



MARCH 2014 | CONSUMERREPORTS.ORG

# Consumer Reports

## Best Deals on TVs



### ULTIMATE ENTERTAINMENT GUIDE

- ▶ 10 ways to get more from your TV
- ▶ Exclusive Ratings: 170+ sets
- ▶ How to save on service

**Hang up!** Stop junk phone calls

# Get the **right car** at the **right price.**

You can save both time and money with the Consumer Reports Build & Buy car buying program. In fact, our subscribers have seen an **average savings of \$2,791 off MSRP\***. Plus, you'll know what you should pay before ever leaving your home or talking to a dealer – no need to spend your weekend driving between dealerships.



## Discover the benefits of the Build & Buy car buying program:

- FREE subscriber benefit
- Guaranteed savings off MSRP\*\*
- CR Recommendation displayed on qualifying vehicles
- Network of dealers dedicated to great service
- More savings & less pressure

## See how much you could save!

[www.ConsumerReports.org/cro/carsavings314](http://www.ConsumerReports.org/cro/carsavings314)

\*Between 04/01/13 and 04/30/13, the average estimated savings off MSRP presented by participating dealers to users of the Consumer Reports Build & Buy Program based on user new vehicle configurations was \$2,791. Your savings may vary.

\*\*Guaranteed Savings currently not available in all states. See site for details.



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### What's the score?



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### Savings this issue

**\$1,000**

You could save this much each year on your **TV bill** by using a digital antenna and streaming video.

**\$460**

Buy a Novaform memory-foam **bed** from Costco instead of a Sealy Embody Insightful and save this much.

**\$71**

Use Behr Premium Plus Ultra Satin Enamel **interior paint** and save this much per gallon over Farrow & Ball Estate Eggshell.

### Coming in April

Annual Auto Issue including Top 10 Picks, close-ups on dozens of recommended cars, safety ratings, and used-car reliability.

### Check out our iPad app

Look for expanded Ratings, videos of road tests and lab tests, plus more photos and interactive navigation. Now included with your paid magazine subscription.



## Who we are

### Consumer Reports

is the world's largest independent consumer-product-testing organization. We also survey millions of consumers about their experiences with products and services. We're based in Yonkers, N.Y., and are a nonprofit organization.

**What we do** We buy all of the products we rate. **What we don't do** We don't accept paid advertising; we get our money mainly through subscriptions and donations. We don't accept free test samples from manufacturers. And we don't allow our name or content to be used for any promotional purposes.

**How to reach us** Write to us at Consumer Reports, 101 Truman Ave., Yonkers, NY 10703-1057, attn: Customer Service. • To send a letter to the editor, go to [ConsumerReports.org/lettertoeditor](http://ConsumerReports.org/lettertoeditor). • For news tips and story ideas, go to [ConsumerReports.org/tips](http://ConsumerReports.org/tips). • E-mail submissions for Selling It to [SellingIt@cro.consumer.org](mailto:SellingIt@cro.consumer.org). • For subscription information, go to [ConsumerReports.org/magazine](http://ConsumerReports.org/magazine) or call 800-666-5261. See page 61 for more details.

**Ratings** We rate products using these symbols:

● Excellent ● Very good ○ Good ● Fair ● Poor

**✓ CR Best Buy** Products with this icon offer the best combination of performance and price.

**✓ Recommended product** Models with this designation perform well and stand out for reasons we note.

**✓ Recommended car** These tested well, are reliable, and performed adequately if crash-tested or included in a federal rollover test.

**✗ Don't Buy** We label products with this icon when we judge them to be safety risks or to have serious performance problems.



## ON YOUR MIND

## All of your eggs in one basket

In "Financial Resolutions Worth Keeping" (January 2014), you recommend consolidating savings accounts at as few financial institutions as possible. But there are limits on FDIC insurance and the possibility of bank failure, for example, that may affect immediate access to accounts at a single institution. Prudence would dictate keeping savings at more than a single institution.

—Kenneth Bowman Altadena, CA

**Editor's note** The Federal Deposit Insurance Corp. (FDIC) insures bank accounts for only



up to \$250,000. But you could have multiple accounts under that amount at the same financial institution, perhaps one in your name, one in your spouse's, one a joint account, or one checking and one savings. As for bank failure, FDIC insurance is there to protect you from exactly that.

## A bright light

Thank you for your recent report on LED bulbs ("LED Lightbulbs," January 2014). I was happy

to see that you included Cree, because they are assembled in Durham, N.C. At least one manufacturer is staying local and hiring local people, who spend money in the local economy. That makes Cree my bulb of choice.

—Jonathan Buckley Raleigh, NC

## Use your noodle

Your recipe for chicken noodle soup is clearly the best time-tested way to go ("Buying Soup? Use Your Noodle," Up Front, January 2014). Kudos to your staff.

—John Clark Suffolk, VA

## SEND YOUR LETTERS TO

ConsumerReports.org/lettertoeditor.

## Ask our experts

**Q** Some tire manufacturers recommend four winter tires on a front-wheel-drive car. My local dealer says it is not necessary. What do you recommend?

—Bill Katsafanas Salt Lake City

Use four winter tires for secure handling and sure grip for stopping and cornering, which are as or more important than the grip to move through the snow and ice. Four winter tires are useful on front-, rear-, and all-wheel-drive vehicles.

**Q** Do you recommend using 9-volt lithium batteries to replace standard batteries in smoke detectors so that the replacement cycle can be extended?

—William P. Bivins Greenville, NC

Lithium 9Vs aren't recommended for smoke detectors unless you follow a strict battery replacement schedule. Those batteries maintain a high voltage until the end of their usable life, so they provide a much shorter "low battery" warning to alert you that it's time to swap in a fresh one. Alkaline batteries, by comparison, have a more gradual voltage drop-off, prolonging the "low battery" alert and greatly increasing the odds that you'll be nearby to get the alert.

**Q** You warn against buying drugs abroad because they may not be approved by the FDA. Are drugs that are sold in Canada not inspected by the Canadian equivalent of the FDA before they can be sold?

—Robert Staebell Bowmansville, NY

Canadian pharmacies that ship prescription medication to the U.S. aren't subject to Canadian regulatory authority, according to the U.S. Department of Justice. And the Food and Drug Administration doesn't have authority over foreign medications and cannot help consumers if they have problems with medication ordered from outside U.S. regulation and oversight.

Moreover, some websites that appear to be



**TIRE CHOICES** Using four winter tires can help improve handling in snow and ice for any car.

Canadian actually operate from elsewhere in the world, and the FDA cannot ensure the safety and effectiveness of products that come from unknown sources and may not have been manufactured under proper conditions.

**Q** What is available in an LED or a CFL that gives brighter light, such as in the case of the incandescent 50/100/150-watt bulb? Also, are high-wattage incandescents available?

—John Malik Binghamton, NY

So far the brightest omnidirectional LEDs that we have tested are 100-watt equivalent

(1,600 lumens). We are trying to get some new LED three-way bulbs that are claimed to include a bright setting of 150-watt equivalent or around 2,100 lumens.

By law, regular 60-, 75-, and 100-watt incandescent bulbs cannot be made anymore, but you can still buy old inventory and you can still get halogen bulbs, which can put out about 1,500 lumens. Incandescent three-way bulbs are not included in the ban, and many of them are claimed to be 150 watts or around 2,150 lumens.

## SEND YOUR QUESTIONS TO

ConsumerReports.org/askourexperts.

This page highlights efforts of Consumers Union, the policy and action arm of Consumer Reports, to improve the marketplace.

## CONSUMER UPDATE

### Unlocking your phone

A change in early 2013 to the Digital Millennium Copyright Act made it illegal to “unlock” cell phones. That meant when your contract expired, you couldn’t move your device to a different service provider. You’d have to purchase a new phone to take advantage of a competitor’s cheaper wireless rates, for example.

But a new voluntary industry agreement once again gives consumers the ability to take their mobile devices to a different carrier’s compatible network. AT&T, Sprint, T-Mobile, U.S. Cellular, and Verizon Wireless will extend unlocking capabilities to traditional contract customers and those

with prepaid phones. They also agreed to notify customers when their devices become eligible to be moved or automatically unlock them remotely (without additional fees).

Consumers Union has been working for years on getting shoppers more power in the mobile marketplace. We’re encouraged that this agreement will provide needed flexibility while helping to spur competition among carriers and device makers. Consumers Union will monitor the agreement to make sure it’s followed appropriately.



## FROM OUR PRESIDENT

### The next chapter

If you judged the book of health reform by its cover, the first edition was far from a best seller: a crippled federal website, canceled insurance plans, and frustration on the part of consumers, advocates, even the president. But as a CONSUMER REPORTS reader, you know that wasn’t the end of the story. Once the technical glitches were fixed, lots of consumers were able to find good, affordable coverage.

You may also know that in the fall Consumer Reports launched its own website, HealthLawHelper.org, with accurate and unbiased information about the complex new law. It’s simple to use: Answer a few questions to get accurate, easy-to-understand information about getting the most out of the new health law. You told us that it was indeed helpful, and some of you shared your success stories.

- A reader from Virginia who works full time and makes a decent wage said her employer doesn’t offer coverage, so she’s been paying for an individual plan. She researched her options, then chose a plan and signed up. Her premium is higher than her old policy’s but “makes up for it with a greatly reduced deductible, as well as better coverage and a network that includes more doctors and facilities.”

- A restaurant server in Georgia hasn’t been able to afford health insurance for nine years. In December she reviewed the 16 plans offered to her through the government’s website, Healthcare.gov, and chose one with a low deductible and a very low monthly premium. She’ll get more than \$600 per month in tax credits to help pay for it. “That’s going to come in real handy,” she said.

- A successful small-business owner in Dallas had been buying his own plan for almost \$1,200 per month with a \$5,000 deductible. He considers himself lucky to have been able to afford that. When the new insurance marketplace opened, he signed up for a new plan. It has a high deductible but saves him more than 60 percent in premiums, allows him to put money into a tax-deductible health savings account, and includes all of his doctors.

It was a tough early read, but I expect it will be a happy ending.

*Jim Guest*  
JIM GUEST  
President



# 1

That’s the number of children 3 and younger rushed to the hospital every hour (of every day) because of an injury related to a high chair or booster seat, reports a new study published in *Clinical Pediatrics*. Almost all injuries involve a fall, usually preceded by the child climbing or standing in the chair. The chair’s safety restraint either wasn’t being used or was ineffective. Thankfully, new safety regulations for high chairs are expected in the near future. We hope it’s sooner rather than later.

## ON THE RECORD

**‘This agreement is a major step forward to reducing the emissions that are causing our climate to change and unleashing the extreme weather that we are experiencing with increased frequency.’**

—NEW YORK GOV. ANDREW CUOMO

Representatives from California, Connecticut, Maryland, Massachusetts, Oregon, Rhode Island, Vermont, and New York unveiled a plan in late 2013 to collectively put 3.3 million zero-emission vehicles on the road by 2025 and develop the needed fueling stations to keep them running.

## STATE LINES

### Is your sofa toxic?

California is leading the way in making sure shoppers have access to furniture that’s fire-safe and free of unhealthy flame retardants.

The Golden State’s new flammability standard, which went into effect in January, allows upholstered furniture (and the foam found in many baby products) to be produced without being injected with flame-retardant chemicals. Research suggests that the chemicals might actually increase fire risks. What’s more, they can be transferred from furniture to people—mainly through dust—and have been linked to cancer, reduced IQ, infertility, birth defects, and other problems.

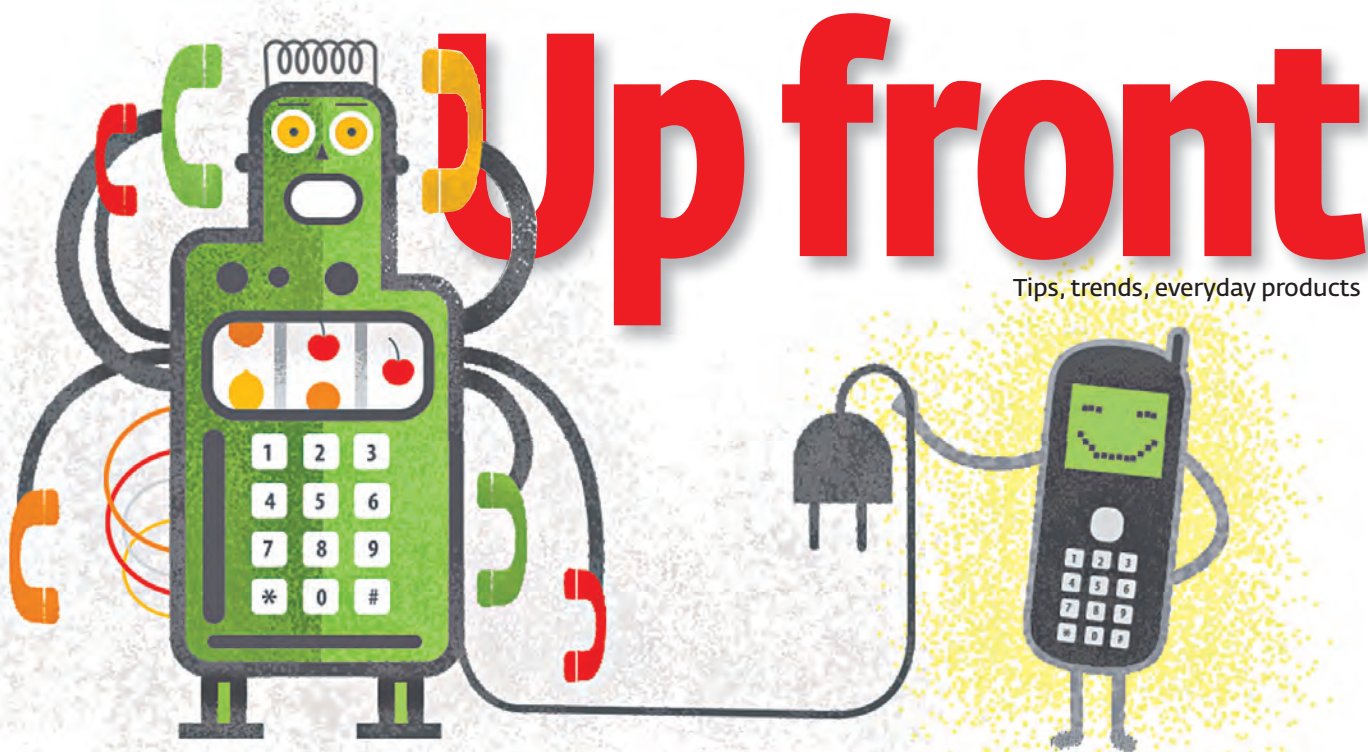
The chemicals have been used to meet a 1975 California standard that required the foam in furniture to withstand a small open flame for 12 seconds. It was a state regulation, and it became a de facto national standard.

Although it doesn’t ban retardants, we support the new standard and filed comments with regulators before it was finalized.

Californians should look for a “TB117-2013” tag when shopping for furniture (the code for the new standard), and wherever you live, ask about flame retardants before buying.







Tips, trends, everyday products

# Up front

## Tired of robocalls? Here's help

**ON A SINGLE DAY** in mid-December, Nancy Duke's phone rang three times with the same pre-recorded sales pitch. It claimed that the Elgin, Texas, resident could win \$3,000 worth of groceries if she'd answer a few questions. "Each time, I hit the 5 key to opt out and got a message that they were removing my number from their list," she said, "only to get the same call again an hour or two later."

New Federal Communications Commission rules that give consumers greater protection against robocalls took effect in October 2013, but the onslaught continues. Advances in technology have made it easy and cheap to send thousands of pre-recorded phone calls per minute using autodialers and fake caller IDs that make tracing hard.

When Consumers Union, the advocacy arm of Consumer Reports, recently invited people to share tales of robocall hell, more than 4,000 responded within a week. Among them was Frank Brill Jr., of Newport News, Va., who reported receiving at

least 34 such calls from Dec. 4 through Dec. 12, with pitches ranging from medical alert devices to home-security systems.

Listing your phone number with the National Do Not Call Registry can ward off unsolicited calls from legitimate telemarketers, but scam artists don't care about screening out the more than 220 million phone numbers on that list.

Making telemarketing robocalls without the recipient's written permission has been illegal since 2009, but the new, stricter rules require all robocallers to obtain your consent in writing, by electronic means, or on a voice recording before they can send a robocall or text to your cell phone or home phone. That's now true even if they have an established business relationship with you. The only such calls considered legal are those that aren't sales-related, such as pre-recorded messages about flight changes and those from politicians or tax-exempt nonprofit organizations.

No matter how strict the rules, enforcement is challenging, especially because some of the crooks are overseas. Although the Federal Trade Commission has settled 23 cases against robocallers over the past five years and returned \$11.9 million to

victims, it has acknowledged that law enforcement alone won't solve the problem.

That's why the FTC launched its first-ever public contest in 2012, offering \$50,000 to the person or small team proposing the best way to block robocalls. One of the winners, Nomorobo, can hang up on robocalls after one ring. It's available at no charge to individuals (businesses pay a fee). But there's a catch: Nomorobo can identify and block robocalls only if your phone carrier offers "simultaneous ring." Only a few carriers offer that feature, and all of them use VoIP. To find out whether yours is among them, go to [nomorobo.com](http://nomorobo.com).

**What you can do.** Until there's a Robocop for robocalls, protect yourself:

- If you pick up a robocall, hang up immediately. Pressing a number signals that the autodialer has reached a live number and can lead to more calls.
- Limit at least some unwanted calls by listing all of your numbers in the Do Not Call registry. Go to [donotcall.gov](http://donotcall.gov) or call 888-382-1222 from the number you want to register.
- If you have caller ID, record robocallers' numbers and report them to the FTC via the Do Not Call registry. Your information goes into a database that can help regulators identify the sources of illegal robocalls.

### BY THE NUMBERS

# 1,837,558

That's the number of complaints about robocalls that consumers filed with the FTC from January through November 2013.

### CLOSE-UP

New Jersey had the most complaints to the National Do Not Call Registry per 100,000 people during fiscal year 2013. Runners-up: Arizona and Alabama.



## Snack smackdown

For watching special events, here are the snacks of choice among 426 readers we surveyed.

Popcorn	19.2%
Nothing; I don't snack	16.7
Chips (any kind)	13.1
No favorite snack	12.9
Cheese and crackers	12.4
Nuts	11.7
Other	9.4
Pretzels	4.5

# Top popcorns

Plenty of Americans reach for popcorn when it's time to watch the Oscars, the Crawleys, or the latest zombie attack. When we asked readers their favorite snack during special shows, popcorn led the list. (To our readers' credit, "Nothing; I don't snack" came in second.)

Our experts conducted blind taste tests of 13 bagged, ready-to-eat popcorns: seven in white-cheddar flavor and six in kettle (sweet and salty) flavor. They also tasted three butter-flavored popcorns: two microwaved and one already popped but in a heatable bag.

**Taste.** Three products were excellent: Trader Joe's white-cheddar popcorn, with tender kernels, a bit of sweetness, and a nice balance of real cheddar and toasty corn flavors; and Smartfood and Walgreens Nice kettle popcorns. Both of those were tender inside and crisp outside with balanced sweetness and saltiness and a delicious

caramelized flavor. The lowest-rated cheese and kettle popcorns tended to have off-tastes, a stale texture, or other drawbacks.

The microwaved butter-flavored popcorns, Orville Redenbacher Movie Theater Butter Pop Up Bowl and Pop Secret Homestyle, were actually a notch below the best bagged products. (Movie theater popcorn often has a strong artificial-butter flavoring; homestyle usually has real-butter flavor.) The pre-popped microwaveable product, Popcorn, Indiana Movie Theater,

### BY THE NUMBERS

# 16 billion

The number of quarts of popped popcorn Americans eat per year, according to the Popcorn Board, a nonprofit group funded by popcorn processors.

was tough, with off-tastes, a burnt note, and lots of hulls. But it was priciest of the butter-flavored popcorns, at 50 cents per serving.

**Nutrition.** Most of the products in the chart scored just fair for nutrition, based on calories, fat, sodium, and other nutrients. All have 2 or 3 grams of fiber per serving. Although a serving weighs 1 ounce, serving sizes differ with density, ranging from 1 to 2.5 cups in the bagged products. Check the nutrition numbers that matter to you, because they can differ a lot from one product to another. Fat, for example, ranges from 1.5 to 11 grams per serving among the rated products; sugars, from 1 to 16 grams. Air-popped corn, with no flavoring or oil, is a better snack choice.

**Bottom line.** See the Ratings for the best choices in two flavors. Nice kettle popcorn is a CR Best Buy at just 19 cents per 1-cup serving. Don't assume that all products within a brand are of similar quality. Scores for Nice; Orville Redenbacher; Popcorn, Indiana; and Wise popcorns differed depending on their flavor.

ILLUSTRATION: CARLOS APONTE

## What you need to know to avoid health care headaches



The new health care law's first open enrollment period will end March 31. After that, the Health Insurance Marketplaces for individuals will restrict enrollment until the next general opening, from Nov. 15, 2014, to Jan. 15, 2015. The new system is nothing like the old for Americans getting coverage on their own instead of through an employer, and there are several wrinkles.

Keep these points in mind during the coming months:

▶ **You can get insurance between open enrollment periods only if you've lost coverage or must add someone to your plan.** That would be the case if you've left a job, gotten married or divorced, had a baby, lost a spouse, had your COBRA plan expire, or moved to a state where your

plan lacks a provider network.

▶ **Getting sick doesn't count.** If you decide to roll the dice and go without insurance, you'd better hope to stay healthy. You'll pay for care until the next open enrollment.

▶ **If you're getting a subsidy for insurance bought through a state marketplace, report any major income changes.** Your subsidy will be adjusted





## Ratings

All tested products In taste order.

☒ CR Best Buy  
☒ Recommended

Rec.	Product	Per serving				
		Cost	Calories	Fat (g)	Sugars (g)	Sodium (mg)
WHITE CHEDDAR						
EXCELLENT						
<input checked="" type="checkbox"/>	Trader Joe's	56¢	160	9	3	200
VERY GOOD						
<input checked="" type="checkbox"/>	Wise	42	150	10	2	310
<input checked="" type="checkbox"/>	Angie's Kettle	53	150	10	3	180
<input checked="" type="checkbox"/>	Smartfood	41	160	10	2	290
GOOD						
	Nice (Walgreens)	34	170	12	1	380
	Orville Redenbacher's Sharp	50	160	11	2	280
	Popcorn, Indiana Aged	46	150	9	2	290
KETTLE CORN						
EXCELLENT						
<input checked="" type="checkbox"/>	Smartfood	36	140	6	11	110
<input checked="" type="checkbox"/>	Nice (Walgreens)	19	130	6	9	150
VERY GOOD						
<input checked="" type="checkbox"/>	Orville Redenbacher's Classic	50	140	8	8	160
<input checked="" type="checkbox"/>	365 Everyday Value Organic Sweet & Salty (Whole Foods)	33	110	1.5	16	220
<input checked="" type="checkbox"/>	Popcorn, Indiana	45	130	5	6	130
GOOD						
	Wise Sweet & Salty	42	150	9	4	200

## Car-mechanic fiction vs. fact

It's easy to feel intimidated by a mechanic who says your vehicle needs a new, um, rotorbeltifyer or a change of translubricator fluid. And you may just fork over the money, especially when the offending part or fluid is jammed under your nose. To help separate myth from reality, we've prepared this guide to common comments from car mechanics.

### "You need new wipers."

This observation is often correct. You may not realize wipers are shot until you're driving in heavy rain or snow. Replace wipers every six months, or if they streak or miss some areas.

### "You need a new air filter."

A dirty air filter can rob power from an engine. It's usually checked at every oil change, but that doesn't mean you'll need a new one. Have it cleaned or replaced every 12,000 to 15,000 miles. Not sure if it's dirty? Remove it and hold it up to a strong light. If you can't see the light, replace the filter.

### "Your brakes are worn."

A high-pitched squeal may be the first warning. Other signs: the brakes grab or vibrate, and the brake pedal feels soft when pressed. A grinding sound means a replacement is long overdue, and worn brake pads may be damaging the brake rotors. Pads should be checked at least twice a year.

### "You need an oil change."

Most vehicles are designed to go 7,500 miles or more between changes under normal driving conditions. And synthetic oil can last twice as long. Check your car owner's manual, because changes can become pricey. Say your household has two vehicles driven 15,000 miles per year. If you change the oil and filter every 3,000 miles at \$40 each, you'll pay \$400 per year. Drive 7,500 miles between oil changes and save \$240 per year.

### "Flush the engine coolant."

Older cars may need a coolant flush every two years or 30,000 miles; many newer ones have extended life coolant, which can last up to 100,000 miles. A sweet odor inside the car can signal a problem.



### "Those tires won't make it."

Take a quarter and stick it upside down (with George Washington's face toward you) into the tread. Replace tires when the tread reaches  $\frac{1}{8}$  inch—roughly the length of the quarter's rim to Washington's hairline.

### "Your struts are shot."

Look at the strut. If there's evidence of fluid running down its side, park the car on level ground, press down on the corner of the car with the worn strut, and let go. If the car bounces more than once, there's a problem.

**Bottom line.** Check the owner's manual for recommended maintenance intervals. If a mechanic suggests changing filters and fluids more frequently than the manufacturer recommends, ask for an explanation and consider getting a second opinion. Need an estimate? Go to [ConsumerReports.org](http://ConsumerReports.org) and click on Cars and then Car Repairs to find repair estimates in your area for your vehicle's make and model.

## DIY car fixes

The Car Care Council ([carcare.org](http://carcare.org)) provides free car-maintenance videos that teach everything from how to change an air filter to how to check drive belts.

accordingly. If your income is higher than you projected when you got your plan and you don't let the marketplace know, you might have to pay back at least part of the subsidy come tax time in 2015. **❑ If the bottom drops out of your finances, you can go on Medicaid anytime.** But only if you live in a state that's expanding the program

to cover all households with an income of less than 133 percent of the federal poverty level. In most other states, Medicaid is available only to people in the traditional categories. Check with your state's Health Insurance Marketplace ([healthcare.gov](http://healthcare.gov) will get you to the right place) or with your state's Medicaid agency.

# It's snow time! Which shovel is right for you?

Even people with a snow blower need to shovel sometimes, and our snow-blower testers have plenty of advice on which snow shovels work best. When shopping, keep in mind that lighter weight means easier lifting, a rigid shovel is best (in the store, push a corner of the shovel into the floor to test for flexing), and a cheap shovel won't be great. You'll probably need to spend \$30 or \$35. Beyond that:

**The handle: "Ergonomic" may not mean easy.** Bent handles can make the pushing angle hard to adjust, and twisting the shovel to toss snow aside can be difficult. A shorter handle makes snow-throwing easier; longer is better for pushing—you can better tweak the shovel's angle and use your weight. A wood handle is handsome but heavy, metal is cold, and plastic or fiberglass is often just right.

**The grip: D-shaped.** Be sure it fits your hands, especially if they're unusually small or big. A padded grip is nice, as is an extra grip lower on the handle.

**The scoop: Sturdy.** Metal is generally more rigid than plastic but heavier. Steel on the leading edge can extend a shovel's life

and make it more effective in hard-packed snow, though the edge may scratch a delicate surface such as decking. A scoop about 24 inches across is good for a few inches of light snow; narrower is better when snow is deep or wet and heavy. A deeply curved scoop can clear more snow faster; a shallow scoop is OK for pushing snow but spills when lifted. High scoop sides contain snow and can reduce flexing.

**Bottom line.** Look at our lineup, and consider buying more than one shovel depending on anticipated need—one for lifting, another for pushing, for example, or one for dealing with regular snow and another for an icy plow pile at the end of your driveway.



## The lineup

### Versatile

Throws, lifts, or pushes. Scoop sides keep snow from escaping. Fiber-core handle is lighter than wood.



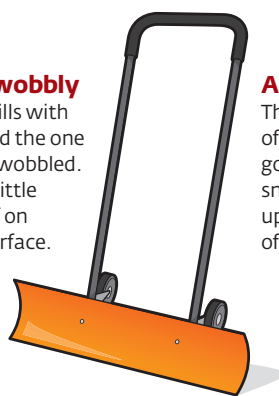
### Cheap, plastic

Plastic may flex too much and wear over time. Without a steel edge, the scoop won't bite well into icy snow.



### Wide, wobbly

Quickly fills with snow, and the one we tried wobbled. OK for a little light fluff on a hard surface.



### A pusher

The width and lack of sides mean it isn't good for lifting snow. It will do for up to 4 or 5 inches of light snow.



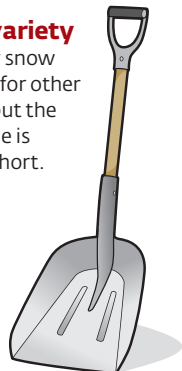
### TECH TIP

## How to shovel

When lifting snow: Bend your knees, keep your back as straight and vertical as possible, and stand up. The closer your hand is to the scoop, the lighter the load will feel. When pushing snow: Keep the handle low, in your hip area, and push using your legs.

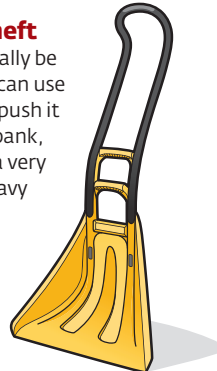
### Garden-variety

Slices heavy snow and is good for other yardwork, but the wood handle is heavy and short.



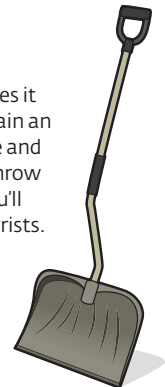
### He-man heft

It could actually be too big. You can use your foot to push it into a plow bank, but it takes a very large and heavy scoop.



### Ergonomic handle

The bend makes it hard to maintain an effective angle and awkward to throw to the side. You'll need strong wrists.





# It's not too late for a flu shot

Last fall, fewer than half of Americans said they planned to get a flu vaccine, according to a nationally representative survey conducted in October by the Consumer Reports National Research Center. Bad idea. During the 2012-13 flu season, vaccination saved millions of Americans from getting sick and 79,000 from being hospitalized, according to estimates from a recent report by the national Centers for Disease Control and Prevention (CDC). If you get vaccinated and still come down with the flu, you'll probably have a milder case and less chance of serious complications.

Fortunately, it's not too late to get vaccinated, but you'd better run: Although flu infections can happen as late as May, they tend to peak by March, and it takes about two weeks for the vaccine to work.

Here are four common excuses people gave us for skipping vaccination last flu season—along with our doses of reality.



**EXCUSE:** I worry about side effects or getting the flu from the vaccine.

**REALITY:** Side effects are uncommon and usually mild. They include soreness or redness at the injection site, body aches, and a low fever lasting a day or two, according to the CDC. Vaccination cannot cause flu illness.

**EXCUSE:** I don't get the flu.

**REALITY:** Just because you haven't had the flu in the past doesn't mean you won't get it. The CDC estimates that the flu caused some 31.8 million illnesses in the U.S. last year, and it recommends the flu vaccine for everyone 6 months and older.

**EXCUSE:** I believe in building natural immunity.

**REALITY:** The body's immunity against the flu declines over time, and the flu virus is capable of changing from year to year. Whatever protection you picked up in the past may not fight flu strains circulating now. Hence the need for annual vaccination.

**EXCUSE:** I dislike shots.

**REALITY:** Lying down for the shot may help you relax. If necessary, ask your doctor if you qualify for the nasal-spray vaccine.

## Choose the right closet organizer

When the goal is a noble one, such as organizing the mess in a closet, you should be rewarded for trying—but assembling some of the five units we tested seemed more like punishment. Only the priciest could be put together without a hitch.

