

GEORGIA



4-H COTTON BOLL & CONSUMER JUDGING

2021 Study Guide

This study guide contains information that will help you prepare to judge the four classes that will be part of our Cotton Boll and Consumer Judging Contest this year.

The categories for 2021 are:

Bikes.....	2
Athletic Shoes.....	6
Frozen Meals.....	8
Cell Phone Plans.....	13

Bikes

Bikes can be used for many different purposes. Bikes are for pure enjoyment to some; for others, bikes are the main method of transportation and essential for business. Some people race bikes competitively. Some places use bikes as carriers for goods or deliveries. Bikes come in a variety of sizes, colors, types, and have a large price range. There are many bike characteristics a person might consider when purchasing a bike. Some of the most common ones are explored below.

In general, when purchasing a bike it is important to consider:

- **What type of bike is right for me?** Major factors here will be where and how you want to ride
- **What cost and level of performance am I looking for?** High-performance materials and features usually cost more
- **Does this bike fit me?** Find the right size for your height.

Bike parts may vary by category of bike; the below image may help you become familiar with some basic bike parts you may encounter in bike descriptions.

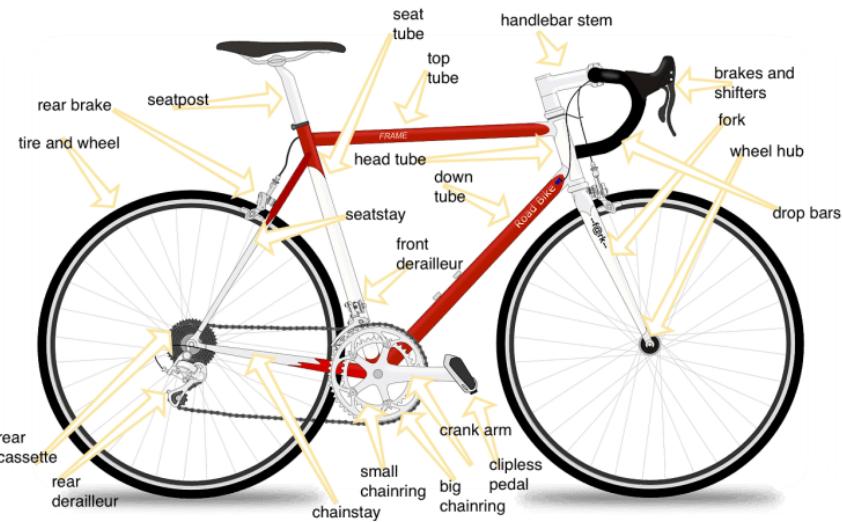


Photo Credit: <https://www.roadbikerider.com/parts-of-a-bicycle-list/>

Cost

Bikes vary in cost, even within categories of specific kinds of bikes. An occasional biker is likely not looking to spend as much money as someone who bikes frequently or competitively.

Material

The material the bike is made of can impact performance, ride quality, and price.

- **Carbon Steel** is the most common materials used for bike frames. It is strong and long lasting, but is not as light as some other choices.
- **Chromoly or Chrome Molybdenum Steel** is lighter than carbon steel. It can offer a lighter frame that is very durable.
- **Aluminum** frame bikes can be found at many price points. They are light and strong.
- **Carbon Fiber** bikes are very tough and light, but this material can also be brittle.

- **Titanium** is lighter than steel, very strong, but is very expensive. It is used primarily on high-end road or mountain bikes.

Appearance

Bikes come in a variety of colors, styles, and designs. For a casual bike rider, this may be more of an interest area. For more professional riders, the construction of the bike is likely a greater concern.

Accessories

Some bikes may come with accessories, like water bottle holders, baskets, bells, bags, and more.

Weight

Bike weight varies. Many serious bikers look for a lighter bike, but these are often more expensive. A less frequent biker may be less concerned with weight.

Size

Bikes come in a range of sizes, so it is important to find the right frame size based on your height. A bike that is the wrong size can be inefficient and cause discomfort. Cycle shops can help fine tune the height.

Road bikes often come in standard (S, M, L) and numerical sizes. Sizes may not be consistent across brands. Mountain bikes come in standard sizes and are often consistent across brands. Hybrid bikes are often a mix of the two. Most brands include a sizing chart featuring **standover height (pay attention to the unit- it may be in in, cm, mm, or another unit)** and/or recommended rider heights for the frame size.

