4-H CONSUMER CHOICES

2016 Study Guides & Sample Classes

Junior Division (Ages 11-13)*
Senior Division (Ages 13-18)**

*10 year olds may choose to judge in either the beginner or junior division
**13 year olds may choose to judge in either the junior or senior division
(Members of the winning state contest team must be 14 by January 1, 2016
to participate in the National Consumer Decision Making Contest in Denver, CO)

Breakfast Cereals
Running Shoes
Fishing Rods & Reels

Reviewed by Members of the North Dakota 4-H Consumer Choices Committee:
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Robinson and Holly Halvorson

North Dakota 4-H Consumer Choices
Sponsored by:
North Dakota 4-H Foundation

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Introduction and Background

Have you heard of the “most important meal of the day”? That’s breakfast.

A healthful, balanced breakfast can give you the energy you need to do well in school. If you do not eat breakfast, you are more likely to feel tired, restless and even crabby.

With so many breakfast foods out there, how do you know which ones are the most healthful options? Think about the food groups shown on MyPlate (grain, vegetable, fruit, protein and dairy) and some foods you like from each group. Which foods would you enjoy for breakfast? For more information, check out the MyPlate web-site at www.choosemyplate.gov.

Let’s take a closer look. What breakfast cereals are in your cupboards? Sweetened cereals are marketed skillfully to today’s youth. The breakfast cereal aisle at your grocery store is loaded with colorful boxes and bags of dry cereal. The bright colors and cute cartoon characters on the packages may get your attention. Look beyond the advertising to find out what cereals are best for you.

Some Types of Breakfast Cereals

While many types of breakfast cereals are available, most of them can be broken into just five main categories.

Whole-grain Cereal

Nutrition experts recommend that we make half our grain choices whole-grain. Whole grains are an excellent source of fiber. Identify whole-grain products by reading the ingredients listing on the food label.

You cannot identify whole grains by the color of the food. Examples of whole grains are whole barley, brown rice, bulgur (cracked wheat), whole wheat, oats and rye. Examples such as Cheerios, Kashi and Shredded Wheat feature whole grains with very little or no added sugars.

To identify a whole-grain cereal, you can look for the health claim. Also, look to see if “whole grain” is listed at the beginning of the ingredient statement. Researchers at Columbia University Medical Center have found that oat-based whole-grain cereals can help reduce blood cholesterol and aid in heart health. Other whole grains, such as whole wheat, can help you feel full and satisfied as you start your day.
Hot Cereal
Hot cereals such as oatmeal, Cream of Wheat and Malt-O-Meal are a warm, comforting and wholesome way to enjoy breakfast. Some hot cereals are available in wholesome, unsweetened versions as well as instant, sweetened versions. By buying unsweetened whole-grain hot breakfast cereals, you can add naturally sweet fruit or a drizzle of honey for a touch of sweetness.

Ready-to-eat Cereal
Many ready-to-eat cereals such as Corn Flakes and Rice Krispies are not made from a whole grain. These cereals are fortified and enriched to include some of the nutrients that we get from whole grains.

Bran Cereal
Bran cereals, such as Raisin Bran, Fiber One, All-Bran and Bran Flakes, are high-fiber offerings for your breakfast table. Fiber can help you keep feeling full and aid in digestion and regularity. Are you getting enough dietary fiber in your daily diet? Consider adding a bran-based cereal to your morning routine. When adding fiber to your diet, add a little more each day and drink plenty of water.

Sweetened Cereal
Sweetened cereals sometimes are called “candy cereals,” and they often are placed at a child's eye level in the grocery store. Check the ingredient label for added sweeteners, which may be listed as sugar, brown sugar, honey, molasses, high-fructose corn syrup, dextrose, sucrose, maltose or fruit juice concentrates.

If you enjoy sweetened cereals such as Reese’s Puffs, Fruit Loops and Lucky Charms, have them as an occasional fun treat but not on a daily basis. Or mix sweetened cereals with unsweetened cereals. Many nutrition experts recommend that we look for cereals with 8 grams or less of sugar per serving. Look at the Nutrition Facts label and compare grams of sugar among types of cereal.

Organic Cereal
Nature’s Path, EnviroKidz and Cascadian Farm are examples of organic cereal brands. Organic food is produced without using pesticides and fertilizers. Organic foods also cannot be genetically engineered. Compare the Nutrition Facts labels to help you decide if the added cost is worth the possible benefit to your health.

Questions to Ask Yourself

- Do you “make half your grains whole”? MyPlate teaches us to make at least half of our grain food choices whole grains. For kids and teens, this means trying to eat at least 3 ounces of whole grains each day.
- How do you know if a food has whole grain? Look for a couple of clues.
- Look for the word “whole” before the grain on the ingredient list. It is usually under the Nutrition Facts panel. For example, the ingredient list for Cheerios is: Whole Grain Oats (includes the oat bran), Modified Corn Starch, Sugar, Salt, Tripotassium Phosphate, Wheat Starch.

- 2. Look for a “health claim” on the package. Some whole-grain foods also carry a health claim, such as this: “Diets low in saturated fat and cholesterol and rich in fruits, vegetables and grain products that contain fiber, particularly soluble fiber, may reduce the risk of coronary heart disease.”

- Do you like colorful cereal that is very sweet? Many cereals have lots of added sweeteners. We all can enjoy some sweet treats, but not if they crowd out more healthful foods. Go for the nutrition bonus by enjoying naturally sweet fruit on your whole-grain cereal. Raisins or other dried fruits will add to the amount of sugar shown on the Nutrition Facts panel. This natural sugar is not distinguished from added sugars, so you only can estimate the amounts of natural versus added sugars.