We timed how long it took two people to install each organizer and assessed how easy the job was. All of the units are designed for a 6-foot-wide closet and consist of a clothes rod, shelving, bins or drawers, and usually an extra component such as a belt hanger or shoe organizer.

Some of the organizers came with incorrect directions, others had confusing, missing, or poorly made pieces. Installation took up to 160 minutes—and our installers were familiar with this type of work. We started timing after we'd counted all of the pieces and read the instructions.

Units are listed in order of installation time. Prices are for a base system without extras.

### ▶ **Platinum Elfa Reach-In, \$560**

Online and video directions are clear. Installation requires minimal drilling. The top rail is one piece, making it easy to level.  
**Time: 35 minutes**

### ▶ **ClosetMaid ShelfTrack, \$100**

It wasn't clear from the directions that the drawer unit needed spacing different from that of the shelving. Miss that fact, and you may end up with extra work and holes in the wall. The top horizontal rail is split, which can make leveling hard. The vertical rails aren't long enough to set the drawers at a

convenient level. Our drawer brackets were mislabeled: "Left" was for the right side; "right" for the left. And you may have to cut a rail to make it fit in a small closet.

**Time: 45 minutes**

### ▶ **Rubbermaid HomeFree Series, \$90**

The rails telescope, useful for smaller closets. But unless you buy vertical rail extensions, you must position the drawer unit high. Illustrations of needed materials aren't to scale, and some components aren't shown accurately. Back edges of drawers aren't finished, and there are gaps.

**Time: 70 minutes**

### ▶ **Martha Stewart Classic Deluxe, \$160**

The split rail can make leveling hard. One of the closet rods was bent. The center unit was very heavy. Once the unit is assembled, it's hard to rearrange pieces, because they're screwed into place. Some laminate was chipping. Instead of vertical rails, there are particle-board sides. This is the only unit that doesn't have to be secured to the wall.

**Time: 70 minutes**

### ▶ **Ikea Algot, \$170**

The directions are wrong, and it's hard to achieve the correct spacing. Screws aren't included. Neither are wall anchors; we had to stop work and buy them. Drawers didn't fit properly. A call to Ikea proved unhelpful. The upright width was listed wrong, and we had to re-drill. And the baskets didn't roll back and forth smoothly.

**Time: 160 minutes** (not including trips to a hardware store)



**BEST OF THE BUNCH** The Platinum Elfa Reach-In was easiest and quickest to install but by far the most expensive.

# E-cigarettes: Still many questions

**MAYBE A FRIEND** or family member uses one. Maybe you've seen one being fired up in a place where you thought smoking was banned, such as a restaurant or sporting arena. Or maybe you're using one yourself to try to kick a tobacco habit.

Whatever your experience is with electronic cigarettes, it seems that the battery-powered devices, which deliver a vaporized form of nicotine and mimic the feel of traditional cigarettes, are here to stay. Sales grew from about \$500 million in 2012 to an estimated \$1.5 billion in 2013. That's a fraction of the tobacco cigarette market—roughly \$100 billion per year—but reflects a 200 percent growth, in contrast to the steady decline in tobacco cigarette sales.

E-cigarettes are marketed as a more socially permissible alternative to smoking. But what exactly are users—and the people around them—breathing in? Are the cigarettes safe? And with kid-friendly flavors such as Cherry Crush, Peach Schnapps, and Vivid Vanilla, who are they really being marketed to? Here are answers to some key questions about electronic cigarettes.

## What's in them?

The main component is a refillable or replaceable cartridge of liquid “juice” that contains nicotine, solvents, and flavors. When users draw on the device, it causes the battery to heat the liquid solution, which is then atomized into an inhalable vapor. The claimed levels of nicotine vary. Blu e-cigs, for example, offer cartridges

of varying strengths, from no nicotine to approximately 13 to 16 milligrams, with each cartridge containing enough for 250 or more “puffs.” Some other brands list nicotine as a percentage of volume. Less clear is what's used to create the piña colada, vanilla, bubblegum, and other flavors.

## How are they regulated?

At the moment, they aren't. At press time, the Food and Drug Administration was

allowed. You can find a list of local bans at [no-smoke.org/pdf/ecigslaws.pdf](http://no-smoke.org/pdf/ecigslaws.pdf).

## Are they safe to use?

We don't know yet. They expose users and people around them to fewer toxins than tobacco cigarettes, but that doesn't mean they're risk-free. Nicotine is very addictive, so e-cigs—especially the fruit and candy-flavored ones, health officials warn—could hook kids and teens on the stimulant or serve as a gateway to real cigarettes. And because they're unregulated, you don't necessarily know what's in them. In 2009 the FDA detected diethylene glycol, a toxic chemical used in antifreeze, in some e-cig samples and carcinogens called nitrosamines in others. Questions also linger over secondhand “vapor.” A December 2013 study compared exhaled vapor from three e-cigarette brands with exhaled tobacco smoke and found that the e-cig vapor contained about one-tenth the level found in tobacco smoke. But the researchers didn't test for some of the other potentially unsafe components of vapor that earlier studies had found, including formaldehyde and metal particles.

## Do they help smokers quit?

They might, though they're not approved for that by the FDA. And as with approved quitting methods, the results aren't that impressive. In a study of 657 smokers published last fall, e-cigs were about as effective as nicotine patches and were slightly better than placebo e-cigarettes, which contained no nicotine. But the differences were minor, and the overall number of people who quit with any method was low. After six months, about 7 percent of those in the e-cigarettes group and 6 percent of those who used nicotine patches stopped smoking vs. 4 percent of those who used placebo e-cigs.

**Bottom line.** The main reason it's so hard to say whether e-cigarettes are safe is that they simply haven't been around long enough to know. It took decades for the risks of tobacco cigarettes to emerge, and nobody knows yet what the long-term effects of “vaping” will be. If you're trying to give up real cigarettes, stick with better studied methods: nicotine gum, patches, and counseling. And if you don't smoke, don't start with e-cigs just for fun.



expected to release a proposed rule that would allow the agency to regulate them as they do other tobacco products. That could result in restrictions on the advertising or sale to minors and would probably require companies to disclose ingredients and conform to certain manufacturing standards. In the meantime, some states and municipalities—most recently New York City—have enacted bans on e-cigarettes in public parks and indoor venues where cigarette smoking isn't

## Who's making money on e-cigarettes

Initially, e-cigarettes were the domain of small, largely Internet-based outfits. But they have caught the attention of Big Tobacco companies, several of which are now behind the biggest and most aggressively marketed e-cig brands. Market leader Blu is owned by Lorillard, maker of Newport, Kent, and other cigarette brands; Reynolds American (maker of Camel) and Altria (which owns Philip Morris USA, maker of Marlboro) have also gotten in on the game, launching the Vuse and MarkTen brands, respectively. Other signs that e-cigs have hit the mainstream? Victory Electronic Cigarettes trades on the Nasdaq stock exchange. And perhaps most telling, you can now find a variety of electronic cigarette brands at your local Sam's Club and Walmart.





# Don't let these ad traps catch you

**WANT TO SAVE** 50 percent, get a product free, or have a manufacturer's warranty cover an expensive purchase for life? Of course you do, and advertisers know it. Federal and state laws generally ban the use of misleading or deceptive advertising, but regulators can't monitor everything, and seductive half-truths and outright deceptions are common.

So it's up to you to figure out what's true, what's false, and what's pushing the envelope. Read the fine print to find out about limitations. And here are some advertising terms you shouldn't take at face value:

## ▶ Satisfaction guaranteed

Federal Trade Commission guidelines say that companies should use "satisfaction guaranteed" or "money-back guarantee" only if they're willing to give full refunds to unhappy customers. The guidelines say that companies must disclose any conditions or limitations, such as a time limit.

Some companies' satisfaction guarantees are friendly. The website of retailer Lands' End says you can return any product you're not happy with at any time for a full refund or exchange. But others are less so. Under Michelin's 30-day satisfaction guarantee, if you're not 100 percent satisfied with your new tires, you can return them—but for an exchange, not a refund. And if you're not 100 percent satisfied with the replacement tires, forget it—the policy applies only to the first set. Return certain items under the 30-day satisfaction guarantee from the retail eyeglass website GlassesUSA.com and you'll be charged a 20 percent restocking fee.

## ▶ Going out of business

New York City consumer officials recently fined a shop that sells rugs, antique furniture, and other items, accusing it of running a going-out-of-business sale without a license. The company, operating under a slightly different name, had held a going-out-of-business sale at the same location nine months earlier. But even at a legitimate going-out-of-business sale, don't assume everything's a deal. While checking out the Circuit City liquidation sale some years back, we found a copy of the weekly sales circular that would have been in effect had the chain had not gone belly-up. A 50-inch plasma television being liquidated for \$1,799 would have been on



sale for \$1,500. We also found a better price at a retailer that was not going out of business. Yet we saw lines of bargain-chasing customers snaking around the store.

## ▶ Lifetime warranty

The term "lifetime" has no legal meaning by itself. It can refer to a product's lifetime, not yours, and that could mean the period of time a retailer carries the item, the manufacturer still makes it, parts are available, or you still own it.

So if you're hoping to use that full lifetime warranty from Milgard Windows & Doors as a selling point when you market your home, you might be disappointed. In that case, "lifetime" means as long as you own your home. Sell it and the warranty for the new owners converts

to 10 years from the date the original warranty went into effect. And the unconditional lifetime warranty at umbrella maker Davek requires customers to register the product and to pay \$10 shipping and handling for a replacement.

## ▶ We will not be undersold

Many stores guarantee they have the lowest prices, promising to match or beat a competitor's price before or after you buy. But those promises often come with lots of restrictions in the fine print. Walmart stores won't match online prices, and Sears won't price-match Internet-only retailers. Home Depot and Lowe's guarantee that they will beat competitors' prices by 10 percent, but online retailers are excluded.

## ▶ Free

The word "free" is like a powerful aphrodisiac, so it's a favorite among retailers. FTC guidelines say that if you must buy an item to get something free, the price can't be inflated to offset the cost of the free item. And all conditions must be disclosed. But think about it: The regular price must be pretty steep for companies to give away stuff and still make a profit. Another catch is being asked to pay something to get a free item, such as additional shipping and handling that may equal or exceed the item's cost. Then there are "free trials" that aren't free at all when the company winds up charging your credit card for a monthly service without telling you that it will, such as the delivery of weight-loss pills, if you don't cancel in time.

## How to avoid common gotchas

Various sales tactics require you to use your judgment and question anything that doesn't seem right before buying.

**Always read store policies carefully before making a purchase.** Whether it's a warranty, satisfaction guarantee, or anything else, make sure you understand the limitations and requirements. For example, you may need to have your receipt to make a warranty claim.

**Don't blindly accept promises of low prices.** Comparison shop by searching the Web for the product name and/or model number. If you do see a truly great price at a liquidation sale, try negotiating with a retailer that's not planning to pull

up stakes anytime soon. You might be able to get a deal that's as good as or at least close to the one being offered by the disappearing store.

**Check out any retailer you're not familiar with.** Search for a report at the Better Business Bureau ([bbb.org](http://bbb.org)). Look for at least a "B" rating, and examine the types of complaints customers have filed against the company, if any. And conduct a Web search using the retailer's name and such terms as "review" and "complaint."

**Use a credit card when shopping.** That way, if there's misrepresentation, an unauthorized charge, or a similar problem, you can file a dispute.

# FDA data show arsenic in rice, juice, and beer

**DATA FROM** the Food and Drug Administration has found arsenic levels in rice and rice products comparable to those found by Consumer Reports in its own investigation. And the FDA found another surprising source of arsenic: beer, which sometimes uses rice as an ingredient.

As Consumer Reports continues to investigate arsenic in the food supply, new scientific studies add to the evidence that long-term dietary exposure to arsenic poses a health risk. Here's an overview of some significant developments regarding arsenic in food in the past year:

## ▀ Arsenic in rice

Our statistical analysis of the FDA's test results from more than 1,300 samples found that among types of white rice, the parboiled version tended to have the highest levels of inorganic arsenic, with an average of 114 parts per billion (ppb). Instant rice had the lowest, averaging 59 ppb. Also noteworthy: Medium-grain rice from California tended to have lower levels of inorganic arsenic than rice originating from other areas of the U.S. Although inorganic arsenic is a known

carcinogen, there are no federal limits for it in juice, rice, or most other food.

In some cases, the inorganic arsenic levels that the FDA found in rice products were even higher than Consumer Reports' test results from 2012. That was true for rice beverages that are used as a milk replacement, which underscores our advice that children under the age of 5 should not have rice drinks as part of a daily diet.

The FDA found elevated levels of arsenic in beer after testing 65 samples, all of which the agency says included some form of rice as an ingredient. The results showed that 10 of them contained inorganic arsenic levels that ranged from 15 ppb to 26 ppb, significantly more than the federal

## Some beers had arsenic levels topping drinking-water limits.

drinking-water limit of 10 ppb for total arsenic. The agency plans no further testing of beers. Based on its full data, the FDA is "conducting a risk assessment as the next step in a process to help manage possible risks associated with the consumption of rice and rice products," says Theresa Eisenman, an FDA spokeswoman.

Recent scientific evidence suggests that those risks can be significant. Last July researchers in the United Kingdom and India published a groundbreaking study providing the first evidence that frequently eating rice with high amounts of total arsenic can actually lead to genetic damage in cells associated with cancer.

The study measured damage to chromosomes within cells obtained from the urine of more than 400 adult study participants in an area of India with low arsenic in drinking water. Those who ate about 2½ to 3 cups of cooked rice per day containing more than 200 ppb of total arsenic excreted more genetically damaged cells than those eating rice with less arsenic.

The study noted that more than 10 percent of the rice in China, Pakistan, and Bangladesh is estimated to have arsenic



concentrations exceeding 200 ppb, while in the U.S., more than 50 percent of the rice is estimated to contain arsenic at those elevated levels. More research is needed to see whether the study's results would apply to Americans, who eat less rice and generally have better nutrition.

## ▀ Test results for juices

In a first step toward reducing Americans' unnecessary exposure to arsenic in food, the FDA in July 2013 proposed an "action level" of 10 parts per billion for inorganic arsenic in apple juice. An action level provides a benchmark for apple-juice makers and an enforcement tool for regulators. The FDA stated that the 10 ppb guidance to industry "will help keep out of the food supply even the occasional lot of apple juice" containing arsenic above that level.

But the fact that most of the apple-juice samples the FDA tested already had inorganic arsenic levels below 10 ppb is one reason Consumer Reports' safety experts concluded that the agency's proposed guidance doesn't sufficiently protect public health. In written comments submitted to the FDA after thoroughly reviewing the rationale behind its proposal, they urged the agency to set a tougher level that "creates an incentive for the marketplace to reduce levels of inorganic arsenic in apple juice and thereby reduce risk—not simply maintain the status quo."

In calculating the risks of arsenic exposure from apple juice, the FDA also appears to have significantly underestimated how much juice children drink. A Consumer Reports survey of parents conducted in 2011 found that on the day before the survey, more than 25 percent of children under age 6 consumed more than 8 ounces of apple juice, which was the highest daily consumption estimate used by the FDA, and 12 percent drank 16 ounces or more.





Ever since the release of our test results for arsenic in juice in 2011, Consumer Reports has recommended setting a limit of 3 ppb of total arsenic for apple juice. If that is not immediately feasible, our experts say that it should be no higher than 4.4 ppb, which is the inorganic arsenic level the FDA used when calculating the risk it deems acceptable. They also urged the FDA to set action levels for other juices, such as pear and grape, where tests have found inorganic arsenic levels much higher than 10 ppb.

The FDA is reviewing the comments it has received to determine whether revisions are needed in its proposed guidance, according to Eisenman. She says the agency is continuing to collect and test more juice samples for arsenic but cannot predict when it will publish those results.

## ▣ Feed and fertilizer sources

One way arsenic might enter the food supply is through the use of arsenic-based drugs in feed given to chickens, turkeys, and pigs to prevent disease and promote growth. Poultry droppings are used to fertilize many crops and can contaminate them with arsenic. And chickens that are likely to have been raised with arsenic-based drugs result in chicken parts that can have higher inorganic arsenic levels than other chickens, according to a July 2013 study led by researchers at the Johns Hopkins Center for a Livable Future.

Three of the four drugs in use have recently been removed from the market, and the FDA is still evaluating the only remaining arsenic-based animal drug, nitarsone, which is approved for use in turkeys and chickens. It has requested more data from the company marketing the drug and expects to complete key analysis by the end of March. Consumers Union, the public policy and advocacy arm of Consumer Reports, believes that nitarsone also should be withdrawn from the market.

## ▣ RECALLS

### AUTOMOBILES AND TIRES '06-'07 various BMW models

76,565 BMWs: '06 325i, 325xi, 330i, 330xi sedans, and 325xi sports wagons; '07 328i, 328xi, 335i, 335xi sedans, and 328i and 328xi sports wagons; '06-'07 525i, 525xi, 530i, 530xi, 550i sedans, and 530xi sports wagons; '06 760i sedans; '06-'07 750i, 750Li, and 760Li sedans; '06 X5 sports activity vehicles equipped with certain seat types.

The front passenger seat detection mat that determines how the passenger frontal air bag should deploy in a crash may develop cracks, which could lead to a system failure. If that happens, in the event of a crash, the air bag would be deactivated, increasing the risk of injury.

**WHAT TO DO** Dealer will repair mat to eliminate possibility of cracking, free. Call BMW at 800-525-7417 for details.



### Michelin LTX M/S tires

Treads on tires could separate. Tread separation can lead to rapid air loss, which could result in loss of vehicle control, with risk of crash.

**PRODUCTS** 1,200,000 Michelin tires size LT225/75R16 115/112R LRE, supplied as original equipment on certain Fords, and as replacements on various commercial light trucks, full-sized heavy-duty vans, small RVs, and some large pickup trucks. **WHAT TO DO** Michelin dealers will replace tires free of charge. Call Michelin at 800-231-5893 for details.



### HOUSEHOLD PRODUCTS

#### Wahl Total Care aerosol cleaner

Vapors from the propellant can ignite when they contact hair clippers, posing a risk of burns.

**PRODUCTS** 720,000 Wahl Total Care products used to clean and lubricate hair clippers, trimmers, and shavers. Sold at Meijer, Walmart, and other retail stores and online at Amazon.com from June 2009 to October 2013 for about \$5.

**WHAT TO DO** Stop using the product and call Wahl at 800-767-9245 or go to [wahl.com](http://wahl.com) for a replacement.



#### Libbey Glass cocktail glasses

Glasses can break unexpectedly, posing a risk of cuts.

**PRODUCTS** 218,000 Bristol Valley, model 8555SR, cocktail glasses sold at various independent liquor stores nationwide from January 2013 through November 2013 for \$1 to \$4 per glass.

**WHAT TO DO** Stop using the glasses and return them to the store where they were purchased for a refund. Call Libbey Glass at 800-982-7063 or go to [libbey.com](http://libbey.com) for more information.



### ELECTRONICS

#### HP Chromebook 11 chargers

Charger can overheat and melt, posing risks of fire and burns.

**PRODUCTS** Google and HP are recalling 145,000 chargers, model MU15-N1052-A005, sold at Best Buy and online at Amazon.com, [play.google.com](http://play.google.com), and [shopping.hp.com](http://shopping.hp.com) from October 2013 through November 2013 and included with the Chromebook 11, which sold for about \$280. Google has had nine reports of chargers overheating and melting during use.

**WHAT TO DO** Stop using the charger and contact Google at 866-628-1371 or go to [chromebook.com](http://chromebook.com) to get a free replacement charger.



# \$1.25 million

That's how much Advanced Sterilization Products and two of its top executives agreed to pay to settle a Food and Drug Administration claim that they manufactured and distributed adulterated and misbranded sterilization-monitoring products. The FDA says that the company knew that it didn't have sufficient data to support the shelf life stated on the label of Sterrad Cyclesure 24 Biological Indicators, but continued to ship them to customers with inaccurate expiration dates. The products are used to monitor and confirm the effectiveness of the sterilization process.



**WAIT, THERE'S MORE** We found 27 types of Crest in one supermarket, but the toothpaste's website lists more than 50.

# Too many choices?

The downside to oodles of eggs and tons of toothpaste

**O**NCE UPON A TIME, there was a tube of toothpaste. It was called Crest, or Colgate, or maybe Pepsodent. You chose your brand and went on your way. Today their spawn and competitors occupy entire shelves. Do you pick a product formulated to freshen breath, control tartar, combat plaque, or attack gingivitis? Do you select another if you're older than 50, have sensitive teeth, sensitive gums, or sensitive enamel? And that's just the tip of the iceberg. We know, because those are just some of the 27 varieties of Crest we recently bought at a single supermarket. (For Colgate, we found a mere 25.)

Multiply our experience by other products on your shopping list, from mustard to shampoo, and you've turned a trip to the grocery store into a job requiring serious study. And the bewildering number of choices can obscure price disparities.

A new survey by the Consumer Reports National Research Center confirms that option overload can be a hindrance as well as a help. Almost 80 percent of the 2,818 subscribers surveyed said they'd found an especially wide range of choices in the previous month, and 36 percent of those said they were overwhelmed by the

information they had to process to make a buying decision. Consider what we faced at a local Stop & Shop: nine varieties of Pringles potato crisps, 11 flavors of Cheerios, and 25 formulations of Head & Shoulders shampoo. Campbell's condensed soup? We eyeballed 53 varieties. According to the company, we missed 21 others.

Between 1975 and 2008, the number of products in the average supermarket swelled

**'Things are getting out of hand,' a reader told us.**

from an average of 8,948 to almost 47,000, according to the Food Marketing Institute, a trade group. (In the past few years, that number has fallen slightly, in part because of a growth spurt among smaller stores.)

"Consumers have always had choices, but today options have exploded beyond all reason," says Barry Schwartz, author of "The Paradox of Choice" (HarperCollins, 2003) and a psychology professor at Swarthmore College. "It's the ethos of American society; the idea that freedom is good, more is better, and you enhance those ideas

by offering choice. Logically, you can't hurt anyone by adding options. It makes no one worse off, and some better. That's the theory, but in practicality it's not true."

Schwartz contends that an abundance of choice can complicate decision-making, causing shoppers to freeze or postpone a purchase out of uncertainty and frustration. When they do make a choice, they're more likely to be dissatisfied because they think an unchosen item might have been better. Our survey suggests that Schwartz has a point. Five percent of respondents who found too many options said they had walked away empty-handed because the scope of choices made selection too hard.

More troubling is that when faced with an array of complex options, consumers tend to throw reason out the window and pick a product based on what's easiest to evaluate, not what's most important, says Sheena Iyengar, director of the Global Leadership Matrix Program at the Columbia (University) Business School. "We stick to the familiar or go by price because we don't want to deal with so many choices and scrutinize label claims or nutrition information," she says.

Products might confuse shoppers further by touting health benefits with labels that



sometimes don't have a clear meaning. When evaluating eggs, the choices are no longer just brown or white, and medium, large, extra large, or jumbo. We faced cage-free, free-range, with omega-3, pasteurized, all-natural, vegetarian, and organic. Among Oral-B toothbrushes, we lost count at a dozen, each with its own claim (criss-cross bristles that remove up to 90 percent of plaque, for starters). Even vanilla is no longer, well, plain. Breyers ice cream or frozen dairy dessert comes in Natural, French, Half the Fat, No Sugar Added, Extra Creamy, Homemade, Lactose Free, and CarbSmart. If all of that is enough to give you a headache, consider Advil, but you'll need to decide among tablets, film-coated tablets, caplets, capsules, gel caplets, and Liqui-Gels.

Schwartz says that a "handful" of observational studies involving "relatively low-cost trivial supermarket products" suggests that most consumers can face seven to 10 varieties within a product line before becoming overwhelmed.

When we asked CONSUMER REPORTS Facebook fans whether there is such a thing as too much choice at the supermarket, some clearly thought so. "I don't want to work at the grocery store," one wrote. "Just want to go thru the aisles, choose more easily and be on my way." Wrote another: "Far too many varieties, flavors, and fragrances shouting from the shelves. When I saw the salad dressing aisle expand to triple its former size, I realized that things are getting out of hand." But a third fan wondered what the fuss is about: "More the better. Capitalism at its finest!"

And not all researchers are convinced that option overload is bad. "Variety exists for a reason," says Brian Wansink, director of Cornell University's Food and Brand Lab. "You need it to satisfy everyone's tastes. New products build excitement and bring much-needed zap to categories."

## More products, more profit

From a business standpoint, there's no question about the importance of new products, even if they're line extensions rather than innovations. Almost three-quarters of all supermarket products languish on store shelves, selling less than one unit (a single package, can, or bottle) per week, according to Paul Weitzel, managing partner with industry adviser Willard Bishop Consulting. Just 20 percent of products account for 80 percent of total sales.

"Most new items are generated because

manufacturers are under pressure to increase growth," Weitzel says. "New items are the lifeblood of many categories, and without them both retailers and manufacturers would struggle." Weitzel likened product proliferation to an arms race for shelf space. "Companies see themselves at a disadvantage if they don't keep up with the Joneses. If a competitor has eight items and you have two, there's a better chance the sale will go to your competitor."

CONSUMER REPORTS survey respondents

said that a top reason for product proliferation is that consumers will pay more for products with special features. Indeed, many buyers willingly add to corporate coffers. Wansink, whose work frequently involves studying consumers' reactions to promotions, checkout lines, and product placement, says that about 25 percent of them qualify as "serial variety seekers" who constantly sniff out new products and are willing to pay a premium for them. Another 25 percent, he adds, are



## Stuffed shelves

Eleven Cheerios? Yup. And this list of choices at a local supermarket doesn't even include size variations. For example, Tropicana Pure Premium Orange Juice comes in as many as eight sizes, from 8 to 128 ounces, in nine versions.

Product	Versions
<b>Cheerios cereal</b>	Original, Honey Nut, Honey Nut Medley Crunch, Apple Cinnamon, Banana Nut, Frosted, Chocolate, Multi Grain, Multi Grain Peanut Butter, Dulce de Leche, Cinnamon Burst
<b>Stop &amp; Shop french fries</b>	Straight cut, crinkle cut, shoestring, steak cut, waffled, tater bites, curly, extra crispy, seasoned
<b>Dawn dish detergent</b>	Ultra, Ultra Antibacterial, Ultra Destinations, Ultra Platinum Power Clean, Ultra Platinum Oxi, Ultra Platinum Bleach Alternative, Ultra Hand Renewal with Olay
<b>Tide liquid laundry detergent</b>	Original Scent, Plus Febreze, Plus Febreze Sport, Free & Gentle, Plus Bleach Alternative, Coldwater, Clean Breeze, Mountain Spring, Plus Downy, With Acti-Lift
<b>Head &amp; Shoulders shampoo</b>	Active Sport, Old Spice, Deep Clean, Hair Endurance, Refresh, Extra Strength for Men, Citrus Breeze, Ocean Lift, Dry Scalp Care with Almond Oil, Classic Clean, Sensitive Scalp Care, Itchy Scalp with Eucalyptus, Smooth & Silky, Extra Volume, Green Apple, Damage Rescue, Extra Strength, Clinical Strength, plus seven more
<b>Thomas' English Muffins</b>	Original, 100% Whole Wheat, Multi-Grain, Light Multi-Grain, Health-Full 10 Grain, Original made with Whole Grains, Multi-Grain Fiber Goodness, Cranberry, Honey Wheat, Double Fiber Honey Wheat, Corn, Cinnamon Raisin

“selective variety seekers,” drawn to new products in certain categories.

As the box below shows, the cost of products within a manufacturer’s line can vary substantially, perhaps because some have a shiny bell or whistle. On a unit-price basis, for example, one of the priciest versions of Crest costs more than three times as much as a more basic Crest.

We asked companies for the rationale behind their big assortments. “Each customer is unique, with their own tastes and preferences and budget,” says Keith Dailey, director of media relations for Kroger, one of the nation’s largest grocers. “We strive to meet all of our customers’ needs in one store. Our goal is to stock the products our customers want, plus a little. By ‘plus a little,’ we mean items that may surprise or delight them when shopping in our stores, to keep the experience fresh and fun, so they’ll want to return.”

Laura Dressman, a spokeswoman for Procter & Gamble’s Family Care division, explained why there are so many roll sizes of Charmin Ultra Soft toilet paper: Big,

Large, Double, Family, Giant, Jumbo, and Mega. “Our product offerings are driven by ‘consumer is boss,’” she says. “Some consumers want a larger size roll for a bigger family or prefer not to have to change the roll as often. Others prefer smaller packs due to limited storage space.” (In case you’re wondering, mega trumps jumbo, with 352 sheets vs. 231.)

Are the differences significant enough to warrant all of those options? Once again, you’ll need to decide. Of four Arm & Hammer cat litters, a customer-service rep told us that Super Scoop is your basic clumping litter; Multi-Cat is similar but with extra-strength properties; Double Duty is the most powerful product, designed to kill odors on contact; and Ultra Last contains granules coated with baking soda to keep homes smelling fresh when pet owners can’t scoop regularly.

### Smart shopping tactics

Choice isn’t as overwhelming if you know what you want. First make a list. Then “go with what you need, not what’s on the

shelf,” advises Sheena Iyengar at Columbia. If a new product seems worth a look, research it before buying to assess differences from what’s already available.













- Compare unit prices (the tag showing price per ounce, pound, and so on). New products might initially cost less than their mature counterparts to generate buzz.
- When the product you want costs more than others, check company websites for special offers. If you’re comfortable with the privacy policy, you can receive samples, coupons, and other freebies.
- Shop at a store with less choice. Warehouse clubs such as Costco and Sam’s Club carry a narrow selection within categories (usually one of the top brands in a single variety and in just one or two sizes). Limited-assortment stores such as Aldi, Save-A-Lot, and Trader Joe’s are another supermarket alternative, with no annual membership fee. Even Walmart acknowledges that its 182,000-square-foot supercenters aren’t for everyone. The chain operates more than 300 Neighborhood Markets that average 38,000 square feet.

## Different version, different price

Although many items within a product line cost the same, the local supermarket we visited had plenty of exceptions, especially because some niche products (such as Turkey Hill All Natural Ice

Cream) are sometimes excluded from weekly discounts.

