats, coconut, flax seed, almonds and dried fruit. Pour the liquid over the dry ingredients and stir until completely coated. Place the mixture in the fridge for about 30 minutes to cool. When ready to bake, preheat oven to 325 F and grease a regular-sized muffin tin or minimuffin tin. Fill each opening about two-thirds full. Using your fingers, press into the center of the hole and then work your way around the edges to form a bowl. If the dough is sticky, wet your fingers with cold water, shake them out and proceed. Repeat as necessary. For regular-sized muffin cups, cook about 20 to 25 minutes. For minimuffin cups, cook about 15 to 20 minutes. Let cool completely before removing from the tin. Fill each granola cup with yogurt and top with berries.

Makes 21 regular-size serving or 42 mini cups. Each serving has 120 calories, 4.5 g fat, 2 g protein, 18 g carbohydrate, 2 g fiber and 40 mg sodium.
Frozen Fruit Skewers With Chocolate Drizzle

1 lb. fresh pineapple
2½ c. strawberries
2 banana
3 kiwi
¼ c. hard-shell chocolate drizzle
10 bamboo skewers

Clean fruit and cut into chunks. Thread fruit on the skewers alternately so that approximately two chunks of each fruit are on the skewer. Place skewers in a single layer on a baking sheet and freeze for at least one hour. A few minutes before serving, drizzle the skewers with chocolate topping and return to freezer until ready to serve.

Makes 10 servings. Each serving has 110 calories, 4 g fat, 1 g protein, 21 g carbohydrate, 3 g fiber and 5 mg sodium.

Favorite Pumpkin Bread

Recipe courtesy of Northern Canola Growers Association

3½ c. flour
2 tsp. baking soda
1½ tsp. salt
2 tsp. ground cinnamon
1 tsp. ground nutmeg
2 c. brown sugar
1 c. canola oil
4 eggs
2 c. canned pumpkin

Preheat oven to 325 degrees. Spray two loaf (9- by 5-inch) pans with canola baking spray. In a large mixing bowl, combine all ingredients until just blended. Pour batter into pans and bake for about one hour and 15 minutes. Cool on wire racks.

Makes 24 servings. Each serving has 220 calories, 10 g fat, 4 g protein, 31 g carbohydrate, 1 g fiber and 260 mg sodium.

Strawberry Frozen Yogurt Squares

Recipe courtesy of the Midwest Dairy Council

1 (14-oz.) can fat-free sweetened condensed milk, divided
Nonstick cooking spray
1 c. Post Grape-Nuts or similar cereal
½ tsp. ground cinnamon
Pinch ground cloves
1 package (10 oz.) frozen strawberries
(about 2½ cups)
3 c. fat-free strawberry yogurt

Measure 1 cup of sweetened condensed milk; set aside. Line 8- by 8-inch baking pan with foil; spray with nonstick cooking spray. In medium bowl, combine cereal, cinnamon, cloves and remainder of sweetened condensed milk. Spread cereal mixture evenly on bottom of pan, place in freezer.

Place strawberries and yogurt in a blender; cover and blend. Add 1 cup sweetened condensed milk; blend until smooth. Pour mixture over cereal, smoothing to edges of pan. Cover with foil (or plastic wrap) and freeze eight hours or until firm.

Use edges of foil to loosen and remove from pan; let recipe thaw for five to 10 minutes. Cut into squares and serve.

Makes nine servings. Each serving has 270 calories, 0 g fat, 8 g protein, 57 g carbohydrate, 1 g fiber and 170 mg sodium.
**Hot Corn, Pepper and Cheese Dip**

2 Tbsp. unsalted butter, divided  
16 oz. frozen corn, thawed  
½ tsp. salt  
⅛ tsp. black pepper  
1 c. onion, chopped  
½ c. red bell pepper, chopped  
¼ c. green onions, chopped  
1 jalapeño, seeded and minced  
2 cloves garlic, minced  
½ c. mayonnaise  
Pinch cayenne pepper  
4 oz. sharp cheddar cheese, divided  
4 oz. Monterey Jack cheese, divided

Preheat oven to 400 F. Melt half of the butter in a large, heavy skillet over medium-high heat and add the corn, salt and pepper. Cook, stirring occasionally, until the kernels turn deep golden brown. Transfer to a bowl. Melt the remaining butter in the skillet and add the onions and bell peppers. Cook, stirring often, until the onions are translucent. Add the green onions, jalapeno and garlic and cook until the vegetables are softened. Combine with the corn. Add the mayonnaise, half of the cheddar cheese, half of the Monterey Jack cheese and the cayenne pepper and mix well to combine. Pour into an 8- by 8-inch baking dish and sprinkle the remaining cheese on top. Bake for 20 minutes or until bubbly and golden brown. Serve hot with tortilla chips.

