

# ATHLETIC SHOES\*

With the many types of athletic shoes that are available, it can be hard to choose the right shoes for you. There are differences in design and variations in material and weight. The American Academy of Orthopedic Surgeons says that these differences have been developed to protect the areas of the feet that encounter the most stress in a particular athletic activity. Let's review some of the different types of sports shoes available.

## **Athletic shoes**

•Are grouped into the following categories: running, training, and walking; they include shoes for hiking, jogging, and exercise walking. These shoes should have a comfortable soft upper, good shock absorption, smooth tread, and a rocker sole design that encourages the natural roll of the foot during the walking motion. Features of a good jogging shoes should include cushioning, flexibility, control, and stability in the heel counter area, lightness, and good traction. Whereas cross-training shoes combine several characteristics of other types of shoes so that you can participate in more than one sport and wear the same shoe. A good cross trainer should have flexibility in the forefoot that you need for running, in addition to stability on the inside and outside of the shoe for the control needed for aerobics and tennis. Walking shoes should flex easily at the ball of the foot, which help feet to push forward.

## **Court sport shoes**

•Include shoes for tennis, basketball, and volleyball. Most court sports require the body to move forward, backward, and side-to-side. As a result, most athletic shoes used for court sports are subjected to heavy abuse. The key to finding a good court shoe is the sole. Ask a coach or shoes salesperson to help you select the best type of sole for your sport.

## **Field sport shoes**

•Include shoes for soccer, football, and baseball. These shoes are cleated, studded, or spiked. The spike and stud formations vary from sport to sport, but they generally are replaceable or detachable cleats, spikes, or studs affixed into nylon soles.

## **Track and field sport shoes**

•Are very specific to the sport. The needs of the individual are most important when picking the shoe. For example, foot types, gait patterns, and training styles should always be considered. It is always best to ask a coach about the type of shoe that should be selected for the event in which you are participating.

## **Fit**

Proper-fitting sports shoes can enhance performance and prevent injuries. Follow these specially designed fitting facts when purchasing a new pair of athletic shoes:

- Try on athletic shoes after a workout or run and at the end of the day. Your feet will be at their largest.
- Wear the same type of sock that you will wear for that sport.
- When the shoe is on your foot, you should be able to freely wiggle all your toes. There should be a thumb's width from the tip of the toe to the end of the shoe.
- The shoes should be comfortable as soon as you try them on. There is no break-in period. If they're not comfortable in the store, they won't be comfortable when you're exercising.
- Walk or run a few steps in the shoes. They should be comfortable. The heel of the shoe should not slip off the foot as you walk or run.

- Always re-lace the shoes you are trying on. You should lace through each top eyelet as you crisscross the lacing pattern to ensure a snug fit and decrease slippage. Don't tie the laces too tight as this may cause injury to the nerves or tendons on the top of the foot and ankle.
- There should be a firm grip of the shoe to your heel. Your heel should not slip as you walk or run.

### **Construction**

Now that you know what type of shoe to buy and tips to picking out a properly fitting shoe, you need to consider its construction—how well it was made. Understanding the basics of shoe construction can help you choose intelligently from among the thousands of available styles.

- Stitching should be secure, even, and straight. There should be no rough spots, wrinkles, bulky seams, or gummy adhesives.
- Rubber around the base of the shoe should be one continuous strip, tightly attaching the sole to the upper.
- The toe box should be square for adequate toe room.
- The shoe should have side and tongue padding for extra comfort. Cushioning on the cuff around the ankle and at the Achilles tendon helps to reduce friction and irritation.
- The inner sole should be soft and resilient, with adequate arch cushions.
- The reflector should be as big as possible, especially if you will be outside at dusk or dawn.
- The insole should be removable for cleaning and, when it loses springiness, replacement.

In addition to being overwhelmed by all the choices in athletic shoes, you may be surprised at how much they cost. Slick ads and television commercials tout technological features, the latest gimmicks, and shoes named after sports celebrities. Paying more than \$100 does not necessarily get you a better shoe. Good quality shoes may be pricey, but don't overlook the less expensive shoes because they can outperform their costlier brand mates. Be sure that whatever price you decide to pay for the shoes, it's because the shoe has the features that meet your needs—not because it is a certain brand or has a sports celebrity's name on it.

### **REFERENCES**

American Academy of Orthopedic Surgeons, <http://orthoinfo.aaos.org> Consumer Reports, [www.consumerreports.org](http://www.consumerreports.org) American College of Foot and Ankle Surgeons, [www.acfas.org](http://www.acfas.org)

Prepared by: Courtney J. Schoessow, MPH, Extension Program Specialist—Health, Texas Cooperative Extension, December 2005, Family & Consumer Sciences website: <http://fcs.tamu.edu>

Gear Lab Reviews You Can Rely On: [https://www.outdoorgearlab.com/topics/shoes-and-boots/best-running-shoes?specs=n&n=0&sort\\_field=2#compare](https://www.outdoorgearlab.com/topics/shoes-and-boots/best-running-shoes?specs=n&n=0&sort_field=2#compare) Accessed October 27, 2022

\*Many thanks to Texas 4-H Consumer Decision Making for the use of their Athletic Shoes Categories & Descriptions. [https://texas4-h.tamu.edu/wp-content/uploads/CDM\\_categories\\_descriptions\\_2022.pdf](https://texas4-h.tamu.edu/wp-content/uploads/CDM_categories_descriptions_2022.pdf)

## SAMPLE CLASS ATHLETIC SHOES:



1 **Saucony Endorphin Speed 3**

<b>Pros</b>	Responsive cushioning, breathable upper, lightweight
<b>Cons</b>	Minimal support and stability
<b>Bottom Line</b>	Excellent cushioning that provides great energy transfer with an extremely comfortable, performance fit upper
<b>Rating Categories</b>	<b>Saucony Endorphin S...</b>
<b>Cushioning and Landing Comfort</b> (25%)	<b>9.0</b>
<b>Responsiveness</b> (25%) ▾	<b>8.0</b>
<b>Upper Comfort</b> (20%)	<b>8.0</b>
<b>Lateral Stability and Support</b> (15%)	<b>6.0</b>
<b>Weight</b> (15%)	<b>8.0</b>
<b>Specs</b>	<b>Saucony Endorphin S...</b>
<b>Weight (per shoe, size 9.5)</b>	8.3 oz

**\$170.00**



## Hoka One One Mach 5

2

<b>Pros</b>	Lightweight, great cushioning, comfortable upper
<b>Cons</b>	Less responsive, lacks rubber outsole
<b>Bottom Line</b>	These lightweight shoes have top landing comfort and maximum cushion with a great upper
<b>Rating Categories</b>	<b>Hoka One One Mach 5</b>
<b>Cushioning and Landing Comfort</b> (25%)	8.0
<b>Responsiveness</b> (25%) ▾	8.0
<b>Upper Comfort</b> (20%)	7.0
<b>Lateral Stability and Support</b> (15%)	5.0
<b>Weight</b> (15%)	8.0
<b>Specs</b>	<b>Hoka One One Mach 5</b>
<b>Weight (per shoe, size 9.5)</b>	8.0 oz

**\$140.00**



### Asics Gel-Kayano 29

3

<b>Pros</b>	Stable, supportive, durable, comfortable upper
<b>Cons</b>	Heavier, expensive, some may find this model is overbuilt
<b>Bottom Line</b>	A comfortable upper blended with a durable outsole that emphasizes stability and durability
<b>Rating Categories</b>	<b>Asics Gel-Kayano 29</b>
<b>Cushioning and Landing Comfort</b> (25%)	7.0
<b>Responsiveness</b> (25%) ▼	5.0
<b>Upper Comfort</b> (20%)	6.0
<b>Lateral Stability and Support</b> (15%)	8.0
<b>Weight</b> (15%)	4.0
<b>Specs</b>	<b>Asics Gel-Kayano 29</b>
<b>Weight (per shoe, size 9.5)</b>	11.1 oz

\$159<sup>95</sup>



## Adidas Ultraboost 22

4

**\$132.96** ~~\$189.95~~ **30% off**

<b>Pros</b>	Comfortable upper, substantial cushioning, unique color options
<b>Cons</b>	Heavy, expensive
<b>Bottom Line</b>	A knitted upper locks in the foot and is incredibly comfortable, perfect for those who put a priority on upper comfort
<b>Rating Categories</b>	<b>Adidas Ultraboost 22</b>
<b>Cushioning and Landing Comfort</b> (25%)	<b>7.0</b>
<b>Responsiveness</b> (25%) ▾	<b>6.0</b>
<b>Upper Comfort</b> (20%)	<b>9.0</b>
<b>Lateral Stability and Support</b> (15%)	<b>8.0</b>
<b>Weight</b> (15%)	<b>3.0</b>
<b>Specs</b>	<b>Adidas Ultraboost 22</b>
<b>Weight (per shoe, size 9.5)</b>	11.9 oz

# Scenario

Walt Whitman High school is hosting their annual 5K Run/Walk to benefit their music department. Scott, who’s a recreational runner, wants to participate. His current running shoes are worn out – they need to be replaced. Scott knows good running shoes won’t be cheap – he also knows more expensive shoes provide the kind of protection his feet and body need. He and his parents have agreed they will split the cost for the shoes and that he’ll pay no more than \$150 for the pair (though less would be better). Scott has several requirements about the shoes he purchases; they need to be lightweight (less drag when he’s running), well cushioned so when his shoes hit the pavement his landing isn’t jarring, and the shoes provide stability when he must move sideways quickly because of a road obstruction. Finally, Scott isn’t the type of runner who likes “loud” or bright colored shoes.