- Check the list of ingredients to help you determine how much sweetener has been added. Ingredients are listed on the ingredient label in order of weight, from most to least. If sugar is listed first, you may want to keep looking to get the most nutrition for your money. Is your cereal a good source of fiber? Fiber fills you up and may help with weight management. “Insoluble fiber” (found in bran cereals) may help prevent constipation. “Soluble fiber” (found in oatmeal) may help people reduce their blood cholesterol level.

- How much fat does the cereal contain? Although many types of cereals are low in fat, many granolas and some other cereals may contain saturated fat from coconut or palm oil. Saturated fat and trans fat are not heart-healthy fats. Compare Nutrition Facts labels.

- How hungry are you? Whole-grain breakfast cereals can be tasty, good for you and fill you up, too. Pay attention to the serving size on the package. Is it 1½ cups, 1 cup, ¾ cup or ½ cup? We may eat more than the suggested single serving size found on the food label. Remember that the numbers on the Nutrition Facts label refer to the nutrients in one serving of the food, so you may need to do some math.

- How much can you spend? To compare food items, you need to look at the cost per serving. To determine the cost per serving, you can divide the total cost of the cereal by the number of servings.

- Is it good for you? Your breakfast combines with the meals and snacks you eat to make your body strong and healthy. Calcium, iron, protein, vitamin A and vitamin C are important for growing bodies. These nutrients are listed on the Nutrition Facts panel.

- Do you drink the milk in the bottom of your cereal bowl? Most breakfast cereals are fortified with vitamins and minerals and contain 10 to 100 percent of the daily value for nutrients. Some vitamins and minerals may end up in the bowl, so drink your milk to take advantage of the nutrients.

You deserve the best. Your body is an amazing machine, and food is the fuel. Choosing your breakfast cereal wisely helps you put the best fuel in your body and will keep your body running at its best.
Reading Food Labels

Sample label for Macaroni & Cheese

<table>
<thead>
<tr>
<th>Nutrition Facts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serving Size 1 cup (228g)</td>
</tr>
<tr>
<td>Servings Per Container 2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Amount Per Serving</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories 250</td>
</tr>
<tr>
<td>% Daily Value*</td>
</tr>
<tr>
<td>Total Fat 12g</td>
</tr>
<tr>
<td>Saturated Fat 3g</td>
</tr>
<tr>
<td>Trans Fat 3g</td>
</tr>
<tr>
<td>Cholesterol 30mg</td>
</tr>
<tr>
<td>Sodium 470mg</td>
</tr>
<tr>
<td>Total Carbohydrate 31g</td>
</tr>
<tr>
<td>Dietary Fiber 0g</td>
</tr>
<tr>
<td>Sugars 5g</td>
</tr>
<tr>
<td>Protein 5g</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quick Guide to % DV</th>
</tr>
</thead>
<tbody>
<tr>
<td>5% or less is Low</td>
</tr>
<tr>
<td>20% or more is High</td>
</tr>
</tbody>
</table>

1. Start Here
2. Check Calories
3. Limit these Nutrients
4. Get Enough of these Nutrients
5. Footnote

* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.

<table>
<thead>
<tr>
<th></th>
<th>Calories: 2,000</th>
<th>2,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fat</td>
<td>Less than 65g</td>
<td>80g</td>
</tr>
<tr>
<td>Sat Fat</td>
<td>Less than 20g</td>
<td>23g</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>Less than 300mg</td>
<td>300mg</td>
</tr>
<tr>
<td>Sodium</td>
<td>Less than 2,400mg</td>
<td>2,400mg</td>
</tr>
<tr>
<td>Total Carbohydrate</td>
<td>300g</td>
<td>375g</td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>25g</td>
<td>30g</td>
</tr>
</tbody>
</table>

Information compiled by Monique Stelzer for North Dakota 4-H Consumer Choices
Reviewed and edited by Julie Garden Robinson, NDSU Extension food and nutrition specialist, 2016

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Situation Statement:
Sally’s mother has asked her to select a box of breakfast cereal for herself so that she can enjoy breakfast before school. In school, Sally learned that whole grains are an important part of her daily meals. She would like whole grain listed as the first ingredient on the label. She does not like raisins in her cereal. Sally would like to find a cereal that has less than 10 grams (g) of sugar and at least 3g of fiber per serving.

Standards:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole grains as 1st ingredient</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>No raisins</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 10g sugar</td>
<td>20</td>
<td>X (6)</td>
<td>X (0)</td>
<td>X (9)</td>
</tr>
<tr>
<td>At least 3g fiber</td>
<td>X (4)</td>
<td>2</td>
<td>X (3)</td>
<td>2</td>
</tr>
</tbody>
</table>

Class Items:
1. Kellogg’s Raisin Bran Crunch
2. Post Honey Bunches of Oats with Almonds
3. Quaker Instant Oatmeal - Original
4. General Mills Fruity Cheerios

Placing: 3-4-1-2  Cuts: 5-4-3

Reasons:
I place this class of breakfast cereals 3-4-1-2.

I place 3 over 4 because 3 has 3g of fiber while 4 only has 2g.

I place 4 over 1 because 4 has no raisins while 1 has raisins.
4 has less than 10g of sugar per serving with 9g while 1 has 20g.
Grant: 1 has at least 3g of fiber.