Makes 12 servings. Each serving has 190 calories, 14 g fat, 6 g protein, 12 g carbohydrate, 1 g fiber and 300 mg sodium.

**Quick Edamame**

1 lb. edamame in pods, frozen or fresh  
Salt

Fill a medium-sized pot three-quarters full with fresh, cold water and put it on the stove on high heat. When the water comes to a boil, reduce the heat to medium high, add the edamame pods and cook for five minutes. Remove from heat. In a colander in a sink, drain the edamame, then run cold water over the cooked edamame to cool it. Place the cooled, drained edamame in a dish and sprinkle lightly with salt. To eat, press the pods between your fingers to push the beans out, or put two-thirds of the pod in your mouth and, clamping your teeth gently over the pod, pull it out, popping the beans into your mouth.

Makes three servings. Each serving has 180 calories, 10 g fat, 18 g protein and 6 g carbohydrate. The sodium content varies with the amount of salt you add.

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**Don’t Waste Your Leftovers**

Learn to freeze almost any kind of food to maintain quality with the “Food Freezing Guide (FN403)” available from the NDSU Extension Service at [www.ag.ndsu.edu/pubs/yf/foods/fn403.pdf](http://www.ag.ndsu.edu/pubs/yf/foods/fn403.pdf)

Learn how long food can be stored for best quality and safety in your refrigerator, freezer or pantry with the “Food Storage Guide (FN579)” available from the NDSU Extension Service at [www.ag.ndsu.edu/pubs/yf/foods/fn579.pdf](http://www.ag.ndsu.edu/pubs/yf/foods/fn579.pdf)
Rock and Roll Beef Wraps
Recipe courtesy of the North Dakota Beef Commission

1 lb. ground beef (93 percent lean or leaner)
1 c. water
⅓ c. uncooked quinoa
2 Tbsp. dry ranch dressing mix
¼ tsp. black pepper
2 c. packaged broccoli or coleslaw mix
4 medium whole-grain or spinach tortillas (7- to 8-inch diameter)

Heat large nonstick skillet over medium heat until hot. Add ground beef; cook eight to 10 minutes, breaking into ½-inch crumbles and stirring occasionally. Remove drippings. Stir in water, quinoa, ranch dressing mix and pepper; bring to a boil. Reduce heat; cover and simmer 10 to 15 minutes or until quinoa is tender. Stir in slaw; cook, uncovered, three to five minutes or until slaw is crisp-tender, stirring occasionally. Divide beef mixture evenly among tortillas; garnish with toppings, as desired. Fold over sides of tortillas and roll up to enclose filling.

Makes four servings. Each serving has 418 calories, 12 g fat, 31 g protein, 41 g carbohydrate, 7 g fiber and 695 mg sodium.

Oven-fried Chicken
Recipe courtesy of Ameriflax

1 egg, beaten
3 Tbsp. skim milk
½ c. ground flaxseed
½ c. unsalted crackers, crushed
¼ tsp. black pepper
1 Tbsp. dried parsley flakes
1 tsp. paprika
1 tsp. chili powder
1 tsp. garlic powder
1 tsp. seasoned salt
2 lbs. boneless, skinless chicken breasts

Preheat oven to 350 F. In a small bowl, combine egg and milk. In a shallow container, combine ground flax, cracker crumbs, pepper, parsley, paprika, chili, garlic and seasoned salt. Dip chicken pieces into egg mixture; coat with crumb mixture. Place chicken on greased baking pan, making sure pieces do not touch. Drizzle pieces with melted butter.* Bake for 45 minutes or until chicken is tender and reaches an internal temperature of 165 F. Do not turn chicken pieces while baking.

*For a lower-fat version, omit the butter.

Makes eight servings. Each serving has 190 calories, 5 g fat, 27 g protein, 8 g carbohydrate, 3 g fiber and 160 mg sodium.
My daughter recently started school, and we pack daily lunches and snacks to send with her. Is there a reusable alternative to pack her food in besides plastic zipper bags?

Each year, Americans use billions of different types of plastic bags. Many of those are plastic sandwich or snack-sized bags used to pack and transport lunches and snacks for children and adults. Most of them are tossed in the trash when lunchtime is done. Schools across the country are adopting environmentally friendly policies to reduce the amount of waste thrown out each day by school-age children.

You have several other alternatives to consider. One is to use a plastic-type container with a removable lid that can be washed over and over. Another option is to use a fabric bag or sandwich wrap. The design of these bags is similar to a plastic zipper bag. Most of them close with Velcro or they fold over to keep the food in its place inside the bag.