## STANDARDS

ALTERNATIVE SOLUTIONS	PRICE	LANDING COMFORT	LATERAL STABILITY	COLOR / STYLE	WEIGHT
1. Saucony Endorphin Speed 3	\$170.00 😞	☑️ +	☑️ / 😞	😞	☑️
2. Hoka One One Mach 5	\$140.00 ☑️	☑️	☑️ / 😞	😞	☑️ +
3. Asics Gel-Kayano 29	\$160.00 😞	☑️	☑️	☑️	😞
4. Adidas Ultraboost 22	\$133.00 ☑️ +	☑️	☑️	☑️	😞

### Placement: 4-2-1-3

The Adidas Ultraboost 22 rated the highest because of its sales price, performance standards and muted color. It has strong lateral support and decent landing comfort. It’s only drawback is its weight. The Hoka One One Mach 5 was second because of its lightweight and landing comfort. Its drawbacks are the middle range review of its lateral stability and its loud color. The Saucony Endorphin Speed 3 was third because of its cost put it immediately out of range for purchase. It scored points, however, in its landing comfort. The color, while blue, was still electric. The Asics Gel-Kayano 29 came in fourth because of its price, which put it out of contention, and weight.

# ACTIVWEAR\*

Sales of activewear are at an all-time high. According to the market research firm NPD Group, activewear sales generated \$35 billion in 2014 and made up nearly 17% of the entire American clothing market.

Activewear is clothing worn for sport or physical exercise and uses the latest in performance fabrics and technology to ensure that apparel can stand up to the intense demands of sporting disciplines like running, cycling, swimming, and gym-work. Activewear includes tops, shorts, tights, socks, jackets, sports bras and so much more. The right activewear can enhance your training and performance. Fabric and fit are probably the most important factors when choosing activewear.

## FABRIC

Fabrics are designed for different purposes. Some fabrics pull sweat away from your skin and others absorb it. When it comes to workout clothes, some choices are better than others depending on your workout.

## WICKING

Wicking fabrics are breathable synthetic fabrics that provide moisture control for an athlete's skin during a mid to high intensity workout. In essence, the fabric "wicks" the sweat away from your skin which can help it evaporate quickly and keep your body cool.

Wicking fabrics tend to be soft, lightweight and stretchy, making them an excellent choice for activewear. This broad category of fabrics is used to make garments like T-shirts, sports bras, running and cycling jerseys, socks, and polo-style shirts for any physical activity where the goal is to keep your skin as cool and dry as possible. Moisture-wicking fabrics are used to make apparel for outdoor activities such as hiking, fishing, mountain biking, snow skiing, and mountain climbing.

There are several products marketed for their wicking. Many of these products are used as a blend with each other with cotton. Additionally, these products may be branded under a variety of names such as Dri-Fit, CoolMax, Vapor and Climalite.

1. **Polyester** - Polyester is the workhorse of the workout fabrics and is the one you see on labels most often. Basically plastic cloth, it's durable, wrinkle-resistant, lightweight, breathable, and non-absorbent.
2. **Spandex** - Also known as elastane and by the brand name Lycra, spandex puts the stretch in workout wear. The synthetic fabric can expand to nearly 600 percent of its size, offers an unrestricted range of motion, and then snaps back in place. Spandex is an anagram for expands.
3. **Emerging Performance Fabrics** - The next big thing in activewear is products that provide even more benefits. Benefits include improved wicking, temperature control, UV protection and anti-odor properties. Bamboo is an example of a new, emerging performance fabric. These products may also be more expensive.



**Cotton:** Cotton can also be a good choice when choosing activewear. Cotton is a breathable, soft, comfortable, and natural fiber that works well for lighter workouts. Cotton also tends to be less expensive than synthetic activewear. However, cotton is very absorbent and is slow to dry. When wet, cotton holds the moisture next to your body.

## **FIT**

Choose activewear that fits your body and your workout. For example, if you are running or biking, avoid wide-leg or loose pants/leggings. Likewise, for activities such as yoga or Pilates, choose stretchy, fitted fabrics. Additionally, avoid fabrics that could chafe or irritate your skin during repetitive movement.

Pay closer attention to fit more than size because some workout clothes tend to run smaller and more form fitting than regular clothes.

## **COST**

There are many factors to consider when shopping for activewear. You may be surprised at how much activewear costs. Paying the top dollar does not necessarily mean that you will get the best activewear for you. Be sure that whatever price you choose to pay for activewear that it is the right activewear for you and that it meets the needs you desire. <https://makersrow.com/blog/2014/08/powerful-tips-for-manufacturing-an-activewear-line/>

\*Many thanks to Texas 4-H Consumer Decision Making for the use of their Activewear Categories & Descriptions. [https://texas4-h.tamu.edu/wp-content/uploads/CDM\\_categories\\_descriptions\\_2022.pdf](https://texas4-h.tamu.edu/wp-content/uploads/CDM_categories_descriptions_2022.pdf)

## **Sources:**

Texas 4-H Consumer Decision Making: [https://texas4-h.tamu.edu/wp-content/uploads/CDM\\_categories\\_descriptions\\_2022.pdf](https://texas4-h.tamu.edu/wp-content/uploads/CDM_categories_descriptions_2022.pdf)

All the following websites were accessed 10/30/22:

Amazon.com:

[https://www.amazon.com/dp/B074SHQ18W/ref=twister\\_B09XQXXBC8?\\_encoding=UTF8&th=1&psc=1](https://www.amazon.com/dp/B074SHQ18W/ref=twister_B09XQXXBC8?_encoding=UTF8&th=1&psc=1)

<https://www.amazon.com/dp/B07T4V5LK9?tag=outdoocom-20&linkCode=ogi&th=1&psc=1>

<https://www.amazon.com/dp/B07FKCHHP3?tag=outdoocom-20&linkCode=ogi&th=1&psc=1>

REI Co-op Shop: [https://www.rei.com/product/168292/rabbit-dirt-pounders-20-shorts-womens?cm\\_mmc=aff\\_AL\\_-34947\\_-46631\\_-NA&avad=46631\\_d2bd70ba9&CA\\_6C15C=120217890013961458](https://www.rei.com/product/168292/rabbit-dirt-pounders-20-shorts-womens?cm_mmc=aff_AL_-34947_-46631_-NA&avad=46631_d2bd70ba9&CA_6C15C=120217890013961458)

Gear Lab Reviews You can Rely On: Best Running Shorts for Women of 2022

<https://www.outdoorgearlab.com/topics/clothing-womens/best-running-shorts-womens#analysis-and-test-results>

## Class 2: ATHLETIC SHORTS:

### BALEAF 8" High Rise Side Pocket

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**\$19.99**  
at Amazon

#### 1. **Inseam:** 8" | **Pockets:** Two hip, one small waist sleeve

- 87% Polyester, 13% Spandex
- Elastic closure
- Machine Wash
- Moisture-wicking, breathable and stretchy fabric provides moderate compression
- High-rise, wide waistband creates no muffin top and provides maximum coverage while bending and stretching
- Our women's compression biker shorts feature 2 big side pockets, deep enough for 4" to 5.5" mobile phones
- Longer inseams provide ample coverage as you move from pose to pose and prevent thighs from rubbing. Gusseted crotch and chafe-free, ergonomic seams ensure a full range of motion and a comfortable wearing experience
- Perfect for yoga, biking, volleyball, exercise, fitness, weightlifting, running, workout, or everyday casual use

#### REASONS TO BUY

- ➕ Good pocket performance
- ➕ Secure, high waistband

#### REASONS TO AVOID

- ➖ Waistband slips down
- ➖ Slow drying

2.

## New Balance Impact 5" - Women's



\$32.99

(40% off)  
at Amazon

**Inseam:** 5" | **Pockets:** One zippered phone, two elastic snack

- 86% Polyester, 14% Spandex
- Imported
- Zipper closure
- NB DRY fast-drying technology pulls moisture away from your body to help you work out with ease
- Mid rise sits just below the waist for easy fit and movement
- Polywoven fabric for a lightweight feel
- 5" Inseam
- Athletic fit designed to rise close to your body and skim the hip and thigh — perfect for active movement with a fit that's not too tight

### REASONS TO BUY

- + Wide, comfortable waistband
- + Excellent pockets
- + Long length protects from chafing

### REASONS TO AVOID

- Heavier weight

3.