Here, the high and low unit prices we found for items within six product lines:

 <p><b>Crest Cavity Protection</b> \$5.48 (per pound)</p>	 <p><b>Crest 3D White Luxe</b> \$18.69 241% HIGHER</p>	 <p><b>French's Classic Yellow mustard</b> \$2.16 (per pound)</p>	 <p><b>French's Honey Dijon</b> \$3.99 85% HIGHER</p>
 <p><b>Turkey Hill Ice Cream</b> \$2.65 (per half-gallon)</p>	 <p><b>Turkey Hill All Natural</b> \$5.99 126% HIGHER</p>	 <p><b>Head &amp; Shoulders Classic Clean</b> \$6.41 (per pint)</p>	 <p><b>Head &amp; Shoulders Clinical Strength</b> \$9 40% HIGHER</p>
 <p><b>Ocean Spray Cranberry Juice Cocktail</b> \$1 (per quart)</p>	 <p><b>Ocean Spray 100% Cranberry Juice</b> \$2.13 113% HIGHER</p>	 <p><b>Ruffles Original potato chips</b> \$6.20 (per pound)</p>	 <p><b>Ruffles Reduced Fat with Sea Salt</b> \$7.98 29% HIGHER</p>



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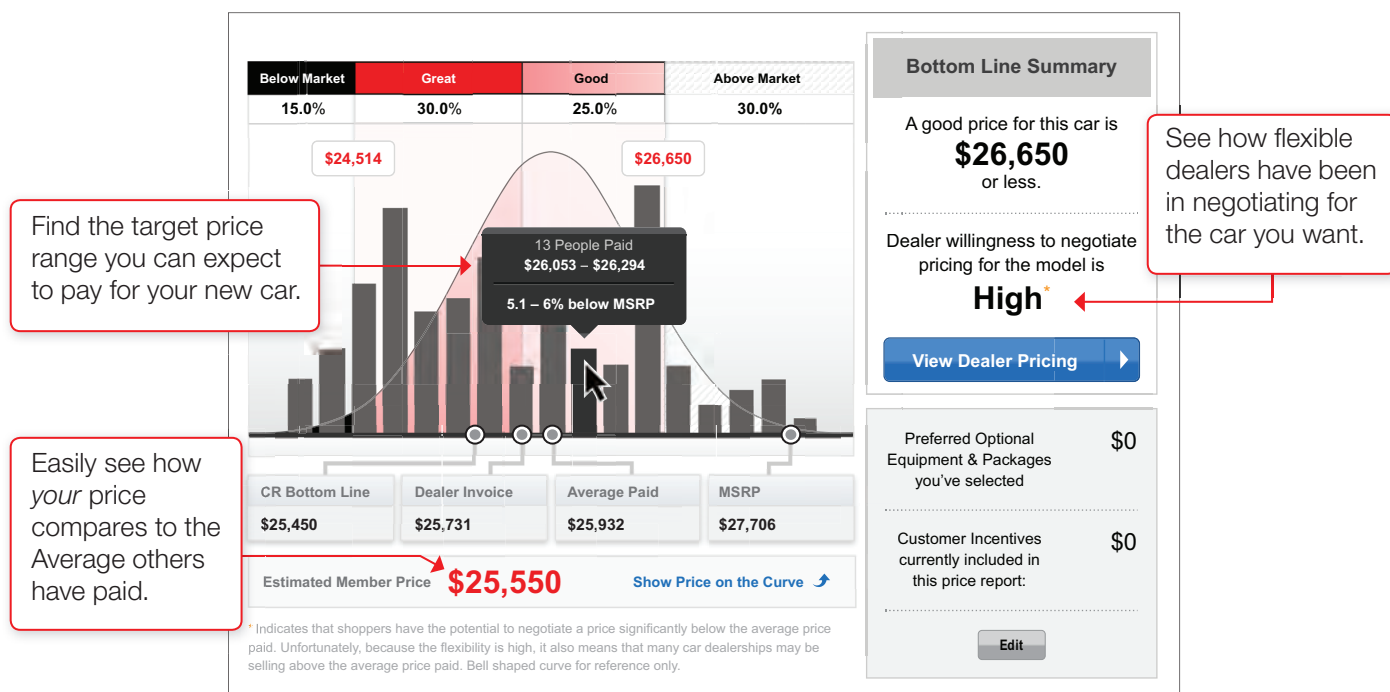
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# Pick the best mattress

New tests yield 10 top choices for a good night's sleep

**YOU DON'T HAVE** to be among the roughly 70 million Americans with chronic sleep problems to dream about a new mattress. Almost three out of four respondents to a recent industry survey believed a new bed would help them sleep better. But choose wisely: Our latest tests of 24 models show huge differences in the spine support that counts most, especially if you spend at least part of the night on your back.

We use dozens of electronic sensors to precisely and repeatedly measure how well each mattress supports the spine by maintaining its natural curve when you're on your back and keeping it horizontal when you're on your side. Sleep Number's foam-and-air Innovation Series i8 bed Pillowtop, \$3,000, is currently the only mattress that aced our back-support test, which helped it capture the top spot in our Ratings. (As its name implies, the Sleep Number has adjustable firmness: Punch a number into its remote control to inflate or deflate an air-filled layer beneath its foam top.) But you don't have to spend that much to get the support you need. Our tests show that

Costco's Novaform Foam Collection Serafina 14-inch Memory, a CR Best Buy at \$800, should support back sleepers almost as well for a fraction of the price.

A new low for back support: the Ashley Sleep Ellis Bay 15-inch Pillowtop, \$1,200, which earned the first and only Poor in this test and ranks lowest overall.

## A few smart tactics help you avoid shopping nightmares.

Still prefer a traditional innerspring mattress? Impressive support for both back and side sleeping helped put Serta's Perfect Day iSeries Applause at the top of this best-selling category. And at just \$1,075, the Serta is also a CR Best Buy.

Months of testing with both men and women also confirm that you can spend thousands of dollars and get relatively little for your money, or cheap out and get

subpar support. Industry insiders and more than 6,000 CONSUMER REPORTS subscribers who shared their shopping experiences in our latest survey also show that picking the right retailer—and using a few smart tactics—can help you avoid some common shopping nightmares. (See “Best Retailers (and Some Gotchas to Avoid),” on facing page.) Here are the details:

**A big-buck letdown.** Duxiana calls its \$4,800 Dux 101 innerspring the “perfect introduction to the legendary DUX comfort and support.” But although side support got high marks in our tests, back support was only middling. Lots of bounciness could also allow a restless sleeper on one side to wake a sound sleeper on the other. What's more, that lofty price doesn't include the interchangeable spring sections that let you fine-tune firmness on this model's pricier brandmates.

**When cheaper means cheap.** Roughly 11 percent of subscribers we surveyed were sorry they hadn't spent more on their mattress. Two low-cost models support that lament. Ikea's innerspring Sultan Holmsta costs just \$580 but proved mediocre for

### GRADING THE CURVE

We gauge back and side support using sensors at dozens of points as test subjects recline.





side support and subpar for back sleeping. And although the Spa Sensations 10-inch Memory Foam SPA-1000Q may seem like a steal at only \$360, it scored lowest in our durability tests, which use a 308-pound roller to mimic the eight to 10 years of use common for mattresses.

**That sinking feeling.** Some foam mattresses are so soft that you can sink in, feel engulfed, and find it hard to change positions—something sleepers usually do several times during the night. That held true for four we tested, including the relatively pricey Beautyrest ComforPedic Loft Crestwood Luxury Plush and Sealy Posturepedic Optimum Inspiration.

## How to choose

You may be able to give an old mattress new life by flipping or rotating it. But any mattress that shows sags or lumps belongs by the curbside. As our test-performance Ratings on page 23 detail, many of the best mattresses fall within the roughly \$800 to \$1,200 most people spend. Here's what else to consider as you shop:

**Don't buy in to firmness claims.** About half of the mattresses proved softer than advertised in our tests. And a firmer mattress isn't necessarily better for your back. Instead, use our scores for back and side support as a guide. Then try any mattress you're considering by lying on it for at least 10 minutes on each side, your back, and your stomach if that's how you sleep. More than 80 percent of subscribers who did so said they were still satisfied later.

**Check return policies.** That's especially important at Costco and other retailers where you can't try out a mattress before buying. Costco's return policy is relatively generous and includes free pickup and return with no repacking needed. Many other major retailers hit you with pickup and restocking fees.

**Look for a label.** Some, though not all, states require retailers to include one that

*Continued on next page*

### ■ DID YOU KNOW?

Buying the wrong mattress—or hanging on to one that's tired—can do more than just keep you awake at night. "It could create pressure points on certain parts of the body or provide too little support, causing back pain even if you don't have a chronic back condition," says Arya Nick Shamie, M.D., chief of orthopedic spine surgery at UCLA Health.

## Best retailers (and some gotchas to avoid)

Original Mattress Factory came closest to providing a satisfying shopping experience across the board, according to our latest subscriber survey involving 15 major mattress stores. But as the chart below shows, some stores score far better for price and selection. We also spoke with an industry veteran to help you sidestep some tricks of the trade, no matter where you shop. Here are the big ones:

**Come-on prices.** Advertised specials are meant to get you into the store, not to sell you the best mattress, says Tom Wholley, president and owner of Connecticut Mattress in South Windsor, Conn. "Either that \$299 queen-size mattress isn't really there or it's nothing you'd want to sleep on." Our mattress tests continue to show that the cheapest mattresses tend to be just that.

**The step-up.** Sales staff often work on sliding-scale commissions; the pricier the mattress, the more they get. Salespeople also get incentives for promoting specific models, Wholley says. "That's why the ads may push what's on sale, but the salesman quickly steers you to a more profitable model." Indeed, almost 20 percent of subscribers were pressured to buy a pricier mattress than the one on sale. Our advice:

Go by our mattress performance scores, and stick with the brand and model that best matches how you sleep.

**Added-cost extras.** Roughly 10 percent of subscribers said they were urged to spring for more expensive features. Some retailers pressure you to buy a mattress protector, about \$80, claiming it's a condition of the warranty. Mattress protectors can offer some protection against sweat and other stains. "But you don't have to buy a protector to get the warranty," Wholley says.

**Returns with strings attached.** Sears gives you 30 days to return a new mattress; that period stretches to 60 days for Macy's and 90 days for Ikea. But you'll have to tote that mattress back to Ikea yourself or pay for pickup. And both Macy's and Sears charge shipping and a 15 percent restocking fee. Ask before you buy; almost 40 percent of our subscribers with regrets wished they had done more research.

**A lifetime warranty with limits.** Even the longest mattress warranty typically covers structural defects—not normal wear. And even if the mattress you bought is relatively new, you're generally out of luck unless your bed is sagging by at least 1½ inches, and sometimes more.

## Ratings Stores

In order of reader score.

Order	Retailer	Median price paid	Reader score	Survey results				
				Quality	Service	Price	Delivery	Selection
			0 100					
1	Original Mattress Factory	\$ 908	88	●	●	●	●	●
2	Costco	629	86	●	—	●	●	●
3	Ikea	516	84	●	○	●	●	○
4	Denver Mattress Company	949	81	●	●	○	●	○
5	Tempur-Pedic Store	2,359	80	●	●	●	●	●
6	Select Comfort Store	2,012	80	●	●	●	●	○
7	Sleep Train	1,910	80	●	●	○	●	○
8	Macy's	1,196	79	○	●	○	●	○
9	Mattress Firm	1,472	78	○	●	○	●	○
10	Ashley Furniture	1,138	77	○	○	○	●	○
11	Sears	902	77	○	○	○	●	●
12	Mattress Warehouse	1,227	76	○	○	○	●	○
13	Sam's Club	553	75	○	—	●	○	●
14	Mattress Discounters	1,399	75	○	○	○	●	○
15	Sleepy's	1,375	72	○	○	●	●	○

Price paid is for a queen-size mattress. A dash (—) indicates insufficient data.

Retailer Ratings are based on 6,105 shopping experiences at walk-in mattress stores between 2011 and June 2013 and reflect subscribers' experience but not necessarily those of the general population. **Reader score** reflects overall satisfaction with a retailer. Ratings were tied most closely to service, perceived mattress quality, and price but are not limited to factors listed under survey results. A score of 100 would mean all respondents were completely satisfied; 80 means they were very satisfied on average; 60, fairly satisfied. Differences of fewer than 6 points were not meaningful.

declares “all-new material,” along with an alert if the mattress itself is used or was returned. Check with authorities in your state. And consider buying only tagged mattresses from trusted sellers.

**Don't buy solely by brand.** Almost 13,000 subscribers in a separate survey found the Tempur-Pedic, Ikea, Original Mattress Factory, Novaform, and Sleep Number brands to be the most comfortable, and the Sealy, Serta, Simmons, and Stearns & Foster brands less so. But as our test Ratings show, different models within the same brands can perform very differently. And though Sleep Number's \$3,000 Innovation Series i8 topped our tests, our research shows that its Classic C2—adver-

tised with a limited-time \$699 price as we went to press—differs notably in construction, with a much thinner foam layer.

**Weigh latex concerns.** Many mattresses, even innerspring models, include latex-based foam layers that might concern those with latex allergies. Manufacturers often claim that their processing removes the protein allergens that can cause problems for allergy sufferers. Still, we've noted in our Ratings which tested mattresses include latex.

**Keep your old box spring if possible.** You could save roughly \$150 to \$300 by using an old foundation if it isn't sagging or damaged. But you may need a new one if you're switching from innerspring to foam. Also

be sure the mattress warranty doesn't require a new box spring, as some do.

**Shop during the holidays, and haggle.** Huge markups and profit margins often let retailers lower prices by 50 percent or more, especially during major holidays. That also leaves plenty of room for haggling year-round: Roughly one-third of our survey respondents slashed \$185 or more off the price by doing just that.

#### HOW WE TEST MATTRESSES

Use your smart phone to download the RedLaser or ShopSavvy app and scan the code for the video.



## Mattress myths

Here are a few common claims that haven't held up in our tests:

### ❑ Foam layers make a better bed.

More innerspring mattresses now include foam on top. But the foam is too thin to make a difference on some of the hybrid models. “It's basically there to provide another bullet point that tells you what's cool about it,” says Ben Kuchel, a former R&D executive and industry consultant. Hybrid innerspring models that scored well in our tests had a foam layer several inches thick, though performance still varied.

### ❑ The more coils, the better.

The better innerspring models we tested had 600 to 1,000 coils. But even if one mattress has more coils than another, the coils could be made of thinner-gauge metal. You'll also hear about coil variations such as Bonnell (hourglass type), continuous wire, and individually pocketed springs. None of those is inherently superior.

**❑ Gel cools.** Some mattresses (noted in our Ratings) have a layer of gel-infused foam that's supposed to provide a cooling effect. But that layer is buried beneath other layers. “Gel is the biggest façade to come out in the last five or six years,” says Kuchel. “It makes sense for impact resistance like the bottoms of shoes or bicycle seats, but for mattresses it's smoke and mirrors.”

**❑ Extra lumbar support helps back-sleepers.** A special lumbar-support zone is one of many ways manufacturers try to differentiate their product lines. “But there's no guarantee that it makes any real difference,” says Kuchel. In our tests, it hasn't shown significant benefits.



## 6 ways to sabotage your sleep

Sleep deprivation has been linked to weight gain, diabetes, heart disease, suppressed immune function, and lower overall life expectancy. If you aren't getting 7 to 8 hours of sleep each night, check these six common culprits:

**Varying your bedtime.** Love those late-night Saturdays? Staying up more than an hour later than usual can make it harder to fall asleep on Sunday—and harder to get up on Monday. Try to keep a consistent bedtime schedule, even on weekends.

**Watching the late, late, late show.** Sitting in front of the TV and reading e-books may seem like a great way to fall asleep. But those bright screens can fool your brain into thinking it's morning. Click both off an hour or so before bed. And try using white text on a black background for tablets and e-readers.

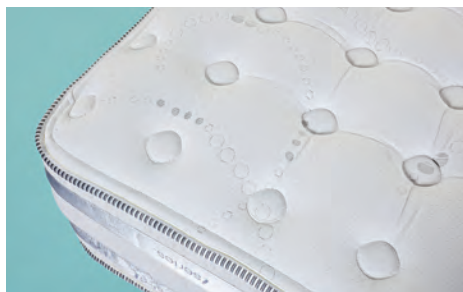
**Drinking that extra cup of joe.** Coffee or tea too late could keep you up all night. Opt for decaf coffee after 6 p.m., earlier if you're having trouble sleeping. And be sure to eat no later than 3 hours before sleeping, especially if it's a big meal.

**Having one for the sack.** A brandy before retiring may be what people do in old movies. But alcohol, which starts out as a mild sedative, becomes a stimulant as it's metabolized. Have that last cocktail at least 6 hours before bed if you have sleep problems.

**Doing the pushups you meant to do.** The same stress hormones that rev up your heart rate keep you awake. Finish up your exercise at least 4 hours before bedtime.

**Spooning with Spot.** Having your dog or cat by your side may feel reassuring. But your pet's rustling is likely to mean a less-than-restful sleep for you.





A1 Serta



B1 Sleep Number

## Ratings Mattresses

All tested models In performance order, within types.

Recommendation	Rank	Brand & model	Firmness		Price	Overall score	Test results					
			Claimed	Measured			Side sleeping	Back sleeping	Durability	Stabilization	Resists bounce	Eases movement
						0						
						100						
						P   F   G   VG   E						

- Excellent
- Very good
- Good
- Fair
- Poor

- CR Best Buy
- Recommended

### A INNERSPRING

✓	1	Serta Perfect Day iSeries Applause ①	firm	medium	\$1,075	72	●	●	●	●	●	●
✓	2	Beautyrest Recharge Palisades Court Luxury Firm Pillowtop ①	firm	soft	1,490	71	●	○	●	●	●	●
✓	3	Charles P. Rogers St. Regis Pillowtop	NA	medium	1,100	68	○	●	●	●	●	●
✓	4	Sealy West Glens Falls Cushion Firm Euro Pillowtop ①	firm	medium	1,490	67	○	●	●	●	●	●
✓	5	Stearns & Foster Lois Luxury Firm (Sears)	firm	medium	2,200	64	○	●	●	●	●	●
✓	6	Stearns & Foster Lux Estate Delana Ultra Firm ②	firm	medium	3,210	63	○	●	●	●	●	●
	7	Sears-O-Pedic Livorno Super Pillowtop 15-inch (Sears)	NA	soft	1,000	62	○	●	●	●	●	●
	8	Duxiana Dux 101 ②	NA	soft	4,800	61	○	●	●	●	●	●
	9	Saatva Luxury Firm Euro Pillowtop	firm	soft	900	60	○	●	●	●	●	●
	10	Ikea Sultan Holmsta ②	firm	soft	580	58	○	●	●	●	●	●
	11	Beautyrest TruEnergy Bryanna ①	plush	soft	1,570	58	○	●	●	●	●	●
	12	MacyBed Grand Plush Super Pillowtop 15-inch (Macy's)	plush	soft	910	57	○	●	●	●	●	●

### B MEMORY FOAM

✓	1	Sleep Number Innovation Series i8 bed Pillowtop ③	NA	soft	3,000	74	●	●	●	●	●	●
✓	2	Novaform Memory Foam Collection Serafina 14-inch (Costco) ①	firm	medium	800	69	●	●	●	●	●	●
✓	3	Bob's Discount Furniture Bob-O-Pedic 11-inch Firm	firm	medium	800	63	○	●	●	●	●	●
✓	4	Tempur-Pedic Tempur Simplicity	firm	medium	1,200	62	○	○	●	●	●	●
	5	Sealy Embody Insightful ② ③	plush	medium	1,260	61	○	○	●	●	●	●
	6	Night Therapy 14-inch Deluxe Grand Firm (Sam's Club)	firm	medium	515	58	○	○	●	●	●	●
	7	Serta iComfort Sleep System Genius (Macy's) ①	firm	medium	1,375	58	○	●	●	●	●	●
	8	Spa Sensations 10-inch Memory Foam SPA-1000Q (Walmart)	firm	medium	360	57	○	●	○	●	●	●
	9	Beautyrest ComforPedic Loft Crestwood Luxury Plush ①	plush	soft	1,920	54	○	○	●	●	●	●
	10	Sealy Posturepedic Optimum Inspiration ①	plush	soft	1,775	52	○	○	●	●	●	●
	11	Ara 13-inch 100% Visco Memory Foam (Costco)	plush	soft	1,100	48	○	○	●	○	●	●
	12	Ashley Sleep Ellis Bay 15-inch Pillowtop	NA	soft	1,200	43	○	○	○	○	●	●

① Includes a layer of gel-infused foam. ② Includes a latex-foam layer. ③ Made of foam but not memory foam.

## Guide to the Ratings

**Overall score** is mainly side and back support, durability, and stability. Note that results for the Sleep Number represent an average of firmness levels. **Side sleeping** is the ability to keep the spine relatively horizontal on one's side. **Back sleeping** is the ability to maintain the spine's natural curve on one's back. **Durability** gauges ability to keep original shape, height, firmness, and side/back support simulating eight years of use. **Stabilization** indicates little or no bouncing transferred for innerspring, ease of movement and changing position for foam. **Firmness** compares claims with our measurements. (NA means no claim made.) Note that gel, if present, is infused into at least one layer of foam, including foam layers for innerspring. **Price** is approximate retail for queen size without box spring, \$150 to \$300.

## Overview

Mattresses that made our winners' list scored at least Good for back and side support. Top models also transferred relatively little movement from side to side among innersprings and, for memory foams, didn't make movement difficult. Models sold only at certain retailers are noted in the Ratings. Among our top picks, we focus below on those that stand out for specific strengths, value, or both.

✓ **CR Best Buy** These models blend performance and value. All are recommended.

✓ **Recommended** Fine performers that stand out for the reasons below.

### IF YOU PREFER INNERSPRING

**A1 Serta** \$1,075 **CR Best Buy**

**A2 Beautyrest** \$1,490

**A5 Stearns & Foster** \$2,200

**A1** is the only innerspring mattress we tested with impressive side and back support—ideal for two sleepers who sleep differently. Choose **A2** if you mostly sleep on your side and prefer a softer mattress. And consider **A5** for its stellar bounce resistance, a plus for two sleepers if one moves around a lot. Like **A2**, it helps maintain warmth in winter but should "breathe" when it's hot.

### IF YOU PREFER FOAM

**B1 Sleep Number** \$3,000

**B2 Novaform** \$800 **CR Best Buy**

**B3 Bob's Discount Furniture** \$800

Superb back and impressive side support make the foam-and-air **B1** the top choice for two sleepers with different sleep habits. And you can pump up firmness differently for each side. But **B2** should also satisfy both back and side sleepers for much less. We found it firmer than **B1** even when we adjusted it for a firmer setting. Both models help maintain warmth in winter but could feel hotter in warmer months. **B3** can be ordered with one side firmer—a plus for two sleepers.



# Find the right pharmacy

Our survey of 33,000 readers shows why you may want to switch

**CORNER DRUGSTORE** may be an apt phrase, because you can hardly turn a corner without running into a CVS, Rite Aid, or Walgreens. The U.S. is home to more than 7,400 CVS stores alone. But if you're still going to a pharmacy chain for prescriptions, as do half of our readers, you might be missing out. As a group, pharmacy chains scored no higher in our Ratings of walk-in drugstores than big-box chains such as Costco and Walmart, and both types of store were bested by supermarkets and independent pharmacies. Independents (and the independently owned franchise chain Health Mart), as well as the regional supermarket Wegmans, earned readers' top marks for speed and accuracy, courtesy and helpfulness, and pharmacists' knowledge.

When we spoke to industry insiders, one point became clear: Pharmacies are taking on a bigger role in health care. Overall, that's good news for busy consumers. "It's not just about filling pill

bottles," says B. Douglas Hoey, CEO of the National Community Pharmacists Association. "Pharmacies are starting to offer more comprehensive services—everything from making sure that the medicines you take are right for you to preventive care and health monitoring."

That makes it more important than ever to have the right pharmacy and to make a change if you aren't satisfied with the role yours is playing in your health care. We've pulled together a list of 10 reasons to consider switching.

## ► You can't easily consult your pharmacist

Establishing a good relationship with a pharmacist you trust is the No. 1 reason to choose a drugstore, says Lucinda Maine, CEO and executive vice president of the American Association of Colleges of Pharmacy. "You can and should expect your pharmacist to be both accessible and knowledgeable," she says. "If he or she is not, then you should take your business elsewhere."

The vast majority of readers rated their pharmacist's knowledge as Very Good or Excellent, regardless of the type of pharmacy, but independent drugstores came out on top, with 94 percent of patrons giving their pharmacists high marks. Not surprisingly, customers at independents were much more likely than others to have discussed prescriptions with their pharmacist. That's especially important because your pharmacist can tell you about ways that over-the-counter drugs and even certain foods can interact with prescription drugs to make them less effective or cause dangerous side effects. Too much vitamin K from leafy greens, for instance, can reduce the blood-thinning effects of warfarin, and certain supplements, including St. John's wort, can make birth-control pills and some heart drugs less effective.

It can be particularly difficult in large stores to communicate with pharmacists, who are usually busy in the back, leaving technicians and clerks to serve customers. One-third of shoppers at chain pharma-



cies and big-box stores who said they weren't comfortable discussing personal medical concerns at the drugstore thought the pharmacist seemed too busy. To counteract that impression, Walgreens has moved a pharmacist to a desk up front in some of its stores.

A lack of privacy was a problem for more than one-third of the readers who felt uncomfortable discussing personal medical concerns with their pharmacist. Such was the case even at independents. Many drugstores have a consultation area; don't be shy about asking to talk there rather than at the pick-up counter. For longer consultations—say, to review all of your medications or discuss your prescription-drug coverage—you should be able to make an appointment. If you're unclear about how to take a drug or what to take it with, or you just want to talk privately, a phone call is a great option.

### ▶ You have to wait for prescriptions

You're much less likely to wait at an independent pharmacy than at another type of store, according to our survey. Only 7 percent of customers at independents reported that a prescription wasn't ready when promised during the previous 12 months; just 4 percent complained of long waits. By contrast, 19 percent of shoppers at pharmacy chains found that a prescription wasn't ready, and 21 percent experienced long waits at the service counter.

Keeping customers waiting is actually part of the marketing strategy at some stores, says Murph Najjar, who spent more than 12 years as a pharmacist at drugstore and grocery chains before establishing the independent Liberty Pharmacy in Austin, Texas. "They'd like you to use that wait time to shop," he says. "It's also

## Independent druggists offer fast, personal care.

why the pharmacy is typically located in the far back corner. By making you walk past as many products as possible, they hope to entice you to buy something."

### ▶ Your pharmacy is often out of a medication

Overall, almost 40 percent of shoppers reported that a drug they needed was out of stock in the past year. At Albertson's, the worst offender, 54 percent had that complaint, as did at least 45 percent of shoppers at Jewel-Osco, Kmart, Medicine Shoppe, Rite Aid, Safeway, and Sam's Club.

Only about 25 percent of customers at Health Mart and 15 percent at Kaiser Permanente complained that a drug was out of stock. As a group, independents were more likely than other types of pharmacies to restock a drug later that same day or the next.

### ▶ You're paying too much

The one area in which independent drugstores didn't do as well as chains was out-of-pocket costs for prescription drugs. Our survey revealed that customers at independents paid a median of about \$50 more each year than supermarket and drugstore-chain shoppers and almost \$100 more than people who buy at big-box stores.

Of course, for people with health insurance, the co-pay is usually the same regardless of the pharmacy. But double-check your plan. Some companies have negotiated discounts with "preferred" pharmacies or mail-order plans. Savvy shoppers can save in several other ways:

**Speak up.** Our secret shoppers have found that when they've asked for a better deal, pharmacy staffers have sometimes suggested discounts (such as those for seniors or students) and membership programs. A good pharmacist can help in other ways. "We can look at what you are taking and suggest cheaper alternatives or generic substitutions," Hoey says. "We can almost always find ways to cut costs."

**Pay cash.** Some readers reported saving by not using their insurance on certain drugs. Big chains offer hundreds of generic prescription drugs for as little as \$4 monthly or \$10 for a three-month supply.

**Earn discounts.** Shoppers at the big pharmacy chains were most likely to report using loyalty or rewards programs to save money. Once you've signed up online

## What kind of pharmacy shopper are you?



### If you value personal service

#### THE CHOICE

Independent drugstore  
Independents scored highest in every area of customer service. At least 90 percent of shoppers at independents rated their pharmacy as Excellent or Very Good in speed & accuracy, courtesy & helpfulness, and pharmacists' knowledge.



### If you like rewards programs

#### THE CHOICE

Pharmacy chain  
Shoppers at pharmacy chains were far more likely to use store loyalty cards than were those who shopped elsewhere, and 87 percent of those who did so reported saving money.



### If you're all about one-stop shopping

#### THE CHOICE

Supermarket chain  
People who switched to a supermarket pharmacy, from either a different type of drugstore or another supermarket, were most likely to list convenience as a reason.



### If you're looking for the cheapest price

#### THE CHOICE

Big-box chain  
Almost half of our readers who switched to a big-box pharmacy said they did so for better prices on prescription drugs. Our survey found that, on average, big-box customers spent the least out of pocket on medications.



### If you're a homebody

#### THE CHOICE

Mail order, maybe  
Mail order can make sense if you want your drugs to come to you. But be aware that there have been some complaints about service. If possible, choose a mail-order company that confirms orders before shipping.

or in the store, show your card when buying prescription drugs or other items and accrue points toward discounts, cash back, or other rewards.

**Fill 90-day prescriptions.** Filling ongoing prescriptions for three months instead of one might save you two co-pays.

**Shop around if you pay out of pocket.** Independents might be more willing to negotiate prices because they have more discretion over costs than do other types of store. Earlier studies by Consumer Reports suggest that prices at independent pharmacies may be much higher or much lower than those at chains or big-box stores. To find out, make a few phone calls.

### ❑ You make lots of trips for medicine

If you or a family member takes multiple medications, ask about refill synchronization. Pharmacies that offer that service can coordinate with your doctors to make sure all of your medications are ready for pickup once monthly or, in some cases, every 90 days. They can also review your medication during a one-on-one consultation to make sure you aren't duplicating any drugs, taking medications that you no longer need, or experiencing side effects. If needed, the pharmacist can even call your doctor to adjust your drug list or dosing.

"It's certainly a convenience for the patient, but research shows that it also helps them adhere to their drug regimen," Hoey says. Only about 10 percent of pharmacies nationwide offer medication synchronization, Hoey adds, but it has been so successful that more are likely to do so.

### ❑ Your pharmacy doesn't offer preventive care

It's hard to miss all of the ads for flu shots, but many people don't realize the array of other immunizations available at drugstores. As at your doctor's office, the pharmacy will file with your insurance. Plans cover many vaccines with no co-pay, so you might not be charged. Rules vary by state, but drugstores might offer vaccinations for chicken pox, hepatitis A and B, the human papillomavirus (HPV), measles, pertussis (whooping cough), pneumonia, polio, shingles, and tetanus. Stores that provide travel immunizations, including Target and Walgreens, also cover vaccines for meningitis, typhoid, and other diseases.

Some pharmacies offer health and wellness programs. For example, Walgreens will perform a weight analysis based on

waist circumference, body mass index, and body composition (percentage of body fat and skeletal muscle). Kroger pharmacies and others offer smoking-cessation programs. If you try one, be sure that the

## More pharmacies are helping with primary care.

pharmacist is certified and trained to provide such counseling, and let your doctor know that you've entered the program.

### ❑ Your pharmacy doesn't keep tabs on your health

Increasingly, pharmacies are contributing to primary care. "The pharmacy is stepping in to fill gaps in therapy," says Kathleen Jaeger, spokeswoman for the National Association of Chain Drug Stores. "So in addition to making sure patients are taking their medications safely and consistently, you might have the pharmacist working with the primary physician to do routine testing, keeping tabs on things like blood pressure, cholesterol, and blood sugar." For patients, it can be more convenient to visit a neighborhood pharmacy

for tests than to make a trip to the doctor.

A study in Asheville, N.C., found that most patients with diabetes who received ongoing care from their pharmacist had lower hemoglobin A1c levels and fewer sick days, and spent less on hospital stays. For diabetes monitoring, rely on pharmacists who are accredited in diabetes self-management training and education.

Costco and many other drugstores offer periodic screening for heart disease, high blood pressure, elevated cholesterol, type 2 diabetes, and even asthma and chronic obstructive pulmonary disease.

The key to using any of those services wisely is to keep your doctor in the loop, says Marvin M. Lipman, M.D., chief medical adviser to Consumer Reports: "Make sure your pharmacist forwards any information about tests to your doctor's office so that it can be added to your file. And always follow up with your physician to discuss diagnosis or possible treatment."