A quick online search will give you dozens of options for purchasing reusable fabric lunch bags. They are readily available at stores such as Target and The Container Store. Also, several online sites provide free tutorials so you can sew these bags for yourself.

The fabric bags seem like an awesome, washable and reusable option to replace those plastic bags, but you must consider some issues:

- **Food-safe fabric** – Not all fabrics are considered food safe, even for short-term storage. Manufactured fibers are made from chemicals or petroleum components and often are not considered food safe unless treated with a special finish. Many bags use a plastic-coated, laminated fabric. The plastic should not come in contact with the food unless the fabric is clearly labeled as being food safe.

Another alternative is to use two layers of organic cotton fabric. Organic fibers are grown and processed without using chemicals, pesticides and insecticides. A fabric called Eco-PUL also may be an option. This two-fabric structure held together with a “green adhesive” binds polyester knit with a TPU (thermosplastic polyurethane), providing a water-resistant fabric.

- **Food dries out** – Most fabrics allow moisture and air to pass through them. This characteristic becomes a problem with food storage. Fabric bags are best used as a short-term solution. A sandwich packed in a double-layer organic cotton wrap will be fine if packed in the morning and eaten at lunchtime, but it will be dried out if saved in the refrigerator until the following day.

- **Fabric doesn’t absorb all of the moisture from the food** – Dry snacks, such as cereal, dried fruits and nuts, work well in fabric bags. Fresh fruit and moist snacks would be better off in a washable/reusable plastic-type container.

- **Washing** – The bags do need to be washed often. Some foods may leave a smell or taste on the fabric that will transfer to the next item stored in the bag if the bag isn’t washed in between uses.

Sara Sunderlin, M.S., Senior Lecturer, Department of Apparel, Design and Hospitality Management, NDSU
Are probiotics and prebiotics the same?
What are the good sources of prebiotics and probiotics?

No, probiotics and prebiotics are not the same. Probiotics are the foods that contain live/active microorganisms (bacteria). Prebiotics are nondigestible food ingredients that promote good bacterial growth in the gut; prebiotics are the “fuel for probiotic bacteria in the gut.” When food products contain probiotics and prebiotics, they are called “synbiotics.”

Bifidobacteria and lactobacilli are the most commonly added/present bacteria in probiotics; however, probiotics may contain various types of probiotic bacteria, and individuals may experience different responses to probiotics.

Nondigestible foods such as some dietary fibers are good examples of prebiotics. You may find the following prebiotics from the ingredient list on food package: fructans (inulin, oligofructose, fructooligosaccharides), lactulose, galactooligosaccharides.

Research has found some beneficial effects of prebiotics and probiotics in gut health. To name a few, prebiotics and probiotics are effective in the management of diarrhea, constipation and irritable bowel syndrome. However, many beneficial health effects of prebiotics and probiotics are inconclusive; thus, further research is needed.

Good Sources of Pro- and Prebiotics

Probiotic bacteria can be found as capsules, tablets or the powder form of supplements,* or can be added to foods during the manufacturing process (probiotics).

The followings are good food sources of prebiotics:
- yogurt, milk, aged cheese, kefir (fermented milk drink), kimchi, sauerkraut, miso, tempeh and soy beverages
- chicory, asparagus, leeks, onions, garlic, artichokes, tomatoes, bananas, rye, barley
- soybeans, chickpeas, field peas, green peas, lentils, mung beans, lima beans, northern beans, navy beans
- fillings, dressings, cereals, yogurt, dairy products and frozen desserts may contain inulin and oligofructose as fat replacement; check the ingredient list on the food label.

You can create your own synbiotics at meal/snack times. Here are some examples:
- Add banana (prebiotics) to your yogurt (probiotics)
- Sprinkle aged cheese (probiotics) on a salad or on lentil soup (prebiotics)

*Because probiotic supplements contain live cultures of bacteria, consulting your doctor before taking probiotic supplements is important. The Food and Drug Administration has not approved any health claims for probiotics.

Yeong Rhee, Ph.D., R.D., Professor
Department of Health, Nutrition and Exercise Sciences, NDSU

Sources:
Academy of Nutrition and Dietetics: www.eatright.org/Public/content.aspx?id=6442477443
My daughter is only 4 years old and I am feeling pressured to enroll her in an organized sports program. My friends have told me that if she doesn’t start playing sports at this age, she will get left behind as her peers advance. Is this true, and should I enroll her in a program at this young age?

You are not alone; many parents of young children wonder when they should start their children in an organized sports program. Parents have a difficult time not comparing the development of their children with the development of other children who are relatively the same age.