### Nike Dri-Fit Tempo - Women's

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**\$18.99**  
(37% off)  
at Amazon



**Inseam:** 3" | **Pockets:** One liner key pocket

- Heather
- Nike Dry fabric helps you stay dry and comfortable
- 3 inch inseam features a curved hem for great range of motion
- Mesh side inset ventilate to keep you cool
- Waistband with internal drawcord for a personalized fit

#### REASONS TO BUY

-  Quick-drying
-  No-fuss design

#### REASONS TO AVOID

-  Seams can lead to chafing
-  Only one pocket

#### 4. Rabbit Dirt Pounders 2.0 - Women's



\$33.93

(50% off)  
at REI

<b>Best Use</b>	Running Trail Running
<b>Fabric</b>	94% polyester/6% spandex
<b>Inner Liner</b>	Yes
<b>Liner Fabric</b>	87% polyester/13% spandex
<b>Moisture Wicking</b>	Yes
<b>Quick Drying</b>	Yes
<b>Number of Pockets</b>	5

**Inseam:** 4" | **Pockets:** One zippered phone, two internal waist, two leg

#### REASONS TO BUY

- + Amazingly soft, lightweight, moisture-wicking material
- + Wide, secure, comfortable waistband
- + Length protects against chafing
- + Super quick to dry






#### REASONS TO AVOID

- Internal drawstring

## Scenario

Nancy realizes that if she wants to start running and then stick with it, she is going to need to wear shorts that fit well, are comfortable and look good. She's done research on exercise fabric and knows she needs to find shorts that are moisture wicking so that sweat doesn't stick to her body and the shorts dry quickly. The fabric needs to have some spandex in it so that they move with her and have smooth seams so she doesn't get chafed when she runs. Pockets are key – the more the better. She wants to carry her phone, a house key, and have a place for her air pods when she's not wearing them. Nancy will probably buy a couple of pairs of shorts. She doesn't want them too short or too longer either – she's learned that a 4" inseam is perfect. Since she will be buying more than one pair, she would prefer not to pay more than \$65 for two.

## STANDARDS

ALTERNATIVE SOLUTIONS	PRICE per PAIR OF SHORTS	QUICK DRYING / MOISTURE WICKING	PROTECTS AGAINST CHAFING?	# OF POCKETS	INSEAM LENGTH
1. <b>BALEAF 8" High Rise Side Pocket</b>	\$19.99		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
2. <b>New Balance Impact 5"</b>	\$32.99	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3. <b>Nike Dri-Fit Tempo</b>	\$18.99	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> -	
4. <b>Rabbit Dirt Pounders 2.0</b>	\$33.93	<input checked="" type="checkbox"/> +	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> +	<input checked="" type="checkbox"/>

### Placement: 4-2-1-3

The Rabbit Dirt Pounders shorts have almost everything Nancy needs: they're quick to dry, long enough to protect against chafing but not too long and have five pockets so she can carry anything she would want (key/phone/air pods/cash/etc). Since they're on sale she can buy two pairs and just go over her \$65 budget. The New Balance Impact 5" would also be acceptable except that the shorts are longer than Nancy would prefer. The BALEAF 8" High Rise Side pockets has three pockets, but it has drawbacks in its length and that the material is slow drying. The Nike Dri-Fit Tempo receives the lowest rating because of its length (it's too short), number of pockets (just one), and that the seams are constructed such that they can lead to chafing.

# FITNESS TRACKERS\*

Fitness trackers continue to grow in popularity and simultaneously expand their capabilities in providing the user with a wider range of information and features about their health and fitness. Fitness can mean a lot of different things to a lot of different people. Fitness can be described as the condition of being physically fit and healthy at a level of being suitable to fulfill a particular role or task. The Center for Disease Control defines physical fitness as the ability to carry out daily tasks with vigor and alertness, without undue fatigue, and with ample energy to enjoy leisure-time pursuits and respond to emergencies. It includes everything from getting out of bed to hiking to performing CPR. Trackers have been designed and developed to monitor some vital data of human activity, convey that data in a meaningful and useful way, and provide the user with valuable feedback to evaluate their progress toward reaching their own fitness goals.

Everyone's physical condition and fitness goals are as unique as their fingerprints. The challenge for developers of these valuable biometric devices is to provide products that address the needs of these uniquely different consumers. Before purchasing a fitness tracker, consider asking the following questions:

- What are your physical fitness goals?
- Are you trying to boost a lapsed fitness routine?
- Are you training for a marathon or road race?
- Are you trying to adjust activities related to improving a clinical condition?
- Are you trying to monitor vitals for evaluation and benchmarking?



Figure 6:

*Fitness Trackers (Source - Geek.com)*

The term “tracker” implies that it is monitoring or following your physical activity. While some believe that a tracker might improve your physical fitness, the reality is that it does not affect anyone's physical activity directly but only indirectly by the information it provides the user. However, that information can be extremely useful and helpful to the user by monitoring progress to their own specific goals. They can also provide motivational support in the form of challenges, interaction with online friends, and alerts when “it is time to get up.” However, like a gym membership, it only provides that information if you use it.

\*Many thanks to Texas 4-H Consumer Decision Making for the use of their Fitness Trackers Categories & Descriptions. [https://texas4-h.tamu.edu/wp-content/uploads/CDM\\_categories\\_descriptions\\_2022.pdf](https://texas4-h.tamu.edu/wp-content/uploads/CDM_categories_descriptions_2022.pdf)

A Fitness Tracker is generally a wrist-worn device that can detect some combination of walking steps, heart rate, sleep patterns, and even swimming laps. Most interact with computers to download the wearer's activity using Bluetooth® technology. While many smartwatches on the market do monitor a few physical activities via some type of health/fitness app, dedicated fitness trackers tend to monitor more functions more accurately. Sensors integrated into all fitness trackers monitor your activities and movements and transmitting that data wirelessly to an app or computer. The value in this process is that it stores data over time allowing the wearer to keep historical records that may provide insight towards progress, identify trends, and track progress longitudinally. Of course, each tracker's ability to monitor activities varies. Trackers can measure steps, sleep patterns, heart rate, skin temperature, and some even measure the amount of moisture on the skin (perspiration).

Key features that help these wrist-worn devices function:

- Accelerometer – tracks up-down, side-to-side and front-to-back movements helpful in measuring steps and other physical movement
- Heart rate sensor – monitors the user's pulse rate during any physical activity through the day, including while at-rest
- Gyroscope – a sensor that detects if the user is standing, sitting, reclining, swimming, biking, etc.
- GPS – used to track physical location and movement
- Magnetometer – measures magnetism detecting direction of movement
- Barometer – measures air pressure to detect slight changes in altitude, like flights of steps

Not every fitness tracker includes all these sensors and forms of collecting and transmitting data about the wearer. Finding the right fitness tracker is a very thoughtful process that requires the consumer to consider their own goals, needs, and the tracker that can connect them all. Some trackers can sync with other devices that provide more accurate measures like a bathroom scale. Like smartwatches, they can even provide notifications of incoming calls, emails, or text messages.

Keep in mind that there are more and more devices being developed to identify, monitor, and detect medical conditions. These are not fitness trackers by design and are considered a different class of monitors. These are wearable medical devices such as the KardiaBand® that is worn by patients with irregular heartbeat. These are medical tools not fitness trackers.

Consumer Reports identifies two types of fitness trackers, the All-Day and the Training models. A third model has surfaced lately adding a new dimension to this growing market, the Ring tracker. All of these are similar in function while the latter two are wrist-worn, the new finger-worn models are included in this category of products.

Figure 7: All-Day Fitness Tracker



Figure 8: Training Fitness Tracker



Figure 9: Ring Fitness Tracker





## **All-Day Fitness Trackers**

These models are designed to be comfortable, fashionable and discreet with the many functional features of most fitness trackers. These trackers can include any or all the following functional benefits to the wearer.

- Steps taken
- Stairs climbed
- Duration of activity/exercise
- Active minutes (resting vs. moving)
- Sleep time (may include REM sleep)

## **Training Fitness Trackers**

These models tend to be more rugged in design. They are also designed to fit different types of intense physical activity which may include the need for them to be water resistant, waterproof or fully submersible. They may include any or all the following for the wearer.

- Generally, all functions of All-Day trackers, plus
- Heart rate monitoring
- Breathing patterns
- Miles traveled (walking, jogging, or running)
- Speed, pace, and route
- Swimming laps in the pool
- Altitude changes (cyclists, skiers, and hikers)
- Music controls

## **Ring Fitness Trackers (Smartring)**

These models are relatively new to the market and is a different wearable than the wrist-worn models but still included in this category of products. They are considered by some critics to be more like jewelry with technology built in them, rather than technology built around its wearable design. By nature of its size, this device is paired with a smartphone app and does not include any visible display like most other fitness trackers. By nature of their size, they can use Bluetooth® or NFC technology. There are very few products on the market but the functional benefits among them consistently include:

- Sleep tracker
- Activity
- Heart rate

## **Selecting your Fitness Tracker**

With the three types of fitness trackers identified above, and their relative monitoring features highlighted, there remain some important consideration when looking to purchase a fitness tracker. Taking functional characteristics into consideration, the consumer should evaluation the following features.