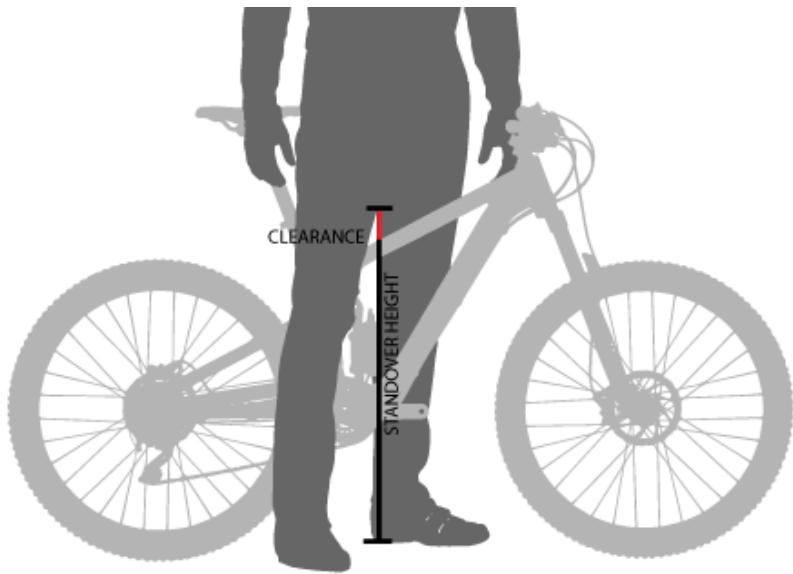


Photo Credit: <https://www.rei.com/learn/expert-advice/mountain-bike-fit.html>

The difference between your inseam and the standover height should fall within the target ranges; often riders look for 2-4 inches of clearance. (For example, if you have a 30" inseam, you'll want a road bike with a 28" standover height.)

For an example of a bike sizing chart, check out the link on this page:
<https://www.moosejaw.com/content/info-how-to-pick-bike-frame-size>

To measure your inseam: Gather a large hardcover book or notebook, tape measure and pencil. Then:

1. Stand against a wall (with bike shoes on).
2. Straddle the book, spine up, as if you were sitting on a saddle.
3. Use the pencil to mark where the spine of the book meets the wall.
4. Measure from the mark to the floor. This is your inseam.

Seat height is adjustable on most bikes

Wheel Size and Tires

Wheel size is a feature that is largely predetermined by the bike category you choose, with one big exception: Most mountain bikes come with either 29" wheels or 27.5" wheels. Tires also vary by the type of bike. In general, wider tires are better for unpaved surfaces or off-road riding; Road bike tires are thinner.

Gearing

Different bikes may have different numbers of gears and the range of the gears. Lower gears make it easier to pedal. Most models of bikes within a category have similar gearing, so it is not an issue that most shoppers have to consider.

Purposes and Types of Bikes

Bikes have different purposes that can be broken down into subcategories. Some of the main categories are training bikes, children's bikes, road bikes, racing bikes, and mountain bikes.

Training Bikes

Training bikes are used for children who are learning how to ride a bike. These are small and come in a variety of colors. These bikes are the first step to learning how to ride a bike. These have training wheels that are removable once the child learns to balance and how to ride the bicycle.

Children's Bikes

These bikes are the next step in biking. These are the bikes that children usually ride after learning how to ride their training bikes without the training wheels. Children's bikes are a little bigger in size and cost a bit more. These bikes come in different colors and sizes pertaining to the child's age and size.

Road Bikes

Road bikes are good for fitness riding, community, touring, and racing. These bikes are often found on streets and have more speed rather than those used on sidewalks or trails. The handlebars are closer together and lower which makes the rider bend closer down creating an aerodynamic posture thus increasing speed. These also have thinner tires that help reduce the weight of the bike. Endurance bikes, gravel bikes, performance bikes, and touring bikes are types of road bikes.

Mountain Bikes

There are two major types of mountain bikes. These two types are built-in suspension and full suspension. Built-in suspension is helpful for keeping the bike wheels moving on uneven ground. Full suspension mountain bikes have front shocks, which allow the bike to continue its speed and endurance over tough terrains. Mountain bikes also offer the largest tire size. The biggest tire available is a 29-inch wheel. These wheels offer heavier weight and keep the bike grounded. Mountain bikes can handle dirt roads and trails. Cross county bikes, trail bikes, fat-tire bikes, and all-mountain bikes are types of mountain bikes

Hybrid Bikes:

Hybrid Bikes can perform well on the street but also can handle unpaved areas. These bikes tend to have large diameter road wheels for speed and wider tires for off-road traction. Hybrid bikes are also sometimes called fitness bikes. Some hybrid bikes have front suspension, which is a good choice for off-road terrain.