This sort of pressure, under which parents and children feel they need to participate in travel teams, camps, clinics, in-season training and out-of-season training or else they will fall behind, is known as “sport entrapment.” This continuous promotion from other adults puts consistent negative pressure on parents to enroll their children in organized sports. It is causing increased pressure on the children because they are forced to compete at an earlier age before they truly are ready.

Tom Farrey, author of the book “Game On,” suggests that organized competition doesn’t breed success but, rather, that unstructured play often is more valuable. The attitude that the younger a child is engaged in an activity, the better that child will be at that activity is not correct. In fact, studies show that participation and specialization at an early age often lead to earlier burnout.

The readiness of a child to participate in a sport is something that many parents, coaches and organizations do not know how to evaluate. Children who are 4, 5 and 6 years old should not be participating in sports because of the increased time spent away from families. Additionally, children are not ready to affiliate with a group other than their family, nor are they physically, cognitively, socially or emotionally ready for all that comes with organized sports.

Many parents are trapped and in such a hurry to enroll their children in sports programs before the children are ready that they (the parents) often are damaging their children rather than helping them.

Emma P. Straub, Ph.D., Professor
Department of Health, Nutrition and Exercise Sciences, NDSU

How much physical activity do children need?

Physical activities that are encouraged for young people should be appropriate for their age, enjoyable and offer variety.

According to the Guidelines for Americans published in 2008, the following are considered key guidelines for children (ages 3 to 11) and adolescents (ages 12 to 17): Children and adolescents should do 60 minutes or more of physical activity (PA) daily. This should include:

- Aerobic activity – done at a moderate or vigorous intensity level for a majority of the 60 minutes daily. Vigorous intensity PA should be done on at least three days per week.
- Muscle strengthening – done at least three days per week as part of the daily 60 minutes of PA
- Bone strengthening – done at least three days per week as part of the daily 60 minutes of PA

Aerobic activity includes walking, running, swimming, playing tag and biking. Muscle-strengthening activities include resistance (weight) training, push-ups, pull-ups, climbing trees and lifting objects that weigh more than youth usually lift. Bone-strengthening activities are those that are weight bearing, so most sports or activities that have students up and moving are included.

Youth achieve many benefits through performing these activities. While they specifically improve cardiorespiratory fitness, strengthen muscles and bones, and help the child attain/maintain a healthy weight, these activities also help reduce the likelihood of developing risk factors for later diseases (high blood cholesterol, high blood pressure, Type 2 diabetes).

And, most research suggests that the total amount of physical activity is more important than any one component in helping youth gain these health benefits.

For more information, see:

Physical Activity Guidelines for Americans – http://health.gov/paguidelines
SHAPE America (formerly known as AAHPERD) – www.shapeamerica.org/
Donna Terbizan, Ph.D., Professor
Department of Health, Nutrition and Exercise Sciences, NDSU
Practices for Parent-Infant Play

Rebecca J. Woods, Ph.D., Assistant Professor
Macie Murphy, Undergraduate Student
Department of Human Development and Family Science, NDSU

Much of infant learning occurs through parent-infant play. Studies investigating parent-infant interactions demonstrate that when parents play with their infants, the parents naturally engage in behaviors that enhance learning. Some of these behaviors include infant-directed speech, motionese (exaggerated actions adults use when interacting with infants) and gestures, all of which are tailored to babies’ responses and needs.

Infant-directed Speech

You may have noticed that when you talk to babies, you speak in a way that is very different from the way you talk to other adults. This manner of speaking is called infant-directed speech (also known as motherese, fatherese, parentese or care-giverese). Infant-directed speech is characterized by the use of simple sentences, exaggerated pitch changes, extended vowels and repetition. It is different from “baby-talk,” which imitates the way toddlers speak.

Infant-directed speech is common across cultures and it reflects our sensitivity to infants’ reactions to our behavior. When parents and caregivers use infant-directed speech, they are responding to infants’ increased engagement in this way of talking relative to other styles of speech. The best thing about infant-directed speech, however, is that it enhances babies’ learning.

Segregating speech sounds and identifying word boundaries is easier when infant-directed speech is used, compared with when adult-directed speech is used. As a result, infant-directed speech enhances language learning as well as learning about objects. This way of talking also has been associated with the development of emotional expression. As infants’ language abilities progress, we gradually replace infant-directed speech with more adultlike ways of talking.

Add Motionese

Like infant-directed speech, motionese is based on caregiving that is sensitive to babies’ behavioral responses. Motionese is an intuitive way of showing objects to infants that is very different from the way we would show objects to adults. It is characterized by maintaining proximity to the baby, and using enthusiasm, a large range of motion, repetitiveness and simplification during turn-taking (number of distinct actions performed during each turn). The use of motionese enhances attention to and learning about objects.