- Style** – Trackers come in all shapes and sizes. The best approach is to try them on before you purchase one that fits well and matches your form and function as well as personal style. They are available in a wide range of colors and materials with most include silicone, rubber, or nylon bands. In addition, some come with interchangeable bands or other accessories to add to their stylish appeal. The closures also may be an important thing to consider. The key with style is to find one that you feel comfortable wearing every day. Like any good stylist, accessories make these devices a bit more attractive for the style-conscious wearer to include bands, skins, guards, etc.

•**Display** – Some trackers have no onboard display at all, including the ring fitness tracker. The only way to view the data monitored and collected is through a smartphone or computer app. Others will include all relevant measured functions on a digital display to include progress charts/graphs and real-time information. This can be important in a workout setting when you are trying to reach a target heartrate or other form of real-time feedback. Others, however, may fall somewhere in between showing only symbols, words/numbers, or even provide audible feedback and notifications. The app associated with each device should also be considered as part of the “display” features. That is an interactive component between the user and the data on the device. If you plan to spend considerable time outside, consider the readability of the display in bright lights for daytime activity and conversely low-light activity.

•**Compatibility** – As most devices link to a smartphone or computer app, determining which one interfaces with your existing devices is critical. Some trackers only sync with Apple iOS® devices, while others interface with Android®. One important thing to remember is that most do not work with Windows®.

•**Accuracy** – There is a wide range of sensors and technology in these trackers. Not all are created equal. As a result, there is some degree of imprecision that is inherently part of these devices. This is more so true of multifunction devices. Devices that focus on a single measure are more likely to be accurate than multifunction models. For example, if you are primarily interested in heartrate during your workouts, you may want to look for the devices that have a sensor strapped to the chest that transmits to the wrist-worn tracker.

•**Battery Life** – The tracker’s ability to monitor your fitness activity is limited by its battery life. Trackers can have battery life lasting as short as 1 day to several months depending on the type of battery, type of device, and its functional features. Some devices use the disk-type “watch” batteries which are disposable. Battery life can also be affected by the functional features on the device. Touchscreen displays with sound, vibration, multiple sensors, etc. can use considerably more battery life as well. However, the complexity of battery type, size of the tracker, and functions makes it difficult to evaluate. Read product labeling for “battery life” details. Most will disclose the length (in days) that the tracker can be worn on a full charge. Compare that with your own personal preferences to determine if removing the device daily is better suited to your routine or a device that runs for longer periods of time is more favorable. This becomes a very personal decision. Don’t overlook reviewing its charging technology. Knowing how the device is charged may influence your choice (e.g., docking station, USB charger, A/C adapter)

•**Water** – Water and electronics rarely play well together when it is spontaneous. Plan ahead and look at the tracker’s design as it relates to water. Your workout may not include a few laps in the pool, but a physically challenging workout may produce a river of sweat that might affect your tracker. Some trackers are in fact waterproof to allow for the swimmer to keep it on. Others may only be “water-resistant” and can survive handwashing and the occasional splash.

#### **Sources:**

Center for Disease Control and Prevention [www.cdc.gov](http://www.cdc.gov)

Consumer Reports [www.consumerreports.com](http://www.consumerreports.com) <https://www.consumerreports.org/products/fitness-trackers-37211/fitness-tracker-37212/timex-ironman-r300-405711/>

Geek.com [www.geek.com](http://www.geek.com)

PC Magazine [www.pcmag.com](http://www.pcmag.com)

Texas 4-H Consumer Decision Making: [https://texas4-h.tamu.edu/wp-content/uploads/CDM\\_categories\\_descriptions\\_2022.pdf](https://texas4-h.tamu.edu/wp-content/uploads/CDM_categories_descriptions_2022.pdf)

Amazon.com: <https://www.amazon.com/Amazfit-Fitness-Monitoring-Tracking-Resistant/>

# CLASS 3: FITNESS TRACKERS:



Fitbit Inspire 2 Health & Fitness Tracker with a Free 1-Year Fitbit Premium Trial, 24/7 Heart Rate, Black/Black, One Size (S & L Bands Included)

Visit the Fitbit Store  
 ★★★★★ 68,768 ratings  
 | 1000+ answered questions

-44% \$56<sup>30</sup> (\$56.30 / Count)

List Price: \$99.95

FREE Returns

Brand	Fitbit
Model Name	Inspire 2
Style	Modern
Color	Black
Special Feature	Time Display,Calendaring,Notifications,Heart Rate Monitor,Calorie Tracker ,Sleep Monitor,Pedometer, Text Messaging, Activity Tracker, Distance Tracker <a href="#">See more</a>
Shape	Oval
Age Range (Description)	Adult
Compatible Devices	Smartphone
Battery Life	10 days
Connectivity Technology	USB

1.

## About this item

- Earn Active Zone Minutes as you progress toward your weekly 150 minutes of heart-pumping activity and use 20 plus exercise modes to track goals like distance, calories burned and more. Operating temperature: 14° to 113°F. Water resistance depth: 50 meters
- Track all-day activity: your steps, distance, hourly activity and calories burned. Maximum operating altitude: 28,000 ft
- Use 24x7 heart rate to track resting heart rate & better measure calorie burn
- Enjoy 10 days of battery life for daily progress without constant charging. Varies with use and other factors. Track your time in light, deep and REM sleep, then get a Sleep Score to better understand your sleep quality each night. Stay inspired from the shower to the pool with this swimproof tracker (water resistant to 50 meters) and motivated by connecting with friends, competing in challenges, earning badges and celebrating goal milestones.

## Test Results

EASE OF USE <i>i</i>	<div style="width: 100%; height: 10px; background-color: green;"></div>	5 / 5
STEP COUNT ACCURACY <i>i</i>	<div style="width: 80%; height: 10px; background-color: #90EE90;"></div>	4 / 5
HEART-RATE MONITOR ACCURACY <i>i</i>	<div style="width: 80%; height: 10px; background-color: #90EE90;"></div>	4 / 5
VERSATILITY <i>i</i>	<div style="width: 80%; height: 10px; background-color: #90EE90;"></div>	4 / 5
EASE OF INTERACTION <i>i</i>	<div style="width: 100%; height: 10px; background-color: green;"></div>	5 / 5
READABILITY IN BRIGHT LIGHT <i>i</i>	<div style="width: 80%; height: 10px; background-color: #90EE90;"></div>	4 / 5
READABILITY IN LOW LIGHT <i>i</i>	<div style="width: 100%; height: 10px; background-color: green;"></div>	5 / 5
EASE OF PAIRING <i>i</i>	<div style="width: 100%; height: 10px; background-color: green;"></div>	5 / 5
WATER RESISTANCE <i>i</i>	<div style="width: 100%; height: 10px; background-color: green;"></div>	5 / 5

## ✓ Highs

- Has connected GPS
- Very generous claimed battery life of 10 days
- In our water immersion test it passed the manufacturer's claim of 164 feet for 10 minutes

## ✗ Lows

- Requires included proprietary charging cable which can be expensive and time consuming to replace

2.



Amazfit Band 5 Activity Fitness Tracker with Alexa Built-in, 15-Day Battery Life, Blood Oxygen, Heart Rate, Sleep & Stress Monitoring, 5 ATM Water Resistant, Fitness Watch for Men Women Kids, Black

Visit the Amazfit Store  
 ★★★★★ 27,423 ratings  
 | 1000+ answered questions

\$39<sup>99</sup>  
 FREE Returns

Brand	Amazfit
Model Name	Band 5
Style	Band 5
Color	Midnight Black
Screen Size	1.1 Inches
Special Feature	Sleep Monitor, Time Display, Alarm Clock, Calorie Tracker, Stress Tracking, Notifications, Heart Rate Monitor
	<a href="#">See more</a>
Age Range (Description)	Adult
Compatible Devices	Smartphone
Compatible Phone Models	Apple iOS 10.0 or Above, Google Android 5.0 or Above, Default_no_selection_value
Operating System	Amazfit OS

### About this item

- **AMAZON ALEXA BUILT-IN:** Talk to Amazon Alexa on your Amazfit Band 5 activity fitness tracker. Ask Alexa questions, get translations, set alarms and timers, check the weather, control your smart home devices, and more..Water resistance depth:50 meters
- **15-DAY BATTERY LIFE:** Say goodbye to daily recharge. With a fully charged Amazfit Band 5, you don't need to bring a charger for a two-week trip. On a single charge, it has enough power to get you charged for 2 whole weeks mind-free.
- **BLOOD OXYGEN SATURATION MONITOR:** You can measure your blood oxygen saturation and understand your physical state with OxygenBeats™. Ideal for high-intensity workouts and sports such as marathons and gym workouts.
- **24/7 HEART RATE, SLEEP TRACKER:** With Huami-proprietary BioTracker™2 PPG optical sensor, this health tracker performs 24/7 real-time heart rate monitoring and high heart rate warning. Band 5 can also professionally interpret the sleep characteristics at each stage and analyzes sleep quality, to help you adjust your sleep habits. It even monitors your 20-minute daily nap.
- **YOUR SMART SPORTS COMPANION:** An ultimate easy-to-use activity fitness tracker with 11 built-in sports modes, enable you to record the distance, speed, heart rate changes, calories burned, and other data during your workouts. With a water-resistance grade of 5 ATM, Band 5 can withstand all your daily activities and you can wear it while swimming.
- **WOMEN'S HEALTH TRACKING:** With the female period tracking system, Band 5 records and predicts the female menstrual cycle and sends smart notifications reminders.