I place 1 over 2 because 1 has a whole grain as the first ingredient while 2 does not.
1 has at least 3g of fiber per serving with 4g while 2 has only 2g.
Grant: 2 has no raisins.
Grant: 2 has less than 10g of sugar per serving.

I place 2 last because it does not have a whole grain listed as the first ingredient.
It does not have at least 3g of fiber per serving.

For these reasons, I place this class of breakfast cereals 3-4-1-2.
Sample Class
Junior & Senior - Breakfast Cereals
Sally

#1

Kellogg’s Raisin Bran Crunch

Ingredients: Whole grain wheat, sugar, raisins, rice, wheat bran, whole grain oats, brown sugar syrup, glycerin, contains 2% or less of corn syrup, salt, malt flavor, modified corn starch, molasses, palm oil, cinnamon, honey, natural and artificial flavor, BHT for freshness.

Nutrition Facts
Serving Size: 1 cup cereal (53g)

<table>
<thead>
<tr>
<th>Amount Per Serving</th>
<th>% Daily Value*</th>
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</thead>
<tbody>
<tr>
<td>Calories</td>
<td>190</td>
</tr>
<tr>
<td>Calories from Fat</td>
<td>10</td>
</tr>
<tr>
<td>Total Fat</td>
<td>1 g</td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>0 g</td>
</tr>
<tr>
<td>Trans Fat</td>
<td>0 g</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>0 mg</td>
</tr>
<tr>
<td>Sodium</td>
<td>210 mg</td>
</tr>
<tr>
<td>Potassium</td>
<td>210 mg</td>
</tr>
<tr>
<td>Total Carbohydrate</td>
<td>45 g</td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>4 g</td>
</tr>
<tr>
<td>Sugars</td>
<td>20 g</td>
</tr>
<tr>
<td>Sugar Alcohols</td>
<td></td>
</tr>
<tr>
<td>Protein</td>
<td>3 g</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>500 IU</td>
</tr>
<tr>
<td>Vitamin C</td>
<td>0 mg</td>
</tr>
<tr>
<td>Calcium</td>
<td>0 mg</td>
</tr>
<tr>
<td>Iron</td>
<td>4.5 mg</td>
</tr>
</tbody>
</table>
Sample Class
Junior & Senior - Breakfast Cereals
Sally

#2

Post Honey Bunches of Oats with Almonds

Ingredients
Sample Class
Junior & Senior - Breakfast Cereals
Sally

#3

Quaker Instant Oatmeal - Original

**Ingredients**
Whole grain rolled oats, calcium carbonate, salt, guar gum, caramel color, reduced iron, vitamin A palmitate

![Quaker Instant Oatmeal Packaging](image)

<table>
<thead>
<tr>
<th>Nutrition Facts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Serving Size</strong></td>
</tr>
<tr>
<td><strong>Amount per Serving</strong></td>
</tr>
<tr>
<td>Calories</td>
</tr>
<tr>
<td>Calories from Fat</td>
</tr>
<tr>
<td>%Daily Value*</td>
</tr>
<tr>
<td>Total Fat</td>
</tr>
<tr>
<td>Saturated Fat</td>
</tr>
<tr>
<td>Trans Fat</td>
</tr>
<tr>
<td>Polyunsaturated Fat</td>
</tr>
<tr>
<td>Monounsaturated Fat</td>
</tr>
<tr>
<td>Cholesterol</td>
</tr>
<tr>
<td>Sodium</td>
</tr>
<tr>
<td>Potassium</td>
</tr>
<tr>
<td>Total Carbohydrate</td>
</tr>
<tr>
<td>Dietary Fiber</td>
</tr>
<tr>
<td>Soluble Fiber</td>
</tr>
<tr>
<td>Sugars</td>
</tr>
<tr>
<td>Protein</td>
</tr>
</tbody>
</table>

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Sample Class
Junior & Senior - Breakfast Cereals
Sally

#4

General Mills Fruity Cheerios

Ingredients: Whole Grain Corn, Sugar, Whole Grain Oats, Corn Syrup, Pear Puree Concentrate, Rice Bran and/or Canola Oil, Salt, Corn Bran, Trisodium Phosphate, Sodium Citrate, Natural Flavor. Color (red 40, yellow 6, blue 1, and other color added), Corn Starch, Vitamin E (mixed tocopherols), BHT, and Ascorbic Acid Added to Preserve Freshness.

Vitamins and Minerals: Calcium Carbonate, Vitamin C (sodium ascorbate), Zinc and Iron (mineral nutrients), A B Vitamin (niacinamide), Vitamin B₆ (pyridoxine hydrochloride), Vitamin B₉ (riboflavin), Vitamin B₁₂ (thiamin mononitrate), Vitamin A (palmitate), A B Vitamin (follic acid), Vitamin B₁₂, Vitamin D₃.

MAY CONTAIN WHEAT INGREDIENTS.

DISTRIBUTED BY GENERAL MILLS SALES, INC., MINNEAPOLIS, MN 55440 USA

© General Mills

May be mfg. under U.S. Pat. Nos. 5,736,534; 5,919,509; 6,707,198; 5,968,072; 7,021,225 & 7,859,601

Exchange: 1 1/2 Cereal

Based on Academy of Nutrition and Dietetics and American Diabetes Association criteria

This package is sold by weight, not by volume. You can be assured of proper weight even through some settling of contents normally occurs during shipment and handling.