When infants learn about objects in their environment, typically through play, they can attend to only a limited amount of information. The brain essentially “dumps” information that is irrelevant. However, information that is meaningful is maintained for further processing. It is stored in memory and can be used later for reasoning about the environment.

For infants, meaning can be attached through play with a caregiver. Joint attention, shared attention by an infant and caregiver, to objects or other people can determine what is further processed by the brain. Studies exploring the use of motionese suggest that infants process more information about objects that are presented using this method than they do about objects that are presented in other ways.
Expression Through Gestures

Gestures are another form of communication used naturally by parents when they play with their infants. Gestures include actions of the arms, hands, fingers, face or even the entire body. The goal of all gestures is communication. They can be used as a way to enhance verbal communication, or they can be used alone as the sole means of communication.

Parents frequently use gestures such as pointing during play with infants and objects. Infants are particularly receptive to pointing as a means for directing attention to objects after the age of about 9 months (prior to 9 months, infants typically look at the hand rather than the object). Infants, in turn, often use reaching as a gesture to indicate the desire to hold or explore an object. The use of gestures by parents and infants has been associated with early language learning.

The push for parents to use baby sign language with their infants originated from studies investigating the effects of gesture use on language development. But before you pull out the baby sign book, you may be interested to know that studies have shown that naturally occurring gestures and other nonverbal cues such as eye gaze also enhance infants’ language learning. In parent-infant-object play, the combination of gestures and language provide the best boost to learning.

Tying it All Together

Although adults naturally engage in these behaviors when interacting with their infants, researchers have found individual differences in amount and quality. These differences can predict, for example, the vocabulary of children when they reach school age.

The bottom line? When playing with infants, be aware of these verbal and nonverbal behaviors that can enhance learning. If you notice you are not using these behaviors or are using them infrequently, try adding a few and see how your baby responds.
Several biting insects, such as mosquitoes and flies, can reduce your fun and time spent outdoors in the summer. Some of these insects carry problematic diseases, including West Nile virus, and can be a threat to your health if you do not use adequate precautions. Using insect repellents properly can help protect you and your children from insect bites and serious diseases.

Q: How do you properly use insect repellents?

**Dos:**
- Always read, understand and follow the label directions.
- Apply repellent to exposed clothing/skin.
- For your face, apply spray repellent to your hands first and then apply it to your face.
- Always supervise the application on children.
- After returning indoors, wash treated skin and clothes with soap and water.
- Store repellents safely out of the reach of children.
- If you have an allergic reaction to any insect repellent, stop using the product and wash your skin with soap and water. If the reaction continues, immediately call your doctor or the Poison Center at (800) 222-1222 for help.

**Dont’s:**
- Never apply repellent to children younger than 2 months.
- Avoid applying repellent to children’s hands because children often put their hands in their mouth or eyes.
- Never apply repellents to open cuts or irritated skin.
- Never use repellents around any food.
- Avoid breathing repellents when spraying. Spray only in well-ventilated areas.
- Do not use on animals, such as pets, unless the product label clearly states that it can be used on animals.
- Do not use products that combine insect repellents with sunscreen. Sunscreens need to be applied frequently while insect repellents should be applied sparingly. Insect repellents (for example, DEET) can reduce the sun protection factor (SPF) by one-third.

Q: What types of products provide the best protection against biting insects?

For skin application, insect repellents come in many forms, including aerosol or spray-pumps, liquid, cream, lotion and stick products. In general, products with low concentrations of active ingredients have shorter protection times and should be used for situations with minimal insect exposure. Products with high concentrations of active ingredients have longer protection times and should be used in areas with many biting insects and when you are outside for long periods.
Q: What are other ways to avoid insect bites and protect your child?

Preventing your child from getting any insect bites is impossible; however, you can reduce the chances of your child getting bitten by following these guidelines:

- Avoid high-risk areas that are attractive to biting insects, such as stagnant pools of water where mosquitoes live and reproduce, or garbage cans where biting flies live and reproduce.
- When temperatures are not too hot, have your child wear long pants and long-sleeved shirts, socks and closed shoes.
- Use insect netting over strollers or play pens.
- Avoid wearing bright colors or flowery prints that are attractive to biting insects.
- Don’t use perfume or other scents that attract biting insects.
- Repair any holes in window/door screens to prevent insects from getting into your home.
- Avoid outdoor activities at dusk and dawn when mosquitoes are most active.

Q: What repellent products are available for use on children?