### Test Results

EASE OF USE <i>i</i>	<div style="width: 100%; height: 10px; background-color: green;"></div>	5 / 5
STEP COUNT ACCURACY <i>i</i>	<div style="width: 80%; height: 10px; background-color: #90EE90;"></div>	4 / 5
HEART-RATE MONITOR ACCURACY <i>i</i>	<div style="width: 40%; height: 10px; background-color: orange;"></div>	2 / 5
VERSATILITY <i>i</i>	<div style="width: 80%; height: 10px; background-color: #90EE90;"></div>	4 / 5
EASE OF INTERACTION <i>i</i>	<div style="width: 100%; height: 10px; background-color: green;"></div>	5 / 5
READABILITY IN BRIGHT LIGHT <i>i</i>	<div style="width: 100%; height: 10px; background-color: green;"></div>	5 / 5
READABILITY IN LOW LIGHT <i>i</i>	<div style="width: 100%; height: 10px; background-color: green;"></div>	5 / 5
EASE OF PAIRING <i>i</i>	<div style="width: 100%; height: 10px; background-color: green;"></div>	5 / 5
WATER RESISTANCE <i>i</i>	<div style="width: 100%; height: 10px; background-color: green;"></div>	5 / 5

### ✓ Highs

- Very generous claimed battery life of 15 days
- Wireless magnetic charging connector makes it easy to put on charger
- In our water immersion test it passed the manufacturer's claim of 164 feet for 10 minutes

### ✗ Lows

- Lacks GPS
- Requires included proprietary charging cable which can be expensive and time consuming to replace



Visit the Fitbit Store  
**Fitbit Ace, Activity Tracker for Kids 8+**  
 ★★★★★ 1,069 ratings  
 | 158 answered questions

\$169<sup>00</sup>

FREE Returns

Color: Electric Blue

0 \$169.00

0 1 option from \$189.99

Edition: Ace Activity Tracker

**Product Details**

Material Steel

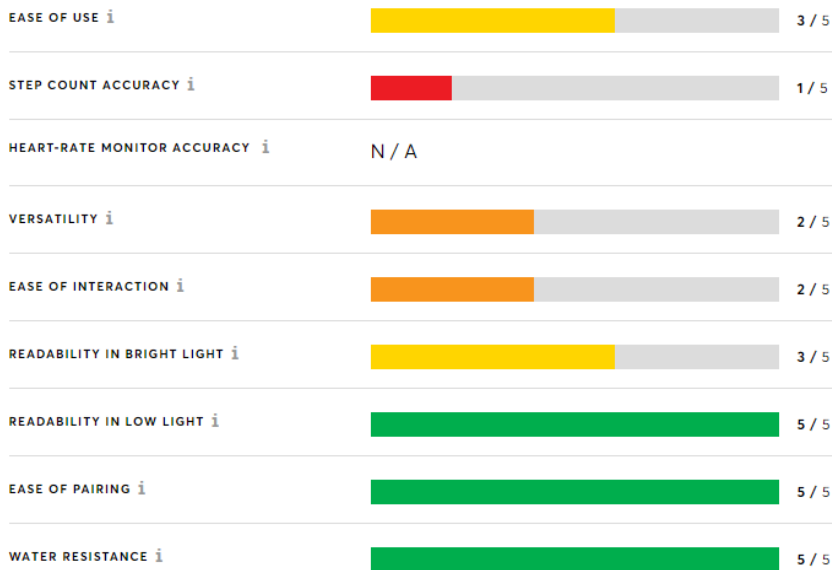
Country of Origin China

**About this Item**

- Tracks steps, active minutes and sleep and shows stats on a bright, tap the display
- Reward kids for hitting goals with celebratory messages and achievement badges. Kids can challenge others to step competitions, plus send each other messages or cheers
- A showerproof tracker that survives splashes and spills with a secure, adjustable wristband for growing kids (one size) and fits wrists 4.6 inch to 6.1 inches in circumference
- Syncs stats wirelessly and automatically to iOS & android devices and has a battery life up to 5 days (varies with use and other factors)
- In the Fitbit app, parents create an account for their child under a family account (family account and parental consent required for children 12 and under)
- Operating temperature: -10° to 45° C

3.

**Test Results**



✓ **Highs**

- Wireless magnetic charging dock makes it easy to put on charger
- In our water immersion test it passed the manufacturer's claim of 164 feet for 10 minutes

✗ **Lows**

- Lacks GPS
- Typical claimed battery life of 5 days
- Requires included proprietary charging cable which can be expensive and time consuming to replace



TIMEX **Timex**  
Visit the Store

TIMEX IRONMAN R300 GPS  
Smartwatch with Heart Rate  
41mm - Light Gray with Silicone  
Strap

★★★★☆ 76 ratings  
| 32 answered questions

\$129<sup>00</sup>

FREE Returns

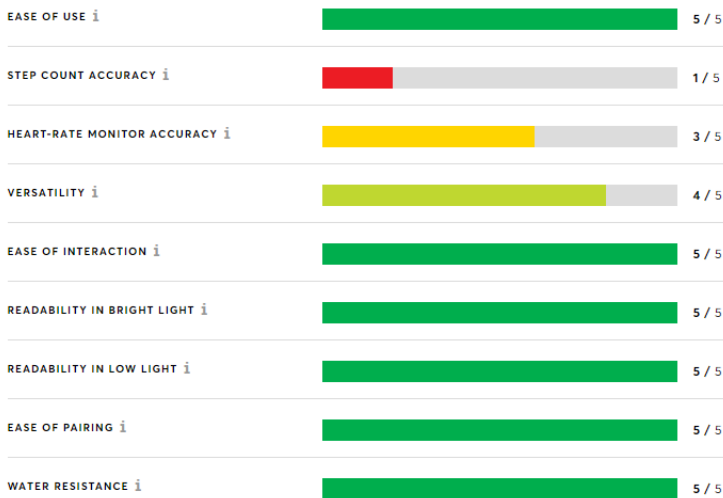
days  
when  
lay

4.

### About this Item

- Long battery life up to 25 days with regular use, 20 hours when using GPS; always on display
- On-wrist optical heart rate with HR zones & HR zone training; onboard GPS (GPS & GLONASS)
- 24/7 activity tracking (steps, distance, calories, sleep & pace when running on treadmill); sedentary reminder; 3 alarms
- Multiple workout modes: outdoor run, treadmill, cycling, indoor cycling, walking, gym training;
- Adjustable 24mm textured silicone strap fits up to 8-inch wrist circumference; water resistant to 30m (100ft)
- Sport Type: Exercise And Fitness. TapScreen Technology, Customizable Vibrating Alarm

### Test Results



### ✓ Highs

- Has standalone GPS
- Has connected GPS
- Very generous claimed battery life of 25 days
- Wireless magnetic charging connector makes it easy to put on charger
- In our water immersion test it passed the manufacturer's claim of 164 feet for 10 minutes


















### ✗ Lows

- Requires included proprietary charging cable which can be expensive and time consuming to replace

# Scenario

Nancy has decided she needs to start getting into shape. In her health class her teacher gave the definition of being physically fit: you can carry out daily tasks with vigor and alertness, without undue fatigue. Her high school has an annual 5K run/walk race that benefits the music program which she wants to support because she plays violin in their orchestra – being able to run the race will be a perfect physical fitness goal. Nancy knows one of the key indicators of level of physical activity is her tracking her heart rate – that feature must be very accurate. She doesn't need too many features though she would like to know what her sleep patterns are since she doesn't wake up refreshed in the morning. She wants a tracker that isn't bulky, one that she could wear as a watch when she's not exercising but doesn't look like her parents bought it for her. Nancy wants to remain in contact with her family and friends whenever she's working out so needs a texting service compatible with her smartphone. Nancy is on a budget – she doesn't want to spend more than \$100.