### ❑ You're not using up-to-date technology

When it comes to ordering prescriptions or refills from walk-in pharmacies, our readers are old school. Almost all said they phoned or faxed orders, had their doctor do it, or visited the pharmacy in person. If

## Tips for making the switch

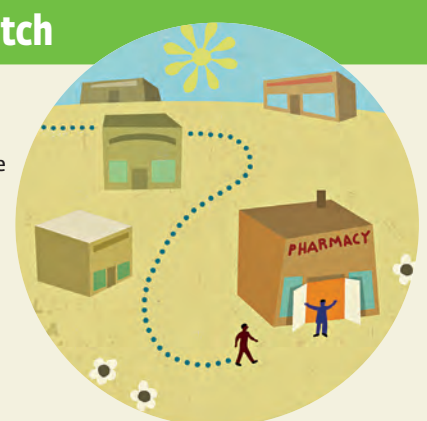
Changing pharmacies isn't difficult, but you need to follow all of the steps to make sure that everyone involved in your family's health care has up-to-date information. Here's what to do:

**Let the new druggist handle transfers.** Much of the work to transfer prescriptions, including remaining refills, is done electronically these days. Depending on your state laws, refills for controlled substances might not transfer, in which case you'll need to have your doctor issue a new prescription.

**Do the paperwork.** Your pharmacy needs a complete profile of every family member, including insurance information, medical history, and a list of every drug used—prescription and over-the-counter drugs, herbs, supplements, topical preparations, and even eye drops.

**Notify your doctors.** It will save time and confusion later if you call your doctors' offices and update the pharmacy information in your file.

**Fill all prescriptions at the new store.** Chain stores frequently entice



customers with discounts and gift cards for transferring or bringing in a new prescription. But once you've found a drugstore that suits your needs, it's safest to fill all of your prescriptions there if you can. "Jumping around might save you a few dollars here or there, but it's bad in the long run because no one place will have a complete medical profile," Hoey says. "We can't alert you to potentially dangerous interactions if we don't know everything you are taking."



you'd rather use your computer, tablet, or smart phone, look for a chain that has integrated those technologies into the pharmacy experience.

Although independent stores are less likely than other types to have an interactive website, most chains will let you handle the majority of your business online. You can check the number of refills remaining, place orders, and designate a time for pickup. You can also sign up to have the pharmacy refill your prescriptions automatically and notify you when they're ready.

And, of course, there's an app for that. For example, CVS and Walgreens have mobile apps that let you order refills by scanning the pill bottle with your smart phone. Other nice features: The CVS app will allow you to identify a drug based on its color, shape, and imprint, and check drug interactions on OTC products; the Walgreens app lets you chat with a pharmacy expert 24 hours a day.

## ■ You need individualized services

Do you ever forget to take medications? Walmart, Sam's Club, and some independent drugstores will put your pills in blister packs, so you can tell at a glance that a dose has been taken. Jaeger suggests asking the pharmacist to package pills according to when they need to be taken. "We can group them," she notes, "so instead of a bunch of pill bottles, you'll have individual packages, neatly labeled with the contents and time of day to take them—breakfast meds and bedtime meds, for example."

Most independents offer compounding, or custom-mixing, services to tailor medication for individual patients. They can make a medication without a certain dye for a patient with an allergy, for example, or create a liquid version of a drug for a patient who has trouble swallowing pills. Independents also usually stock specialized medical items such as walkers, canes, oxygen, and ostomy supplies.

## ■ You'd like prescriptions delivered to you

Facing stiff competition, some drugstores have started to offer delivery services, as in days of old. Some H-E-B pharmacies deliver one prescription for \$5 (two or more are free), but the service isn't available on weekends or holidays. Independents are still your best bet for anytime delivery.

Ordering by mail is another option,

and 36 percent of all survey respondents bought prescription drugs from a mail-order pharmacy during the previous 12 months. Nine of 10 did so from an employer- or insurance-managed pharmacy benefit management program such as Express Scripts or Caremark. Relatively few bought from online-only pharmacies such as Drugstore.com or the websites of walk-in pharmacies.

Although ordering by mail can be convenient, it's less personal and can lead to errors in communication. Even after you've discontinued a drug, for example, a mail-

order company might keep sending and charging for refills until you tell it to stop. As of Jan. 1, 2014, the Centers for Medicare & Medicaid Services required mail-order pharmacies to obtain consent from a patient or caregiver before shipping a new prescription or refill.

Before using an online-only site, look for a Verified Internet Pharmacy Practice Sites (VIPPS) seal, indicating completion of a voluntary accreditation program through the National Association of Boards of Pharmacy. You can also find accredited sites at [legitscript.com](http://legitscript.com).

## Ratings Pharmacies

All stores rated in order of reader score.

Store	Reader score	Survey results			Store	Reader score	Survey results		
		Speed and accuracy	Courtesy and helpfulness	Pharmacists' knowledge			Speed and accuracy	Courtesy and helpfulness	Pharmacists' knowledge
	0	100				0	100		
Wegmans	93	●	●	●	Shopko	88	●	●	●
Health Mart	92	●	●	●	Kmart	88	●	●	●
Independents	92	●	●	●	ShopRite	87	●	●	●
Raley's	92	●	●	●	Albertsons	87	●	●	●
Bi-Mart	91	●	●	●	Kinney Drugs	86	○	●	●
Medicine Shoppe	91	●	●	●	Target	86	●	●	●
Kaiser Permanente (Calif.)	90	●	●	●	Fred Meyer	86	○	●	●
Smith's Food & Drug	90	●	●	●	Jewel-Osco	86	●	●	●
Discount Drug Mart	89	●	●	●	Kroger	86	●	●	●
Publix	89	●	●	●	Meijer	85	○	●	●
Stop & Shop	89	●	●	●	King Soopers	84	○	●	●
Hy-Vee	89	●	●	●	Rite Aid	83	○	●	●
Costco	89	●	●	●	Safeway	83	○	●	●
Sam's Club	88	●	●	●	Walgreens	82	○	●	●
Hannaford	88	●	●	●	Giant Eagle	82	○	●	●
					H-E-B	81	○	●	●
					CVS	79	○	○	●
					Walmart	79	○	○	●

## Guide to the Ratings

Ratings are based on the Consumer Reports National Pharmacy Center Annual Questionnaire of 33,025 Consumer Reports subscribers reporting on 39,641 experiences purchasing prescription drugs from walk-in pharmacies between April 2012 and April 2013. **Reader score** reflects overall satisfaction with the experience. A score of 100 would mean that all respondents were completely satisfied; 80, that they were very satisfied on average. Differences of fewer than 6 points are not meaningful. Scores under **survey results** reflect averages on a scale from Very Poor to Excellent. Most of the pharmacies earned fairly high marks. Ratings are based on the experiences of our subscribers and might not reflect those of the U.S. population as a whole.

## Help! The drug I take is no longer covered

If a medication you are taking is dropped from your health plan's formulary (its list of covered drugs), talk to your doctor, who might be able to treat you with a drug from the new formulary. If that's not possible, petition your insurance company to cover your drug. If it denies your request, appeal. Your pharmacist can also work with you to choose a more affordable drug, substitute a generic, or petition your plan.



# Get more from your TV

10 ways to save money, get a better picture & more

## Inside this section

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**T**ELEVISION IS America's great guilty pleasure. We realize that we watch too much of it, and we think we pay more for it than we should. But we get a lot of enjoyment watching a movie or playoff game with family and friends, so most of us will keep on doing it.

Just because we like to veg out in front of the TV doesn't mean we want our choices spoon-fed to us. Television is in the midst of a revolution. Consumers have more programming options to consider and more ways to get content, and TV shoppers have

more decisions to make. It's exciting but can be confusing as well.

In this two-part TV package, we'll tell you how to save on TV programming and widen your entertainment choices with online services—even if your TV doesn't have Web access. Looking for a new set? Our buying guide will help you cut through the jargon and make smart decisions about new technologies such as Ultra HD and OLED. We'll also help you decide how "smart" a TV you need. When you're ready to shop you'll find great choices in our Ratings of more than 170 tested TVs.



# 1 For free TV, cut the cord

**Does opening your bill** for cable or satellite TV make your blood boil? You're not alone. Monthly pay-TV bills averaged around \$86 in 2011 (the most recent data available), according to research firm NPD—and that doesn't include Internet or phone service, which can easily push the tab for a triple-play package to \$150 or more. Many consumers fantasize about firing their TV provider and saving \$1,000 or so per year, but few follow through. If you just can't take those bills anymore, here are a few options:

**Look, up in the sky.** With a UHF-VHF antenna, you can enjoy free—that's right, free—over-the-air, HD broadcasts from local stations such as ABC, CBS, NBC, and others. You may pull in a few dozen channels with news, movies, and foreign-language programs. It depends on what's offered in your area, how far you live from a transmitter, and whether trees or buildings block signals.

Rooftop antennas work best in difficult locations, but indoor antennas are cheaper and more convenient. We had 12 staffers test 10 antennas that cost \$8 to \$80. Their reception varied greatly, depending on location. Among those that did well were the RCA ANT 1650, \$32, and the RadioShack 15-254, \$35. In poor reception areas an amplified antenna might work best. You might need to try more than one model, so buy from a retailer with a no-hassle return policy.

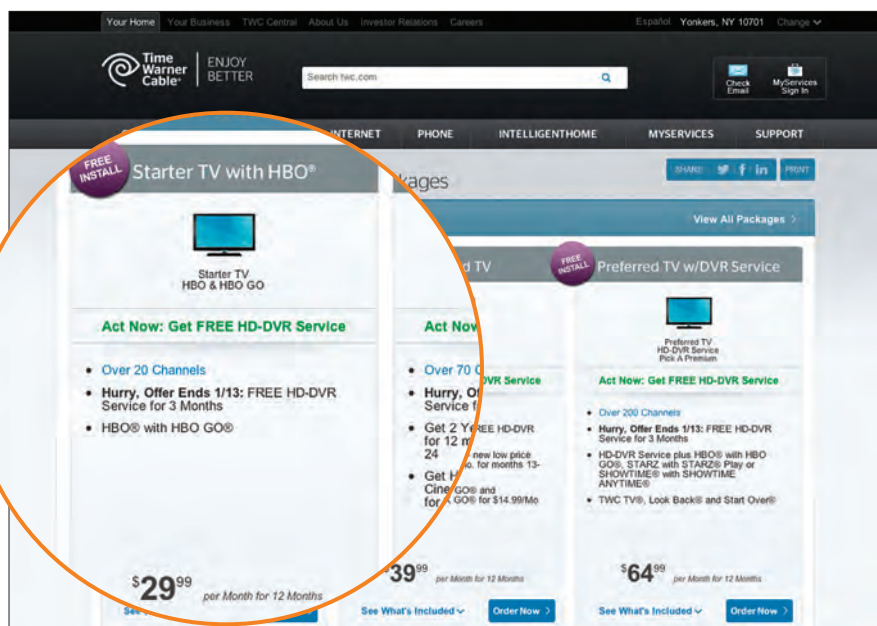
**Not free, but cheap.** If the antenna offerings aren't enough, you can round out your viewing preferences with an online service such as Netflix (see page 30).

What if no antenna works? See whether you can get Aereo, which delivers broadcast TV over the Internet. Aereo recommends broadband speed of 2.5 megabits per second (mbps) for HD, which any cable modem would provide. It costs \$8 monthly for 30 or so stations and a cloud-based DVR with 20 hours of recording. At press time, Aereo served 10 metro areas. Check [aereo.com](http://aereo.com). In other areas, ask the cable company for its most basic package, usually about \$20 per month plus \$6 to \$10 for a set-top box.

## BY THE NUMBERS

Increases of 6 percent per year could push the average cost of pay-TV subscriptions to \$123 per month by 2015 and \$200 by 2020, according to the NPD Group, a research firm in Port Washington, N.Y. And those figures don't include phone or Internet service.

**Pay-TV costs**  
**\$123**  
 per month  
 by 2015  
**\$200**  
 per month  
 by 2020



**PICK A PACKAGE** Save by trying a lower-priced bundle plus streaming.

# 2 ... or shave it a little

**EVEN IF YOU HATE** the price of your cable service, you might still love some of its programming. Pay-TV services are coming out with lower-priced plans to hang on to potential cord cutters who can't live without "Boardwalk Empire" and other HBO originals. Time Warner Cable, for example, offers a \$30-per-month "Starter TV with HBO" package with about 20 mostly broadcast channels plus HBO and HBO Go; an HD box adds \$10 per month. Comcast has a similar channel lineup plus its Streampix streaming video service and high-speed broadband for \$40 or \$50 per month, plus about \$10 for a set-top box.

**Downsize.** A bare-bones package might not suit you, but perhaps you don't need everything you're paying for. Evaluate how many channels you actually watch. You might find that a lower, cheaper tier of service would satisfy you, especially if you supplement it with a streaming service (see page 30) that offers many viewing choices at a low price.

**Negotiate.** If you don't want to change your current TV package, see whether a promotion will save you money. Ask for the disconnect or cancellation department. You'll speak to a customer-retention specialist whose job is to keep you as a subscriber. Say you're planning to drop

service because the price is too high. It might help to have info on better deals from other providers. Be warned that service providers are getting tougher. If they won't budge, say you must think about it and will call back when you decide.

**Switch.** You may conclude that it's time to switch to another provider, which might give you a better deal as a new subscriber. In many areas there's only one cable company, but satellite TV is available in most parts of the country, and Verizon FiOS and AT&T U-verse serve many areas.

## Cable-TV subscription trends



Source: Altman Vilandrie & Co., Research Now Survey, 2013.

**Streamline.** Think about cutting equipment. Is it worth paying for DVR service or a set-top box for all of the TVs you have connected? Consider keeping cable on your main TV and use an antenna for a bedroom TV used mostly to watch news or talk shows. You'll save \$6 to \$10 per month on box rental. (Bonus: That TV will get you over-the-air programming if your paid service goes down for any reason.)

# 3 Stream what you want when you want it

**Streaming video services** are the big bang behind your exploding viewing options. Those online services offer thousands of movies and TV programs, old and new, that you can enjoy on your own schedule. To stream video you

## BY THE NUMBERS

Among more than 7,000 CONSUMER REPORTS readers who'd subscribed to a streaming video service for a year or less:

**11%**

moved to a lower-priced pay-TV tier with fewer channels.



**15%**

dropped some premium TV channels.



Source: 2013 Annual Questionnaire conducted by the Consumer Reports National Research Center.

need a broadband Internet connection (our experts recommend 5 mbps or higher, provided by most cable services) and either a TV with built-in Internet capability or a device that you connect to the set—a media player, an Internet-enabled Blu-ray player, or a game console.

Most services charge either a subscription fee, usually \$10 or less per month, or several dollars for each movie or TV episode you stream. Subscription services save you money if you stream a lot. Renting a few movies and TV programs every week can get expensive if you have to pay for each one individually. On the other hand, subscription libraries usually don't have current titles; pay-per-view services often get new releases the day they come out on disc. For quantity, a subscription service wins. For currency, go for pay-per-view. Or do both: Get a subscription and use pay-per-view occasionally to see new releases.

One major service, YouTube, has a huge selection of free movies and TV shows,



though it's known mostly for amateur videos. But video quality varies more than with the paid services, which usually offer very good quality on a decent Internet connection.

**Netflix**, which costs \$8 per month, is the most widely available service on TVs, media players, and other devices, and it has a sizable library of movies and TV programs. (Newer titles might be available only as DVD and Blu-ray rentals, which require a separate subscription.) **Amazon Prime** provides unlimited access to a portion of the Amazon



## OLED: Best TV yet

**Samsung KN55S9C, \$9,000**

OLED (Organic LED) technology combines the best attributes of plasma and LCD TVs but has none of their shortcomings. This 55-inch Samsung, one of the first larger OLED screens available, is the best TV we've ever seen. It has deep blacks, superbright images, vibrant colors, strong contrast, and excellent 3D performance. Top that off with OLED's unlimited viewing angles and great energy efficiency, in an ultrathin design with a curved screen. OLED could be the wave of the future, but it will be some time before prices drop to mainstream levels. LG also has an OLED TV and will be rolling out several more this year.

# 4 Improve picture quality on any TV, new or old

**OUT-OF-THE-BOX** picture settings could be cramping your TV's style, our experts warn. Many new models are set to a power-saving mode to meet Energy Star standards, which can result in a dim or washed-out picture. Too bright or garish? The TV might be set to Vivid or Dynamic mode. Here and on the next page, you'll find tips on getting the best picture your TV can deliver:

**Choose a picture mode.** This one-step solution adjusts many settings at once. Freeze on an image with faces and detail. Press the menu button on the remote and find picture settings, then picture mode. Try the THX mode if your TV has one, or use Movie, Cinema, or Pro for a natural-looking picture. Natural or Standard mode might trade color accuracy for brightness.

**Fine-tune other settings.** If you want to go further, turn off any dynamic backlight or contrast and power-saving controls, which cause brightness to vary. Turn off

digital noise reduction, aka DNR. It's intended to reduce graininess, but it can make images look unnaturally smooth. If even cinematic movies on your LCD/LED set look like daytime soap operas, turn off motion smoothing, which removes the natural judder in film and makes it look like video. On some sets that's linked to blur reduction, so turning off one feature also turns off the other. (On some TVs you can adjust certain settings only in the Custom or User picture mode, which may be in an Advanced or More Options menu.)

**Tackle brightness and color.** In addition to adjusting black levels (see facing page), tweak white levels. Freeze on an image with near-white shadows, set contrast to the max, then lower it until you can see subtle details. In "color temperature," select warm or low. Set tint/hue and color controls at the midpoint. Adjust tint and color so that flesh tones and colors look natural.



Instant Video library as part of its \$79-per-year, two-day shipping service. Hulu Plus, \$8 per month, is weighted more toward TV programming than movies. Redbox Instant, a hybrid service, charges \$8 per month for unlimited streaming plus four DVD rentals from its kiosks, \$1 more for Blu-ray.

Pay-per-view services such as **Amazon Instant Video**, **Apple iTunes**, **Blockbuster OnDemand**, **CinemaNow**, **M-Go**, and **Vudu** charge \$2 to \$7 a day to rent a movie or TV episode. The price depends on how new a title is and the quality you choose.

### You need compatible hardware

To stream video you'll need either a TV or a device with Internet capability. A growing number of TVs offer built-in streaming, but you don't have to buy a new set if you're otherwise happy with your TV. One of the cheapest, easiest options is to connect it to a set-top media player. Prices start at \$35, and most players cost \$100 or less.

Media players plug into an HDMI input on any newer TV. A few models have outputs that work with older sets lacking HDMI inputs. You connect the player to your home network to access your broadband service. All models can do so via Wi-Fi, and some offer wired Ethernet connections. Our tests of a dozen or so streaming media players found that most delivered very good HD images.

Every model we tested streams Netflix, a few other video services, and a music station or two.



## Streaming media players to consider

In alphabetical order.

Brand & model	Price	Main services offered
<b>Apple TV</b>	<b>\$100</b>	HBO Go, Hulu Plus, iTunes, Netflix
<b>Google Chromecast</b>	<b>\$35</b>	Google Play Movies & TV, HBO Go, Hulu Plus, Netflix
<b>Netgear Neo TV Prime (GTV100)</b>	<b>\$100</b>	Amazon Instant Video, Google Play Movies & TV, HBO Go, Netflix, Redbox Instant, Vudu
<b>Roku 2</b>	<b>\$80</b>	Amazon Instant Video, Blockbuster, HBO Go, Hulu Plus, Netflix, Redbox Instant, Vudu
<b>Roku 3</b>	<b>\$100</b>	Amazon Instant Video, Blockbuster, HBO Go, Hulu Plus, Netflix, Redbox Instant, Vudu
<b>Vizio Co-Star LT</b>	<b>\$80</b>	Amazon Instant Video, Google Play Movies & TV, Hulu Plus, Netflix, Redbox Instant, Vudu
<b>Western Digital WD TV Play Media Player</b>	<b>\$40</b>	Cinema Now, Hulu Plus, Netflix, Vudu

All but a few have apps for YouTube, Facebook, Twitter, and photo sites such as Picasa and Flickr. More services may be added over time. Some models have full Web browsers as well.

The most widely sold set-top boxes are the Apple TV, \$99, and the Roku series, which includes several models that sell for \$50 to \$100. Apple TV is a smart pick if you have lots

of iTunes content. Roku is recommended if you want the most choice. The bargain champ in streaming is Chromecast, a \$35 thumb-drive-sized device that plugs into a TV's HDMI port. In addition to streaming several services, Chromecast can send your TV Web content from a PC or Mac using the Chrome browser.

## What's wrong with this picture?

We split this image diagonally to show how the picture looks before (upper-right) and after (lower-left) it's adjusted. The key on the right identifies the problems and tells how to fix them.



**A** There's a white "halo" outlining his head.

**FIX** Turn off edge enhancement, which exaggerates edges and creates a cartoonish look.

**B** His skin pores and her hair strands appear coarse.

**FIX** Set sharpness to zero and inch up only if the image looks soft.

**C** You can't see the folds in the black shirt.

**FIX** Raise brightness (black level) until you can see the details in dark scenes.

**D** He looks sunburned, and her bangs look red.

**FIX** Adjust the color and tint controls, lowering the red if skin tones look too ruddy (or adjusting green if they look sick).

# 5 Upgrade the sound

The **super-svelte** profile that makes your TV look so stunning might also be responsible for its unimpressive sound. When there's not much room for speakers, sound quality can suffer. Only a dozen or so of the 170-plus TVs in our Ratings have very good sound, and only one (a Bose) was judged excellent. There's an easy way to get better audio: Add a sound-bar speaker system to your setup.

These long, narrow enclosures are designed to sit below or above your TV set; many can be wall-mounted. Most sound bars are powered, so they don't require an external amplifier.

Many sound bars use signal processing to create virtual surround sound, with varying degrees of success. (None matches a home-theater system with multiple speakers.) Many sound bars come with a powered subwoofer, often wireless, which helps improve the bass response. More use Bluetooth wireless technology for playing music from portable devices, and a few receive Internet radio stations such as Pandora and Spotify.

## Great choices

One of the best sound bars we've tested is the Sonos Playbar, which has front-center, right, and left speakers. It's expensive at \$700 (in part because you can use it in a wireless multiroom music system). The Vizio S3821w, \$160, provides very good sound on a budget. Two other basic, low-priced models that didn't quite make our stringent recommendation list still offer much better sound than the average TV: the Toshiba SBX4250, \$220, and Yamaha YAS-101, \$250.

**AUDIO UPGRADE**  
Sound bars like this Sonos Playbar improve your listening experience.

# 6 Easy setup: Plug 'n play

**YOU DON'T HAVE TO LIVE** with a tangle of wires behind your TV set, even if you want to connect several gadgets. All it takes is a few cheap HDMI cables, \$10 or less at a website such as Amazon.com or Monoprice for a 6-foot length, a bit more at retailers such as RadioShack, Target, and Walmart. Buy the shortest cable that will reach from the devices to the TV, with at least a foot or so of extra play. In many setups, a 6-foot length is fine. Most new TVs 40 inches and larger have three or four HDMI inputs. Choose a set with enough for the number of devices you want to con-

nect so that you don't have to unplug your Blu-ray player to use a game system. You can also buy an external multiport HDMI switcher (some cost \$20 or less). You plug multiple devices into the switcher, which takes up only one HDMI input on the TV.

**Basic setup.** If all you want to connect is the box from your TV service provider, plug the coaxial cable coming in from the service into the back of the box. Then connect the box to the TV with one HDMI cable that will carry the video and audio.

**Adding a Blu-ray player and/or streaming media player.** Using HDMI cables, connect each device to an HDMI input on the TV. Inputs are often numbered, so remember which device is in which input. Some TVs let you assign a device name to each input so that you don't have to remember the number. To switch from one device to another, press a button on the remote, usually called "Source" or "Input."

**Adding a sound bar.** The most common setup is to run audio from the TV to the sound bar via digital (optical or coaxial) or analog (stereo) cables. You can connect the sound bar with an HDMI cable instead if the sound bar has HDMI connections and both it and the TV support ARC (audio return channel). Some sound bars can connect to the TV via a wireless Bluetooth connection. Though that eliminates a cable, the audio and video may be out of sync, especially if the TV and sound bar are different brands. Bluetooth might be more useful for streaming audio from a portable device through the sound bar.

## EXPERT TIP

If you have to disconnect your TV setup for any reason, add labels to cables, connectors, and devices to speed reconnection.



**REAR VIEW** On some TVs, you can name inputs in the menu, so you don't have to recall numbers.





## 7 Seize control

**Controlling that smart TV** with a basic remote control seems kind of dumb, doesn't it? Modern TVs require more sophisticated navigation than just changing channels and adjusting the volume. That's why more TVs have advanced remotes that offer new ways of controlling a set. These new technologies are promising, but they're not foolproof just yet. For many operations, the familiar push-button remote is still the most reliable. Here are trends to keep an eye on:

### Keyboards, touchpads, and more.

Remotes with keyboards can make it a lot easier to type in text when you're searching for a movie title or entering a password. Only a few brands and models have them. More

TVs, including higher-end sets from Panasonic and Samsung, come with two remotes: a traditional model and a second one with a small touchpad that lets you move quickly around a screen. Those also usually have a few buttons for common operations such as changing the channel and adjusting volume. LG's Magic Remotes use Nintendo Wii-like point-and-click action for onscreen navigation, abetted by a small scroll wheel. Some Sony remotes have near field communication (NFC) capability, so you can tap the remote to a phone or tablet to send content from the device to the TV.

**Voice and gesture controls.** Remotes for many high-end TVs have built-in microphones for voice control, and we expect more mainstream sets to have them in 2014. But in our experience, voice control hasn't worked consistently. Motion and gesture control are becoming more common but can be awkward to use and unreliable. Samsung's top TVs respond to hand gestures, and some 2014 sets will respond to detailed finger gestures.

**Universal control.** Is your coffee table starting to look like a remote-control landing field? A few TVs—mostly pricier sets—have remotes that can control other equipment, such as a cable box. In some cases they use external IR (infrared) blasters to do so.

**Smart phones and tablets.** Perhaps the biggest trend in remote controls is that more people are abandoning them in favor of using their personal mobile devices as TV remotes over the home Wi-Fi connection. A quick search of your phone or tablet's app store will reveal whether a remote-control app exists for your TV.

Some apps provide additional features. For example, Sony's TVSideView app has the TV Guide program guide, which lets you search



**CONTROL PANEL** Touchpads and keypads make it easy to navigate menus.

for content from your TV service, Netflix, and YouTube. Samsung's SmartView App acts as a companion for Samsung Smart TVs. In addition to controlling your TV, set-top box, Blu-ray player or home theater, it lets you watch TV content on your mobile device.

You can use Panasonic's TV Remote 2 app to send pictures, videos, music, or even Web content back and forth from the TV to your mobile device. And LG's TV Remote app includes Mini TV, which lets you watch some channels on your phone or tablet, plus On Now, which offers program recommendations based on your viewing habits.

## 8 Enjoy your own content on a big-screen TV

**PHOTOS AND HOME VIDEOS** look nice on a computer or tablet, but they're spectacular on a big TV. Many smart TVs and streaming media devices let you stream movies, music, and photos from portable devices on your home network.

A growing number of products share content using the Digital Living Network Alliance (DLNA) standard. But there are other standards as well. You can transfer content using screen-mirroring technologies such as Miracast (supported by many TVs and Android portable devices), Apple's AirPlay (which works between Apple iPhones and iPads and the Apple TV), or Bluetooth, which can primarily send audio

to either a compatible TV's speakers or a sound bar. Some TVs now include the short-range NFC capability to forge a quick tap-to-pair network connection with compatible portable devices.

If you don't feel like mon-keying around with obscure network protocols, you can plug your devices directly into your TV. Most modern TVs have at least one USB port to let you plug in a thumb drive to play your own media files. Plug-in screen mirroring can be done with devices that have an HDMI input



that supports mobile high-definition link (MHL), a type of connection on many new Android smart devices and supported by many new TVs.

# 9 Don't heed the myths

Getting the most out of your TV doesn't mean you have to follow advice from retailers or even "expert" friends and relatives. Here are four examples of "faux facts" that you can ignore without compromising your enjoyment:

## 'You need a pricey HDMI cable to get the best picture quality.'

**BOTTOM LINE** You don't need a \$100 gold-plated cable for 1080p, 3D, or even Ultra HD TVs. Any "high speed" (Category 2) HDMI cable should be fine. We've had no problems using 6-foot HDMI cables we bought for a few dollars at websites such as Amazon.com and Monoprice and for \$20 or less at retail stores. With longer runs—say, 15 feet or more—quality matters more, so you might want to steer clear of the cheapest in such situations.

## 'Don't buy a 60Hz LCD set—a 120Hz or 240Hz refresh rate will give you a much better picture.'

**BOTTOM LINE** Specs can be deceiving. A refresh rate of 120Hz or 240Hz (or higher) can reduce blurring in fast-motion scenes compared with the standard 60Hz—but only if it's implemented well. That's a big "if." Some TVs use backlight scanning, video processing, and other methods to inflate refresh-rate claims, and they may or may not minimize blur. Sharp calls its feature "AquoMotion," Samsung's is dubbed "CMR" (clear motion rate), Sony has "Motionflow," and Vizio calls it "240SPS" (scenes per second). You usually pay more for the feature, so check the "motion-blur reduction" column in our Ratings to see how well it works. And keep in mind that motion blur can be difficult to detect in typical TV programming. If that's what you mostly watch, 60Hz is fine, unless you're super-picky.

## 'This TV has a million-to-one contrast ratio.'

**BOTTOM LINE** Just ignore that number—it's a meaningless stat devised by TV marketers. Manufacturers measure contrast differently, so there's no real way to compare the figures, which are often inflated.

## 'TV repairs can cost a fortune, so an extended warranty is a must.'

**BOTTOM LINE** Our most recent survey data on almost 162,000 TVs show that TVs from most major brands are reliable, with only 4 percent requiring repair during the first four years. When problems occur, they often happen during the first year of ownership, when the manufacturer's warranty is in force. It makes more sense to buy a TV with a credit card—or from a store, such as Costco—that doubles the manufacturers' warranty, giving you an extra year of protection at no extra cost.



### TROUBLE WITH THE CURVE?

A number of TVs with curved screens have arrived, and more are coming. Manufacturers have said they create a more immersive viewing experience—like an Imax screen for your home—but our experts haven't been impressed, at least not with the 55- to 65-inch screens they've seen so far. The curve itself can reduce the viewing angle a bit, which is already a problem for LCD/LED sets such as these.

# 10 Team up your TV and mobile device

**ACCORDING TO A RECENT STUDY** by Nielsen, 85 percent of people with a mobile smart device use it while watching TV at least once per month, and 40 percent do so daily. They might be e-mailing, texting, or checking Facebook or Twitter, but a growing number are using their smart phones and tablets to display content directly related to the programming on the big screen, such as behind-the-scenes looks, interactive chats, and extended programming.

We're starting to see "second screen" apps that sync to a movie or show to provide related interactive content such as

polls and trivia games. For instance, last fall NBCUniversal launched an app that lets you play along with its "Million Second Quiz" game show, earning points that could help you get a shot at appearing on the show. For "The Killing," AMC shot extra videos and photos and created games and trivia contests that were available when the show aired.

Some apps fold in social-network functionality, using Facebook and Twitter for TV-viewing interactions. Now apps such as GetGlue, Miso, and Zeebox offer new ways to discover content and provide a way to share with friends.





# Get a better TV

Find a great deal on an LCD or a plasma set that should suit you for years

**T**HERE'S ALWAYS A NEW, improved TV just over the horizon, but don't let that stop you from buying a TV if you need—or just want—one now. Early adopters might be tempted by the new Ultra HD TVs, which take resolution beyond 1080p. But UHD content is just starting to arrive, and it won't displace HD anytime soon. (See “Ultra HD TVs,” on page 37.) OLED TVs, an alternative to LCD/LED and plasma sets, are stunning but expensive—current 55-inch TVs cost \$10,000 or so—and prices will stay high for a while.