Cruiser Bikes:

Cruiser bikes are ideal for leisure riding and are often used around neighborhoods or at vacation destinations. They have wider tires for traction and cushioning and comfortable seats. They work well on flat, paved surfaces.

There are many kinds of bikes- these are just some of the most common. Cargo bikes, folding bikes, electric bikes, and many others are available.

Sources

How to Choose a Bike. Bikes: How to Choose | REI Co-op. <https://www.rei.com/learn/expert-advice/bicycle.html>.

How to Determine the Best Bike Frame Size for You. Moosejaw Mountaineering
<https://www.moosejaw.com/content/info-how-to-pick-bike-frame-size>.

Parts of a Bicycle, Explained. Road Bike Rider Cycling Site. (2020, February 22).
<https://www.roadbikerider.com/parts-of-a-bicycle-list/>.

Athletic Shoes

Athletic shoes can be worn for many purposes and are important for people of all ages. When the fit is right, these shoes can make a big difference in someone's everyday life by easing tension and pain in specific areas. It is important to find the right shoe for a person's needs.

Cost

The cost of athletic shoes depends on the brand, the style of shoe, where the shoe is purchased, and the size. You can often purchase the same shoe in multiple places and at different costs. Directly off a brand website or from their store will often be the highest price. You can find a cheaper price if you visit overstock stores or secondary buyers that offer a discounted price. Often when looking for the highest quality you will spend a bit more. This is because the shoes are made to offer extra support, may use higher quality materials, or may have higher quality construction.

Style

The style of these shoes also plays a big role in a consumer purchase. Athletic shoes come in an array of colors and designs. For some people, style is their main concern when purchasing athletic shoes- they may not even be planning to use them for a specific athletic purpose.

Types of Athletic Shoes

There are many different types of athletic shoes- in fact, you can find a specific type of shoe for almost every sport. Some of these types are described below.

Running Shoes

Running shoes provide extra cushioning to accommodate the force/impact of your feet hitting the ground. They flex at the ball of the foot, and usually provide good traction on pavement or dirt. Running shoes are important to prevent shin splints and injury.

Walking Shoes

Walking shoes are basic everyday shoes. They come in a variety of styles and do not need too much support unless they are being used for long and tough terrain walks. Walking shoes offer enough support for a comfortable shoe that give enough support for the relatively low impact of walking. They allow the foot to roll easily from heel to toe. They are generally stiffer than running shoes.

Cross-Trainers

Cross trainers are all-purpose shoes. They are a hybrid of walking shoes and sport-specific shoes. They can be a great fit for someone looking to save a little money by having a shoe that can be used for several activities, rather than having multiple pairs of shoes for different sports. They don't have as much flexibility or cushioning for running or high-impact sports.

Court-Sport Shoes

Tennis Shoes

Tennis shoes are shoes that are used when playing tennis. They provide stability for quick side-to-side movements. They have special tread to help grip the court.

Basketball Shoes

Primary purpose is to provide ankle support while athletes are playing on the court. The shoe goes beyond the foot and wraps around the ankle. This helps give stability while running and constantly stopping.

Field Sport Shoes

Shoes for soccer, football and baseball are usually have cleats, studs, or spikes on the sole. The spike/stud formations may vary by sport.

Track Shoes

Track shoes can have spikes on the bottom that allow for traction and grip to the track as an athlete runs around the rubber track. This helps the shoe dig into the track a slight amount and keep the runner up on his or her feet.

Parts/Features of Athletic Shoes

Sole

Soles usually have three layers. The bottom layer, or **outsole**, is often made of rubber and very durable. It can be segmented for flexibility. It is also often grooved or patterned to provide traction (to help the shoe have a better “grip” and not slip). The middle layer, or **midsole**, is softer and provides cushioning. It might be made of foam or gel or include air sacs or plastic supports. These features help with shock absorbing. The top layer, which is the layer directly under your foot when wearing the shoes, is called the **insole**. It provides some additional cushioning and arch support. In many shoes, the insole is removable and even washable. The sole can be formed in such a way to provide additional arch support for the arch of your foot, which is important for some people.

Upper

The upper, or body of the shoe, is the part of the shoe above the sole. The part where your toes go is called the toe box. It should be large enough that you can spread your toes. Many uppers are made of synthetic (man-made) materials, but some are made of leather. They may also incorporate mesh material, which improved breathability and is a benefit for keeping your feet cool and dry.

Lacing

Fabric, Plastic, or metal loops for laces can be found on athletic shoes. Extra eyelets (holes where laces can thread through) found on the top of shoes may provide a tighter fit. Laces may be flat or round, thick or thin. Flat laces tend to stay tied better than round ones.