## STANDARDS

ALTERNATIVE SOLUTIONS	PRICE	HEART RATE	STYLE	TEXTING	SLEEP FUNCTIONS
1. <b>Fitbit Inspire 2</b>	\$56.30				
2. <b>Amazfit Band 5</b>	\$39.99	 / 			
3. <b>Fitbit Ace</b>	\$169.00			?	
4. <b>Timex Ironman</b>	\$129.00	 / 		?	 / 

### Placement: 1-2-4-3

The Fitbit Inspire 2 (#1) was ranked highest for several reasons: 1) price requirement met; this was actually under budget by almost half; 2) it received strong test results in heart rate function; 3) it has a sleek, slim style and texting capabilities and 5) it had a sleep monitor. The next best choice was the Amazfit Band 5 (#2). It too way under budget and has a slim style, though not quite as sleek. It also monitors sleep. Test results for the heart rate monitor were poor, however. The Timex Ironman (#4) had better test results than the Amazfit Band 5 in the accuracy of heart rate monitor, but information on sleep functions is limited, the style is bulky, there is no information on texting capability, and it's \$30 over budget. The Fitbit Ace (#3) comes in last as it doesn't meet any of Nancy's requirements. It's \$70 over budget, has no heart rate monitor, the style is very youthful, texting capability is unknown and says very little about its sleep function.

# YOGURT\*

## What is Yogurt?

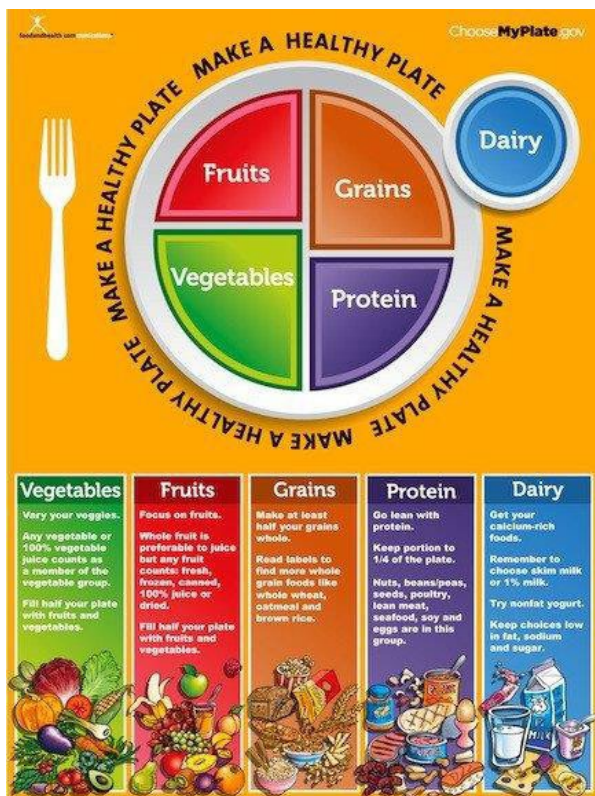
Yogurt is a cultured dairy product that can be made from whole, low-fat, or skim milk, including reconstituted nonfat dry milk powder, as well as cream. It is made when certain bacteria are combined with milk. Then, this mixture is heated and kept warm until firm.

Most yogurts in the U.S. are made from cow's milk. Yogurts also can have other added ingredients such as sweeteners, flavorings, color additives, or preservatives.

Yogurt is a healthful food because of the cultures used to make it. There are many kinds, flavors, and types of yogurt, making it a favorite food for many people.

## Health Benefits

Yogurt is a nutrient-rich food that is a good source of protein and calcium. Depending on the style of yogurt, you can find on average 8 to 10 grams of protein per serving. That is about 16% to 20% of your daily requirements. For comparison, a cup of milk has about 8 grams of protein. Yogurt is also low in fat and high in some vitamins and minerals. With a serving of yogurt, you may be able to reach 35% of your daily needs for calcium.



The words “live and active cultures” refer to the living organisms used in making yogurt. Researchers are exploring how “live and active culture” yogurt may be helpful to the immune and digestive systems.

Benefits of eating yogurt include:

- Calcium-rich diets may help reduce the risk of osteoporosis, high blood pressure, and colon cancer.
- Eating yogurt strengthens the immune system for certain individuals.
- People who are lactose-intolerant may be able to tolerate yogurt better because the milk sugar is partially broken down by the bacteria cultures.
- Plain, unflavored yogurt can be used as a substitute for mayonnaise, sour cream, or cream cheese to cut down on fat and calories.
- Yogurt is considered a meat alternative because of its high protein content.

\*Many thanks to North Dakota State University Extension for the use of their Yogurt Categories & Descriptions:

[https://www.ndsu.edu/agriculture/sites/default/files/2021-](https://www.ndsu.edu/agriculture/sites/default/files/2021-06/Consumer%20Decision%20Making%20JR%20SR%20Study%20Guide%202021%20CC618.pdf)

[06/Consumer%20Decision%20Making%20JR%20SR%20Study%20Guide%202021%20CC618.pdf](https://www.ndsu.edu/agriculture/sites/default/files/2021-06/Consumer%20Decision%20Making%20JR%20SR%20Study%20Guide%202021%20CC618.pdf)



## Protein

An average serving of yogurt contains about 8 grams of protein. Look at the table below and see how many grams of protein you need each day.

**Recommended Dietary Allowance (RDA) of Protein for Children Ages 1-18**

<b>Age Group (years)</b>	<b>RDA (grams/day)</b>
1-3	13
4-8	19
9-13	34
14-18	52 (boys), 46 (girls)
Source: Dietary Guidelines for Americans, 2020-2025	

## Calcium

You need calcium at every stage of life because it is important for bone growth. Calcium is very important for teenagers, who need to build calcium storage to stay healthy later on in life. After age 35, adults begin to lose bone mass, so calcium intake is still vital as an adult. Getting enough calcium is especially important for teenage girls and women aged 51 and older. See the table below for your needs.

**Recommended Dietary Allowance (RDA) of Calcium for Children and Adults**

<b>Age Group (years)</b>	<b>RDA (milligrams/day)</b>
1-3	700
4-8	1,000
9-18	1,300
19-50	1,000
51+	1,200 (women) 1,000 (men)
Source: Dietary Guidelines for Americans, 2020-2025	

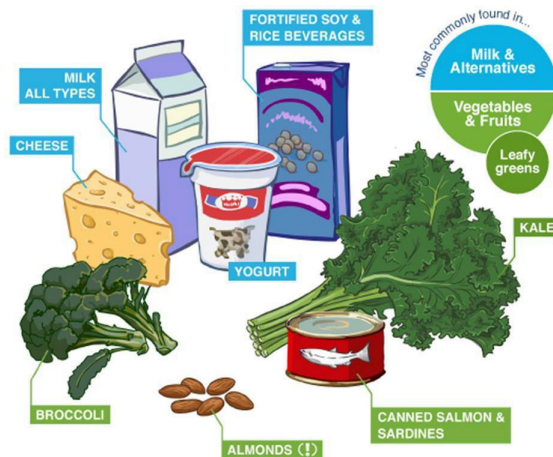
Calcium is an important part of any diet and is found in many foods, but most people do not get enough calcium each day. Use the table below to track the amount of calcium you get each day.

### How much calcium is in food?

Food	Serving Size	Calcium (milligrams)
Live and active culture yogurt (plain)	1 cup	450
Calcium-fortified orange juice	1 cup	300
Milk (skim, low-fat, whole)	1 cup	300
Chocolate milk 1%	1 cup	280
Swiss cheese	1 ounce	270
Spinach, cooked	1 cup	240
Salmon (edible with bones)	3 ounces	180
Frozen yogurt	1/2 cup	105
Turnip greens, chopped	1 cup	105
Dried figs	1 cup	241
Broccoli, chopped	1 cup	43

Source: Food Data Central, USDA Database

### Common food sources where calcium can be obtained, including yogurt.



## Yogurt Glossary

Yogurt comes in many flavors, forms, and textures. Here are the common terms used with yogurt. These terms were defined by the Food and Drug Administration (FDA) and the manufacturers.

**Buttermilk:** Buttermilk is like yogurt because it is made in a similar way. The carton is usually labeled *cultured buttermilk* and *salted* or *unsalted*. Buttermilk is slightly thicker than regular milk but not as heavy as cream.

**Contains active yogurt cultures:** The FDA requires all yogurts to be made with active cultures. Some yogurts are heated, which kills the bacteria. This is done so the yogurt lasts longer, but then the manufacturer cannot say the yogurt may have certain health benefits. The NYA (National Yogurt Association) Live & Active Cultures seal lets you know that you are getting the health benefits believed to come from “live and active cultures.”