F 9851 1157543 356 3971304543

Nutrition Facts

Serving Size 1/4 cup (27g)
Serving Per Container about 12

<table>
<thead>
<tr>
<th>Amount</th>
<th>% Daily Value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories</td>
<td>100</td>
</tr>
<tr>
<td>Calories from Fat</td>
<td>15</td>
</tr>
<tr>
<td>Total Fat</td>
<td>1.5g*</td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>0g</td>
</tr>
<tr>
<td>Trans Fat</td>
<td>0g</td>
</tr>
<tr>
<td>Polyunsaturated Fat</td>
<td>0.5g</td>
</tr>
<tr>
<td>Monounsaturated Fat</td>
<td>0.5g</td>
</tr>
<tr>
<td>Cholesterol</td>
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</tr>
<tr>
<td>Sodium</td>
<td>135mg</td>
</tr>
<tr>
<td>Potassium</td>
<td>60mg</td>
</tr>
<tr>
<td>Total Carbohydrate</td>
<td>26g</td>
</tr>
<tr>
<td>Dietary Fiber</td>
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</tr>
<tr>
<td>Sugars</td>
<td>9g</td>
</tr>
<tr>
<td>Other Carbohydrate</td>
<td>12g</td>
</tr>
<tr>
<td>Protein</td>
<td>1g</td>
</tr>
</tbody>
</table>

Vitamin A 10% 15%
Vitamin C 25% 25%
Calcium 10% 25%
Iron 25% 25%
Vitamin D 10% 25%
Thiamin 25% 25%
Riboflavin 25% 25%
Niacin 25% 25%
Vitamin B₆ 25% 25%
Folic Acid 50% 50%
Vitamin B₁₂ 25% 35%
Phosphorus 6% 20%
Magnesium 2% 4%
Zinc 25% 30%

Amount in cereal. A serving of cereal plus skim milk provides 1.5g total fat, less than 5mg cholesterol, 200mg sodium, 260mg potassium, 29g total carbohydrate (1% vitamin A, 1g other carbohydrates, and 0g protein.

* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

<table>
<thead>
<tr>
<th>Calories</th>
<th>2,000</th>
<th>2,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fat</td>
<td>65g</td>
<td>80g</td>
</tr>
<tr>
<td>Sat Fat</td>
<td>Less than 20g</td>
<td>25g</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>Less than 200mg</td>
<td>250mg</td>
</tr>
<tr>
<td>Sodium</td>
<td>Less than 2400mg</td>
<td>2400mg</td>
</tr>
<tr>
<td>Potassium</td>
<td>3,500mg</td>
<td>3,500mg</td>
</tr>
<tr>
<td>Total Carbohydrate</td>
<td>300g</td>
<td>375g</td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>25g</td>
<td>30g</td>
</tr>
</tbody>
</table>

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Fishing in North Dakota:
North Dakota is “on the map” for its outstanding fishing. Anglers travel from across the country come to North Dakota to fish its lakes, rivers and streams. Lake Sakakawea Chinook salmon, Red River catfish, Devils Lake perch and walleye, and paddlefish from the opening of the Yellowstone and Missouri rivers are popular. Other public waters offer northern pike, bass, bluegill, crappie, muskellunge (muskie), trout and more. Here are some of the most common fish in North Dakota.

- Walleye
  The best walleye fishing is found on the Missouri River system and Devils Lake. The Missouri River and Lake Sakakawea produce good catches of walleye. The average fish is 1 to 4 pounds.

- Perch
  Devils Lake is renowned for its perch fishery. One pound-plus catches are not uncommon. The average fish is less than 1 pound.

- Paddlefish
  Where the Missouri and Yellowstone rivers unite near Williston provides one of the best paddle fishing spots in North Dakota. The average fish is 50 to 60 pounds.

- Northern pike
  Northern pike fishing has grown in the past several years as a result of high water levels. These fish are common in many lakes and rivers. The average fish is 2 pounds.

- Chinook salmon
  Lake Sakakawea has some of the finest Chinook salmon fishing in the nation. Spring and fall are the best time for salmon fishing. The average fish is 10 pounds.

- Catfish
  The best catfishing is found on the Red River along the Minnesota and North Dakota border. Another good catfish area is the Garrison Dam tailrace directly below Lake Sakakawea. The average fish is 3 to 5 pounds.

North Dakota does not have a closed fishing season. However, each April 1, anglers 16 and older must obtain a new fishing license. Residents under age 16 may take and possess a limit of fish without a fishing license. The North Dakota Fishing Guide provides all the details about licenses, limits and laws an angler needs to know for a successful fishing trip.

Gearing Up
Essential gear includes a rod, a reel, bait and a hook. Keep it simple. Bring only the appropriate gear for the fish native to your destination. Some vital things to
take with you include bug repellent, a first-aid kit, a hat, sunscreen and layered clothing.

Keep your fishing needs and experience in mind when choosing a fishing rod and reel. You can get confused easily with the endless choices of fishing gear on the market. Keep in mind the type of water you will be fishing in and the kind of fish you want to catch. Study what equipment works best in your area to catch certain fish and ask more experienced anglers about their techniques and preferred types and brands of equipment.

The best way to start your hobby is by purchasing a rod and reel that will prepare you for the most common situation. You then can develop your own ideas as you gain fishing experience. Here are some basic guidelines on purchasing a rod and reel.