A 1080p LCD or plasma TV should satisfy most consumers for the foreseeable future. Many sets introduced in the past year are packed with high-tech features that will see you through the next few years in style. The 2014 models are just starting to arrive, and retailers want to clear out last year's sets, so you can pick up a top-notch TV at a steal of a price. Here are a few tips to help you get the best model for the money:

**Think big.** Consumers rarely complain that they bought too big a screen, but many regret going too small. For a main TV that's viewed from 6 or 8 feet away, we recommend a 46- to 50-inch set, a size that should enable you to appreciate the detail and clarity that make HD so compelling.

For a distance of 10 feet or more, a 55-inch screen or larger would be more satisfying. Our Ratings include more than 60 models with screens 55 inches or larger—including a few 70- to 80-inch sets best suited to large family rooms—so you'll have lots of choice. Slim profiles and sleek lines keep even the biggest sets from dominating a room. And they cost less than you might

**Slim, sleek styling makes even the biggest TVs fit in many rooms.**

expect. Several recommended 55-inch sets sell for about \$1,200 to \$1,500, and some fine 60-inchers don't cost much more.

**Get a smart TV.** One of the most compelling features of new TVs is Internet connectivity, which enables you to stream online video. Almost all Internet-enabled TVs support Netflix, but other services aren't universal, so make sure that a set you're considering carries those you want. You'll have to connect the TV to your broadband service via Wi-Fi or with a wired Ethernet connection. Advanced TVs

also have Web browsers and apps for social networking and photo sharing, and many can display content from phones and tablets. (You can add Internet streaming to a lower-priced TV that lacks that feature by connecting it to an external device.)

**Don't overlook plasma sets.** Most consumers tend to buy LCD TVs, most of which now have LED backlights. But if you're buying a TV that's 42 inches or bigger, it's worth considering a plasma set. Many of the highest-scoring TVs in our Ratings are plasma TVs, which can provide rich, movielike images with deep blacks that add depth and dimension. Unlike many LCDs, they have blur-free motion and unlimited viewing angles, so color and brightness will look the same from any viewing position. You'll have one less plasma brand to choose from now that Panasonic is out of this segment, but LG and Samsung have announced new plasma sets for 2014.

**Be open to a 3D set.** Even if you don't care about 3D capability, it might be included on your next TV if you buy one with advanced features. Don't worry. Those TVs function like any other with regular HD, and you'll have the option of watching 3D if you ever get the urge.

*Ratings start on next page*



PHOTO AND TV SCREEN: GETTY IMAGES

## Overview

Our tests found top performance from TVs at all prices. The most expensive sets often have advanced features, but if picture quality matters most, you might be happy with a lower-priced set. If a TV isn't the size you want, check the last column for another size. We've found that different-sized models within a series generally perform comparably.

The Ratings indicate whether a TV is an LCD (L) set, including those with LED backlighting, or a plasma (P) display. We haven't included Panasonic plasma TVs in the highlights below because the company no longer makes them and they might be hard to find. But it's worth looking for the recommended TVs in the ST60, VT60, and especially the ZT60 series, which has the best HD picture quality of any 1080p set we've tested. Panasonic will continue to support its plasmas.

With 2014 TVs now coming out, older sets from other brands might be in limited supply, too. Try finding them online or look for successors to the recommended TVs in stores.

### FULL-FEATURED 60-INCH & UP

**A1 LG** \$2,300

**A2 Samsung** \$2,600

**A1** is a 60-inch model in LG's flagship LCD/LED line and **A2** is a 60-incher in Samsung's premier plasma series. Both have excellent picture quality and features galore, including streaming video, built-in Wi-Fi, a full

### EXPERT ADVICE

## Where you sit can affect picture quality

With LCD/LED TVs, you might see the best picture quality only when you're right in front of the screen. If you watch the TV from an angle—say, from a chair off to the side or looking up at a wall-mounted set above a fireplace—the image might appear washed out or dim. (Plasma TVs have an unlimited viewing angle.) Of the LCD/LED sets we've tested, LG models stand out for a wide viewing angle. Select models from Panasonic, Sony, and Vizio did well, too. Check the viewing angle scores in the Ratings and, in the store, step off to the side and move up and down to see if the picture changes.



## Ratings LCD and plasma TVs

All tested models In performance order, within sizes.

CR Best Buy Recommended

Excellent Very good Good Fair Poor

Rec.	Rank	Brand & model	Type	Price	Overall score	Picture quality	Features	Available screen sizes (tested size in bold)
					0 100 P   F   G   V   E	High-def 3D performance Viewing angle Motion-blur reduction Sound quality	Streaming video Wi-Fi Browser	

### A 60-INCH AND LARGER

✓	1	LG 60LA8600	L	\$2,300	76	● ● ● ● ●	● ● ● ●	60, 55
✓	2	Samsung PN60F8500	P	2,600	75	● ● ● ● ●	● ● ● ●	64, 60, 51
✓	3	Sony Bravia XBR-65X900A*	L	5,000	74	● ● ● ● ●	● ● ● ●	65, 55
✓	4	Samsung PN64F5500	P	1,800	74	● ● ● ● ●	● ● ● ●	64, 60, 51
✓	5	Panasonic Viera TC-P65VT60	P	3,000	73	● ● ● ● ●	● ● ● ●	65, 60, 55
✓	6	Panasonic Viera TC-P60ZT60	P	3,000	73	● ● ● ● ●	● ● ● ●	65, 60
✓	7	Samsung PN64F8500	P	3,300	73	● ● ● ● ●	● ● ● ●	64, 60, 51
✓	8	Panasonic Viera TC-P60VT60	P	2,100	73	● ● ● ● ●	● ● ● ●	65, 60, 55
✓	9	Samsung UN60F7500	L	2,300	72	● ● ● ● ●	● ● ● ●	60, 55, 46
✓	10	Panasonic Viera TC-P65ZT60	P	3,200	72	● ● ● ● ●	● ● ● ●	65, 60
✓	11	Panasonic Viera TC-P60ST60	P	1,500	72	● ● ● ● ●	● ● ● ●	65, 60, 55, 50
✓	12	Sharp Aquos LC-60LE857U	L	2,000	72	● ● ● ● ●	● ● ● ●	80, 70, 60
✓	13	Panasonic Viera TC-P65ST60	P	2,300	71	● ● ● ● ●	● ● ● ●	65, 60, 55, 50
✓	14	Samsung PN60F5500	P	1,200	71	● ● ● ● ●	● ● ● ●	64, 60, 51
✓	15	Panasonic Viera TC-L65WT600*	L	5,000	71	● ● ● ● ●	● ● ● ●	65
✓	16	Samsung UN65F8000	L	3,200	70	● ● ● ● ●	● ● ● ●	75, 65, 60, 55, 46
✓	17	Panasonic Viera TC-L60DT60	L	2,500	69	● ● ● ● ●	● ● ● ●	60, 55
✓	18	Sony Bravia KDL-60R550A	L	1,500	68	● ● ● ● ●	● ● ● ●	70, 60, 50
✓	19	Samsung UN75F6300	L	2,500	68	● ● ● ● ●	● ● ● ●	75, 65, 60, 55, 50, 46, 40, 32
✓	20	Vizio M601d-A3R	L	1,400	67	● ● ● ● ●	● ● ● ●	80, 70, 65, 60, 55, 50
✓	21	Sharp Aquos LC-70UD1U*	L	5,000	67	● ● ● ● ●	● ● ● ●	70
✓	22	Sharp Aquos LC-60LE755U	L	1,600	66	● ● ● ● ●	● ● ● ●	60
✓	23	Samsung PN64F5300	P	1,500	66	● ● ● ● ●	● ● ● ●	64, 60, 51
✓	24	Samsung PN60F5300	P	950	66	● ● ● ● ●	● ● ● ●	64, 60, 51
✓	25	Sony Bravia KDL-65S990A	L	4,000	66	● ● ● ● ●	● ● ● ●	65
✓	26	LG 60GA6400	L	1,600	66	● ● ● ● ●	● ● ● ●	60
✓	27	Panasonic Viera TC-P60S60	P	1,150	66	● ● ● ● ●	● ● ● ●	65, 60, 55, 50, 42
✓	28	Panasonic Viera TC-P65S60	P	1,500	66	● ● ● ● ●	● ● ● ●	65, 60, 55, 50, 42
✓	29	Vizio M651d-A2R	L	1,750	65	● ● ● ● ●	● ● ● ●	65, 55, 50
✓	30	Sharp Aquos LC-70LE650U	L	2,000	65	● ● ● ● ●	● ● ● ●	70
✓	31	Vizio M701d-A3R	L	2,200	64	● ● ● ● ●	● ● ● ●	80, 70, 60
✓	32	Vizio M801d-A3R	L	3,800	64	● ● ● ● ●	● ● ● ●	80, 70, 60
✓	33	Sharp Aquos LC-60C6500U	L	1,000	64	● ● ● ● ●	● ● ● ●	80, 70, 60
✓	34	Vizio E601i-A3	L	1,000	63	● ● ● ● ●	● ● ● ●	70, 60
✓	35	LG 60LN6150	L	1,400	63	● ● ● ● ●	● ● ● ●	60
✓	36	Toshiba 65L7300U	L	1,600	62	● ● ● ● ●	● ● ● ●	65
✓	37	Vizio E650i-A2	L	1,300	56	● ● ● ● ●	● ● ● ●	65, 55
✓	38	Insignia NS-65D260A13	L	1,000	51	● ● ● ● ●	● ● ● ●	65

\*Ultra HD set.

Ratings continued on page 38



## WHAT'S NEW

### Ultra HD TVs

The ultimate resolution for home viewing for the past decade has been 1080p, or full HD. But now there's an even higher definition: Ultra HD. UHD TVs display four times as many pixels as a 1080p set, with a screen resolution of 3840 pixels horizontally (almost 4000, the reason they're called 4K TVs) by 2160 pixels vertically. Those extra pixels add up to very sharp, fine detail. That can be impressive, but you need to keep it in perspective.

It can be hard to appreciate the difference between UHD and 1080p unless you're watching a screen that's 80 inches or larger or sitting very close to a smaller one. And keep in mind that detail alone doesn't make for great picture quality. As our Ratings show, a number of 1080p TVs had better all-around picture quality than the UHD TVs we tested, and they continue to be a great choice for most consumers.

The nine UHD sets in our Ratings, all LCD models with LED backlighting, are **A3** Sony, **A15** Panasonic, **A21** Sharp, **B3** Sony, **B7** Samsung, **B8** LG, **B20** Toshiba, **C45** Seiki, and **E11** Seiki. All but the Seikis have 55- to 70-inch screens, priced from \$2,800 to \$5,000. The Seikis are cheaper—\$1,250 for a 50-incher and \$600 for a 39-inch set—but they have only middling picture quality despite the extra detail. The other seven sets have very good or excellent picture quality.

**More to come.** At a recent trade show, most major manufacturers announced new UHD TVs, including entry-level sets. Only Vizio disclosed pricing, which starts at \$1,000 for a 50-inch set. We'll be testing the new UHD TVs, so stay tuned.

Netflix said it would offer UHD streaming content in the first half of this year, DirecTV is prepping 4K video delivery, and a few cable companies are exploring 4K. Still, it's likely to be some time before 4K content is widely available, and quality is a question. The 4K content from Sony's hard drive (which works only with Sony sets) looks outstanding. But it will be interesting to see whether 4K video via streaming lives up to the format's potential given the effect of Internet speeds, signal compression, and more.



**DETAILS TO SPARE** The Panasonic Viera TC-L65WT600 displays 8 million pixels.

TV SCREEN: RICHARD HEATHCOTE/GETTY IMAGES

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Web browser, and more. **A1** comes with the gesture-based Magic Remote, which has a built-in microphone for voice commands. **A2** has a second remote with a touchpad and a mike for voice control. Both can share content from compatible mobile devices. The Samsung has a built-in webcam that enables Skype video calls and gesture control. Both models are elegantly styled.



B1 LG



B4 Samsung



B14 LG

## Ratings LCD and plasma TVs

All tested models In performance order, within types.

### BUDGET 60-INCH & UP TVs

**A20 Vizio** \$1,400

**A24 Samsung** \$950

**A20** combines excellent picture quality with a full complement of features at a competitive price. Its 3D performance was mediocre, but it comes with eight sets of passive-3D glasses, the most of any model so far.

**A24** is a basic 60-inch plasma that offers excellent picture quality and good sound but no 3D or Internet connectivity—and only two HDMI inputs—at a relatively low price.

### FULL-FEATURED 55- TO 59-INCH TVs

**B1 LG** \$1,400 **CR Best Buy**

**B4 Samsung** \$2,500

**B16 Panasonic** \$3,000

**B1** is a Google TV that uses the Chrome browser. The 55-inch set has a wider-than-average viewing angle for an LCD/LED screen. Like other new LG models, it has one MHL-enabled

### ▶ EXPERT ADVICE

#### Advanced remotes speed searching

With many TVs, you have to use the remote's arrow keys to select letters on an onscreen grid, which makes entering a password or searching for a title pretty tedious. Some TVs have more Internet-friendly remotes with a keyboard, a thumbpad, or a point-and-click system. Panasonic Viera VT- and ZT-series plasmas and WT- and DT-series LCDs come with a second remote that has a touchpad. LG plasma and LCD TVs in the 6500 series and above include the gesture-based Magic Remote (which works like a Wii game controller), and its Google TVs (the GA series) have a QWERTY keyboard as well as a Magic Remote. Samsung LCD and plasma TVs in the 5500 series and above have a touchpad remote.



		Brand & model	Type	Price	Overall score	Picture quality		Features	Available screen sizes (tested size in bold)				
Rec.	Rank				0100	High-def 3D performance	Viewing angle	Motion-blur reduction	Sound quality	Streaming video	Wi-Fi	Browser	
					P   F   G   V   G   E								

### B 55- TO 59-INCH

✓	1	LG 55GA7900	L	\$1,400	74	●	○	●	●	●	●	●	55, 47
✓	2	Samsung UN55ES8000	L	1,900	74	●	●	○	●	●	●	●	75, 65, 60, 55, 46
✓	3	Sony Bravia XBR-55X900A*	L	3,500	74	●	○	○	○	●	●	●	65, 55
✓	4	Samsung UN55F8000	L	2,500	74	●	●	○	●	○	●	●	55
✓	5	LG 55LA7400	L	1,500	74	●	●	●	●	●	●	●	60, 55, 47
✓	6	Panasonic Viera TC-P55VT60	P	1,600	72	●	●	●	●	●	●	●	65, 60, 55
✓	7	Samsung UN55F9000*	L	3,000	72	●	●	○	●	○	●	●	65, 55
✓	8	LG 55LA9700*	L	4,250	72	●	○	●	●	●	●	●	55
✓	9	Panasonic Viera TC-P55ST60	P	1,350	72	●	●	●	●	●	●	●	55, 50
✓	10	Samsung UN55ES6500	L	1,400	72	●	●	●	●	●	●	●	65, 60, 55, 50, 46, 40, 32
✓	11	Bose VideoWave II Entertainment System	L	5,000	69	●	—	○	●	●	●	●	55
✓	12	Samsung UN55F7100	L	1,600	69	●	●	○	●	○	●	●	65, 60, 55, 46
✓	13	Sony Bravia KDL-55W900A	L	2,000	69	●	●	○	●	●	●	●	55
✓	14	LG 55LA6200	L	1,100	68	●	○	●	●	○	●	●	55
✓	15	Samsung UN55F6400	L	1,300	67	●	○	○	●	○	●	●	65, 60, 55, 50, 46, 40
✓	16	Panasonic Viera TC-L55WT60	L	3,000	67	●	●	●	●	●	●	●	55
✓	17	Toshiba 58L7350U	L	1,300	67	●	●	○	○	○	●	●	68, 58
✓	18	Samsung UN55F6350	L	1,150	65	●	—	○	●	○	●	●	65, 55, 50, 46, 40
✓	19	Sony Bravia KDL-55W802A	L	1,500	64	●	○	●	●	●	●	●	55, 47
✓	20	Toshiba 58L9300U*	L	2,800	63	●	○	○	○	●	●	●	84, 65, 58
✓	21	Vizio M551d-A2R	L	1,050	62	●	○	●	●	○	●	●	80, 70, 65, 60, 55, 50
✓	22	Vizio E551i-A2	L	770	61	●	—	○	○	○	●	●	55
✓	23	JVC SP55M-C	L	680	57	●	—	○	○	○	●	●	55, 50
✓	24	RCA LED55C55R120Q	L	600	56	●	—	○	○	○	●	●	55
✓	25	Sanyo DP55441	L	580	55	●	—	○	○	○	●	●	55
✓	26	Insignia NS-55D440NA14	L	700	53	○	—	○	○	○	○	○	55
✓	27	Sanyo FVD5833	L	800	49	○	—	○	○	○	○	○	58
✓	28	Sanyo DP58D33	L	800	45	○	—	○	○	○	○	○	58

### C 46- TO 52-INCH

✓	1	Samsung PN51F8500	P	1,900	75	●	●	●	●	○	●	●	64, 60, 51
✓	2	Samsung PN51F5500	P	850	72	●	●	●	●	○	●	●	64, 60, 51
✓	3	Samsung UN50F6800	L	1,200	71	●	●	○	●	○	●	●	55, 50, 46
✓	4	Panasonic Viera TC-P50ST60	P	1,000	71	●	●	○	●	○	●	●	65, 60, 55, 50
✓	5	LG 47LA6900	L	1,050	71	●	●	○	●	○	●	●	55, 50, 47
✓	6	Samsung UN46ES6600	L	1,000	70	●	○	○	●	○	●	●	60, 55, 46
✓	7	Panasonic Viera TC-L47WT60	L	2,300	69	●	●	○	●	○	●	●	55, 47

\*Ultra HD set.





**B16** Panasonic



**C16** Vizio



**C17** Samsung

☒ CR Best Buy ☒ Recommended  
☒ Excellent ☐ Very good ☐ Good ☐ Fair ☐ Poor

Rec.	Rank	Brand & model	Type	Price	Overall score	Picture quality	Features	Available screen sizes (tested size in bold)
						High-def 3D performance Viewing angle Motion-blur reduction Sound quality Streaming video	Wi-Fi Browser	
					0 100 P   F   G   V   E			

## C 46- TO 52-INCH continued

<input checked="" type="checkbox"/>	8	Samsung UN46EH5300	L	\$ 680	68	● - ○ ● - ● ● ●	50, <b>46</b> , 40, 32
<input checked="" type="checkbox"/>	9	LG 47LA6200	L	800	68	● - ○ ● - ○ ● ● ●	60, 55, 50, <b>47</b> , 42
<input checked="" type="checkbox"/>	10	Samsung UN50F6300	L	1,000	67	● - ○ ● - ○ ● ● ●	75, 65, 60, 55, <b>50</b> , 46, 40, 32
<input checked="" type="checkbox"/>	11	Panasonic Viera TC-P50S60	P	700	67	● - ● ● - ○ ● ● ●	65, 60, 55, <b>50</b> , 42
<input checked="" type="checkbox"/>	12	Sony Bravia KDL-47W802A	L	1,100	66	● - ○ ● - ● - ○ ● ● ●	55, <b>47</b>
<input checked="" type="checkbox"/>	13	LG 50PN6500	P	650	66	● - ● ● - ● - ○ ● ● ●	55, <b>50</b> , 47, 42, 39, 32
<input checked="" type="checkbox"/>	14	Samsung PN51F5300	P	650	66	● - ● ● - ● - ○ ● ● ●	64, 60, <b>51</b>
<input checked="" type="checkbox"/>	15	Panasonic Viera TC-L50ET60	L	1,300	66	● - ○ ● - ● - ● ● ● ●	55, <b>50</b>
<input checked="" type="checkbox"/>	16	Vizio E500d-A0	L	680	66	● - ○ ● - ● - ○ ● ● ●	55, <b>50</b> , 42
<input checked="" type="checkbox"/>	17	Samsung UN46EH5000	L	630	65	● - ○ ● - ● - ○ ● ● ●	50, <b>46</b> , 40, 37, 32
<input checked="" type="checkbox"/>	18	Samsung UN46F5000	L	700	65	● - ○ ● - ● - ○ ● ● ●	<b>46</b>
<input checked="" type="checkbox"/>	19	LG 50LA6900	L	1,500	65	● - ○ ● - ● - ○ ● ● ●	<b>50</b>
<input checked="" type="checkbox"/>	20	Toshiba 50L7300U	L	900	65	● - ○ ● - ○ ● - ● ● ● ●	65, 58, <b>50</b>
	21	LG 50LN5700	L	880	64	● - ○ ● - ● - ○ ● ● ●	60, 55, <b>50</b> , 47
	22	Samsung UN50F5500	L	880	64	● - ○ ● - ○ ● - ● ● ● ●	<b>50</b> , 46, 40, 32
	23	JVC SP50M-C	L	800	63	● - ○ ● - ○ ● - ● ● ● ●	<b>50</b>
	24	Panasonic Viera TC-P50X60	P	500	61	● - ○ ● - ● - ○ ● ● ●	<b>50</b> , 42
	25	Sharp Aquos LC-50LE650U	L	850	61	● - ○ ● - ○ ● - ● ● ● ●	80, 70, 60, <b>50</b>
	26	Toshiba 50L4300U	L	750	60	● - ○ ● - ● - ○ ● - ● ● ●	<b>50</b>
	27	JVC BC50R	L	600	60	● - ○ ● - ○ ● - ○ ● ● ●	<b>50</b>
	28	Vizio E470i-A0	L	570	60	● - ○ ● - ● - ○ ● - ● ● ●	<b>47</b> , 42
	29	Insignia NS-46E440NA14	L	550	59	● - ○ ● - ○ ● - ○ ● ● ●	50, <b>46</b>
	30	Philips 46PFL3608	L	500	59	● - ○ ● - ○ ● - ○ ● ● ●	<b>46</b>
	31	Vizio E500i-A1	L	650	59	● - ○ ● - ○ ● - ○ ● ● ●	55, <b>50</b>
	32	Samsung PN51F4500	P	500	58	● - ○ ● - ● - ○ ● - ○ ● ●	<b>51</b> , 43
	33	Philips 50PFL3908	L	700	58	● - ○ ● - ○ ● - ○ ● ● ●	<b>50</b> , 46
	34	Vizio M471i-A2	L	680	58	● - ○ ● - ○ ● - ○ ● ● ●	<b>47</b> , 40, 32
	35	Philips 46PFL3908	L	620	57	● - ○ ● - ○ ● - ○ ● ● ●	50, <b>46</b>
	36	Magnavox 46ME313V	L	620	56	● - ○ ● - ○ ● - ○ ● ● ●	50, <b>46</b> , 39
	37	Sanyo DP46142	L	400	54	● - ○ ● - ○ ● - ○ ● ● ●	<b>46</b>
	38	Sanyo FVM5082	L	490	54	● - ○ ● - ○ ● - ○ ● ● ●	<b>50</b>
	39	Element ELEFT466	L	400	52	● - ○ ● - ○ ● - ○ ● ● ●	<b>46</b> , 40
	40	Insignia NS-50E440NA14	L	600	52	○ - ○ ● - ○ ● - ○ ● ● ●	<b>50</b> , 46
	41	TCL LE48FHD3310	L	550	48	○ - ○ ● - ○ ● - ○ ● ● ●	55, <b>48</b>
	42	Seiki SE50FY10	L	550	48	● - ○ ● - ○ ● - ○ ● ● ●	<b>50</b> , 46
	43	Sanyo FVM4612	L	480	47	○ - ○ ● - ○ ● - ○ ● ● ●	<b>46</b>
	44	Sanyo DP50843	L	500	46	○ - ○ ● - ○ ● - ○ ● ● ●	<b>50</b>
	45	Seiki SE50UY04*	L	1,250	46	○ - ○ ● - ○ ● - ○ ● ● ●	<b>50</b>
	46	RCA LED52B45RQ	L	700	40	○ - ○ ● - ○ ● - ○ ● ● ●	<b>52</b> , 50

\*Ultra HD set.

Ratings continued on next page

(mobile high-definition link) HDMI input for playing music and videos and viewing photos stored on a smart phone. **B4**, a 55-incher, is part of Samsung's flagship LCD line. It offers excellent picture quality and most of the same features as its brandmate, **A2**, a top-of-the-line plasma set. Like that model, **B4** has an IR blaster that lets you use the TV remote for controlling a set-top cable box. **B16**, Panasonic's flagship LCD/LED set in the 55-inch size, is loaded with features, including full Internet capability, the ability to share content with mobile devices, facial recognition, and more. Sound is only fair, so consider using a sound bar.

## BUDGET 55- TO 59-INCH TVs

**B14 LG** \$1,100 **CR Best Buy**

**B14**, a smart TV, has many of the same features as pricier LCD sets in the LG lineup, but if you want the Magic Remote, you have to buy it separately. If you care mostly about excellent picture quality, consider **B22**, which just fell just short of being recommended. At \$770, it's a great deal for a 55-inch LCD/LED model, and it has built-in Wi-Fi and access to streaming services. But it has no 3D and only fair sound, so we suggest adding a sound bar.

## FULL-FEATURED 46- TO 52-INCH TV

**C2 Samsung** \$850

This 51-inch plasma TV delivers an excellent high-definition picture and many of the same features as its brandmate, **A2**, at a relatively low price for a major-brand set this size.

## BUDGET 46- TO 52-INCH TVs

**C16 Vizio** \$680

**C17 Samsung** \$630 **CR Best Buy**

**C16**, a 50-inch LCD/LED, packs the proverbial bang for the buck, with such features as 3D, Wi-Fi, and streaming services to complement its very good performance. This Vizio also has a wider viewing angle than many sets of this type. **C17** is a fairly basic model that delivers excellent picture quality and respectable sound at a relatively low price for a 46-inch LCD/LED TV.

## FULL-FEATURED 40- TO 43-INCH TVs

**D1 LG** \$850

**D2 Samsung** \$780

Both models combine strong performance with a good set of features. **D1** is a 42-inch Google TV with the Chrome browser and a remote that has a QWERTY keyboard

on one side. It also recognizes voice commands and has a very good viewing angle for an LCD/LED TV. **D2**, an LCD/LED with a 40-inch screen, has Internet capability, a touchpad remote, and more features.

## BARGAIN 40- TO 43-INCH TV

**D4 Samsung \$600**

With a 40-inch screen and excellent picture quality, this LCD/LED set is a good buy. It lacks 3D but has Internet capability. Among the models that fell just short of our recommended group, **D5** offers excellent picture quality, but no 3D or Internet, at a price of just \$430 for a 40-inch LCD/LED set.

## FULL-FEATURED 32-INCH TV

**F2 Samsung \$600**

You don't have to sacrifice great performance and a lot of features because you're limited to a 32-inch screen, but be prepared to pay for it. **F2** has a full complement of Internet features, including a browser, and its 240Hz technology helps it achieve among the best motion-blur reduction we've seen from any LCD/LED TV. It also has four HDMI inputs, more than most sets this size. It doesn't have 3D, though, and sound was only fair, so you might want to pair it with a sound bar.

**▶ EXPERT ADVICE**

## Ultra HD TVs: great detail

Ultra HD (UHD) TVs display four times as many pixels as 1080p sets, so the detail can be as sharp as a tack (see page 37). But there's little 4K content yet. Two 65-inchers are worth checking out. **A3 Sony**, \$5,000, has a great picture with amazing detail and impressive black levels for an LCD/LED set. It's loaded with features and has a circular base and front-firing speakers that deliver very good sound, among the best we've tested. **A15 Panasonic**, \$5,000, is a top performer with features galore, including a text-to-voice feature and a built-in camera that can be used for Skype video calls. An HDMI 2.0-capable input will be able to handle 60-frames-per-second 4K video when there are set-top boxes and media players with that feature.



**D1 LG**



**D2** Samsung



**F1** Samsung

## Ratings LCD and plasma TVs

**All tested models** In performance order, within types.

		Brand & model	Type	Price	Overall score	Picture quality		Features	Available screen sizes (tested size in bold)			
Rec.	Rank					High-def 3D performance	Viewing angle	Motion-blur reduction	Sound quality	Streaming video	Wi-Fi	Browser
					0   P   F   G   V   G   E 100							

### D 40- TO 43-INCH

[illegible]

### E 37- TO 39-INCH

1	<b>Samsung</b> UN39FH5000	L	430	<b>64</b>	● – ● ● ○	<b>39</b>
2	<b>Toshiba</b> 39L4300U	L	500	<b>63</b>	● – ○ ● ○ ● ● ●	58, 50, <b>39</b> , 32
3	<b>LG</b> 39LN5700	L	530	<b>63</b>	● – ○ ● ● ● ● ● ●	55, 50, 47, 42, <b>39</b> , 32
4	<b>Magnavox</b> 39ME413V	L	360	<b>59</b>	● – ○ ● ● ●	<b>39</b>
5	<b>Philips</b> 39PFL2708	L	450	<b>58</b>	● – ● ● ● ●	<b>39</b>
6	<b>JVC</b> EM39T	L	330	<b>57</b>	● – ○ ● ● ●	<b>39</b>
7	<b>Panasonic</b> Viera TC-L39EM60	L	430	<b>56</b>	● – ○ ● ● ○	65, 60, 50, <b>39</b>
8	<b>Vizio</b> E390i-A1	L	400	<b>55</b>	● – ○ ● ● ● ● ● ●	<b>39</b>
9	<b>Insignia</b> N5-39E400NA14	L	330	<b>53</b>	● – ○ ● ● ●	<b>39</b> , 32, 24
10	<b>TCL</b> LE39FHDE3010	L	330	<b>46</b>	○ – ● ● ● ●	58, 50, 40, <b>39</b>
11	<b>Seiki</b> SE39UY04*	L	600	<b>45</b>	○ – ○ ● ● ●	65, 50, <b>39</b>
12	<b>Coby</b> TFTV3925	L	400	<b>43</b>	○ – ● ● ● ●	<b>39</b>

**F 32-INCH**

[illegible]





**F2** Samsung



**G1** Samsung



**G4** Toshiba

## BARGAIN 32-INCH TVs

### F1 Samsung \$350

This basic 32-incher delivers excellent picture quality and decent sound at a competitive price. Among the models that just missed making it into the recommended group, **F4**, \$300, is a good choice for a basic set, with very good performance.

## 29-INCH & SMALLER TVs

### G1 Samsung \$280

### G4 Toshiba \$220

### G6 Vizio \$200

**G1** and **G4** are LCD/LED models with 29-inch screens. **G1** has better picture quality and a wider viewing angle than most sets this size, though sound is only fair, not uncommon in small sets. **G4** stands out for having good sound. **G6** is a good 24-inch LCD/LED set that has both Wi-Fi and streaming video.