Other features:

Some shoes have reflectors or reflective materials on them. This may be helpful if running or walking at night. Some have a higher top around the ankle that people may feel provides better ankle support. Others may find this restrictive and prefer a lower top.

Other factors to consider: If you are purchasing shoes in person rather than ordering online, you will be able to try them on. Make sure to wear the type of socks you usually wear to get the best fit. Walk or run a few steps and make sure they are comfortable. Replace athletic shoes when the cushioning material/soles have become worn down. Shoes come in a variety of sizes for children, women, and men. Some very large or very small sizes may be more difficult to find or expensive, but it is important to purchase the size most comfortable for your foot.

Sources:

Athletic Shoe Buying Guide. Consumer Reports. <https://www.consumerreports.org/cro/athletic-shoes/buying-guide/index.htm>

How to Select Athletic Shoes. Foot Care MD. <https://www.footcaremd.org/resources/how-to-help/how-to-select-athletic-shoes>

Frozen Meals

Frozen meals can serve as a quick and convenient way to meet nutritional needs on occasion. It helps to plan and prepare your meals when you can to ensure you are getting the best foods. However, when you are in a pinch, it is important to be able to evaluate your options of convenience foods like frozen meals and make the best choice.

Choosing frozen meals that include food items from multiple food groups will help make sure you do not miss out on any of the vitamins or minerals you need. Focus on options that will satisfy you and give you enough energy to perform well throughout your day. Fiber and protein are great nutrients to be looking for. Frozen meals tend to be high in sodium, saturated fat, and sometimes sugars – all nutrients that we tend to get too much of. Watch for these and try to choose options that are lower in sodium, saturated fat, and sugars.

Cost

The cost of frozen meals can depend on the size of the package, the brand, and the ingredients in the meal. Many frozen meals contain just one serving per package, but the size of the package differs from one frozen meal to the next. Most grocery stores will have the cost per ounce on the price tag. You can use this cost per ounce to compare prices of frozen meals. Some frozen meals may cost a little more than others, but spending a little more money to make a healthier choice is generally a better investment in your health if your budget can accommodate it.

Nutritional Value

Think about trying to get the most nutrition for the calories you are taking in. You do not have to choose the option with the lowest calories. Look for the option where you get the most MyPlate food groups and nutrients your body needs (fiber, protein, vitamins and minerals) with less of the nutrients that are easy to get too much of (saturated and trans fats, sodium or salt, and sugar).

Ingredients

Frozen meals can have a very large list of ingredients because they often contain many grains, sweeteners (like sugar), and essential vitamins added in to “fortify” the meal. Use the ingredient or food content list to identify the foods that belong to different MyPlate food groups, such as grains, vegetables, proteins, etc. Some other ingredients are added to keep foods fresh, safe, or more flavorful. Try not to get too hung up on the number of ingredients, but rather look at the total contents of the meal to make sure you are getting the most nutrition that you can.

MyPlate Food Groups

You can get a wide variety of frozen meals from the frozen food section of the grocery store. Many of these foods are high in the nutrients that are easy to get too much of, like saturated and trans fats, sodium, and sugar. So how do you make a good choice?

One place to start is to look at your MyPlate food groups. The best meals will have ingredients from multiple food groups. This will provide a wider range of vitamins and minerals while helping

to keep you satisfied. Whole grains, proteins, and vegetables are going to be the most common healthy foods found in frozen meals.

Remember, **grains** can provide healthy carbohydrates, fiber, B vitamins, and the essential mineral iron. Whole grains, like oats, popcorn, rice, and whole wheat, are healthier choices than grains like enriched white flour, corn meal, and rice because whole grains provide more fiber, vitamins, and minerals.

Vegetables provide fiber and many vitamins and minerals. Starchy vegetables, like potatoes and corn, provide healthy carbohydrates as well. Beans and peas, like black beans or refried beans (mashed pinto beans), also provide plant-based protein.

Fruits provide fiber and healthy natural sugars. It is rare to find fruits in frozen meals, but some may include fruit depending on the type of meal.

Chicken, beef, beans, and peas are common **protein foods** found in frozen meals.