**Fishing Rods**

- The types of rods are spinning, casting and fly. The rod type used is based on your fishing situation, meaning the type of fish and the size of fish desired.
- Rod materials are graphite and fiberglass. Graphite rods are extremely light and sensitive. If you want to “feel” the fish bite, this is the type of rod for you. Fiberglass is more durable than graphite, but it is less sensitive. Fiberglass is used primarily for large, strong fighting fish.
- Rods are built with an action, guide types, and handle to complement the type of reel and line being used.
- Rod eyelets hold the line to the rod. The more eyelets, the more “true action” an angler will have.
- Rod length varies from 2 to 15 feet, with the common length being 5 to 6 feet.
- A shorter rod may be more manageable for a child to learn the basic casting techniques.
- Rods are designed for casting, trolling and fighting fish, not retrieving snagged lures or as a boat pole.

**Reels**

- The types of reels are spinning, spin casting, bait casting and fly.
- A reel allows anglers to cast, retrieve and store extra line. In combination with the right type of rod, reels let you cast your bait or lure farther.
- Reels help retrieve lures correctly and provide assistance in playing larger fish.
- Reel size should match the size of the rod you are using. Spinning reels should be used on spinning rods. Spin casting and bait casting reels should be on casting rods.
- Beginning anglers should use a spin casting reel or push-button type, while an experienced angler will choose a bait casting or fly rod.
- When determining which reel to use, keep in mind the line yardage of pound test you want. For example: 280/12 means 280 yards of 12-pound test line.
Types of Rods and Reels:

- Spinning reels
  - You’ll find that a spinning rod and reel will be what you’ll choose in many fishing situations. Spinning rods and reels allow for more line to be peeled off the reel quickly, so you can cast longer distances.
  - Spinning reels are mounted underneath the rod and near the middle of the handle or grip. The rod guides closest to the reel are larger than those on a casting rod. Because the line comes off the reel in a spiral, the larger guides gather and direct the line without adding too much drag or friction. This helps you cast farther.
  - Spinning reels feature a fixed spool, usually with an adjustable drag that allows the spool to turn under pressure. The bail revolves around the spool that moves forward and back as the reel is turned to wind line evenly on the spool.
  - A spinning reel can be used by right- and left-handed anglers. Whether you choose a reel for your left or right hand is a matter of personal preference. However, most anglers prefer to hold the rod in their dominant hand and reel with their non-dominant hand. By simply unscrewing the handle and screwing it into the other side of the reel, you can convert nearly all modern spinning reels easily and quickly.

- Spin cast reels
  - A spin cast reel often is used by beginners and is great for teaching kids how to fish.
  - They feature a thumb button that opens the bail for easy casting and a cone-shaped enclosure over the spool. The spool is mounted vertically.
  - A spin casting reel mounts above the rod.
  - Spin casting reels work best for casting light lures and lines. The spool of a spin casting reel only rotates when a fish overcomes the drag.
Bait casting reels

- Bait casting is probably one of the hardest casting skills to master. However, anyone can learn the basic techniques involved with using a bait casting reel. The bait casting reel is best to use with heavy lines and lures or rigs when you are trying to catch large fish.
- Bait casting reels have a revolving spool. The revolving spool is great for long casts because the rotating spool throws the line toward the lure.
- Bait casting reels can handle stronger, heavier lines and a wide range of lure weights. This makes them an excellent choice for anglers fishing for bass, pike or muskie and many inshore saltwater fish.
- The trick to bait casting is learning to control the rotation of the spool through the cast with your thumb. Too much pressure results in short casts with splashy entries into the water. Too little pressure may allow the spool to throw more line than the lure can keep tight, resulting in a backlash (bird's nest), which can be difficult to untangle.
- Bait casting reels are equipped with a spool-tensioning device and/or magnetic or centrifugal brakes that help to control the spool.

Fly rods and reels

- Fly fishing techniques can be difficult to learn. Fly fishing anglers can spend years developing their techniques. As you develop your skills, you soon realize that fly fishing is a dance with the rod and a heavy line: it's part technique, part rhythm and part feeling the movement of the rod and line.
- Use a fly rod when you use a tiny hook (fly) that you would not be able to cast correctly with any other type of rod.
- Fly rods are used primarily to catch fish that prey on small bait. Example: trout

For Your Information:

- Rod and reel combinations, already spooled with high-quality line, can be purchased pre-packaged. This may be the best option for a beginner.

Basic rod and reel care

- Reels need to be oiled and greased following the manufacturer’s instructions. Once a year, a reel should be taken apart, cleaned and lubed with fresh grease.
- When rods are not being used, place them in a rod rack or a protective carrier that will keep them from being damaged. Rod socks and rod tubes are inexpensive and easy to make.
- Rods and reels should be washed with fresh water after fishing and allowed to dry completely before being put away. When fishing in saltwater or dirty fresh water, warm, soapy water should be used.

- **Fishing line**
  - Line is used to connect the pole and reel to the hook or lure you are using.
  - Line comes in a variety of pound test or strength. The strength varies from 2 to 200 pounds. Example: 2-pound test for panfish versus 30-pound test for catfish. The larger the pound test, the larger the fish.
  - Lines vary in color, and numerous brand-name lines are on the market.
  - You will want to use as light (poundage) of line possible because lighter line is easier to cast and has less water drag.
  - Monofilament line is the most common to most fishing situations.
  - Braided line has no “stretch,” and is extremely thin and very strong.
  - Other lines available are fused, lead core and wire line.