### Products that effectively repel biting insects

<table>
<thead>
<tr>
<th>Product</th>
<th>How Well it Works</th>
<th>How Long it Protects</th>
<th>Special Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEET (N, N-diethyl-3-methylbenzamide)</td>
<td>DEET works by its vapors, preventing biting insects from landing or climbing on you. It's generally acknowledged to be the most effective mosquito repellent available.</td>
<td>The estimated protection time of DEET concentrations are: 6 hours for 30%, 5 hours for 15%, 3 hours for 10% and 2 hours for 5%.</td>
<td>The Centers for Disease Control and Prevention recommend adults use an insect repellent that contains 30 percent or less DEET, while children (2 to 12 years) should use a product that contains no more than 10 percent DEET. Repellents with DEET should be used sparingly on children 3 through 6 years old and not at all on infants younger than 2 months.</td>
</tr>
<tr>
<td>Picaridin</td>
<td>Protection is similar to a low dose of 10% DEET. Consumers like this product because it lacks the odor of DEET and generally is more pleasing on the skin.</td>
<td>About 3 hours or more depending on concentration</td>
<td></td>
</tr>
<tr>
<td>2% soybean oil</td>
<td>Protection is similar to a low dose of 10% DEET.</td>
<td>About 1 to 3½ hours</td>
<td></td>
</tr>
<tr>
<td>Oil of lemon eucalyptus</td>
<td>Protection is similar to a low dose of 10% DEET.</td>
<td>Usually less than 2 hours.</td>
<td>This plant-based product is a natural ingredient, which appeals to people who don’t like the thought of putting chemicals on their skin. Oil of lemon eucalyptus products are not recommended for use on children under age 3.</td>
</tr>
</tbody>
</table>

### Products that do not repel biting insects effectively

- Ultrasonic devices that produce sound waves to disrupt insects from finding you
- Garlic or vitamin B1 ingested orally
- Backyard bug zappers
- Wristband soaked in insect repellents

### Additional Websites

- **Insect Repellents.**
  American Academy of Pediatrics.
  [www.healthychildren.org/English/safety-prevention/at-play/Pages/Insect-Repellents.aspx](http://www.healthychildren.org/English/safety-prevention/at-play/Pages/Insect-Repellents.aspx)

- **Pesticides: Health and Safety. Using Insect Repellents Safely.**
  Environmental Protection Agency http://epa.gov/pesticides/insect/safe.htm
Selecting interior finishes for a home can be exciting and challenging at the same time. The aesthetics of an interior space tends to be the focus of many design projects, but other characteristics of interior finishes should be considered to ensure a home provides a healthy environment for all of its occupants.
Volatile Organic Compounds (VOCs)

Everyone loves the smell of fresh paint and new construction, right? The scent associated with new homes and renovations actually is from volatile organic compounds (VOCs) in the air we breathe. VOCs can be found in many interior finishes, materials and products we use on a daily basis.

VOCs are released into the air, and many tend to dissipate when the source of the VOC is introduced to the exterior environment for a period of time. VOCs released in an indoor environment take longer to dissipate because an interior space is enclosed.

As homes are designed to be more energy efficient, they are built to be “tight” buildings sealed from the outdoor weather conditions. While energy-efficient homes save the owners money, sealing a home greatly reduces air infiltration. That means VOCs will take longer to dissipate.

Why is this a problem? VOCs are toxic to people and pets. As more and more finishes containing VOCs are introduced into an interior environment, the problem is compounded.

Designing With Health in Mind

You can choose from several interior finish and material that greatly reduce the amount of VOCs entering your home:

- Select finishes and materials with no or low VOCs. Avoid using wood products that contain formaldehydes of any type. Formaldehyde has been classified as a known human carcinogen. Many particle board and plywood construction materials contain adhesives with formaldehyde.

- Avoid finishes and materials containing polyvinyl chloride (PVC). Vinyl chloride is classified as a known human carcinogen through inhalation and touch. Many materials and products we use on a daily bases contain PVC.

- When installing new materials, lay the materials in a well-ventilated space before installing them in your home. Once materials are taken out of their packaging, they will begin to release VOCs. Eventually, the material will release most of the VOCs, as long as the space has proper ventilation. This allows the materials to release a significant amount of their VOCs before they are installed in your home.

- Be an educated consumer. If you are not familiar with a finish or material, research how the material is made and its composition. Watch for chemicals listed and check on the Environmental Protection Agency website (www.epa.gov) or the Perkins + Will Inc. Transparency Lists website (www.transparency.perkinswill.com) to see if any of the chemicals are potentially harmful to humans or pets.