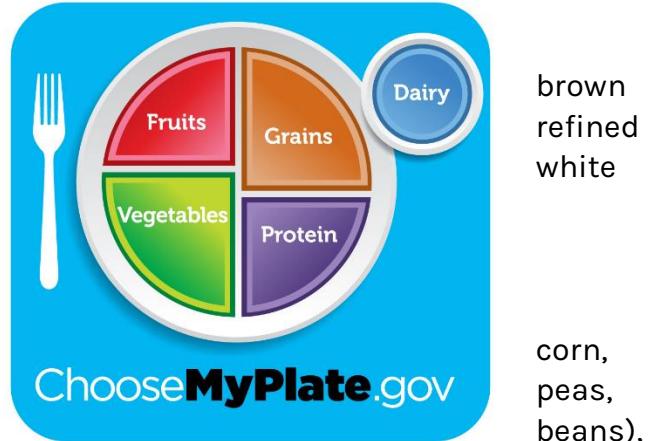
Many frozen meals contain cheese, a **dairy food**. The cheese used in frozen meals is sometimes processed cheese food or cheese flavors that do not count toward your daily dairy needs. Some frozen meals are made with real cheese. Check the ingredients list. Consider pairing your meal with a glass of low-fat or fat free milk or yogurt if your meal does not contain any dairy.

Calories

Consider the calories in the portion size you plan to eat. While calories are not the only piece of nutrition information you should consider when choosing a meal, they can help guide you in making the best choice.

- One meal should provide approximately 400 - 800 calories, depending on the person's age, gender, body size, activity level, and health needs.
- Frozen meals range in calories from approximately 300 calories to 800 calories or more per meal. Do not worry so much about how many total calories you are getting. Instead, pay attention to the quality of the calories: are you getting lots of vitamins, minerals, fiber, and some protein for the total number of calories? This is called choosing a "nutrient-dense" food.
- Serving size: remember that calories on the nutrition label are based on the serving size. Most frozen meals contain one serving per package, so you should not have to worry about this too much. However, if one package has 2 servings in it and you eat the whole package, then you have had two servings.

Carbohydrates: Under normal, healthy conditions, carbohydrates are our bodies' primary source of energy. It's important to get carbohydrates from your food, but some sources of carbohydrates



(like whole grains) provide more nutrients than others. Look on the nutrition label to see how much total carbohydrate, sugar, and fiber a frozen meal contains.

Fiber: Carbohydrates from fiber are beneficial to your health by causing you to feel full for longer and helping with digestion. Eating enough fiber can also reduce your risk for heart disease and some cancers. Look for snacks with more fiber.

Sugars: Sugar is a carbohydrate that is present in naturally sweet foods like fruits and dairy products but can be added to foods as well to make them taste sweeter. Natural sugar found in foods like fresh fruit and low-fat dairy are a good choice, because they provide energy from the natural sugar and bring vitamins, minerals, and/or fiber along with it. However, sugar that is added to a food to sweeten it provides energy with few or no nutrients and no fiber. This is called “added sugar.” Even healthier foods can have sugar added to them, like sweetened sauces in barbecue chicken or stir-fried vegetables. Watch for frozen meals with sweet sauces added to them, because they may be high in sugars.

On the nutrition facts label, sugars are listed under carbohydrates. On some labels, you may also see “added sugar” listed underneath sugar. Even when added sugar isn’t listed on the nutrition facts label, you can find out if a product has added sugar by looking at the ingredient list for sugar or other names such as dextrose, fructose, brown rice syrup, cane syrup, corn syrup, and cane juice. Although some of these might sound healthier, like honey or brown rice syrup, they are all basically the same to your body—sources of added sugar that we want to limit in the foods we eat.

Low and no calorie sweeteners: There are several low and no calorie sweeteners that can be used to sweeten foods with fewer calories than sugar. Some common examples are aspartame, saccharin, sucralose, stevia, and acesulfame potassium. While research tells us these are generally safe, we do not know much about the long-term health consequences for children and teens. So, when considering a food you might eat often, it’s probably best to choose meals without low and no calorie sweeteners. Most frozen foods do not contain low or no calorie sweeteners, but it’s good to be on the lookout for them.

Fat: Our bodies need fat to provide energy and carry nutrients, but not too much. Some types of fat are better for our health than others. Saturated fat and trans fat are bad for your heart health. The United States Department of Agriculture (USDA) recommends that you limit saturated fat to less than 10% of calories and avoid trans fat. Look for frozen meals that are lower in saturated fat and contain 0 grams trans fat. If you look at the ingredient list, you do NOT want to find “partially hydrogenated oils” listed, as these are sources of trans fat.

Protein: Protein does so many things in your body, but it is best known for helping you build muscle. Protein also helps you feel full for longer. It is important to get protein in each of your meals because it keeps you full and helps ensure you get enough protein throughout the day. In general, choose meals with more protein.