☒ Recommended

● Excellent
● Very good
○ Good
◐ Fair
● Poor

		Brand & model	Type	Price	Overall score	Picture quality			Features		Available screen sizes (tested size in bold)	
Rec.	Rank				<div> <div>0</div> <div>100</div> </div> <div> <div>P</div> <div>F</div> <div>G</div> <div>V</div> <div>E</div> </div>	High-def 3D performance	Viewing angle	Motion-blur reduction	Sound quality	Streaming video	Wi-Fi	Browser

## F 32-INCH continued

7	Philips 32PFL4907	L	\$350	61	●	○	○	○	○	●	●		40, <b>32</b> , 26
8	LG 32LN530B	L	280	60	●	○	○	○	○				60, <b>32</b>
9	LG 32LN5300	L	330	60	●	○	○	○	○				42, 39, <b>32</b>
10	Toshiba 32L1350U	L	270	60	●	○	○	○	○				<b>32</b>
11	Toshiba 32L2300U	L	290	57	●	○	○	○	○				50, 39, <b>32</b> , 23
12	Vizio M321i-A2	L	380	57	●	○	○	○	○	●	●		47, 40, <b>32</b>
13	Insignia NS-32D200NA14	L	230	56	●	○	○	○	○				<b>32</b>
14	Panasonic Viera TC-L32XM6	L	350	55	●	○	○	○	○				<b>32</b>
15	Magnavox 32ME303V	L	310	55	●	○	○	○	○				<b>32</b>
16	JVC EM32T	L	220	53	●	○	○	○	○				37, <b>32</b>
18	Sanyo DP32242	L	210	52	●	○	○	○	○				<b>32</b>
17	Sceptre X322BV-HD	L	190	52	○	○	○	○	○				<b>32</b>
18	Seiki SE32HY10	L	250	51	●	○	○	○	○				<b>32</b>
19	Sanyo DP32D13	L	250	51	●	○	○	○	○				<b>32</b>
20	Element ELEFT326	L	230	49	○	○	○	○	○				<b>32</b>
21	Sharp Aquos LC-32LE450U	L	300	48	○	○	○	○	○				<b>32</b>
22	Dynex DX-32L200NA14	L	220	45	○	○	○	○	○				<b>32</b>
23	TCL LE32HDE5310	L	250	43	○	○	○	○	○				<b>32</b>
24	Coby LEDTV3226	L	250	43	○	○	○	○	○				<b>32</b>

## G 29-INCH AND SMALLER

✓ 1	Samsung UN29F4000	L	280	60	●	○	○	○	○				32, <b>29</b> , 19
✓ 2	LG 29LN4510	L	280	58	●	○	○	○	○				<b>29</b> , 24
✓ 3	Toshiba 23L1350U	L	200	58	●	○	○	○	○				50, 39, 32, <b>29</b> , <b>23</b>
✓ 4	Toshiba 29L1350U	L	220	58	●	○	○	○	○				50, 39, 32, <b>29</b> , <b>23</b>
✓ 5	Samsung UN22F5000	L	200	57	●	○	○	○	○				<b>22</b>
✓ 6	Vizio E241i-A1	L	200	56	●	○	○	○	○	●	●		<b>24</b>
7	Philips 29PFL4508	L	250	54	●	○	○	○	○				45, 32, <b>29</b>
8	LG 22LN4500	L	230	53	●	○	○	○	○				<b>22</b>
9	Magnavox 29ME403V	L	230	52	●	○	○	○	○				32, <b>29</b> , 24

## Guide to the Ratings

**Overall score** is based mostly on picture quality but also considers sound quality, ease of use, viewing angle, and more. 3D effect is factored in as well. Displayed scores are rounded; models are listed in order of precise overall score. Under **type**, the letter L indicates an LCD set (including those with LED backlighting), and P indicates a plasma set. **Picture quality** is based on clarity, detail, and color accuracy of high-definition 1080i signals routed via HDMI. **3D performance** reflects the TV's ability to reproduce realistic 3D images. **Viewing angle** is our evaluation of picture quality from various horizontal and vertical points off-center. **Motion-blur reduction** indicates how well the TV displays fast motion without blurring. **Sound quality** combines objective measurements and subjective listening by trained panelists. Under **features**, we indicate which models offer **streaming video** from Internet services, **Wi-Fi**, and a **Web browser**. **Available screen sizes** are in same series as tested model. **Price** is approximate retail.

## EXPERT ADVICE

## Don't forget about sound quality

It's easy to find a TV with excellent picture quality, but hard to find one with equally impressive sound that can do justice to movie soundtracks and music. Only one set we've tested, **B11**, the Bose VideoWave II, has excellent sound (as you might expect from an audio brand). But that 55-inch LCD/LED set costs \$5,000. It's also deep compared with today's ultra-slim flat panels. About a dozen or so TVs in the 46- to 65-inch categories have very good sound, including sets from LG, Samsung, Sharp, and Sony. For run-of-the-mill TV programs, a set with a good score for sound should be OK. If you often watch movies or just want more satisfying sound, connect a sound bar or external speakers. (See page 32.) Think twice about a TV with fair or poor sound quality, although you might have to settle for that in a set smaller than 40 inches.



## TV BUYING GUIDE

Use your smart phone to download the RedLaser or ShopSavvy app and scan the code for the video.



# The Hot List

A monthly guide to the top products our testers recommend

**Proven performers.** Our picks to keep your food cold, make coffee hot and tasty, and get you from point A to point B.

Your  
cheat sheet  
to the best  
models



Bosch Linea 800 B22CS80SN



LG LFX28991

## Refrigerators

MODEL	SCORE
<b>TOP-FREEZERS</b>	
GE Profile PTS22LHS[WW], \$1,400 (and similar PTS22SHS[ ], \$1,600)	69
Whirlpool WRT771REY[W], \$1,100	67
Haier HT21TS45SW, \$800	65
Frigidaire FFHT2126PS, \$850	64
<b>SIDE-BY-SIDES</b>	
Samsung RS265TD[WP], \$1,300 (and similars RS263TD[ ], \$1,200, and RS267TD[ ], \$1,600)	76
Bosch Linea 800 B22CS80SN[S], \$2,700 (and similar B22CS50SN[ ], \$2,300)	74
DCS RX215PJX1, \$2,500	73
<b>CONVENTIONAL BOTTOM-FREEZERS</b>	
Whirlpool Gold GB2FHDXXW[Q], \$1,200	73
Maytag MBF2258XE[W], \$1,100 (and similars MBL2258XE[ ], \$1,200, and MBR2258XE[ ], \$1,200)	73
Maytag MBFI958XE[W], \$1,150	72
<b>THREE-DOOR FRENCH-DOOR BOTTOM-FREEZERS</b>	
LG LFX28991[ST], \$3,000	85
Samsung RF261BIAESR, \$2,100	84
Kenmore Elite 72093, \$3,400	83
Kenmore 7160[3], \$1,700	83
LG LFX33975ST, \$3,000	83
Whirlpool Gold GX5FHTXV[Q], \$1,700 (and similar GX5FHDXXV[ ], \$1,600)	82

## Portable GPS units

MODEL	SCORE
<b>4.3-INCH SCREEN</b>	
Garmin Nuvi 3490LMT, \$400	82
Garmin Nuvi 3450, \$330	80
Garmin Nuvi 3790T, \$350	77
Garmin Nuvi 3760T, \$350	76
Garmin Nuvi 2495LMT, \$230	75
Garmin Nuvi 2497LMT, \$230	75
<b>4.7-INCH SCREEN</b>	
Garmin Nuvi 3590LMT, \$380	85
Garmin Nuvi 3597LMTHD, \$380	84
Garmin Nuvi 3550LM, \$350	83
TomTom Go 2535 M Live, \$350	77
<b>3.5-INCH SCREEN</b>	
Garmin Nuvi 2250LT, \$150	64
Garmin Nuvi 2250, \$130	63
Garmin Nuvi 1260T, \$140	62
Garmin Nuvi 2200, \$120	61



Garmin Nuvi 3490LMT



TomTom Go 2535 M Live



Garmin Nuvi 2250LT

## Coffeemakers

MODEL	SCORE
<b>8- TO 14-CUP DRIP MODELS WITH CARAFES</b>	
Cuisinart Crystal SCC-1000 Limited Edition Perfec Temp, \$200 (and similar Perfec Temp DCC-2800, \$100)	87
Mr. Coffee BVMC-SJX33GT, \$40 (and similar BVMC-EHX33CP at Costco, \$30)	83
Kalorik CM 38933, \$60	78
Kalorik CM25282, \$80	75
Black & Decker CM4000S (Target), \$40	74
Frigidaire Professional Programmable Drip FPDC12D7MS, \$90	73
<b>10- TO 12-CUP BREW-AND-DISPENSE MODELS</b>	
Mr. Coffee BVMC-ZH1B, \$50	85
Viente Brew-N-View CAF-05T, \$140	81
Cuisinart Coffee on Demand DCC-3000, \$100	78



## Reports

Juicers 43

Tablets 44

Medicine dispenser 45

Toaster oven 45

Vacuums 46

Interior paints 49

# Lab tests

Ratings, reviews, recommendations

## Who has the most juice?

The health benefits of fruit and vegetable juice have helped stoke juicer sales. Manufacturers of high-end blenders are trying to squeeze in on the profits by claiming their products can make juice too, in addition to the usual smoothies and shakes. "Turn whole fruits and vegetables into refreshing juices," says Vitamix, adding that its machine "utilizes every part of your produce and its valuable nutrition."

We put that claim to the test by pitting the **Vitamix 5200**, one of our top-performing blenders, against two conventional juicers. The **Bella NutriPro** is a cold-press juicer with a single auger that compresses fruits and vegetables. The **Dash JB001CM** is an extractor-style juicer with masticating blades that pulverize produce into juice.

We made three types of juice—equally dividing apples, carrots, and oranges so that each machine juiced portions of the same produce. Our sensory experts did a taste test, assessing overall flavor and consistency. All three devices did the job, though with varying degrees of ease, output, and flavor. Here are the details:

### ▶ **Vitamix wins for volume and versatility.**

Chopping up produce and tossing it into the Vitamix is a cinch. And there's very little waste, a plus in terms of fiber and nutrition. But the results had more of a smoothie or purée consistency than what you might think of as juice, and our tasters noted more bitterness. Then again, the Vitamix is superb at making smoothies, frozen drinks, and more, so you're getting plenty of added value.

### ▶ **Bella's tasty results can be tedious work.**

Our tasters found the Bella's apple juice to be fresh tasting and clean, and its orange juice



Vitamix 5200

had the fullest flavor. But the machine was the most difficult to use with hard foods such as carrots, which we had to cut into small pieces. Even then the auger kept jamming, requiring us to repeatedly hit the reverse button. Carrots took 4 minutes to juice,

compared with 2 minutes for the Vitamix and 1 minute for the Dash.

### ▶ **Dash combines functionality and flavor.**

We found the Dash to be fairly easy to operate, though like the Bella, it has a lot of parts to clean (the devices come with a brush to help). The juice had a pleasant consistency—thicker than the Bella but not the viscosity of the Vitamix. The carrot and apple juices in particular had good flavors. The orange juice did, too, but with a hint of bitterness.



Bella NutriPro



Dash JB001CM

## How the models compare

Brand & model	Price	Average time to juice*	Average percent of juice by weight*
Bella NutriPro	\$250	120 seconds	55
Dash JB001CM	140	60 seconds	57
Vitamix 5200	450	70 seconds	91

\*Averages are for three types of juice: apple, carrot, and orange.

Also recommended: two Kobo tablets geared toward readers. The company's new Arc 7HD and Arc 10HD have very high-resolution displays and come with the full Google Play market for apps.



Lenovo Yoga  
Tablet 8

## Ratings

**Recommended models only** From 91 tested.

☒ CR Best Buy  
☒ Recommended

● Excellent  
 ◐ Very good  
 ○ Good  
 ◑ Fair  
 ● Poor

		Brand & model	Price	Overall score	Test results			Features & specs
Recommendation	Rank			0100 P   F   G   VG   E	Portability Ease of use Display Versatility	Touch response	Screen size (in.)	Battery life (hr.) Weight (lb.) Operating system Memory-card reader Camera CPS

### A 7- TO 8-INCH TABLETS, WI-FI-ONLY

[illegible]

### B 9- TO 12-INCH TABLETS, WI-FI-ONLY

	1	Apple iPad Air (Wi-Fi, 16GB)	500	<div><div>83</div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div></div>	9.7	13.5	1.0	I	•
	2	Samsung Galaxy Note 10.1 2014 Edition (Wi-Fi, 16GB)	550	<div><div>83</div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div></div>	10.1	9.0	1.2	A	• • •
	3	Google Nexus 10 (Wi-Fi, 16GB)	400	<div><div>81</div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div></div>	10.1	11.0	1.3	A	• • •
	4	Samsung Galaxy Note 10.1 (Wi-Fi, 16GB)	430	<div><div>81</div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div></div>	10.1	11.1	1.3	A	• • •
	5	Samsung Galaxy Tab 3 10.1 (Wi-Fi, 16GB)	400	<div><div>80</div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div></div>	10.1	9.6	1.1	A	• • •
	6	Samsung Galaxy Tab 2 (10.1) (Wi-Fi, 16GB)	330	<div><div>80</div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div></div>	10.1	12.4	1.3	A	• • •
	7	Sony Xperia Tablet Z (Wi-Fi, 16GB)	500	<div><div>79</div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div></div>	10.1	9.7	1.1	A	• •
	8	Microsoft Surface with Windows RT (Wi-Fi, 32GB)	350	<div><div>78</div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div></div>	10.6	10.6	1.5	W	• •
	9	Samsung Ativ Smart PC (Wi-Fi, 64GB)	500	<div><div>78</div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div></div>	11.6	13.4	1.6	W	• •
	10	Apple iPad 2 (Wi-Fi, 16GB)	400	<div><div>78</div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div></div>	9.7	11.6	1.3	I	•
	11	Microsoft Surface 2 (Wi-Fi, 32GB)	450	<div><div>78</div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div></div>	10.6	10.4	1.4	W	• •
	12	Samsung Ativ Tab 3 (Wi-Fi, 64GB)	700	<div><div>78</div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div></div>	10.1	10.0	1.2	W	• •
	13	Lenovo Yoga Tablet 10 (Wi-Fi, 16GB)	320	<div><div>77</div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div></div>	10.1	15.1	1.4	A	• • •
	14	Samsung Ativ Tab 5 (Wi-Fi, 64GB)	700	<div><div>77</div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div></div>	11.6	13.8	1.6	W	• •
	15	Asus Transformer Pad Infinity TF700T (Wi-Fi, 32GB)	500	<div><div>77</div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div></div>	10.1	8.0	1.3	A	• • •
	16	Acer Iconia W510 (Wi-Fi, 64GB)	550	<div><div>76</div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div></div>	10.1	10.0	1.3	W	• •
	17	Acer Iconia Tab A700 (Wi-Fi, 32GB)	450	<div><div>76</div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div></div>	10.1	9.5	1.5	A	• • •

Model listed is the closest available to 16GB (32GB for Windows); other storage options may be available. Operating systems are: A. Android; I. iOS; W. Windows.



Google  
Nexus 7

Apple iPad Air



# Device can prevent accidental overdoses

**Drug accidents** send more kids under the age of 6 to the emergency room than car crashes. About 10,000 cases per year involve liquid medications, such as cough and cold medicines, as well as infant and child versions of the pain reliever and fever reducer acetaminophen (Tylenol and generic versions). It takes only a moment of caregiver inattention for a curious little one to grab a medicine bottle to try to get to the syrupy liquid inside.

In addition to the child-resistant caps required by law, manufacturers are voluntarily designing some bottles to make it harder for kids to get to the contents. Those new bottles use a small device called a flow restrictor to reduce how much medication can be extracted from the bottle—a step we enthusiastically applaud.

But different companies use different approaches. To find out which are more effective, we tested flow restrictors on more than 30 liquid infant acetaminophen bottles. And we shared those results with ProPublica, an independent, nonprofit newsroom, as part of its investigation into acetaminophen safety.

Our tests revealed that although all the designs make it harder for kids to get to the medicine, some work better than others. We also found that the maker of market-leading Tylenol products, McNeil Consumer Healthcare, is not currently using the flow restrictor approach we found most effective in our testing. But a number of other brands are, including PediaCare products and a store brand, DG Health, found at Dollar General Stores.

Consumer Reports and ProPublica contacted McNeil with questions about its test results. The company did not answer why it does not use the more effective flow restrictor. But it said in a statement that the company is encouraged by the positive feedback it has



**SAFETY PRECAUTION** PediaCare bottles do a better job at restricting the flow of medicine.

received so far for its flow restrictors on infant and children's liquid acetaminophen products. It also said that it is considering whether it will use it in other products.

"While we applaud manufacturers for voluntarily placing those restrictors in liquid acetaminophen products, we think the more effective valve should be adopted industry-

wide," says Doris Peter, Ph.D., associate director of the Consumer Reports Health Ratings Center.

The flow restrictors fall into two basic categories: Open flow restrictors consist of a plastic disc with a small hole in the center. Closed flow restrictors also have a plastic disc, but they include an elastic valve in the small hole that opens when the tip of the syringe is inserted into the bottle, then closes when it's removed. Our tests revealed that closed restrictors worked much better to greatly reduce or eliminate the flow of medicine.

Still, the first line of defense against accidental overdose in children is to keep all medicines out of sight and out of reach.

**SEE OUR TESTS**  
Use your smart phone to download the RedLaser or ShopSavvy app and scan the code for the video.



## Safer ways to dispense medicine

Though all of the restrictors will prevent a child from simply pouring out the medicine, the closed versions below either greatly reduce or completely eliminate the amount of liquid that a young child can get out of a bottle. (Listed alphabetically.)

Brand	Product name	Size (fl. oz.)
DG Health (Dollar General) <sup>1</sup>	Infants' Pain & Fever Relief	2
Family Wellness (Family Dollar)	Infants' Suspension Liquid	1
Little Remedies	Infant Fever/Pain Reliever	2
PediaCare <sup>2</sup>	Fever Reducer Pain Reliever	2
Safeway <sup>1</sup>	Infants' Suspension Drops	2

<sup>1</sup> DG Health and Safeway have a syringe that must be snapped into place; in our informal usability tests, eight of nine adults were not able to properly insert the syringe and withdraw medicine without instructions. <sup>2</sup> PediaCare also offers liquid acetaminophen products in 0.25-fluid-ounce single-dose packets.

## Krups toaster oven blanks out

**In addition to** fast, precise heating, the Krups FBC4 Convection Toaster Oven is supposed to deliver an "illuminated LCD control panel with easy-to-use controls." However, we observed glitches with the appliance's control panel on four separate ovens. As a result, we've rated this \$200 appliance a Don't Buy: Performance Problem.

Our toaster oven tests include measuring how well each unit makes full batches of very light and very dark toast. The Krups had no trouble on the lightest setting. So we set it to the darkest setting and loaded in four fresh slices of bread. (Krups calls it a six-slice toaster oven, but we could fit only four without squishing the bread.) The LCD display indicated that our toast would be ready in about 6 minutes. All went well until roughly the 2-minute mark, at which point the LCD display went blank.

The toaster oven did shut off at the end of the toasting cycle, which is why we haven't judged it to be a safety problem. But it was another minute or two before the display came back on and the toaster oven could again be programmed to the desired setting.

We experienced the same display failure with our second oven. In later tests the display malfunctioned and never worked again. Once that happened, the toaster oven's convection fan began operating and stopped only when we unplugged the unit. Upon plugging it back in, the fan started up again, but the toaster oven itself would not work. Our third and fourth ovens exhibited a defective display during formal testing. The third model then failed in a similar fashion to the second unit during filming of a video, which was not part of any formal test. But it did reset itself and started up again after a few days.



**Don't Buy:**  
**Performance Problem**  
Krups FBC4 Convection Toaster Oven

If you own the Krups FBC4 Convection Toaster Oven, contact the manufacturer. The product is covered by a one-year warranty, including free repair or replacement if the unit is defective. In our case, we were told to return the unit for repair, which would take four to six weeks. Our advice: Insist on a replacement or a refund.

# Vacuums

## A new Kenmore leads 33 top picks

**S**EARCH “VACUUM BELT” on Twitter and you’ll find scores of complaints about breakage. Indeed, changing belts is about as routine for vacuums as replacing wiper blades is for cars. A top-scoring Kenmore upright is one of several models that end that job forever.

Impressive carpet cleaning and superb airflow for tools helped the bagged Kenmore Elite 31150, \$350, outscore every other vacuum we tested. As on Kenmore’s Intuition 31100, \$250, and Intuition 31200, \$300, the motor drives the brush roll directly without a belt. Smart technology also includes a QR code that you can scan to order bags from your phone or tablet—a first in our tests.

Belt changes aren’t the only maintenance chore that consumers are ditching. You’ll also see more bagless models, usually with clear bins that show you the vacuum is working. Our top picks include two CR Best Buys among bagless uprights and two new ones for canisters. More uprights can also double as handheld canisters. But weeks of testing with sand, dust-simulating wood flour, cat hair, and other household messes confirm that some bagless vacs do far less work than their see-through bins imply and that some combo models trade performance for pizzazz. Here are the details:

**Two top values for canisters.** The Kenmore 22614, \$350, and Panasonic MC-CL935, \$330, are made by Panasonic and can even share bins. The Kenmore includes a motorized upholstery brush, which should clean better than air power alone.

**A combo that didn’t cut it.** Pressing a button on Bissell’s \$180 PowerGlide Deluxe Pet 2763 bagless upright releases its motor and bin assembly so that you can use it for stairs, curtains, and other spots where canisters excel. But the Bissell was unimpressive overall and coughed out more of the smaller particles it picked up than most other models did in our dust-emissions test. Instead consider the Shark Rotator Professional Lift-Away NV501, \$260,

**BELTLESS**  
Direct-drive technology in the Kenmore Elite 31150 means no belts to replace.



## Uprights’ heavier powerheads make for better carpet cleaning.

and Shark Navigator Lift-Away NV352, \$200, which combine the same convertibility with better results.

**A new Oreck gasps for air.** Even the best bagless vacuums tend to have less airflow than bagged models. Oreck claims its new \$400 Touch upright has “four-stage multi-cyclonic filtration” with “no loss of suction.” But it’s one of three bagless

uprights that rated Poor when it came to airflow for tools. Two much better bets: The LG Kompessor LuV350P, \$400, and Hoover WindTunnel T-Series Rewind Bagless UH70120, a CR Best Buy at \$130.

## How to choose

Start by considering the cleaning you do. Uprights usually have more weight over the powerhead, which tends to make them best for carpet cleaning. Canisters offer better balance on stairs and easier cleaning for couches and draperies. And although bagless models eliminate the need to buy bags, you’ll have to replace or clean their filters regularly to maintain full airflow. Here’s what else to keep in mind as you shop:

**Look for smart features.** A brush on/off switch helps protect bare floors and prevent scattering debris. And as with upholstery brushes, a motorized powerhead cleans carpets better than suction alone. Also helpful: manual pile-height adjustment, which tends to adjust more precisely to the carpet height than automatic systems, and suction control for cleaning draperies and other delicate fabrics with tools.

**Choose a reliable brand.** Hoover is no longer among the repair-prone canister brands in our latest repair survey (see page 48). Electrolux remains among the less reliable canister brands, as do Simplicity and Riccar for uprights.

**Try before you buy.** Even if you’ll order online, first check out models you’re considering at a store. Try the controls and features, and push, pull, turn, and lift models if possible. You may even get the store to match your best online price as more retailers embrace—or at least accept—online comparison shopping.





A2 Miele



A6 Kenmore



A8 Hoover



B1 LG



B6 Shark



B7 Shark

## Overview

Top-scoring vacuums did well in our carpet, floor, and airflow tests. Most also vanquished pet hair. We focus below on picks with special strengths and value.

- ✓ **CR Best Buy** These models blend performance and value. All are recommended.
- ✓ **Recommended** These fine performers stand out for the reasons below.

### BEST UPRIGHTS FOR MOST

- A1 Kenmore** \$350
- A2 Miele** \$475
- A6 Kenmore** \$200 **CR Best Buy**
- A8 Hoover** \$300

All of these bagged models are fine choices for pet owners. **A1** includes a QR code for ordering bags online and, like **A5**, is direct-drive—no belt changes. Choose **A2** for its better carpet cleaning and relative quietness, the 13-pound **A8** if lightness counts more than convenient tool use. (It includes a separate canister for that.)

### BEST CANISTERS FOR MOST

- C3 Panasonic** \$330 **CR Best Buy**
- C4 Kenmore** \$300 **CR Best Buy**
- C7 Panasonic** \$250 **CR Best Buy**

These bagged models all have impressive airflow—especially important for canisters, which feature tools. Choose **C4** if pet hair is a major concern; otherwise, save up to \$80 with **C7**.

### IF YOU WANT BAGLESS

- B1 LG** \$400
- B2 Hoover** \$130 **CR Best Buy**
- B6 Shark** \$260
- B7 Shark** \$200
- D2 Kenmore** \$350 **CR Best Buy**
- D3 Panasonic** \$330 **CR Best Buy**

Among uprights, **B1** blends superb carpet cleaning with a system that compresses what it picks up to make emptying easier. Looking to save? **B2** fills the bill; it was best of the pack for tools and has a convenient on/off switch. **B6** and **B7** incorporate a lift-off, handheld canister, but they're poor choices for pet owners. Among canisters, paying a bit more for **D2** gains you a motor for the handheld upholstery brush.

# Ratings Upright vacuums

**Recommended models only** From 72 tested.

- Excellent
- Very good
- Good
- Fair
- Poor
- ✓ CR Best Buy
- ✓ Recommended

Rec.	Rank	Brand & model	Price	Overall score	Weight (lb.)	Test results						
		Similar models, in small type, are comparable to tested model.		0 100 P   F   G   V   G   E		Carpet	Bare floors	Tool airflow	Noise	Emissions	Handling	Pet hair

## A BAGGED UPRIGHT VACUUMS

✓	1	Kenmore Elite 31150	\$ 350	74	21	●	●	●	○	●	○	●
✓	2	Miele S 7210 Twist [1]	475	72	22	●	●	●	●	●	○	●
✓	3	Kirby Sentria [2]	1,350	72	23	●	●	●	●	●	●	●
✓	4	Miele S 7260 Cat & Dog [1]	715	72	22	●	●	●	●	●	○	●
✓	5	Kenmore Intuition 31100 [3]	250	71	21	●	●	●	○	●	○	●
✓	6	Kenmore Progressive 31069	200	71	19	●	●	●	○	●	○	●
✓	7	Hoover WindTunnel Max UH30600 [3]	180	70	17	●	●	●	○	●	○	●
✓	8	Hoover Platinum Bagged UH30010COM [1] [4]	300	70	13	●	●	NA	○	●	●	●
✓	9	Kenmore Intuition 31200 [3]	300	69	21	●	●	●	○	●	●	●
✓	10	Eureka Boss Smart Vac 4870[ ] [3]	160	69	21	●	●	○	○	●	○	●
✓	11	Miele S 7280 Jazz [1]	600	69	22	●	●	○	●	●	○	●
✓	12	Hoover WindTunnel Anniversary U6485-900 [2] [3]	230	67	21	●	●	●	●	●	○	●
✓	13	Sebo Felix Premium	600	66	16	●	●	○	○	●	●	●
✓	14	Hoover WindTunnel T-Series Pet UH30310 [3]	150	65	17	●	●	●	○	●	●	●
✓	15	Hoover WindTunnel T-Series UH30300 [3]	140	65	16	●	●	●	○	●	●	●

## B BAGLESS UPRIGHT VACUUMS

✓	1	LG Kompressor LuV350P [1] [3]	400	70	18	●	●	○	○	●	●	●
✓	2	Hoover WindTunnel T-Series Rewind Bagless UH70120 [3] [4]	130	69	18	●	●	●	○	●	●	●
✓	3	Kenmore Intuition 31040 [3]	250	66	23	●	●	○	○	●	○	●
✓	4	Eureka AirSpeed AS1000A AirSpeed AS1001A Gold [3] [4]	120	66	18	●	●	●	○	●	●	●
✓	5	Hoover Platinum Bagless UH70015 [3]	270	65	22	●	●	○	○	●	○	●
✓	6	Shark Rotator Professional Lift-Away NV501 [1]	260	65	17	●	●	○	●	●	●	●
✓	7	Shark Navigator Lift-Away NV352 Navigator Lift-Away NV351 (Walmart) [1]	200	63	14	●	●	○	○	●	●	●

Ratings continued on next page

## Guide to the Ratings

**Overall score** is mainly cleaning, airflow, handling, noise, and emissions; scores for previously tested models may have changed. **Carpet** tests lifting embedded talc and sand from medium-pile carpet. **Bare floors** is vacuuming sand without dispersing. **Tool airflow** is measured through the hose with increasing amounts of wood flour. Noise reflects decibel-meter results; we recommend hearing protection for models scored Poor. **Emissions** is the release of small particles while vacuuming. **Handling** is ease of pushing, pulling, carrying. **Pet hair** uses long cat fur on medium-pile carpet. **Weight** includes vacuum and onboard tools. Price is approximate retail.



C3 Panasonic

D1 LG

D2 Kenmore

## Ratings Canister vacuums

Recommended models only From 38 tested.

Recommendation	Rank	Brand & model	Price	Overall score	Weight (lb.)	Test results						
						Carpet	Bare floors	Tool airflow	Noise	Emissions	Handling	Pet hair

● Excellent  
● Very good  
○ Good  
● Fair  
● Poor

✓ CR Best Buy  
✓ Recommended

### C BAGGED CANISTER VACUUMS

✓	1	Kenmore Progressive 21714	\$400	72	24	●	●	●	○	●	○	●
✓	2	Miele S 5281 Callisto	990	71	24	●	●	●	●	●	○	●
✓	3	Panasonic MC-CG937	330	71	23	●	●	●	○	●	○	●
✓	4	Kenmore Progressive 21614	300	70	23	●	●	●	○	●	○	●
✓	5	Kenmore Progressive 21514	250	68	23	●	●	○	○	●	○	○
✓	6	Kenmore Intuition 28014	500	67	26	○	●	●	○	●	○	●
✓	7	Panasonic MC-CG902	250	65	23	●	●	○	○	●	○	○

### D BAGLESS CANISTER VACUUMS

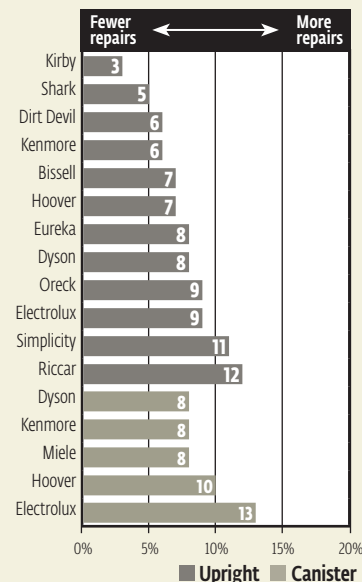
✓	1	LG Kompressor LcV900B	400	69	23	●	●	●	●	●	●	●
✓	2	Kenmore 22614	350	68	23	●	●	●	○	●	●	●
✓	3	Panasonic MC-CL935	330	68	23	●	●	●	○	●	●	●
✓	4	Hoover Platinum S3865	400	65	27	●	●	○	○	●	●	●

① Lacks manual pile-height adjustment. ② Self-propelled. ③ Lacks suction control. ④ Lacks brush on/off.

## Most and least reliable

### 83,000 readers sound off

Kirby, shown below, was among the more reliable brands of upright vacuums, whereas Simplicity and Riccar were among the more repair-prone. Electrolux was among the less reliable canister-vacuum brands.



Source: Consumer Reports Annual Product Reliability Survey. Our findings are based on more than 83,000 vacuums readers bought new between 2009 and 2013. Differences of fewer than 4 points aren't meaningful. Data are adjusted to eliminate differences linked solely to the age and use of the vacuum. Models within a brand may vary, and design or manufacture changes may affect future reliability. Still, choosing a brand with a good repair history can improve your odds of getting a reliable model.



## 5 easy vacuum repairs you can do yourself

Uprights usually aren't worth fixing after five years, or canisters after seven years, according to our latest surveys (see "Repair or Replace," February 2013). But some repairs make sense even on an older vacuum, provided the repair is no more than half of the cost of a comparable new model. Here are five you can do yourself:

**Problem** Vacuum is especially hard to push across carpeting.  
**Solution** Simply raise the height a notch on machines with manual

carpet-height adjustment—not too high, though, or carpet cleaning will suffer.  
**Cost** Free.

**Problem** Brush roll barely turns, if it turns at all, when it should.  
**Solution** Check the brush roll for hair, fabric, and other debris. Otherwise, you'll need a new belt, brush roll, or both.  
**Cost** \$3 to \$40.

**Problem** Weak suction with no clog in the hose.  
**Solution** For a bagless vac,



clean or replace filters, which trap dirt and protect the motor. For a bagged vac, replace the bag.  
**Cost** \$10 to \$70 for filters that aren't washable.