**Glossary of Fishing Terms**

**Action** - How easily and how much the fishing rod bends

**Angler** - A person who is fishing

**Cast** - The action of throwing your lure or bait with a fishing rod

**Eyelet or guide** - Small circles on a fishing rod that hold the fishing line

**Drag** - How easily or hard the line is being pulled out (not casted) from the fishing reel while the reel is in gear

**Limit** - The maximum number of a certain species of fish that can be in an angler’s possession at a certain time

**References:**
Take Me Fishing™
Fishingnoob.com
Situation Statement:
John is going on a fishing trip. John has a rod, but is looking to purchase a reel. He has $20 to spend. John is not an experienced angler. He wants a lightweight reel (less than 12 ounces). John will let his sister learn to cast with his rod and reel. Since John is left handed and his sister is right handed, he figures that a reel with a left and right convertible retrieve would be best.

Standards:

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<th>1</th>
<th>2</th>
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<th>4</th>
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<tr>
<td>Costs $20 or less</td>
<td>X ($19.99)</td>
<td>($22.95)</td>
<td>($24.99)</td>
<td>X ($14.99)</td>
</tr>
<tr>
<td>Spincast reel</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Weighs less than 12 oz.</td>
<td>X (10.4 oz.)</td>
<td>(14 oz.)</td>
<td>X (10.2 oz.)</td>
<td>X (5.4 oz.)</td>
</tr>
<tr>
<td>Left/right convertible retrieve</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
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</tbody>
</table>

Class Items:
1. Shakespeare Synergy Titanium TI10 Spincast Reel
2. Shakespeare Synergy 3002 Alloy Spincast Reel
3. Shakespeare Front Drag Catera Spinning Reel
4. Shakespeare Prius 20 Ultralight Spinning Reel

Placing: 1-4-2-3  Cuts: 6-3-4

Reasons:
I place this class of fishing reels 1-4-2-3.

I place 1 over 4 because 1 is a spincast reel while 4 is a spinning reel.

I place 4 over 2 because 4 costs less than $20 at $14.99 while 2 costs more at $22.95.
4 weighs less than 12 oz. at 5.4 oz. while 2 weighs 14 oz.
Grant: 2 is a spincast reel.

I place 2 over 3 because 2 is a spincast reel while 3 is a spinning reel.
2 has a left/right convertible retrieve while 3 does not.
Grant: 3 weighs less than 12 oz.

I place 3 last because it costs more than $20.
It is not a spincast reel.
It does not have left/right convertible retrieve.

For these reasons I place this class of fishing reels 1-4-2-3.
Sample Class
Junior & Senior – Fishing Rods & Reels

John

#1

Shakespeare Synergy Titanium TI10 Spincast Reel

Pre-Spooled with 10# monofilament fishing line
Left/right convertible retrieve
Color: silver/gray/gold
Smooth multi-disc drag system
Stainless steel front & rear cone
Dual paddle handle
Line capacity: 8/90, 10/75, 12/65
Gear ratio: 3.8:1
Clam packaged
Weight: 10.4 oz.
$19.99
Sample Class
Junior & Senior – Fishing Rods & Reels
John

#2

Shakespeare Synergy 3002 Alloy Spincast Reel

2 ball bearings
One-way clutch instant anti-reverse bearing
Machined aluminum front cone and rear cover
Oscillating spool for more even line lay and casting distance
Dual rolling stainless steel Insta-Grab™ pickup pins
Durable metal foot
Gear-driven adjustable disc drag system
Left/right convertible retrieve
Heavy-duty metal gears
Soft, durable elastomer pinch ring for reduced line wear
Filled with 130 yards of 10-lb. test line
Weight: 14 oz.
$22.95
Sample Class
Junior & Senior – Fishing Rods & Reels
John

#3

Shakespeare Front Drag Catera Spinning Reel

4 ball bearings
One-way clutch instant anti-reverse bearing
Large diameter titanium line roller
Smooth six-disc drag system with stainless steel and oiled felt washers
Anodized machined aluminum spool
Weight: 10.2 oz.
$24.99
Sample Class
Junior & Senior – Fishing Rods & Reels
John

#4

Shakespeare Prius 20 Ultralight Spinning Reel

Shakespeare Prius 20 Ultralight Spinning Reel

2 ball bearings
Anodized machined aluminum spool
Left/right retrieve with fold-down handle
Ultralight graphite body
Precision die-cast gears
Selective silent anti-reverse
Spool applied disc drag system
Weight: 5.4 oz.
$14.99
Running shoes are important for your workout, and getting the right pair is necessary to prevent injury. Running shoes are not only chosen for their fit, but their purpose. Choose shoes that fit that purpose, whether they are for the gym, the road, track, cross-country or on the trail.

Women’s feet are different from men’s feet and running shoes are made with that in mind. Women have narrower heels and are wider through the ball of the foot. Women also tend to roll the foot inward more (over-pronate) as they run to help absorb the shock to the foot and body.

Pronation shows a wear pattern centralized to the ball of the foot and a small portion of the heel. It is the foot's natural inward roll following the heel striking the ground.

- **Basic (normal) pronation** helps absorb impact, relieving pressure on knees and joints. With the neutral step, the outside of your heel strikes the ground first and your foot rolls slightly inward to absorb the shock. The best shoes for basic pronators are stability shoes or neutral shoes.

- **Overpronation** is when the heel strikes the ground and rolls excessively inward, hindering your foot and ankle’s ability to stabilize your body and absorb shock. It is an exaggerated form of the foot's natural inward roll. Overpronation is a common trait that affects the majority of runners, leaving them at risk of knee pain and injury. Overpronators need stability or motion control shoes.

- **Supination (also called under-pronation)** is marked by wear along the outer edge of your shoe. It is an outward rolling of the foot resulting in insufficient impact reduction at landing. The best shoes for supination are neutral shoes.