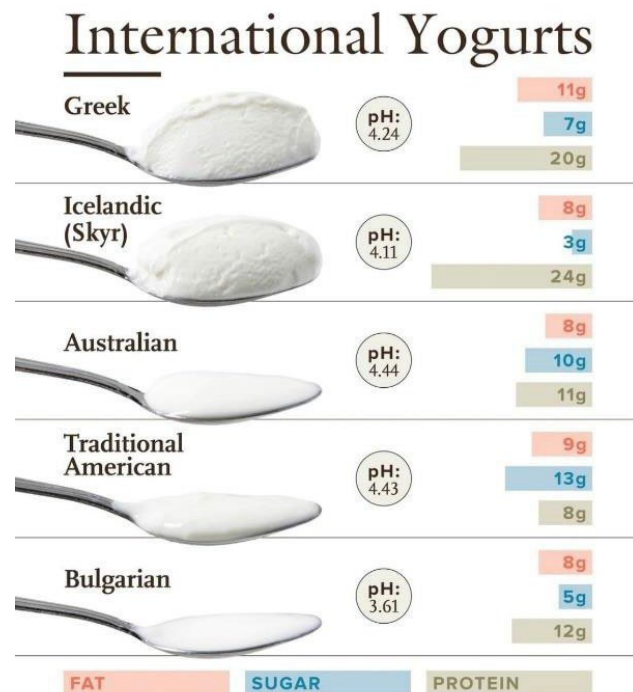
**European-style yogurt or stirred curd method:** This is yogurt that is cooked in a large kettle instead of in individual cups. The curds are stirred in the kettle before they are poured into the cups. This makes a smoother, creamier yogurt.

**Frozen yogurt:** Frozen yogurt is not made the same way as other yogurt and may not have “live and active cultures.” Manufacturers begin making frozen yogurt the same way other yogurt is made. Then ice cream, fruit, and other ingredients are added, and the yogurt is frozen. Freezing puts the cultures into a kind of “sleep.” When the yogurt is eaten and warmed, the cultures “wake up” and the frozen yogurt can be helpful to the body.

Not all frozen yogurts contain “live and active cultures.” Some have been made with a heat process that kills the cultures. To make sure that a frozen yogurt contains yogurt with “live and active cultures,” look for the NYA Live & Active Cultures seal.

**Fruit-on-the-bottom yogurt (“Set”):** The fruit is on the bottom so that when the container of yogurt is turned upside down, it looks like a sundae. The fruit and yogurt can be mixed together before eating to make it smooth and creamy.

**Greek yogurt:** Greek yogurt is a thicker, creamier version of the regular variety. Greek yogurt is strained to remove the excess whey (the liquid left after straining) from the yogurt, which in turn gives it a thicker and creamier texture. In Greece, yogurt is made with sheep or goat’s milk. Greek yogurt is also higher in protein than regular yogurt.



**Heat-treated:** Yogurt with this label has been heated after culturing. This kills the beneficial live and active yogurt cultures.

**Kefir:** This is similar to a drinking-style yogurt, but it contains beneficial yeast as well as friendly “probiotic” bacteria found in yogurt. Kefir can be made from any type of milk: cow, goat, sheep, coconut, rice, or soy. Kefir is easier to digest than yogurt. Kefir is rich in vitamins B12 and K. It is an excellent source of biotin, a B vitamin that helps the body use other B vitamins.

**Liquid yogurt or yogurt smoothie:** This type of yogurt has been thinned to make it drinkable and blended with fruit, fruit juice, or other flavorings. Liquid yogurt is made to the same standards as yogurt. It must meet the requirements for yogurt (the white mass or yogurt portion). Yogurt drinks go through a process to make the particles smaller, making it easier to drink than regular yogurt. Many types of smoothies contain yogurt or frozen yogurt. These smoothies usually use yogurt as the base and mix in various fruits. It is thick and smooth like a milkshake but healthier.

**Lite (light) yogurt:** It contains one-third the calories or 50% less fat than regular yogurt.

**Low-fat and nonfat:** Yogurt is available in three kinds: regular, low-fat, and nonfat. Yogurt made from whole milk has more milk fat than low-fat yogurt. Nonfat yogurt is made from skim milk and has even less milk fat.

**Probiotics:** Probiotics are living microorganisms believed to benefit the health of a host organism when administered in adequate numbers. The live bacterial cultures in yogurt are considered probiotics.

**Skyr:** Skyr is an Icelandic cultured dairy product. It is made by adding bacteria cultures to skim milk and then straining it to remove the whey. It has the consistency of Greek yogurt, but a milder flavor. Skyr can be classified as a fresh, sour milk cheese but is consumed like a yogurt. It is low in calories, fat, and carbohydrates, yet high in protein, vitamins, and minerals. For example, it contains more protein than many other types of dairy, with 11 grams of protein compared to Greek yogurt with 7 grams per 3.6 ounces (100 grams).



**Swiss or custard:** Fruit-flavored yogurt where the fruit and yogurt are mixed (which differs from “set” yogurt where the fruit is on the bottom of the container). This yogurt may include a stabilizer, such as gelatin, as a thickener. You might see these products called “blended” yogurt.

**Yogurt cheese:** This is yogurt that has been drained and pressed into a soft cheese form. The consistency of yogurt cheese is like soft cream cheese. It can be used as a base for dips and spreads and as a topping for baked potatoes. It is a great alternative for regular mayonnaise, sour cream, or cream cheese.

## Cost

When looking at cost, you will need to decide whether to buy single-size cartons or larger cartons. Larger cartons are generally cheaper when you compare the price per ounce.

- 32-ounce store brand nonfat at \$1.84 = 6 cents per ounce
- 5.3-ounce store brand flavored nonfat at 42 cents = 8 cents per ounce
- Package of 16- 2-ounce name brand portable yogurt treats (32 ounces) at \$3.98 = 12 cents per ounce.

Fruit-flavored varieties may cost more and have extra sugar. The sweetened fruit takes the place of some of the yogurt in the carton, so you get less calcium-rich yogurt. Try buying plain or vanilla yogurt and add your own fruit to it.

## Other Facts to Consider

Other facts to consider when choosing yogurt include serving size, calories, fat, and added sugars. Reading labels is the best way to know if a particular brand is healthy.

### Nonfat Plain Greek Yogurt Nutrition Facts



Nutrition Facts	
About 5 servings per container	
Serving size	3/4 cup (170g)
Amount per serving	
<b>Calories</b>	<b>90</b>
% Daily Value*	
<b>Total Fat</b> 0g	<b>0%</b>
Saturated Fat 0g	0%
Trans Fat 0g	
<b>Cholesterol</b> 10mg	<b>3%</b>
<b>Sodium</b> 65mg	<b>3%</b>
<b>Total Carbohydrate</b> 6g	<b>2%</b>
Dietary Fiber 0g	0%
Total Sugars 4g	
Incl. 0g Added Sugars	0%
<b>Protein</b> 16g	<b>32%</b>
Vit. D 0mcg 0%	Calcium 187mg 15%
Iron 0mg 0%	Potas. 250mg 6%

\*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

- Serving size
- Calories per serving
- Grams saturated fat per serving
- Added sugars
- Grams of protein per serving
- Percent daily value from protein
- Calcium per serving and percent daily value

## Sources:

NDSU Extension: <https://www.ndsu.edu/agriculture/sites/default/files/2021-06/Consumer%20Decision%20Making%20JR%20SR%20Study%20Guide%202021%20CC618.pdf>

Aboutyogurt.com. (2021). <http://aboutyogurt.com>

Body Ecology. (2021). *Kefir – The ancient antidote for modern maladies – Nutritional content of kefir*. [www.kefir.net/nutritional-content-of-kefir](http://www.kefir.net/nutritional-content-of-kefir)

Cook Think Kitchen Smart. (2021). <https://cookthink.com>

Haynes, F. (2019). *The spruce eats – 10 ways to use low-fat yogurt*. <https://www.thespruceeats.com/ways-to-use-low-fat-yogurt-2246501>

Link, R. (2017). *Healthline – Why skyr is nutritious and super healthy*. <https://www.healthline.com/nutrition/skyr>

Martin, P. A., Litchfield, R. E., & Hradek, C. (2017). *Spend smart, eat smart: Dairy* (Publication No. PM 2066A). Iowa State University Digital Repository – Human Sciences Extension and Outreach Publications. [https://lib.dr.iastate.edu/extension\\_families\\_pubs/28](https://lib.dr.iastate.edu/extension_families_pubs/28)

Sessoms, G. (2017). *Oel – How to make a yogurt smoothie*. <https://oureverydaylife.com/how-to-make-a-yogurt-smoothie-12126518.html>

Stonyfield Organic. (2021). *0% fat Greek plain*. <https://www.stonyfield.com/products/yogurt/greek/plain-32oz>

USDA Agricultural Research Service. (2021). *FoodData central search results*. <https://fdc.nal.usda.gov/fdc-app.html#/>

USDA Food and Nutrition Service. (2021). *Dietary guidelines for Americans – 2020–2025*.