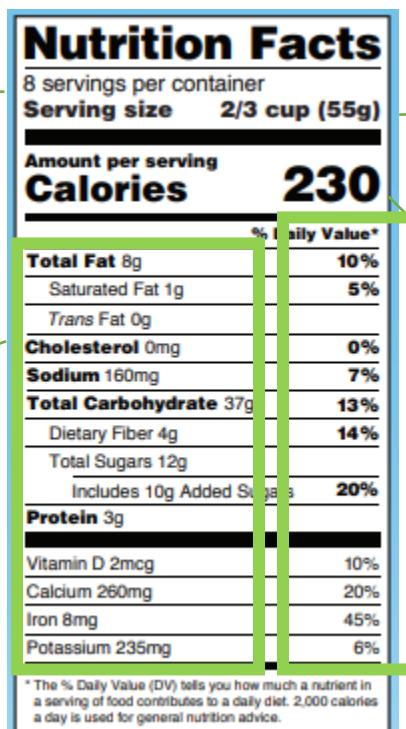
Vitamins and Minerals: Vitamins and minerals are listed on nutrition labels as a percent daily value (%DV). The goal is to get 100% of the DV of each vitamin and mineral from foods each day. These values are easy to find on packaged foods like frozen meals. Of the four vitamins and minerals listed on the nutrition label, frozen meals usually provide iron and sometimes calcium. These are two important minerals: iron helps energy levels by carrying oxygen to all of your cells,

and calcium helps build strong bones. Nutrition labels are changing, and some packages will have an old version and some have a new version. The new version will tell you how much iron, calcium, potassium, and vitamin D are in the food. The old version will tell you how much iron, calcium, vitamin A and vitamin C are in a food. It is best to make your decision based on the nutrients that are listed on all choices. For the consumer judging project, we will just focus on the calcium and iron information available on both types of labels.

Salt: Our bodies need sodium (salt) to function, but getting too much leads to high blood pressure and is harmful to your health. The 2020 Dietary Guidelines for Americans and MyPlate recommend that you consume no more than 2,300 milligrams (mg) of sodium per day. Be sure to check the nutrition facts label and choose meals that are lower in sodium.

Overall, it is best to make your decision based on the MyPlate food groups and nutrients that are listed on all choices (like calories, saturated fat, protein, fiber, sodium, and sugars).

The food label, or the nutrition facts panel, tells you what your food is made of. This can help you make informed decisions about how to eat a balanced diet.



Servings per container tells you how many servings are in the whole package

This column tells you what nutrients are in this food and how much.

Serving size tells you how much of this food people normally eat. It is the basis of the nutrient and calorie amounts.

The “Calories” line tells you how much energy (or Calories) you get from eating one serving of this food. (The amount in one serving is the

This column shows you what percent of your daily needs of each nutrient this food will fill. It is based on a 2000 Calorie diet.

The point of the food label is to let you know what is in your food and to list the ingredients it is made from. The Daily Values % are a guide for people to follow to build a healthy diet. You want to get 100% of your Daily Value in some nutrients like vitamins, minerals, and fiber. You also want to stay under 100% in other nutrients like sodium, saturated fat, trans fats, and cholesterol.

5% is low – aim low for sodium, saturated fat, trans fat, and cholesterol

20% is high – aim high in vitamins, minerals and fiber.

The Daily Value % are based on a 2000 calorie diet. Not everyone needs exactly 2000 calories in a day. Some people need more and some people need less. That doesn't mean the Daily Value % can't be useful to you. They are still a good guide to know what foods are good sources of nutrients, and which foods to enjoy in smaller amounts. You can also use the %DV to compare foods.

Sources

MyPlate. United States Department of Agriculture. Retrieved June 6, 2020, from
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The New Nutrition Facts Label. Food and Drug Administration. Retrieved June 6, 2020, from: <https://www.fda.gov/food/nutrition-education-resources-materials/newnutrition-facts-label>

Cell Phone Plans

*Note: Often, cell phone plans include purchasing or upgrading to a new or different phone. Cell phones differ greatly and also add many different components to compare; for the cell phone class this year we will focus primarily on the plan itself rather than the phone.

Cell Phones are a constantly changing and expanding gadget that many people uses daily. Cell phones are essential to keep people in-touch even when they are miles apart. They play a huge role in today's society as cell phones have become an integral part of school, work, and maintaining relationships with friends and family. Many adults no longer use landline phones, which are based in a home and not portable, as cell phones are mobile, can be taken almost anywhere, and can assist in so many different tasks and money spent on landlines can be saved. Cellular phones have become a part of life. Professionals use them for communicating for work, parents use them to keep in touch with their children, and young adults use them to talk to friends and family. More importantly, cell phones can be used in case of an emergency. For example, if your car breaks down, you need a ride home from school, or you have to call your parents to tell them you are going to be late past your curfew, are all emergencies that can (and do!) happen, making a cell phone very helpful.