The next time you renovate your home or as you make selections for your new home, be wary of that “new home” scent. Instead, opt for a home that is healthy and safe for your family and pets.
- NOW PLAYING -
Eat Smart. Play Hard.
Thundar’s New Game Plan

Starring

THUNDAR

★★★★★
“Two thumbs up!!”
“VOTED BEST PICTURE!”
“Action-packed!”
“Great family entertainment!”

www.ndsu.edu/eatsmart
Click on “Thundar’s New Game Plan” video link
For good health, kids need at least 60 minutes of physical activity every day; adults need at least 30 minutes a day. For more information, go to ChooseMyPlate.gov.

Be active for life!

As an athlete, your body is your most important asset. Proper nutrition will help you stay healthy and consistently perform at a high level on the court and in the weight room.

Marshall Bjorkland, men’s basketball, Arlington, Minn.

Food is fuel for your body. I realized if you refuel your body in the proper way, you will excel physically and mentally on and off the playing field.

Kyle Jandro, men’s golf, Fargo, N.D.

Having a well-balanced diet is one of the first steps in becoming a great athlete. It gives me the energy to power through practice, the nutrients to recover after workouts and allows me to perform at the best of my ability.

Jenni Fassbender, volleyball, Kaukauna, Wis.

Being a student-athlete at the college level, I have found it important to do the little things right. Eating healthy foods gives me the energy I need to perform in the classroom and on the wrestling mat.

Steve Monk, wrestling, Wausau, Wis.

As a track athlete, workouts can be very difficult due to their high intensity. It is crucial to incorporate a healthy diet, which enhances my performance and gives me the energy to compete and train at my best.

Antoinette Goodman, women’s track, Burnsville, Minn.

Eating smart and healthy gives your mind and body the proper fuel for competition both in the classroom and on the field.

Tristyn Walczak, women’s soccer, Burnsville, Minn.

Early in my career, I was not paying attention to the amount of sleep I was getting or the foods I was putting in my body. These two factors played a major role in my performance on and off the field. Now that I am getting enough sleep and eating a more balanced diet, I am able to train harder in the weight room and perform at my highest level both on and off the field.

Brandi Enriquez, softball, Norwalk, Calif.

Your body is a temple. The healthier the foods you put into it, the faster, stronger and smarter you will play. If you eat unhealthy, the more you will struggle at your sport.

Billy Turner, football, Shoreview, Minn.
Coloring Page

Instructions: Draw/color a healthful meal for Thundar to eat. Make sure to fill half his plate (and yours) with a variety of fruits and vegetables.
Thundar’s Mad Gab

Directions: List the word that goes along with the phrase, then fill it into the corresponding blank on the page below.

1. Somewhere you go on vacation ______________________
2. Where you go at Christmas ________________________
3. Your favorite sport ________________________________
4. A healthy food ___________________________________
5. How much you should eat if you haven’t tried something before and aren’t sure if you like it _________________________
6. What you say when you like something ___________________
7. What you do when eating something you don’t like to be polite to the person who made it ________________________

Thundar decided to take a day off this summer and to travel to __________________(1). But he found out that he didn’t have enough money to travel that far, so instead he went to __________________(2). When he arrived, no one was there to play with him, so instead he watched __________________(3). About two hours later, his grandmother arrived, and she brought ______________(4) with her that needed to be prepared for supper that evening. Thundar had never tried ______________(4) and wasn’t sure he would like it. But Grandma insisted that it was good and that he should try at least ______________(5). Thundar spent the afternoon in the kitchen helping Grandma make ______________(4). When it was done, Grandma told him to take a bite. He ______________(7), and then exclaimed, “____________________”(6). Grandma was right. He just needed to give ______________(4) a chance by trying ______________(5).
Make a healthy and balanced breakfast

**Directions:** Circle choices that would make a balanced breakfast plate.

**FRUITS**
- Apples
- Toaster strudel
- Pear
- Banana
- Blueberry muffin

**VEGETABLES**
- Corn
- Spinach
- Fried potatoes
- Tater tots
- Carrots

**GRAINS**
- Whole-grain cereal
- Doughnuts
- Cake
- Whole-wheat toast
- Toaster pastry

**PROTEINS**
- Grilled chicken
- Eggs
- Fried chicken
- Country-fried steak
- Toaster scramble

**DAIRY**
- Low-fat milk
- Chocolate pudding
- Low-fat yogurt
- Ice cream
- Full-fat yogurt

Draw your breakfast here.
# Rainbow Fruit and Veggie Scramble

**Instructions:**
Connect the fruit name to its color and uncover the hidden image (a rainbow)

<table>
<thead>
<tr>
<th>Fruit/vegetable</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. rebsarciern</td>
<td>goindi</td>
</tr>
<tr>
<td>2. trutentub saqhus</td>
<td>lube</td>
</tr>
<tr>
<td>3. tewes norc</td>
<td>welyol</td>
</tr>
<tr>
<td>4. dooscava</td>
<td>neargo</td>
</tr>
<tr>
<td>5. rebleusier</td>
<td>ivolte</td>
</tr>
<tr>
<td>6. spuner</td>
<td>dre</td>
</tr>
<tr>
<td>7. langtped</td>
<td>erneg</td>
</tr>
</tbody>
</table>