[https://dietaryguidelines.gov/sites/default/files/2021-03/Dietary\\_Guidelines\\_for\\_Americans-2020-2025.pdf](https://dietaryguidelines.gov/sites/default/files/2021-03/Dietary_Guidelines_for_Americans-2020-2025.pdf)

U.S. Food and Drug Administration. (2021). [www.fda.gov](http://www.fda.gov)

Written March 2021 by Ellen Bjelland, NDSU Family & Community Wellness Extension Agent and Vanessa Hoines, NDSU Family & Community Wellness Extension Agent

All the following websites were accessed 11/02/22:

*Consumer Reports*. 2022. Yogurt. <https://www.consumerreports.org/health/yogurt/>

<https://www.consumerreports.org/products/yogurt-37029/regular-yogurts-33700/view1/>

<https://www.walmart.com/search?q=Yoplait+Original+Low+Fat+Yogurt+French+Vanilla>

<https://fsi.colostate.edu/yogurt/>

## CLASS 4: YOGURT:

### 1. Dannon Whole Milk Yogurt Vanilla



Price  
**\$1.00**

#### Specs

SERVING SIZE (OZ.) <a href="#">i</a>	5.3
CALORIES <a href="#">i</a>	140
TOTAL FAT (G) <a href="#">i</a>	4.5
SATURATED FAT (G) <a href="#">i</a>	3
SODIUM (MG) <a href="#">i</a>	70
CARBOHYDRATES (G) <a href="#">i</a>	20
FIBER (G) <a href="#">i</a>	0
ADDED SUGARS (G) <a href="#">i</a>	10
PROTEIN (G) <a href="#">i</a>	5
CALCIUM (% DAILY VALUE) <a href="#">i</a>	15

Somewhat full yogurt with balanced vanilla, sweet and sour. Clean dairy.

#### Test Results

NUTRITION SCORE <a href="#">i</a>	<div style="width: 60%; background-color: #FFD700; border: 1px solid #ccc;"></div> 3 / 5	SENSORY SCORE <a href="#">i</a>	<div style="width: 80%; background-color: #90EE90; border: 1px solid #ccc;"></div> 4 / 5
PACKAGE SIZE (OZ.) <a href="#">i</a>	5.3	PRICE PER SERVING (\$) <a href="#">i</a>	1
USDA ORGANIC <a href="#">i</a>	No		

## 2. Icelandic Provisions 1.5% Milk Fat Traditional Skyr Yogurt Vanilla



Price  
**\$1.75**

### Specs

SERVING SIZE (OZ.) <a href="#">i</a>	5.3
CALORIES <a href="#">i</a>	130
TOTAL FAT (G) <a href="#">i</a>	2
SATURATED FAT (G) <a href="#">i</a>	1
SODIUM (MG) <a href="#">i</a>	50
CARBOHYDRATES (G) <a href="#">i</a>	13
FIBER (G) <a href="#">i</a>	0
ADDED SUGARS (G) <a href="#">i</a>	6
PROTEIN (G) <a href="#">i</a>	15
CALCIUM (% DAILY VALUE) <a href="#">i</a>	15

Tangy with slight sweetness, big dairy and real vanilla flavor. Very thick and creamy with whole milk impression.

### Test Results

NUTRITION SCORE <a href="#">i</a>	<div style="width: 80%;"><div style="background-color: #90EE90; height: 10px;"></div></div> 4 / 5	SENSORY SCORE <a href="#">i</a>	<div style="width: 100%;"><div style="background-color: #008000; height: 10px;"></div></div> 5 / 5
PACKAGE SIZE (OZ.) <a href="#">i</a>	5.3	PRICE PER SERVING (\$) <a href="#">i</a>	1.75
USDA ORGANIC <a href="#">i</a>	No		



### 3. Yoplait Original Low Fat Yogurt French Vanilla



**PRICE**  
**\$0.64**

#### Specs

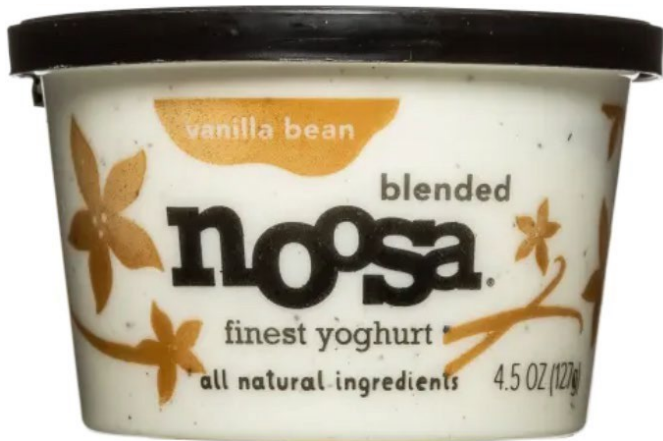
SERVING SIZE (OZ.) <i>i</i>	6
CALORIES <i>i</i>	150
TOTAL FAT (G) <i>i</i>	2
SATURATED FAT (G) <i>i</i>	1.5
SODIUM (MG) <i>i</i>	90
CARBOHYDRATES (G) <i>i</i>	27
FIBER (G) <i>i</i>	0
ADDED SUGARS (G) <i>i</i>	14
PROTEIN (G) <i>i</i>	6
CALCIUM (% DAILY VALUE) <i>i</i>	15

Sweet and sour yogurt with fruity vanilla flavor. Very smooth with a lower fat impression.

#### Test Results

NUTRITION SCORE <i>i</i>	<div style="width: 40%;"><div style="background-color: orange; width: 100%; height: 10px;"></div></div> 2 / 5	SENSORY SCORE <i>i</i>	<div style="width: 60%;"><div style="background-color: yellow; width: 100%; height: 10px;"></div></div> 3 / 5
PACKAGE SIZE (OZ.) <i>i</i>	6	PRICE PER SERVING (\$) <i>i</i>	0.75
USDA ORGANIC <i>i</i>	No		

## 4. Noosa Blended Yoghurt Vanilla Bean Yoghurt





Price  
**\$1.70**

### Specs

SERVING SIZE (OZ.) <i>i</i>	4.5
CALORIES <i>i</i>	160
TOTAL FAT (G) <i>i</i>	7
SATURATED FAT (G) <i>i</i>	4
SODIUM (MG) <i>i</i>	70
CARBOHYDRATES (G) <i>i</i>	18
FIBER (G) <i>i</i>	0
ADDED SUGARS (G) <i>i</i>	11
PROTEIN (G) <i>i</i>	7
CALCIUM (% DAILY VALUE) <i>i</i>	20

Well blended whole milk with moderately sweet, sour and real vanilla flavor. Touch of honey. Creamy smooth texture.






### Test Results

NUTRITION SCORE <i>i</i>	 3 / 5	SENSORY SCORE <i>i</i>	 5 / 5
PACKAGE SIZE (OZ.) <i>i</i>	4.5	PRICE PER SERVING (\$) <i>i</i>	1.7
USDA ORGANIC <i>i</i>	No		

## Scenario

Scott knows that getting into shape means more than just working out. He knows he needs to eat right too. Eating nutritious food will give him the stamina and strength he'll need to be able to compete – and potentially win – the school's 5K race. Scott would like to start eating more yogurt because it has the winning combination of tasting good and being good for him too. From his nutrition, class Scott learned that he should look for yogurt that is high in protein and calcium and low in added sugar (i.e., ideally no more than 2.5 grams per serving) . A vanilla yogurt taste test in class was a real eye opener for him because he found that not all yogurts have the same taste or texture. He's also realized that buying the least expensive brand isn't going to give him the taste or nutrition he needs. Splurging on high quality yogurt has become a need for Scott to transition to the elite athlete he wishes to become.

## STANDARDS

ALTERNATIVE SOLUTIONS	PRICE	PROTEIN and CALCIUM	ADDED SUGARS	TASTE AND TEXTURE
1. Dannon Whole Milk Yogurt Vanilla	\$1.00	<input checked="" type="checkbox"/> -		<input checked="" type="checkbox"/>
2. Icelandic Provisions 1.5% Milk Fat Traditional Skyr Yogurt Vanilla	\$1.75	<input checked="" type="checkbox"/> +	<input checked="" type="checkbox"/> +	<input checked="" type="checkbox"/> +
3. Yoplait Original Low Fat Yogurt French Vanilla	\$.64			
4. Noosa Blended Yoghurt Vanilla Bean Yogurt	\$1.70	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> +

### Placement: 2-4-1-3

Islandic Provisions Traditional Skyr Yogurt is the easy winner in this class. It has 15 G of protein, more than double all the other brands. It also has significantly lower added sugars. It also gets top marks because of its thick and creamy texture and taste. It is the most expensive of the four, but its high marks make it worth the cost. Noosa Blended Yoghurt is second due to its high calcium content though its protein levels are less than half of the Islandic Provisions and the added sugars are almost double. Dannon's Whole Milk Yogurt has slightly worse nutritional value than Noosa and not as strong of a sensory experience. The biggest positive to the Yoplait Original Low-Fat yogurt is its price, though this is a product that "you get what you pay for." Low protein, high added sugars, and an average sensory score.