When purchasing a cell phone, you must decide on a cell **service provider** and a **service plan** that will meet your needs. Some of the most popular cellular service providers are ATT, Sprint PCS, T-Mobile, Verizon Wireless, Mint Mobile, Republic Wireless, and perhaps others in respective regions of Georgia. Service plans can range in price from \$10 to over \$200 per month.

How do you decide which cellular service plan is best for you? First: consider what your phone needs are. Think about the area of the country where you will be using your cell phone. If you are a high school student and will graduate soon, you may want to consider where you might go to college. If you are going to be out of state, you may consider a cellular service plan that offers nationwide service and has widespread reception in the area you will be residing and traveling. Consider how much you really want to spend monthly on a cellular phone. Today it is usually standard for cellular phone companies to offer plans with free long distance and no roaming charges (no fees for calls outside a certain area). Every provider offers a variety of plans with many different options from which to choose. You will find a plan that will fit your needs and price range.

Things to consider when selecting a cellular phone service plan:

Network Coverage / Service Area

When researching service plans, look at the **location, size, and coverage of the service area**. Some carriers do not provide good reception in particular geographical areas. It is important to determine which carriers have reliable reception in the areas you will be calling in. If you are not careful to check out the service area for a network, you could end up with very poor reception or no reception when trying to use your phone. You can check coverage maps, but it is also helpful to talk to people you know to find out how their service has been in your area.

Talk/Text

In the past, cell phone plans focused on minutes available for phone calls and number of text messages sent. Today, most cell phone plans have unlimited minutes for talking and unlimited texting. However, some very basic phones have plans that just offer talking and texting. These may offer unlimited talk and text, or a defined number of minutes and texts.

Roaming and Long Distance

Roaming and long distance are two cellular terms that are often lumped together. **Roaming** consists of calling outside your home calling area. Most of the national plans do not charge for roaming, but some of the regional and local plans have roaming charges. Some plans may charge differently for **long distance** calls. Most plans these days have the long distance included. Make sure that you read the fine lines in the contract when you are looking at a cellular service plan. If you plan to use the phone when you are traveling around the country, you might want to get a plan that allows you to make free long distance phone calls from anywhere in the country and does not charge for roaming (calling outside the regular home area). Some cellular service providers have labeled this service as a "nationwide" plan.

International Calls

Many people do not have the need for **international calls**; however, if you have family or friends who reside outside of the United States or if you travel internationally, this may be important.

Mobile / Cellular Data and Wi-Fi

For most people, having a phone that connects to the internet is essential. Smartphones that connect to the internet are the norm. A phone that connects to the internet requires a data plan. A very basic phone that offers talk and text only, with no internet access, does not require cellular data. Your smartphone can also connect to the internet using Wi-Fi- when using Wi-Fi, your mobile data is not used.

Wi-Fi is a frequency of radio that we use to wirelessly connect devices to the internet. Wi-Fi only works within the range of the router (the router is the device that is actually plugged into your wall to connect to an internet service provider) you are connected to. With cellular data, you can access the internet even when you are out of range of Wi-Fi (for example, when you are not at your home or at a public location with free Wi-Fi)

A **mobile or cellular data plan** is an agreement between a mobile carrier and a customer that specifies how much mobile data the user can access. All smartphones need a data plan to use their features. Mobile data is needed so that you can access the internet when you are not connected to Wi-Fi. It is used for anything that you do online on your phone - for checking email, receiving and sending photos, surfing the web, and using apps like Facebook, Spotify, YouTube, etc. Different apps or features take up different amounts of data- for example; streaming a movie would use more data than watching a short YouTube video or checking Instagram.

To understand data plans, you need to know how they are measured. The measure you will often see is "GB", or gigabyte. You may also see "MB" – this stands for megabyte. 1GB = 1,000MB. For example, if you had a data plan that allowed you 3 GB of wireless data a month, then that means you could use approximately 3,000 megabytes (MB) or 30,000 kilobytes (KB) every month.