Answers: 1. cranberries, red; 2. butternut squash, orange; 3. sweet corn, yellow; 4. avocados, green; 5. blueberries, blue; 6. prunes, indigo; 7. eggplant, violet

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# Be Sun Savvy

- Limit sun exposure between 10 a.m. and 4 p.m.
- Wear hats, shirts and other protective clothing.
- Apply sunscreen before going outside. Reapply every two hours.
WORD SEARCH
with unique fruits and vegetables

Directions: Find the hidden fruits and vegetables in the puzzle. Words may be vertical (top to bottom, bottom to top), horizontal (left to right or right to left), or diagonal (top right to bottom left, top left to bottom right, bottom left to top right or bottom right to top left).

Coconut  Star fruit  Avocado  Leek
Pomegranate  Spaghetti squash  Mango  Radish
Jackfruit  Passion fruit  Celeriac  Dandelion greens
Jicama  Cassava  Currants  Crab apple

Word Search answers on page 42
MyPlate Crossword

Directions: Fill in the crossword puzzle with the appropriate word.

DOWN:
1. Half your plate should be filled with me and my friend (question 5). I am often green, though I come in all colors and I am full of antioxidants and vitamins.
2. I am the color of many vegetables. Chlorophyll gives this color.
3. I contain a lot of calcium to make your bones grow stronger. I also contain carbohydrate and protein. Many delicious foods contain me as an ingredient, but to save on calories and get the most benefit, choose my lower-fat versions.
4. I am a type of fat you want to avoid. I am manufactured by hydrogenating liquid fats.
5. I am other half of question 1. I am high in soluble fiber and also contain lots of vitamins and antioxidants.
6. I am a yellow vegetable, but I also count as a grain. I am abundant in the summer.
7. Eat lots of me to have a healthier digestive system. I am commonly found in fruits, vegetables and whole grains.
8. Make at least half of your ________ whole.
9. I am a protein that swims. Get your omega-3s each week.
10. I build strong muscles so you can get out and play.

ACROSS:
2. I am the color of many vegetables. Chlorophyll gives this color.
3. Dairy
4. Trans
5. Fruits
6. Fish
7. Fiber
8. Grains
9. Protein
10. Vegetables

Answers:
1. Vegetables
2. Green
3. Dairy
4. Trans
5. Fruits
6. Corn
7. Fiber
8. Grains
9. Fish
10. Protein
Answers to Word Search (page 40)

Find your balance between food and physical activity.

ChooseMyPlate.gov
Why did the tomato go out with a prune? Because he couldn't find a date!

Why did the banana go to the doctor? Because it wasn't peeling well.

Which vegetable did Noah leave off the ark? Leek!

Why is history like a fruitcake? Because it's full of dates!

What is green and goes to a summer camp? A Brussels scout!

What did the lettuce say to the celery? Quit stalking me!

How do you fix a broken tomato? Tomato paste!

What is Noah's favorite fruit? Pears (pairs)!

What game do elephants love to play? Squash!

Why did the man at the orange juice factory lose his job? He couldn't concentrate!

Why did the banana go to the doctor? Because it wasn't peeling well.

What vegetable did Noah leave off the ark? Leeks!

Why did the man pour veggies all over the world? He wanted peas on earth.

What is small, red and whispers? A hoarse radish!

What vegetable might you find in your basement? Cellar-y!

What vegetable did Noah leave off the ark? Leeks!

Why did the man at the orange juice factory lose his job? He couldn't concentrate!

How do you fix a cracked pumpkin? With a pumpkin patch!

What is a Navy officer's favorite fruit? Naval oranges

What vegetable did Noah leave off the ark? Leeks!

Why was the mushroom invited to lots of parties? He was a fungus to be with.

What is a Navy officer's favorite fruit? Naval oranges

What is small, red and whispers? A hoarse radish!

What vegetable might you find in your basement? Cellar-y!

Knock, knock. Who's there? Lettuce. Lettuce who? Lettuce in and you'll find out!

Choose MyPlate.gov

EAT SMART. PLAY HARD.

NDSU Extension Service

www.ndsu.edu/eatsmart