Running shoes can vary drastically depending on what type of running you do. Matching the appropriate type of shoe with the style of running you regularly engage in is vital for keeping feet happy and healthy.

**Running Shoe Categories**

- **Road-running shoes** are designed for pavement and occasional ventures onto packed surfaces with slight irregularities. Light and flexible, they're made to cushion or stabilize feet during repetitive strides on hard, even surfaces.

- **Trail-running shoes** are designed for off-road routes with rocks, mud, roots or other obstacles. They are enhanced with aggressive tread for solid traction and fortified to offer stability, support and underfoot protection.
• **Cross-training shoes** are designed for gym or Crossfit workouts or any balance activity in which having more contact with the ground is preferred over a thick platform sole.

### Types of Running Shoes

- **Neutral running shoes**: This footwear matches the runner with high arches and supination, or an excessive outward roll of the foot. They offer midsole cushioning for added shock absorption.
- **Cushioning shoes**: These are best for mild pronators, supinators or neutral runners for off-pavement runs. They provide increased shock absorption and some medial (arch-side) support. Some **super-cushioned shoes** provide as much as 50 percent more cushioning than traditional shoes for even greater shock absorption and stability.
- **Stability shoes**: These are good for neutral runners or those who exhibit mild to moderate overpronation. They often include a firm "post" to reinforce the arch side of each midsole, an area highly impacted by overpronation.
- **Motion-control shoes**: These are best for runners who exhibit moderate to severe overpronation. They offer features such as stiffer heels or a design built on straighter lasts to counter overpronation.
- **Barefoot shoes**: The soles provide the bare minimum in protection from potential hazards on the ground. Many have no cushion in the heel pad and a very thin layer - as little as 3 to 4 millimeters - of shoe between your skin and the ground. All barefoot shoes feature a “zero drop” from heel to toe. (“Drop” is the difference between the height of the heel and the height of the toe.) This encourages a mid-foot or forefoot strike. In comparison traditional running shoes feature a 10 to 12 millimeter drop from the heel to the toe, which encourages heel striking.
- **Minimalist shoes**: These feature extremely lightweight construction, little to no arch support and a heel drop of about 4 to 8 millimeter to encourage a natural running motion and a midfoot strike, yet still offer cushioning and flex. Some minimalist styles may offer stability posting to help the overpronating runner transition to a barefoot running motion.
- **Traditional shoes**: These include cushioned soles, particularly in the heel (thus, they’re heavier than minimalist shoes). Traditional running shoes offer a variety of differing arch heights and curves to accommodate runners with varying arch types, from those who push off from the ground from their big toe (pronation), to those who push off the ground with the outside of their foot (supination), to those who push off the ground mostly straight (neutral). Traditional running shoes are designed for the most common running surface for recreational runners – flat pavement. The overall goals of a traditional running shoe is to keep the runner’s feet protected from the elements and aid all runners in having as close to a neutral push-off as possible, with the intention of reducing injury through a more perfect form.
Running Shoe Features

Running Shoe Uppers
- **Synthetic leather** is a supple, durable, abrasion-resistant material derived principally from nylon and polyester. It's lighter, quicker drying and more breathable than real leather. Plus, it requires no (or very little) break-in time.
- **Nylon and nylon mesh** are durable materials most commonly used to reduce weight and boost breathability.
- **TPU (thermoplastic urethane) overlays** are positioned over the breathable shoe panels (such as in the arch and the heel). These small, abrasion-resisting additions help enhance stability and durability.
- **Waterproof/breathable uppers** use a membrane bonded to the interior of the linings. This membrane blocks moisture from entering while allowing feet to breathe. Shoes with these membranes keep feet dry in wet environments (like sweaty feet) with a slight trade-off in breathability.

Running Shoe Midsoles
The midsole is the cushioning and stability layer between the upper and the outsole. Running shoe midsoles generally are made of foam plastic polymers with the goal of absorbing impact and protecting your feet during running. Foam midsoles accomplish this task by compressing on impact, followed by expanding back to their original shape to compress again for the next foot strike.
- **EVA (ethylene vinyl acetate):** This is a type of foam commonly used for running-shoe midsoles. Cushioning shoes often use a single layer of EVA. Some manufacturers will insert multiple densities of EVA to force a particular flex pattern.
- **PU (polyurethane):** PU is the heaviest midsole material available. It is the most dense, durable and stable midsole material as well. Polyurethane is poured in to a mold to create a firm midsole that provides maximum protection from impact. PU is pretty easy to identify by its smooth rubbery feel, not to mention it tends to turn yellow with age.
- **Posts:** These are areas of firmer (dual-density, quad-density, multi-density, compression-molded) EVA added to create harder-to-compress sections in the midsole. Posts often are found in stability shoes aimed at correcting pronation or supination and encouraging feet to push off the ground in a more neutral position. Medial posts reinforce the arch side of each midsole, an area highly impacted by overpronation.
- **Plates:** Often made of thin, somewhat flexible nylon or TPU, plates are intended to help stiffen the shoe’s forefront. Plates most commonly are used in trail running shoes for additional protection against harder, uneven objects such as rocks.
- **Shanks:** Generally used in trail running shoes, shanks run through the middle of the shoe to stiffen and protect arches and heels. They boost a shoe’s firmness when traveling on rocky terrain. Ultralight backpackers often wear lightweight trail runners with shanks for protection and support.
- **Heel counter:** This refers to a little plastic insert used to reinforce the heel cup of a shoe and increase support for the back of the heel. A firm, thick heel counter

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cradles the heel and arch and reduces overpronation. A good firm heel counter helps lock the foot into the shoe and anchors it to the mid-sole.