While many network providers offer unlimited data, many people do not require that much data for a personal cell phone. If you have a current provider, you can find out how much data you are currently using on average and look for a plan that will fit you or your family. The projected average is from 3-5 GB of data per phone. If one connects to Wi-Fi provided in various locations, the data required for phone usage decreases. However, when connecting to Wi-Fi in public places, one must be careful to make sure secure networks are being used so that valuable personal information is not compromised. If you find yourself being charged for overage data fees, that is an indicator that the plan may need to be revised for unlimited data access. It is also important to know that “unlimited” may not be as simple as it sounds- with many unlimited data plans, after you reach a certain amount of data, your speeds become slower.

When researching data options, you may see the terms 3G, 4G, 5G, and LTE. These describe the speed of the mobile internet experience. The “G” stands for generation, meaning 5G is the most current generation of cell phone network coverage and speeds. 3G technology created the first networks fast enough to make smartphones practical. Before that, they were too slow to allow you do all the things that make smartphones great, like streaming videos, surfing the web and downloading music.

4G much faster than 3G, and allows downloading without much waiting. 5G is considered the best or fastest option. It is not yet available in all areas or for all phones. LTE stands for Long Term Evolution. It is a term used alongside 4G and 5G that describes a fast mobile internet experience.

Some cell phone plans include a “hot spot” device or feature which can assist when one is trying to access the internet but cannot depend on Wi-Fi access.

Family/Multiple User Plans

Some providers offer discounts for plans that include multiple devices for multiple family members. When looking for a family plan, make sure that the plan includes enough data or minutes to accommodate everyone.

Storage

Cell phones use storage for pictures, videos, apps, and more. Storage is usually dependent on the type of phone you have; however, a “cloud” type of online internet storage can also be accessed, which may eliminate the need for increased data storage because it stores information and images in a manner that can be accessed through multiple technologies and devices.

Prepaid Plan

A prepaid plan is the most basic service offered. The consumer purchases calling minutes for a certain amount of time. These minutes can be renewed after the time is up for those minutes. Consumers who may prefer to use this plan might be consumers with bad credit history, young people whose parents pay their bills and the parents can limit their calling, and persons who use the cell phone only for emergencies or very little. Using this plan can also allow you to test a service before committing to the cellular phone through a contract.

One of the easiest ways to avoid all of the billing confusion is to use a **prepaid cellular plan**. You may have to pay more for the minutes, but there is no monthly bill. When selecting a

service plan, **check how** the plan will bill the minutes used. There are plans that bill by rounding up to the next minute, some bill in fifteen-second increments and some bill by the second. There are also plans that do not charge for the first minute of incoming calls. This can be a way to protect you from losing air time to wrong numbers. There are many billing aspects to take into consideration when choosing a cell phone service plan. With a prepaid plan, once you have used up your minutes or data, you cannot use your phone until you purchase more.

Other Plan Features

Call forwarding is a network feature that lets you forward incoming calls to another phone number.

Call waiting is a feature that uses a tone to indicate that another call is coming in; the second call can be answered without disruption of the first.

Caller ID is a call-screening device on some phones that allows the customer to see the name and number of the incoming call.

Voice mail is the feature that connects incoming calls to an automatic system to answer phone calls and record messages.

Text messaging is a feature that allows for text message to appear on the screen of your phone.

Three-way calling allows the customer to talk simultaneously with two people at the same time on the same line.

Directory assistance allows the customer to request phone numbers with the assistance of an operator.

Wireless-to-wireless plans is a feature that allows you to talk at no charge or use of your monthly minutes to someone that is a customer of the same cellular company as you are.

Most of these features are included in a cell service plan. However, you must read the plan carefully to determine if the features will meet your needs. You have to consider your options carefully and decide where and how you want to spend your money in a service plan.

Contracts

Having a contract means that you agree to a certain price/rate for a defined amount of time. In the past, contracts were inevitable for all who sought cell phone service plans. This is not always the case anymore. Some carriers have adopted the no-contract necessary attitude. In such cases, the customer would decide **month to month** whether to stay with a particular cell phone service.

Many customers enjoy that freedom of control. Many carriers offer special deals to customers who sign a contract. Often they will receive a credit on their bill or extra minutes for signing a one to two year contract. They also reward those signing contracts with lower monthly rates, cheaper cell phone prices and lower activation fees. The drawback to signing is that pricing and plans change may change and you could get a better deal, but you are locked into a contract for a specific time point.

If a contract is signed and the customer decides to change carriers before the contract is completed, there can be significant **cancellation fees**. Some cancellation fees can be as much as two hundred dollars. When deciding to sign a contract with a carrier, be sure to look at the cancellation fee that would be charged to avoid losing money. One could also look for the shortest

contract available or, to be safe, stick to the month-to-month plan, but do not be surprised by higher monthly charges.

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