**Problem** Paper clips or other items get stuck in hose.  
**Solution** Use a broomstick to clear the clog.  
**Cost** Free.

**Problem** Vacuum quits while vacuuming.  
**Solution** Many vacuums have an overload switch that cuts power if the motor gets too hot. Let the motor cool for a few minutes, then restart. Also check for a full bag or bin, and for clogs—common causes of overheating.  
**Cost** Free.



# Interior paints

## A \$100 finish falls flat in our tests

**PICKING A PAINT** has become harder than just picking a color (as if that wasn't confusing enough). Relying on past experiences isn't a good way to pick a brand because paints are frequently reformulated, which changes their performance.

We tested 67 paints, including a pricey import from England known for its colors, to see how well they hide old paint, how well they hold up to stains and scrubbing, and the smoothness of the finish.

In fact, we've toughened our tests by applying water- and oil-based stains to painted panels. Most paints faltered in our new staining tests. Lowe's Valspar and Olympic satin finishes didn't make our recommended list this time around. If Lowe's is your go-to store for paint, use those paints in low-traffic areas.

Though its colors were lovely, Farrow & Ball was the worst at hiding old paint. It took two coats of the \$105 eggshell finish in white to do what the top-rated Behr satin did in one. (The terms "eggshell" and "satin" are used interchangeably by companies to describe paints with some sheen.) More coats mean more money and time, and the Farrow & Ball paint isn't self-priming, unlike most we tested. The eggshell and gloss paints also left a rough, grainy finish and

**HIDE AND SEEK**  
It took just one coat of top-rated Behr to cover old paint as thoroughly as two coats of Farrow & Ball.

lost most of their sheen after cleaning, though both resisted stains well.

And we found that the color wasn't that hard to match. We sent a secret shopper to three Home Depots with a panel painted with Farrow & Ball's Lulworth Blue Estate Eggshell, \$105 per gallon. He came back with three gallons of the top-scoring Behr Premium Plus Ultra Satin, \$34, in a blue created by computerized, color-matching technology. We applied the Behr to panels and compared it with a panel painted with Farrow & Ball. The Behr paints were about

1 percent lighter, according to our colorimeter, a difference that we couldn't see.

### How to choose

White and other neutrals are in style again. And warm grays are hot, too, according to color experts. You can find inspiration at the manufacturers' Pinterest boards and websites, where you can compare color palettes or play with tools that let you upload a photo of your room and paint it virtually before picking up a brush. Here's what else to consider:

**Pick the finish.** "More people are using the same color for walls and trim, without much contrast in sheen," says Leslie Harrington, a color expert. "This creates a clean line and redirects your eye to other things in the room—the furniture, art." Semigloss isn't a must for trim. Many eggshell and satin paints have become much better at standing up to scrubbing, according to our latest tests. Flat paints are better than eggshell at hiding imperfections because they don't reflect light. But flats are the least stain-resistant, so they aren't a great choice for busy rooms.

**Nail the perfect color.** Light affects color significantly. So once you've zeroed in on a hue, consider buying three samples: the color you're drawn to, and a shade lighter and one darker. Paint a sample next to a window and in an area that's dark, viewing the colors in daylight and at night, with the lights on and off.

*Ratings on next page*

### ASK OUR EXPERTS

#### How to be a power painter



Rico DePaz has tested paints in our lab for eight years and applies his knowledge every time he paints his home. Here's his advice for solving three common problems:

**Q. What's the best way to cover dark colors?**

**A.** It's easier than it used to

be. Start with a self-priming paint that scored Very Good or better in our hiding tests. These brands' white paint can completely cover black paint with just two coats. Don't spread the paint too thin. Only cover an area that's 2x2 feet every time you load the paint roller. If you think you've missed a spot, wait until the paint dries to touch it up, or you'll end up messing up the paint surrounding the spot.

**Q. Brush or roller?**

**A.** Both. Use a brush for corners, around trim, and the line where the ceiling and wall meet. For better control and a uniform finish,

use a roller for surfaces bigger than 2x2 feet, even if the wall or ceiling has imperfections. Foam rollers 4 to 6 inches wide are good for painting doors.

**Q. How do I paint a nice straight line?**

**A.** Taping takes time, but it's worth it. FrogTape's Delicate Surface, \$6 to \$9 per roll, left a very sharp line and was very easy to remove in our tests. Use a sash brush with a tapered tip. The bristles are cut at a diagonal and trimmed, creating a narrow tip that gives you better control. Remove tape as soon and as carefully as possible after painting.



## STANDARD DETAILS

- Painters usually move furniture and remove mirrors, art, and window treatments. Then they do surface prep, including removing dust and grime, filling holes, patching, spackling, and dulling a high-gloss surface if needed.
- Paint brand, color, sheen, and number of gallons and coats required should be specified for each room and surface, noting whether a primer is needed.
- The cost of labor and paint should be stated as well as the time needed to complete the job.
- Keep some leftover paint for touchups.

- Make sure your expectations match the contractor's regarding the final smoothness of the surface and the amount of prep work, especially if your walls or ceilings are rough or cracked. The best way to do that is to show him what you want.

- If you suspect that your old paint contains lead, which was banned from paint in 1978, make sure that the contractor and her crew are certified by the Environmental Protection Agency to safely remove lead paint and that they take steps to minimize exposure and contamination.
- Ask for the crew members' names and what time they will arrive and leave daily.
- Insist that the company's owner or foreman review the job at the end of each day, and meet with him halfway through a weeklong project to discuss any concerns.
- Add a "what if" clause: "Problems might come up that weren't included in the estimate, like cracks hidden by art or water damage that seemed slight but isn't," explains Debbie Zimmer of the Paint Quality Institute. "So the contract should specify that the painter contacts you before doing any work with a plan to address the problem and costs."
- Find out where paint, tools, and ladders will be stored at the end of a workday. Don't use the garage if there's a chance that the temperature will drop below 32° F, because paint can freeze and form a film, altering its performance.
- Determine the warranty.

































































































## Ratings Interior paints

**All tested products** In performance order, within types.



A1 Behr

		Product	Price (per gal.)	Overall score	Test results	Resists	VOCs (lb./gal.)
Rec.	Rank				Hiding Staining Gloss change Scrubbing Smoothness	Mildew Sticking Fading	Zero claimed

SATIN AND EGGSHELL Low sheen and general durability make these best for most surfaces.																
	1	<b>Behr</b> Premium Plus Ultra Satin Enamel (Home Depot)	\$ 34	81												
	2	<b>Benjamin Moore</b> Aura Satin <sup>[2]</sup> <sup>[3]</sup>	68	79												
	3	<b>Clark+Kensington</b> Satin Enamel (Ace)	32	79												
	4	<b>Kilz</b> Casual Colors Satin (Ace) <sup>[4]</sup>	30	75												
	5	<b>Behr</b> Premium Plus Satin Enamel (Home Depot)	27	72												
	6	<b>Glidden</b> Premium Satin (Home Depot) <sup>[4]</sup>	25	69												
	7	<b>Olympic</b> One Satin Enamel (Lowe's)	27	68												
	8	<b>Valspar</b> Signature Satin (Lowe's)	34	68												

Rank	Product Name	Score	Value	Color	Finish	Application	Notes
1	<b>Behr</b> Premium Plus Ultra Matte (Home Depot)	32	72	Red	Matte	Interior	
2	<b>Valspar</b> Signature Matte (Lowe's)	32	71	Red	Matte	Interior	
3	<b>Glidden</b> Premium Flat (Home Depot) <sup>[4]</sup>	20	69	Red	Flat	Interior	
4	<b>Benjamin Moore</b> Aura Matte <sup>[3]</sup>	68	69	Red	Matte	Interior	
5	<b>Clark+Kensington</b> Flat Enamel (Ace)	30	68	Red	Flat	Interior	
6	<b>Behr</b> Premium Plus Flat Enamel (Home Depot)	25	68	Red	Flat	Interior	
7	<b>Benjamin Moore</b> Natura Flat <sup>[4]</sup>	57	67	Red	Flat	Interior	
8	<b>Valspar</b> Ultra Flat (Lowe's)	27	66	Red	Flat	Interior	
9	<b>Olympic</b> One Flat Enamel (Lowe's)	25	65	Red	Flat	Interior	
10	<b>Pittsburgh Paints</b> Manor Hall Timeless Matte <sup>[4]</sup>	56	63	Red	Matte	Interior	
11	<b>Kilz</b> Casual Colors Flat <sup>[4]</sup>	27	62	Red	Flat	Interior	
12	<b>Glidden</b> Duo Flat (Home Depot)	27	58	Red	Flat	Interior	
13	<b>Benjamin Moore</b> Regal Select Flat <sup>[3]</sup>	45	58	Red	Flat	Interior	
14	<b>Sears</b> Easy Living Ultra Flat <sup>[4]</sup>	31	57	Red	Flat	Interior	
15	<b>Olympic</b> Icon Flat (Lowe's)	20	57	Red	Flat	Interior	
16	<b>Farrow &amp; Ball</b> Modern Emulsion <sup>[4]</sup>	93	56	Red	Emulsion	Interior	





A2 Benjamin Moore



A3 Clark+Kensington



B2 Valspar



## Overview

These recommended interior paints can do the job in one coat unless you're trying to cover a very dark color. But two coats will always give you a more even finish. For one-stop shopping, the paints are grouped by store.

### BEST FROM ACE

A3 Clark+Kensington \$32

A4 Kilz \$30

B5 Clark+Kensington \$30

C1 Clark+Kensington \$33

All but **A4** are self-priming and fade-resistant, so they're great for sunny rooms. Among satin finishes, **A3** held more of its sheen and left a smoother finish than **A4**. **C1** is one of the few semiglosses that was superb at hiding and left a smooth finish.

### BEST FROM BENJAMIN MOORE

A2 Benjamin Moore \$68

B4 Benjamin Moore \$68

C5 Benjamin Moore \$68

All are self-priming, fade-resistant, and better than most at resisting sticking and mildew. But they cost about twice as much as higher-scoring paints.

### BEST FROM HOME DEPOT

A1 Behr \$34

A5 Behr \$27 CR Best Buy

B1 Behr \$32

B3 Glidden \$20 CR Best Buy

C2 Behr \$34

C4 Behr \$29

They're self-priming, except for **B3**, and better at resisting sticking than most. **A1** was excellent at hiding and left a smooth finish. **A5** costs less but wasn't as great at hiding; use it for covering light colors. **B1** was one of the few flats to deliver superb hiding, and it held its finish even after aggressive cleaning. **C4** was the only recommended semigloss to excel at resisting stains, and it costs the least.

### BEST FROM LOWE'S

B2 Valspar \$32

C3 Valspar \$35

Both are self-priming, offer excellent hiding, and are better than most other paints at resisting mildew. **B2**, a flat paint, left a smooth surface. **C3** was better than most semiglosses at resisting sticking but lost more of its sheen after cleaning. The satin finishes didn't make the top picks, but consider **A7** or **A8** in low-traffic areas because **A7** didn't hold up to stains that well and **A8** lost much of its sheen after cleaning.

		Product	Price (per gal.)	Overall score	Test results			Resists		VOCs (g/L)			
Rec.	Rank			0100 P   F   G   V   G   E	Hiding	Staining	Gloss change	Scrubbing	Smoothness	Mildew	Sticking	Fading	Zero claimed

## B FLAT AND MATTE continued

17	Sherwin-Williams	Duration Home Matte	\$57	55	○ ○ ● ● ○ ● ●	
18	Sherwin-Williams	Emerald Matte	61	55	● ● ● ● ● ● ●	●
19	Glidden	High Endurance Flat (Walmart) <sup>3</sup> <sup>4</sup>	20	52	● ● ● ● ● ● ●	●
20	Ace	Royal Interiors Flat <sup>4</sup>	24	51	● ● ● ● ● ● ●	● ● ● ●
21	True Value	EasyCare Ultra Premium Flat	24	48	● ● ● ● ● ● ●	● ● ● ●
22	Glidden	High Endurance Plus Flat (Walmart)	22	48	○ ● ● ● ● ● ●	●
23	True Value	EasyCare Platinum Flat Enamel	31	41	○ ● ● ● ● ● ●	●

## C SEMIGLOSS Best for trim, doors, and windows if contrast in sheen is preferred.

✓	1	Clark+Kensington Semi-Gloss Enamel (Ace)	33	79	● ● ○ ● ● ● ●	● ● ● ●
✓	2	Behr Premium Plus Ultra Semi-Gloss Enamel (Home Depot)	34	78	● ● ● ● ● ● ●	● ● ● ●
✓	3	Valspar Signature Semi-Gloss (Lowe's)	35	75	● ● ● ● ● ● ●	● ● ● ●
✓	4	Behr Premium Plus Semi-Gloss Enamel (Home Depot)	29	74	● ● ● ● ● ● ●	● ● ● ●
✓	5	Benjamin Moore Aura Semi-Gloss <sup>3</sup>	68	74	● ● ● ● ● ● ●	● ● ● ●
	6	Ace Royal Interiors Semi-Gloss <sup>4</sup>	28	70	● ● ● ● ● ● ●	● ● ● ●
	7	Kilz Casual Colors Semi-Gloss <sup>4</sup>	31	68	● ● ● ● ● ● ●	● ● ● ●
	8	Olympic Icon Semi-Gloss (Lowe's)	26	68	● ● ● ● ● ● ●	● ● ● ●
	9	Glidden High Endurance Semi-Gloss (Walmart) <sup>4</sup>	24	67	● ● ● ● ● ● ●	● ● ● ●
	10	Glidden Premium Semi-Gloss (Home Depot) <sup>4</sup>	26	67	● ● ● ● ● ● ●	● ● ● ●
	11	Glidden High Endurance Plus Semi-Gloss (Walmart)	27	67	● ● ● ● ● ● ●	● ● ● ●
	12	Olympic One Semi-Gloss Enamel (Lowe's)	27	67	● ● ● ● ● ● ●	● ● ● ●
	13	Benjamin Moore Natura Semi-Gloss <sup>3</sup> <sup>4</sup>	57	67	● ● ● ● ● ● ●	● ● ● ●
	14	Glidden Duo Semi-Gloss (Home Depot)	29	66	● ● ● ● ● ● ●	● ● ● ●
	15	Valspar Ultra Semi-Gloss (Lowe's)	30	64	● ● ● ● ● ● ●	● ● ● ●
	16	Benjamin Moore Regal Select Semi-Gloss <sup>3</sup>	50	63	● ● ● ● ● ● ●	● ● ● ●
	17	Pittsburgh Paints Manor Hall Timeless Semi-Gloss <sup>4</sup>	58	59	● ● ● ● ● ● ●	● ● ● ●
	18	Sherwin-Williams Emerald Semi-Gloss	65	59	● ● ● ● ● ● ●	● ● ● ●
	19	Farrow & Ball Full Gloss <sup>4</sup>	105	56	● ● ● ● ● ● ●	● ● ● ●
	20	Sherwin-Williams Duration Home Semi-Gloss	60	56	○ ○ ● ● ● ● ●	● ● ● ●
	21	True Value EasyCare Ultra Premium Semi-Gloss	30	52	● ● ● ● ● ● ●	●
	22	True Value EasyCare Platinum Semi-Gloss	34	49	● ● ● ● ● ● ●	●

<sup>1</sup> Volatile organic compounds. <sup>2</sup> Glossier than labeled. <sup>3</sup> Manufacturer claims that paint has been reformulated since our last tests, though product in Ratings is still available in stores. <sup>4</sup> Not self-priming. <sup>5</sup> Flatter than labeled.

## Guide to the Ratings

**Overall score** is mainly hiding, surface smoothness, resistance to staining, scrubbing, gloss change, sticking, mildew, and fading. Most results reflect white, pastel, and medium-tint bases. **Hiding** is coverage of contrasting color mainly with one coat. **Staining** is resistance to water- and oil-based stains. **Gloss change** is appearance change after

rough cleaning. **Scrubbing** is ability to resist an abrasive cleaner.

**Smoothness** is absence of roller marks when dry. **Mildew** is ability to inhibit mildew growth. **Sticking** is ability to resist tackiness when dry. **Fading** is resistance to lightening from sun rays passing through a window. **Price** is approximate retail per gallon.

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### RIGHT DIRECTION

Free apps from the major carriers block texts and calls, but each needs more work.



# Cars

Road tests, auto products, hot topics

## Apps that shut out distractions

**THE BEEPS, BUZZES,** and funky sounds that your cell phone emits when it receives a call or text can be tempting to answer while driving. But those distractions and others led to more than 3,300 deaths and 416,000 injuries in 2012.

Many drivers have the discipline to ignore those invitations. But if you'd like some help (or want to help someone else) and you're an Android phone user, you can take advantage of free smart-phone

apps from the major carriers that block unwanted calls and texts. The apps can also send an automatic reply to texts that let senders know that you're driving. AT&T also provides a BlackBerry version. And each app has an onscreen button to call 911.

To check out the benefits and shortcomings, we downloaded AT&T's DriveMode, Sprint's Drive First, and Verizon's Safely Go, and put them through their paces on a Samsung Galaxy S3.



### AT&T DriveMode

**What it does** DriveMode can be set to automatically turn on when it senses that the vehicle has reached

about 25 mph. Its "allow list" lets you choose five contacts who can call you without being blocked and vice versa, whether or not the phone is connected to the car via Bluetooth for hands-free use. Navigation and music are the only apps that can be used while driving, but you still have to touch the screen to choose a song, adding a degree of distraction.

**What we found** DriveMode worked well in our evaluation and was easy to set up. We did find some variation in how quickly it activated, so give it a few minutes after you reach 25 mph for it to kick in. Similarly, after the car stopped, it took about 5 minutes for the app to deactivate. That helps to prevent using the phone at traffic lights, but it felt too long for practical use.



### Sprint Drive First

**What it does** Drive First automatically turns on and locks the phone when the car reaches 10 mph. Five

contacts can ring through, and you can access up to three apps. In hands-free mode while using Bluetooth, the driver can call out to anyone. Sprint also has a website that allows a person (such as a parent) to monitor the phone to tell whether the app has been deactivated.

**What we found** Setup involves installing two apps and logging in with a phone number and password, which took a while. We liked the online component and the ability to monitor the use of the app. There's a long list of apps you can use while driving, something not available with the AT&T app. We selected the messaging app as one of the three and were able to receive and send texts that way, which defeats the purpose. Drive First might take a few minutes to activate after reaching 10 mph, and it took about 2 minutes to deactivate after stopping.



### Verizon Safely Go

**What it does** Unlike the AT&T and Sprint apps, this one has to be manually activated every time a driver gets in the car. It allows calls from three "VIP" contacts to get through unblocked. It also lets you use three apps while driving, letting you choose from almost any app on the phone.

**What we found** There are too many steps to activate the app, and it takes discipline to remember to turn it on every time you get in the car. As with Sprint's Drive First, when we chose the message app as one of our three permitted ones, all texts were accessible. We also added the game app to the allowed list, and our testers were able to play while driving around the track, which is another clear shortcoming. In addition, when using the phone in hands-free mode via Bluetooth, all calls can ring through.

**Bottom line.** These apps are a step in the right direction, but they need further development to make them more effective. We'd like to see all of them automatically turn on at 10 mph and have an automatic reply that responds to texts and phone calls. They should also have similar functionality whether or not the phone

is linked through Bluetooth, reasonably quick deactivation when the car stops, a website for monitoring the app's usage, and limited usable apps while driving (just navigation and music). That would make them inviting to use while helping drivers keep their hands on the wheel and their eyes on the road.

Mercedes-Benz  
E250 BlueTec

# Luxury sedans

## Three revamped models appeal to different tastes

**W**HEN YOU'RE PAYING \$60,000 or \$70,000 for a luxury sedan, you expect to get a sumptuous interior, potent performance, a long list of features, extra comfort and convenience, and plenty of high-tech wizardry. But you also want a car that embraces your individual tastes and driving style.

Each of the three models we tested for this issue—the diesel-powered Mercedes-Benz E250 BlueTec and Audi A7, and the freshly redesigned Cadillac CTS—delivers in its own way. And each uses a distinctive formula to appeal to different buyers.

The new E250 is perhaps the most rational luxury car you'll find. It mixes a posh interior with an ultra-efficient turbodiesel engine, an 800-mile highway driving range, an impressive balance of ride and handling, and the type of practicality that makes it easy to live with. That combination earned it a stellar 98 score in our testing, which is second only to the Tesla Model S, at 99.

In contrast, the sleek A7, with its sloping roof and coupelike body, puts the emphasis on style and pizzazz. What's hidden beneath that sleek silhouette, however, is a luxurious and functional cabin and a spirited turbodiesel V6 engine that—at 28 mpg overall—is almost as efficient as the E250's. Though the styling compromises rear visibility, the A7's hatchback design provides a healthy measure of practicality. All of that helped the A7 peg a solid score

of 95, making it another of the highest-rated cars we've tested.

The Cadillac CTS is geared for the sports-sedan enthusiast. With its potent 321-hp V6 engine, excellent driving dynamics, and well-crafted interior, the CTS is legitimately fun to drive. But in our testing it lost points on practicality because of a rel-

atively tight rear seat and trunk and the cumbersome, frustrating controls of its Cue infotainment system.

The CTS and the diesel versions of the E-Class and A7 are too new for us to have reliability data, so we can't recommend them. The gas versions of the E-Class and A7 have had above average reliability.

## Ratings Luxury sedans

In performance order.

✓ Recommended

● Excellent  
● Very good  
○ Good  
○ Fair  
● Poor

Rec.	Rank	Make & model	Price as tested	In this issue	Overall road-test score	Predicted reliability	Overall mpg
					0 100 P   F   G   VG   E		
✓	1	Tesla Model S (85 kWh)	\$89,650		99	○	84*
	2	Mercedes-Benz E250 BlueTec (AWD)	62,980	●	98	new	30
	3	Audi A7 3.0 TDI Quattro	70,895	●	95	new	28
✓	4	Audi A6 3.0T Premium Plus Quattro	56,295		93	○	22
✓	5	Infiniti Q70 (M37)	53,825		93	●	21
✓	6	Mercedes-Benz E350	57,965		86	●	21
✓	7	Lexus GS 350	58,858		84	●	21
✓	8	BMW 535i	58,375		81	○	23
	9	Jaguar XF 3.0 (AWD)	59,645		79	NA	21
	10	Cadillac XTS Premium	57,200		79	●	22
	11	Cadillac CTS Luxury (V6, AWD)	58,780	●	76	new	21
	12	Acura RLX Tech	55,345		74	●	23
	13	Volvo S80 3.2	45,305		70	NA	20
	14	Lincoln MKS (base, 3.7)	50,070		60	●	20

\*Miles-per-gallon equivalent (MPGe)

**Why some models are not recommended.** The Mercedes-Benz E250, Audi A7 TDI, and Cadillac CTS are too new for us to have reliability data. We don't have sufficient reliability data on the Jaguar XF and Volvo S80. The Cadillac XTS and Lincoln MKS have had below-average reliability. The Acura RLX, S80, and MKS scored too low in our tests for this category.



# Mercedes-Benz E250 BlueTec

ROAD-TEST  
SCORE  
**98**

E-Class models have always performed well in our tests, thanks to their comfortable ride, responsive handling, and luxurious driving experience. And for 2014, the new E250 comes with a 2.1-liter turbodiesel four-cylinder engine that delivered an outstanding 30 mpg overall in our tests. Let's pause and take that in: We got the same fuel economy from a 4,345-pound, all-wheel-drive luxury sedan as we did from the small subcompact Honda Fit econocar. That's also 4 mpg better than the diesel-powered E350 we previously tested.

Moreover, the E250's impressive 41-mpg highway mileage and 21-gallon fuel tank make it a road-trip machine, providing a cruising range of more than 800 miles. You'll probably stop for a rest room break—or several—before you need to refill the tank.

With 195 hp and a whopping 369 pound-feet of torque, the E250 delivers impressive response and no sluggishness at startup, thanks in part to the smooth seven-speed automatic transmission. Even when running in "Eco" mode, the E250 doesn't feel flat-footed.

One note: The diesel engine requires refills of diesel exhaust fluid (DEF) at every oil change. If you do it yourself, expect to pay about \$40 for the fluid at an auto-parts store; having a dealer handle the job could cost several hundred dollars.

The E250's handling is quite agile, with quick, well-weighted steering and limited body lean when cornering. When pushed to its handling limits at our track, the car proved secure and achieved surprisingly high speeds in turns, with commendable balance, composure, and predictability.

Mercedes offers Luxury and Sport trims, each delivering a distinct ride quality. We'd opt for the Luxury version, an optimum balance between comfort and sportiness.



The suspension mops up almost every bump no matter how rough the road. Sport-trim versions are markedly stiffer.

The E-Class puts comfort and functionality over flash. Upright styling brings big windows, and visibility is among the best of any sedan we've tested. But a backup camera is available only as part of a \$3,870 option package. And if the in-dash display is turned off, you can't see the camera's image; that is annoying and potentially a safety concern.

Fit and finish is impeccable. The faux-leather MB-Tex upholstery on the seats is a stellar imitation. Every panel fits together precisely, and almost all surfaces are covered with soft-touch materials or are dressed in swaths of wood or chrome trim.

The firm, well-padded seats are extremely comfortable and supportive, and there's plenty of head, leg, and knee room. Two adults will be comfortable in the rear, but an adult in the center position will find little leg room.

Although the controls aren't simple, they're among the most straightforward we've seen in a luxury sedan. The easy-to-read 7-inch screen is coupled with a central control knob that handles many infotainment functions, including audio tuning. The climate and basic audio controls use dedicated knobs and buttons.

Most of our complaints center on the steering-wheel stalks. Bunched together on the left side of the column are stalks for the cruise control and the turn signal and wiper functions, as well as the tilt/telescopic adjustments for the steering wheel. On the right side is an awkward electronic transmission shift lever that takes some getting used to.

Pairing an iPhone is simple, but Android devices take a bit more effort. Bluetooth streams well, and though there is a USB port, the iPhone connector cable is for the older type, preceding the iPhone 5. Voice commands work well enough but aren't as seamless as systems in some cars.

The DEF tank takes space normally used for the spare tire, so the E250 uses run-flat tires. Still, the trunk is roomy, and the trunk



## Tested vehicle

<b>HIGHS</b>	Fuel economy, ride, handling, quietness, seat comfort, fit and finish, visibility
<b>LOWS</b>	Pricy for a four-cylinder car, backup camera doesn't work when the radio is off
<b>TRIM LINE</b>	E250 BlueTec
<b>DRIVETRAIN</b>	195-hp, 2.1-liter turbodiesel four-cylinder engine; seven-speed automatic transmission; all-wheel drive
<b>MAJOR OPTIONS</b>	Parking assist, folding rear seats, Navigation, Harman/Kardon audio system, rear camera, heated front seats, 17-inch wheels, comfort suspension, blind-spot monitoring, lane assist
<b>TESTED PRICE</b>	\$62,980

## More test findings

<b>BRAKING</b>	Very good, with short stops, especially on dry surfaces.
<b>HEADLIGHTS</b>	LED low beams throw a very bright white light but reach only a fair distance.
<b>ACCESS</b>	Easy, with big, square door openings.
<b>VISIBILITY</b>	Very good, thanks to large windows and thin pillars. The backup camera works only when the radio is turned on.
<b>CABIN STORAGE</b>	Very little for a luxury car.
<b>HEAD RESTRAINTS</b>	Front restraints equipped with Neck-pro whiplash protection.
<b>CHILD SEATS</b>	It's almost impossible to connect the top tethers, due to the geometry of the anchors.

lid conveniently springs fully open every time.

In the end, it's no surprise that this excellent, fuel-efficient car scored a 98 in our road tests, second only to the Tesla Model S.

**Best version to get.** Both the diesel and the 3.5-liter gasoline-powered V6 are excellent engines; choosing one may simply come down to which you value more: efficiency or performance. If you live where it snows, you'll probably want the \$2,500 4Matic all-wheel drive. The wagon version is a practical alternative to an SUV, but you can't get it with the diesel. If we were optioning our test car from scratch, we'd get the \$3,870 Premium I package (with navigation, heated seats, and a backup camera), the no-charge luxury package (17-inch wheels and comfort suspension), a \$440 split-folding rear seat, and the \$875 lane-tracking package (Blind Spot and Lane Keeping Assist), for a total of \$60,010.



**PULL-OUT STORAGE** A handy retractable shelf that can expand into a large bag keeps items from rolling around in the trunk.



# Audi A7

ROAD-TEST  
SCORE  
**95**

The low-slung, sleekly raked Audi A7, which is derived from the excellent A6 sedan, is a coupelike four-door sedan that's similar in concept to the BMW 6 Series Gran Coupe and Mercedes-Benz CLS. That type of car usually places more emphasis on styling than on practicality. But with its generous interior proportions and the cargo-carrying versatility of its hatchback design, the A7 actually does provide a healthy dose of usability. And unlike those competitors, the Audi seats five people instead of four, at least in a pinch.

We tested the A7 TDI, which is powered by a new 240-hp turbodiesel V6 that's possibly the nicest, perkier, most unobtrusive diesel engine we've experienced. It's mated to an ultrasmooth eight-speed automatic transmission. The A7 has plenty of grunt, and it also returned an impressive 28 mpg overall. A long cruising range—565 miles in mixed driving and about 800 on the highway—is another plus. Like other diesels, it needs the diesel exhaust fluid (DEF) refilled at every oil change.

In addition to its excellent fuel economy, the A7 delivers an impressive blend of luxury, sound driving dynamics, and an impeccably furnished cabin, all of which helped it earn a stellar road-test score of 95, ranking it among the best cars we've tested.

Power is abundant, with a hefty surge that's almost always ready to be tapped.



**HIDDEN ASSETS** With a roomy rear cargo area, the A7 provides a lot of usable space inside its sleek, coupelike body.

Handling is responsive and secure but not as overtly sporty as, say, a Porsche Panamera. The ride is also very good, steady, and compliant, although the low-profile 20-inch tires, a \$1,200 option, make the ride firmer than we'd like.

Interior finish, seat comfort, and driver accommodations are first class. But access isn't as good as in the A6 because the doors are smaller and the roof line is lower. The rear seat is roomier than in most competitors, though it's not as hospitable as the A6's.

Among the few shortcomings are the controls, which take some getting used to. There is an array of buttons to navigate, which force you to look down and away from the road to pick the right function, at least until you learn their location by feel. You can also perform many functions through steering-wheel-mounted buttons. Overall, however, they are more straightforward than the touch-sensitive capacitive controls used in Cadillac, Ford, and Lincoln models. There's also a touchpad that lets you select radio presets or even trace out letters with your finger to spell out addresses for the navigation system.

Though visibility is surprisingly good, the car's sleek styling hurts the rear view when parking or merging. The A7 is generally very quiet, but a low-level diesel thrum that's audible at low speeds robs some refinement.

There's no getting around the fact that



**AERO AID** The A7's rear spoiler is more than cosmetic. It rises when the car reaches 80 mph and retracts at 50 mph.



## Tested vehicle

<b>HIGHS</b>	Styling, fuel economy, acceleration, transmission, braking, fit and finish, seat comfort, hatchback flexibility
<b>LOWS</b>	Access, some controls, rear visibility, no rear wiper
<b>TRIM LINE</b>	Premium Plus 3.0 TDI
<b>DRIVETRAIN</b>	240-hp, 3.0-liter turbodiesel V6; eight-speed automatic transmission; all-wheel drive
<b>MAJOR OPTIONS</b>	20-inch wheels, cold weather package, metallic paint
<b>TESTED PRICE</b>	\$70,895

## More test findings

<b>BRAKING</b>	Excellent, with very short stops and good pedal feel.
<b>HEADLIGHTS</b>	Standard HID headlights provide bright light and illuminate the side, but there's a lack of illumination straight ahead, where it matters most.
<b>ACCESS</b>	The low-slung roof, short doors, and high sills make it hard to be graceful when getting in and out.
<b>VISIBILITY</b>	Rear visibility is limited. A rear wiper is needed but isn't included.
<b>CABIN STORAGE</b>	There are lots of diverse and handy storage options.
<b>HEAD RESTRAINTS</b>	The rear-center head restraint must be raised to provide adequate protection.
<b>CHILD SEATS</b>	Forward-facing and most rear-facing seats should be secure.

the A7 experience doesn't come cheap. Even our "base" Premium Plus model cost almost \$71,000, with just a couple of modest options thrown in. The A6 with the diesel engine starts at almost \$10,000 less than the A7.