- **TPU (thermoplastic urethane):** This is a flexible plastic used in some midsoles as a stabilization device.

**Running Shoes Outsole**

Outsoles are different depending on the purpose of the running shoe. The differences can usually be seen by observing the different types of rubber on the outsole to help prevent wear in some areas. Outsoles are usually made with blown rubber which is a softer, lighter and more flexible rubber or carbon rubber which is more durable and resists abrasion better than blown rubber. Outsoles may have strike plates which provide extra cushioning and durability in high impact or high wear areas.

**Lacing**

This secures the upper and therefore the rest of the shoe to the foot. An eyelet is the hole the lace passes through - this should be strong enough not to snap when the lace is done up at normal tension. There are a few types of eyelets used:

- Traditional eyelets, which are punched out of a (usually reinforced) part of the upper.
- 'D' ring eyelets, which are designed to make lacing-up quicker. Some manufacturers call a lacing system comprised of D ring eyelets a 'ghilly' lacing system.
- Multi-hole eyelets, which are often staggered to accommodate a wider variety of foot widths.

**Running Shoe Fit Tips**

- **Foot size:** Shoe lasts (which determine shoe sizes) vary by manufacturer and even from one shoe model to another. A last is the foot form, usually wood, metal or plastic onto which the shoe is built. Lasting is the process of stretching a stitched shoe upper around a last so a midsole and outsole can be attached. You may need a half size or even a full size smaller or larger than you think. If you're unsure, have your feet measured.
- **Try on shoes at the end of the day.** Your feet normally swell a bit during the day's activities and will be at their largest then. This helps you avoid buying shoes that are too small.
- **Aim for a thumbnail’s length of extra space in the toebox.** The width should be snug but allow a bit of room for your foot to move without rubbing. Laces should be snug but not tight. Barefoot shoes are an exception: Heel and toes should “fit like a glove” without any extra space in the toes.
- **Try on several pairs.** Plan to spend awhile purchasing running shoes.
- **Heel should fit snugly, but not tight.** With the shoes laced up, you should be able to slide your feet out. Your foot will have some movement, but it shouldn’t be uncomfortable.

The weight of a running shoe varies with the type of shoe and materials used. Minimalist shoes, at about 10 ounces, weigh the least. Traditional running shoes and trail running shoes are the heaviest, due to cushioning, thicker uppers and thicker soles, which
often are made of carbon rubber. Running shoes of all types may add nylon or mesh pockets around the upper part of the shoe to improve breathability and reduce weight.

Feet take a heavy load when running. The proper shoe for your foot is essential to preventing foot and ankle injuries. Good lightweight shoes that fit your foot properly with the right stability features can help make running fun.

Resources:
REI: Running Shoes: How to Choose
Dick’s Sporting Goods: How to Buy Running Shoes

This guide was authored by Julie Hudson and reviewed and updated by Linda Hauge, former NDSU Extension 4-H youth development specialist
2016 4-H Consumer Choices Sample Class
Junior & Senior - Running Shoes
Patti

Situation Statement:
Patti is looking for new running shoes. She wants shoes with nylon mesh uppers and EVA midsole. She needs a narrow width shoe.

Standards:

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<td>Running shoes</td>
<td></td>
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<td>Nylon mesh upper</td>
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<tr>
<td>EVA midsole</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Narrow width</td>
<td></td>
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Class Items:
1. Adidas Women’s Basketball Shoes
2. Nike Free 5.0 Women’s Running Shoes
3. Adidas Supernova Sequence Boost 7 Women’s Running Shoes
4. New Balance 540 Women’s Running Shoes

Placing: 4-2-3-1    Cuts: 2-4-5

Reasons:
I place this class of running shoes 4-2-3-1.

I place 4 over 2 because 4 is available in narrow width sizes while 2 is not.

I place 2 over 3 because 2 has an EVA midsole while 3 has a TPU midsole.

I place 3 over 1 because 3 is a running shoe while 1 is a basketball shoe. 3 has nylon mesh uppers while 1 is has leather uppers.

Grant: 1 has an EVA midsole.

I place 1 last because is not a running shoe. It does not have a nylon mesh upper. It does not come in a narrow width.

For these reasons I place this class of running shoes 4-2-3-1.
Sample Class
Junior & Senior – Running Shoes
Patti

#1

Adidas Women’s Basketball Shoes

Smooth leather upper with synthetic 3-Stripes® and the iconic shell toe.
Rubber outsole supplies durability and traction.
Midsole made from EVA in layers to protect the foot.
Comes in medium B width in whole and half sizes.
Sample Class
Junior & Senior – Running Shoes
Patti

#2

Nike Free 5.0 Women’s Running Shoes

Nike Woman’s running shoe with nylon mesh upper
Midsole made from EVA in layers to cushion the foot
Available in medium B width in whole and half sizes
Sample Class
Junior & Senior – Running Shoes
Patti

#3

Adidas Supernova Sequence Boost 7
Women’s Running Shoes

Nylon mesh uppers
Midsole is made from several densities of TPU
Available in medium B and wide W widths in whole and half sizes.
Sample Class
Junior & Senior – Running Shoes
Patti

#4
New Balance 540 Women’s Running Shoes

Upper is made from 100% nylon mesh upper
Midsole is made from EVA
Available in various widths;
Narrow N, medium B and wide W in whole and half sizes 6-13.