**Best version to get.** The A7's 3.0T supercharged V6 engine is impressive, but the 3.0 TDI diesel delivers a better blend of performance and fuel economy. Even the "entry level" Premium Plus version comes well-equipped, with standard features such as heated front seats, a power tailgate, and a navigation system with voice control. We'd also add Audi's side assist blind-spot monitoring system, which is part of a \$600 option package or standard on the uplevel Prestige version. We expect that most A7s will come with the optional 20-inch wheels, which look great but don't do any favors for the car's ride comfort or noise isolation.



# Cadillac CTS

ROAD-TEST  
SCORE  
**76**

Since its launch in 2003, the CTS sedan has been Cadillac's talented young star: a stylish, fun, and agile sports sedan and a fairly credible alternative to a BMW 5 Series or Mercedes-Benz E-Class. The redesigned 2014 model shed a couple of hundred pounds, grew 4 inches longer, and acquired a plusher, posher interior. In short, it emerged from GM's finishing school as the most driver-focused midsize luxury sedan you can buy.

The CTS delivers an inviting blend of comfort, quietness, and sporty driving performance. We bought the midtrim Luxury version, which comes with a 321-hp, 3.6-liter V6. That should provide enough zip for most people, even though its 6.8-second 0-to-60-mph sprint time is actually a bit slower than the acceleration many competitors deliver.

If you want more zip, you can opt for the 420-hp twin-turbocharged V6 in the high-end Vsport version, which dials up the fun meter to the max. The base "Turbo" version of the CTS comes with a 272-hp, 2.0-liter turbo four-cylinder engine.

We chose all-wheel drive, which has increasingly become de rigueur for many luxury cars sold in the Snow Belt. That configuration brings a six-speed automatic transmission that shifts smoothly enough but isn't nearly as slick as the eight-speed that comes with rear-wheel-drive, six-cylinder CTSs. We measured 21 mpg overall with that combo, which is about par for the class.

In everyday cruising the CTS feels deft and light on its feet, and the steering is responsive and well-weighted. An aficionado might grouse that feedback isn't as authentic as in the last generation, but that's unlikely to bother most owners. At our track the body stayed level when we pushed it around fast turns, and the CTS kept its cool while threading our avoidance maneuver.

The ride is steady and composed, but it's also quite firm, so you feel some taut little jiggles on all but the most pristine pavement. While underway, cabin noise is very well suppressed. The stiff-walled 17-inch, run-flat tires conveyed very little road noise.

It's clear that Cadillac spared no expense in redecorating the interior, and the result is a world-class cabin with excellent fit and finish, acres of padding, and sumptuous genuine leather. The front seats are very comfortable, but the cabin is a little snug. The rear seat can accommodate two adults, though not very happily. The extra length that came with the redesign mostly wound up in the engine bay, allowing for a stylishly muscular front end but no extra leg room.

Despite its highlights, the CTS comes up frustratingly short in a couple of areas. Our biggest complaint centers on the controls for the Cue infotainment system, in particular the flush-mounted, touch-activated switches. You can't locate them by feel alone, and the controls often don't work as expected, so you need to take your eyes off the road to double-check them.

Climate and audio functions are controlled through a large touch screen, which has large fonts and is generally easy to read. But figuring out how to navigate the system is difficult, even for simple functions such as manual tuning. Using the audio-system voice or steering-wheel controls can help you avoid fussing with Cue. But overall the difficult-to-use system considerably hurt the car's score in our tests.

Another gripe is the CTS' small trunk, which is able to hold only two large suitcases and a couple of duffles. The 60/40-split rear seatbacks can be folded down to expand cargo space. For those who put a high priority on driving enjoyment, though, the CTS is hard to beat.



## Tested vehicle

<b>HIGHS</b>	Agile, fun to drive, good front seats, plush interior
<b>LOWS</b>	Aggravating controls, tight rear seat, somewhat unrefined drivetrain
<b>TRIM LINE</b>	Luxury
<b>DRIVETRAIN</b>	321-hp, 3.6-liter V6 engine; six-speed automatic transmission; all-wheel drive
<b>MAJOR OPTIONS</b>	Panoramic sunroof, navigation
<b>TESTED PRICE</b>	\$58,780

## More test findings

<b>BRAKING</b>	Very short stops, especially on dry pavement.
<b>HEADLIGHTS</b>	Xenon HID lamps provide very bright light but only fair forward visibility.
<b>ACCESS</b>	Fairly easy for a low-slung sedan.
<b>VISIBILITY</b>	A high rear deck impedes the view aft.
<b>CABIN STORAGE</b>	Meager.
<b>HEAD RESTRAINTS</b>	The center-rear restraint is too short to provide adequate protection.
<b>CHILD SEATS</b>	Rear-facing seats are difficult to secure properly.

**Best version to get.** The Luxury trim provides the best blend of features for the price, including leather upholstery, heated front seats, and an impressive roster of up-to-date safety features, such as forward-collision, lane-departure, and blind-spot warning systems. If you don't need all-wheel drive, you can get the superior eight-speed automatic transmission by choosing a rear-wheel-drive version. Most cars will have the sunroof, \$1,250, and navigation system, \$905.



**TECH OVERLOAD** Fussy touch-sensitive buttons and an unintuitive screen design make the Cue system frustrating to use while driving.

# High-tech controls: Which work best?

As automakers try to pack more features into a car's limited dashboard space, control systems have become much more complex and often overly complicated. When shopping for a car, it's critical that you thoroughly check out those systems to see how easy it is to perform common functions, operate controls, read the screen, and navigate the system.

Each of the luxury cars in this issue takes a different approach to its control system, which highlights some of the things that manufacturers get right ... and wrong.

**Mercedes-Benz E250 BlueTec.** This car uses the most conventional system. Climate and some audio functions are controlled through traditional buttons and knobs. Other functions are accessed through an in-dash display screen, which is navigated with a multifunction controller knob on the center console. The screen's layout is straightforward, connecting a phone is simple, and the center knob can also be used as a radio tuning knob or to scroll through presets. Each car has convenient steering-wheel-mounted controls to receive and end phone calls. Overall, the E250's system is the easiest of the three to use.

**Audi A7.** The Audi also uses a display screen and controller knob, but rather than having the



supplemental hard buttons mounted on the dash, they are arranged flat on the center console. That forces you to look down and away from the road to see them. Also, the knob is counterintuitive; turning it right goes down the radio frequencies rather than up.

A unique feature is a touchpad that lets you trace out letters with a finger to, say, enter an address into the navigation system. Surprisingly, you can do that by feel alone, but you still wind up glancing over to the screen to see whether the system got it right. The Audi wins some points for a very well-designed trip computer interface, controlled through steering-wheel buttons. Those controls also serve as shortcuts to audio volume, preset scrolling, and phone contact scrolling, as well as taking or ending calls.

**Cadillac CTS.** We found Cadillac's Cue

system to be the most cumbersome to use. Particularly frustrating are the touch-sensitive buttons that are mounted flush on the dash and are used to make climate and radio adjustments. You can't predict whether they will do what you expect them to do. You need to touch just the right point—not the shiny bar that looks like a button, but the label above it—for just the right length of time; if you're too quick, it won't work. Audio volume and fan speed adjustments are made by sliding your finger across a touch-sensor bar. As you'd expect, doing any of that while driving isn't easy. And even when you get it set, if you accidentally brush over the buttons, you can inadvertently change something.

The Cue's touch-screen layout is fine, but key icons come into view only when you move your finger close to the screen. Because you can't always see where you want to touch the screen until you've reached over to it, that adds an extra step and another layer of complexity. (Fortunately, you can turn off that feature.) Other gripes: Using the trip computer is fussy. The graphics are vivid, but they can be dazzling and overwhelming. And having to reach over to the screen may not be ideal for people with limited mobility. Excellent voice commands help somewhat, but we'd rather have controls that work easily.

## Diesel vs. electric: Sizing up their performance and practicality

Diesel engines, such as those in our Audi A7 and Mercedes-Benz E250 BlueTec, are about 30 percent more efficient than a similar-sized gasoline engine. But how do they compare with an electric powertrain? To find out, we compared the performance of our A7 to its electric-powered competitor, the Tesla Model S, which has similar proportions.

The Tesla has the edge in performance, using its 362-hp electric drive system to deliver a blistering 5.6-second 0-to-60-mph sprint. Though diesel engines aren't generally known for potent acceleration, the A7's 240-hp turbodiesel V6 holds up its end of the comparison, delivering a quick 6.6 time

from 0 to 60 mph, only a second slower.

When it comes to efficiency, the Tesla is a runaway. The A7 gets an impressive 28 mpg overall, but the Model S delivers the equivalent of 84 mpg. That translates into only 4.4 cents per mile for the Tesla (based on an electricity rate of 11 cents per kilowatt-hour) vs. 14.3 cents for the Audi (based on diesel costing \$4.00 per gallon).

The trade-off is in convenience and practicality. With its 20-gallon fuel tank, the A7 can travel about 565 miles in mixed driving or 810 on the highway before refueling, which takes about 5 minutes at any of thousands of stations nationwide that pump diesel

fuel. The Model S can go about 225 miles in good conditions before needing recharging. That's more than adequate for daily around-town driving but can be a handicap on a longer trip. A full charge takes about 5 hours using a special Tesla-provided charging station at your home. You can also use one of Tesla's relatively few public Supercharger locations, which can fill the battery to half of its capacity in 30 minutes.

For most people, the less-expensive A7 is the more practical choice, although the cheaper-to-run and whisper-quiet Tesla is an excellent choice for those who can live within its limitations.



Tesla Model S



Audi A7 TDI

	Audi A7 TDI	Tesla Model S
<b>Price</b>	\$70,895	\$89,650
<b>Horsepower</b>	240	362
<b>Acceleration</b>	6.6	5.6
<b>Fuel economy/energy consumption</b>	28 mpg	84 MPGe (2.5 miles/kWh)
<b>Fuel/energy cost per mile (cents)</b>	14.3*	4.4**
<b>Range (miles)</b>	565 (mixed), 810 (hwy.)	225
<b>Refueling/recharging time</b>	5 minutes	5 hours (with a Tesla charger)

\*Based on \$4.00/gallon for diesel. \*\*Based on \$0.11/kWh.





# Scion tC

**ROAD-TEST  
SCORE**  
**54**

At first glance, the Scion tC comes off as an inviting, relatively inexpensive package for young buyers. It looks sleek and sporty, provides the handy versatility of a hatchback, and comes with a generous list of standard features, including a touch-screen audio system and dual-pane sunroof.

But the appeal goes only skin deep. After spending weeks driving it, we found the tC to be a loud, cheap-feeling, uncomfortable car that doesn't really deliver anything notable for its class. In fact, its test score was only 54, too low for us to recommend it.

Scion updated the tC for 2014, with a new six-speed automatic transmission, revised suspension and steering calibrations, and some styling tweaks. You might be drawn to the tC's sporty looks, but we found that its image writes a check that its performance capabilities just can't cash.

The ride is stiff and jittery, but that doesn't translate into sports-car handling. When pushed to its handling limits at our track, the tC was easy enough to drive through our avoidance maneuver, but it was limited by so-so cornering grip and a lack of balance and finesse.

If you're looking for a Scion with more agile handling, the FR-S coupe would be your choice, but that's a hard-core sports car. Even the similarly priced Mazda3 and Subaru Impreza hatchbacks are more fun to drive—and they offer the added practicality of four doors. The Hyundai Veloster is a direct competitor that outscored the tC in our tests, but reliability has been worse than average.

With its 179-hp, 2.5-liter four-cylinder engine, the tC is pretty quick for its class. Its fuel economy of 27 mpg overall isn't bad, but plenty of larger midsize sedans with four-cylinder engines are more efficient.

Be ready for a cacophony behind the wheel. The new transmission is poorly calibrated,

sometimes holding the engine's revs high after you've accelerated, which causes the engine to scream a bit. It also has a rev-matching feature that makes the engine roar on downshifts. That might seem sporty at first, but it can get as tiresome as a kid endlessly shouting, "Vroom, vroom, VROOM!" The tC's loud exhaust boom also tries to imbue a sporty character, but it creates a constant drone that gets old quickly.

The tC's interior finish, with a sea of hard and drab plastics, looks low-rent. And features such as a backup camera, voice controls for the audio system, seat heaters, and a sorely needed rear wiper are unavailable.

The front seats are firm and supportive, but there's no lumbar adjustment. Visibility is limited, and shorter drivers complained that they were sitting too low for a good view over the dash. People of average height or taller found the pedals too close and wished that the telescoping steering wheel pulled out farther.

The low-slung stance makes access awkward, especially in back. But rear-seat space is surprisingly generous, with room for two adults. Squeezing in a third, however, definitely makes a crowd.

The cargo area is also spacious, with room for a bike or other bulky items.

We lack reliability data on the tC.

## Best version to buy.

You get a reasonable number of features for our tC's \$21,130 sticker price, and limited options leave little to choose beyond a manual or automatic transmission or adding navigation. But in the end, a better choice might be another car.



## Tested vehicle

<b>HIGHS</b>	Relatively roomy rear seat and cargo area, hatchback versatility
<b>LOWS</b>	Ride, noise, visibility, lackluster handling, cheap interior, no rear wiper
<b>TRIM LINE</b>	Base
<b>DRIVETRAIN</b>	179-hp, 2.5-liter four-cylinder engine; six-speed automatic transmission; front-wheel drive
<b>MAJOR OPTIONS</b>	None
<b>TESTED PRICE</b>	\$21,130

## More test findings

<b>BRAKING</b>	Very good, with short stops on wet and dry surfaces.
<b>HEADLIGHTS</b>	Low- and high-beam lights provide good illumination forward and to the sides.
<b>ACCESS</b>	Be ready to stoop accessing the front and to crouch low in the rear. The long doors need extra room in parking lots.
<b>VISIBILITY</b>	Limited, with a low windshield, short side windows, and thick roof pillars. No backup camera or rear wiper is available.
<b>CABIN STORAGE</b>	Modest, with an open bin up front and a covered bin between the front seats.
<b>HEAD RESTRAINTS</b>	The rear-center restraint is too low to provide protection.
<b>CHILD SEATS</b>	Both forward- and rear-facing child seats are difficult to cinch up using the belts alone.

## ROOMY REAR

The tC can swallow large items in its spacious cargo area.



# Compare



VERSION	Mercedes-Benz E-Class	Audi A7	Cadillac CTS	Scion tC
<b>TRIM LINE</b>	<b>E250 BlueTec</b>	<b>3.0 TDI</b>	<b>Luxury</b>	<b>Base</b>
<b>PRICE: BASE/TESTED</b> <sup>①</sup>	\$53,900/\$62,980	\$66,900/\$70,895	\$55,700/\$58,780	\$20,210/\$21,130
<b>DRIVETRAIN</b>				
Engine	2.1-liter 4-cyl. (195 hp) turbodiesel	3.0-liter V6 (240 hp) turbodiesel	3.6-liter V6 (321 hp)	2.5-liter 4-cyl. (179 hp)
Transmission	7-speed automatic	8-speed automatic	6-speed automatic	6-speed automatic
Drive wheels	AWD	AWD		Front
<b>TIRES TESTED</b>	Goodyear Eagle LS2 Run On Flat, size 245/45R17 95H	Continental Pro Contact TX, size 265/35R20 99H	Bridgestone Potenza RE97 AS, size P245/45RF17 95V	Toyo Proxes A20, size P225/40R18 91W
<b>RATINGS</b>				
<b>PERFORMANCE</b>				
Acceleration	⊖	⊕	⊕	⊖
0 to 60 mph, sec.	8.3	6.6	6.8	8.6
45 to 65 mph, sec.	5.5	4.5	4.3	5.4
Quarter-mile, sec.	16.5	15.2	15.2	16.7
Transmission	⊖	⊕	⊕	○
Routine handling	⊖	⊖	⊕	○
Emergency handling	⊖	○	⊖	○
Avoidance maneuver, speed, mph	54.0	51.0	54.5	54.0
Braking	⊖	⊕	⊕	⊖
From 60 mph, dry/wet, ft.	131/143	129/132	127/145	134/145
Headlights	⊖	⊖	⊖	○
<b>COMFORT AND CONVENIENCE</b>				
Ride	⊕	⊖	⊖	⊖
Noise	⊖	⊖	⊖	⊖
Driving position	⊖	⊖	⊖	○
Front-seat comfort	⊕	⊕	⊕	⊖
Rear-seat comfort	⊖	○	○	⊖
Access	⊖	○	⊖	○
Controls and displays	⊖	○	⊖	⊖
Interior fit and finish	⊕	⊕	⊕	⊖
Trunk	○	○	○	○
<b>PREDICTED RELIABILITY</b>	New	New	New	NA
<b>FUEL</b>				
Overall mpg	30	28	21	27
City/highway mpg	21/41	19/41	14/29	18/36
Type	diesel	diesel	regular	regular
Capacity, gal./Cruising range, miles	21.1/640	19.8/565	19.0/395	14.5/385
Annual cost, 12K miles	\$1,585 @ \$4.00/gal.	\$1,685 @ \$4.00/gal.	\$2,025 @ \$3.50/gal.	\$1,580 @ \$3.50/gal.
<b>SAFETY</b>				
<b>CRASH TESTS</b>				
IIHS moderate/small-overlap frontal	Good/NA	Good/NA	Good/NA	Good/Acceptable
IIHS side	Good	NA	Good	Good
IIHS rear	Good	NA	NA	Good
IIHS roof strength	Good	NA	NA	Good
NHTSA front, driver/passenger	⊖/⊕	NA/NA	NA/NA	⊕/⊖
NHTSA side, driver/rear	⊕/⊕	NA/NA	NA/NA	⊕/⊕
NHTSA rollover 2WD/4WD	⊕/⊕	NA/NA	NA/NA	⊖/NA
<b>AIR BAGS</b>				
Side, front/rear	std./opt.	std./opt.	std./std.	std./no
Head protection	standard	standard	standard	standard
<b>SPECIFICATIONS</b>				
<b>DIMENSIONS AND WEIGHT</b>				
Length/width/height, in.	192/73/57	196/75/56	196/72/57	177/71/56
Wheelbase, in.	113	115	115	106
Turning circle, ft.	38	41	38	40
Ground clearance, in.	5.0	4.5	4.5	5.0
Curb weight, lb. (% front/rear)	4,345 (54/46)	4,235 (54/46)	3,915 (52/48)	3,155 (63/37)
Maximum load, lb.	795	1,100	890	865
Luggage, suitcases+duffles	3+1	2+2	2+2	2+0
Towing capacity, lb.	NR	NR	1,000	NR
<b>INTERIOR ROOM</b>				
Front shoulder room, in.	56.0	56.0	56.5	55.0
Front leg room, in.	42.5	42.5	42.0	42.0
Front head room, in. <sup>②</sup>	3.5	3.0	4.0	3.0
Rear shoulder room, in.	56.0	54.0	53.0	50.5
Rear leg room, in.	27.0	27.5	28.5	29.5
Rear head room, in. <sup>②</sup>	4.0	1.5	2.0	2.0

<sup>①</sup> Based on sticker price at time of purchase. <sup>②</sup> Above a person 5'9" tall.



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## 'Oinkobble,' says the pigurkey

"Am I missing something here?" a New York reader wonders. Look past "Dried Pork Meat" to the word "pavo." It's Spanish for "turkey."



## Endless offers

A reader who recalled seeing a collection of credit-card pitches in this column some time ago has submitted his own, gathered during the past three years. Sir, we now give you permission to recycle all this paper and move back into your house.



## Oh, deer

There's some debate as to whether this member of St. Nick's posse is called Donner or Donder, but it's sure not Donna.



## Let 'em see you sweat

This Right Guard weighed a bit less than another version a reader found, but he was counting on that "48 hour protection." When he saw the asterisk he concluded, "I only need to put up with wet armpits every other day."

## An honest mistake?

"So far," says the Texas reader who bought the digital converter box bearing this sticker, "it works pretty well, whether or not there was any quality control."



60 count

TWINKLING

LED

**The LED advantage:**

A set of LED lights costs only a fraction to run compared to other lighting – saving you money in electrical bills. With up to 88% energy savings over standard super bright mini lights, a set of 60 Philips LED lights uses only 4.8 watts of energy per set (compared to 40.8 watts with a 100 light super bright set). Add in up to 25,000 hours of bulb life and these lights end up paying for themselves in the cost of replacements.

- Up to 25,000 hour bulb life
- Durable and break resistant
- Connect end to end up to 45 sets (2,700 lights) of Philips LED 60 light sets
- Ultra low power usage
- Cool to the touch when lit
- Bulb locking feature keeps bulbs securely in place

**Additional product information:**

- Lighted length: 22 ft (6.7 m)
- Combination of 10 twinkling bulbs and 50 steady illuminating bulbs
- Replaceable fuse plug
- Extra bulbs included
- Electrical rating: 120V, 0.04 Amps, 4.8 Watts

## Twinkle twinkle, little ... hey!

When are 60 twinkling lights not 60 twinkling lights? When the back of the package says there are only 10.

## Aim low

Who knew that Barnes & Noble had an inferiority complex?

BARNES & NOBLE

BOOKSELLERS

www.bn.com

Barnes & Noble Customer Service Experience Survey

	1	2	3	4	5	6	7	8	9	10	NA
Ease of reaching someone to speak to, including navigating any phone menus											
The time it took to reach someone											



The Consumer Reports New Car Price Report includes access to the Build & Buy Service. Purchasers save an average \$2,791 off MSRP using this program.\*



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NCPS0314B

\*Between 04/01/13 and 04/30/13, the average estimated savings off MSRP presented to program users by participating based on user new vehicle configurations was \$2,791.



# Canada Extra

Information from CONSUMER REPORTS® for Canadian readers

## In this special section

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## How to use the Canada Extra section


Every month, Canada Extra provides Canadian pricing and availability information about products tested for that issue. The Ratings in this section are based on this month's reports, but they narrow your choices to the products that are sold in Canada.


You can use this section in either of two ways: Start with the main report, read about the products that interest you, and turn to this section to find whether they're sold—and for what price—in Canada. Or start here, find products sold in Canada whose price and overall score appear promising, and read more about them in the main report and full Ratings chart; page numbers appear with each Canadian report. (For some products, the Canadian model designation differs slightly from the one used in the U.S.)

In most cases, the prices we list here

are the approximate retail in Canadian dollars; manufacturers' list prices are indicated by an asterisk (\*). Check marks identify CR Best Buys or recommended products in the U.S. Ratings. "NA" in a chart means that information wasn't available from the manufacturer. We include, in the Contact Info list on page 32D, the manufacturer's phone number and Web address in Canada so that you can call or go online to get information on a model you can't find in the stores. (Many products that aren't available in Canadian stores can be bought online.)

We appreciate your support, but we don't take it for granted. Please write to [CanadaExtra@cu.consumer.org](mailto:CanadaExtra@cu.consumer.org) and tell us what you think. We can't reply to every e-mail message or implement every suggestion, but with your help we'll try to keep growing to serve your needs.

 **CR Best Buy** Products with this icon offer the best combination of performance and price. All are recommended.

 **Recommended** Models with this designation perform well and stand out for reasons we note.





## Canister vacuums

Report, page 46; Ratings, page 48

Recommended models only, from 38 tested.

Rec.	Rank	Brand & model	Price	Overall score
				0 100 P   F   G   V   E

### C BAGGED

	4	Kenmore Progressive 23206	\$400	70
	5	Kenmore Progressive 23204	350	68
	6	Kenmore Intuition 23110	650	67
	7	Panasonic MC-CG902	250	65

# Upright vacuums Report, page 46; Ratings, page 47

Recommended models only, from 72 tested.

Rec.	Rank	Brand & model	Price	Overall score
				0 100 P   F   G   VG   E

## A BAGGED

✓	2	Miele S 7580 Marin <sup>1</sup>	\$650	72
✓	5	Kenmore Intuition 30612 <sup>3</sup>	300	71
✓	8	Hoover Platinum Bagged UH30010COM <sup>1</sup> <sup>4</sup>	400	70
✓	10	Eureka Boss Smart Vac 4870MZ	230	69

Rec.	Rank	Brand & model	Price	Overall score
				0 100 P   F   G   VG   E

## B BAGLESS

✓	3	Kenmore Intuition 30613 <sup>3</sup>	\$300	66
✓	4	Eureka AirSpeed AS1000AE (Walmart Canada)	130	66
✓	5	Hoover Platinum Bagless UH70015	400	65
✓	7	Shark Navigator Lift-Away NV352	180	63

<sup>1</sup> Lacks manual pile-height adjustment. <sup>3</sup> Lacks suction control. <sup>4</sup> Lacks brush on/off.

## Canada Extra on the Web

Canada Extra information can be found on ConsumerReports.org, our website, along with the current issue of the magazine and more. The address is *ConsumerReports.org*. Once there, click on the “Canada Extra” link on the opening screen. There you can see which reports have Canadian information available.



# TVs

Report and Ratings, pages 35-41

Sixty-six of the tested LCD and plasma televisions are available, including 55 of the recommended models.

Rec.	Rank	Brand & model	Type	Price	Overall score
					0 100 P   F   G   VG   E

## A 60-INCH AND LARGER

✓	1	LG 60LA8600	L	\$2,800	76
✓	2	Samsung PN60F8500	P	3,000	75
✓	3	Sony Bravia XBR-65X900A	L	7,000	74
✓	5	Panasonic Viera TC-P65VT60	P	3,900	73
✓	6	Panasonic Viera TC-P60ZT60	P	3,800	73
✓	9	Samsung UN60F7500	L	2,600	72
✓	10	Panasonic Viera TC-P65ZT60	P	4,500	72
✓	11	Panasonic Viera TC-P60ST60	P	1,800	72
✓	13	Panasonic Viera TC-P65ST60	P	2,700	71
✓	16	Samsung UN65F8000	L	3,600	70
✓	17	Panasonic Viera TC-L60DT60	L	2,800	69
✓	18	Sony Bravia KDL-60R550A	L	1,750	68
✓	19	Samsung UN75F6300	L	3,400	68
✓	21	Sharp Aquos LC-70UD1U	L	8,000	67
✓	23	Samsung PN64F5300	P	1,900	66
✓	24	Samsung PN60F5300	P	1,000	66
✓	25	Sony Bravia KDL-65S990A	L	4,500	66
✓	26	LG 60GA6400	L	2,000	66
✓	28	Panasonic Viera TC-P65S60	P	1,660	66
✓	30	Sharp Aquos LC-70LE650U	L	2,500	65

## B 55- TO 59-INCH

✓	2	Samsung UN55ES8000	L	2,300	74
✓	3	Sony Bravia XBR-55X900A	L	4,500	74
✓	4	Samsung UN55F8000	L	2,600	74
✓	5	LG 55LA7400	L	1,745	74
✓	7	Samsung UN55F9000	L	3,500	72
✓	8	LG 55LA9700	L	4,300	72
✓	9	Panasonic Viera TC-P55ST60	P	1,550	72
✓	10	Samsung UN55ES6500	L	1,500	72
✓	12	Samsung UN55F7100	L	2,000	69
✓	13	Sony Bravia KDL-55W900A	L	2,200	69
✓	14	LG 55LA6200	L	1,180	68
✓	15	Samsung UN55F6400	L	1,800	67
✓	16	Panasonic Viera TC-L55WT60	L	3,000	67
✓	17	Toshiba 58L7350U	L	1,500	67
✓	18	Samsung UN55F6350	L	1,400	65
	19	Sony Bravia KDL-55W802A	L	1,500	64
	26	Insignia NS-55D440NA14	L	800	53

Rec.	Rank	Brand & model	Type	Price	Overall score
					0 100 P   F   G   VG   E

## C 46- TO 52-INCH

✓	2	Samsung PN51F5500	P	\$ 900	72
✓	4	Panasonic Viera TC-P50ST60	P	1,300	71
✓	5	LG 47LA6900	L	1,100	71
✓	7	Panasonic Viera TC-L47WT60	L	2,500	69
✓	9	LG 47LA6200	L	870	68
✓	10	Samsung UN50F6300	L	1,400	67
✓	11	Panasonic Viera TC-P50S60	P	800	67
✓	12	Sony Bravia KDL-47W802A	L	1,100	66
✓	13	LG 50PN6500	P	700	66
✓	14	Samsung PN51F5300	P	700	66
✓	15	Panasonic Viera TC-L50ET60	L	1,300	66
✓	17	Samsung UN46EH5000	L	850	65
✓	18	Samsung UN46F5000	L	750	65
	22	Samsung UN50F5500	L	1,100	64
	24	Panasonic Viera TC-P50X60	P	700	61
	26	Toshiba 50L4300U	L	800	60
	42	Seiki SE50FY10	L	600	48

## D 40- TO 43-INCH

✓	2	Samsung UN40F6400	L	1,100	66
✓	3	Panasonic Viera TC-P42S60	P	750	66
✓	4	Samsung UN40F5500	L	750	65

## E 37- TO 39-INCH

	1	Samsung UN39FH5000	L	400	64
	11	Seiki SE39UY04	L	650	45

## F 32-INCH

✓	2	Samsung UN32F6300	L	680	65
	10	Toshiba 32L1350U	L	300	60
	18	Seiki SE32HY10	L	325	51

## G 29-INCH AND SMALLER

✓	1	Samsung UN29F4000	L	330	60
✓	2	LG 29LN4510	L	300	58
✓	5	Samsung UN22F5000	L	250	57
	8	LG 22LN4500	L	270	53

L=LCD, P=plasma.



# Autos

Report and Ratings, pages 54-60

All of the tested vehicles are available in Canada.

Make & model	Price range	Acceleration (sec.)				Fuel economy (liters per 100 km)		
		0-50 km/h	0-100 km/h	80-100 km/h	500 meters	City driving	Highway driving	Overall
LUXURY CARS								
Mercedes-Benz E-class	\$57,800-\$112,900	3.3	8.8	4.0	19.0	11.3	5.7	7.8
Audi A7	70,400-115,000	2.6	7.0	3.3	17.4	12.4	5.8	8.3
Cadillac CTS	43,045-74,495	2.8	7.2	3.1	17.4	17.0	8.0	11.4
COMPACT CAR								
Scion tC	21,490-22,540	3.4	9.2	3.9	19.2	12.8	6.5	8.9

## Contact info

How to reach manufacturers in Canada.

### Eureka

800-282-2886  
eurekavac.ca

### Hoover

888-898-6055  
hoovercanada.com

### Insignia

877-467-4289  
insigniaproducts.com

### JVC

800-964-2650  
jvc.ca

### Kenmore

Contact local Sears  
sears.ca

### LG

888-542-2623  
lg.ca

### Miele

800-565-6432  
miele.ca

### Panasonic

866-330-0014 (TVs)  
800-561-5505 (vacuums)  
panasonic.ca

### Samsung

800-726-7864  
samsung.ca

### Seiki

855-697-3454  
seiki.com

### Shark

800-798-7398

### Sharp

905-568-7140  
sharp.ca

### Sony

877-899-7669  
store.sony.ca

### Toshiba

800-268-3404  
toshiba.ca