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MARCH 2013 | CONSUMERREPORTS.ORG

# ConsumerReports®

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you need

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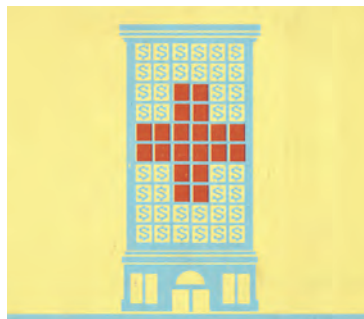
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# \$140

Use a Keurig **K-cup adapter** with your own coffee in a pod coffeemaker instead of the bulk K-cups and you could save this much a year.

### Coming in April

Annual Auto Issue, including Top 10 Picks, profiles of more than 200 vehicles, best and worst cars, safety ratings, and used-car reliability.

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## 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

## Pork safety

Concerning your report, "What's in That Pork" (January 2013), will freezing pork kill antibiotic-resistant and lethal organisms?

—Steve Shaff Salt Point, NY

Freezing might stop them from growing, but it probably won't kill them. And once the meat is defrosted, the bacteria will grow again. The best way to eliminate bacteria is by cooking whole pork to 145° F and ground pork to 160° F. And keep hands and prep surfaces clean so that you don't contaminate other food.

## Coffee conundrum

I think it's hilarious that Maxwell House tried to justify its smaller-weight package by stating that it uses less plastic ("Packaging Gotchas,"



December 2012). If you consider the amount of plastic per ounce of coffee, it's an approximate 4 percent increase in plastic used.

—Dewayne Buck Brooklyn, NY

## Made in the USA

"Made In America?" (February

2013) has a chart showing positive consumer reaction to companies that treat people and their community well, "all things being equal." I suggest this reaction would not have been so predictable if the question contained a caveat that the company's prices were 10 to 20 percent higher than those of competitors.

—Hugh Kilpatrick Glendale, CA

More than 60 percent of survey respondents said they'd buy American-made goods even if they cost

10 percent more; 25 percent of respondents said they'd pay an extra 20 percent or more.

## About those back issues

I have many years of CONSUMER REPORTS magazines. How long should I keep them?

—Jeanne Daly Falls Church, VA

Would it sound too parochial to say, "forever"? Seriously, online subscribers such as you have access to current Ratings and to an archive of issues going back to 2009. So unless you want to save the print edition for historical purposes, it's your call.

**Correction** In "7 Money Stumbles to Avoid" (February 2013), we stumbled. Index-fund fees shouldn't run more than \$2 per \$1,000 invested—not \$20 per \$1,000.

**SEND YOUR LETTERS TO**  
ConsumerReports.org/lettertoeditor.

## Ask our experts

**Q** In comparing a top-loading washer to a front-loader, can I assume that if both scored Excellent in a category such as water efficiency, they both use a similar amount of water?

—Dave Reinowski Dearborn Heights, MI

Both types are scored on the same scale, so results are comparable. But they might not use the same amount of water. That's because our water- and energy-efficiency calculations are based on water or energy used per pound of laundry that the washer can hold. A model that holds twice as much laundry as another and uses twice the water would have the same score for water efficiency.

**Q** Every six months or so, I must replace the water filter in my Samsung refrigerator, which costs \$35 to \$50. Off-brand filters are cheaper. Are they OK?

—Darlene Kuroiwa Reno, NV

We haven't recently tested manufacturer filters, or aftermarket filters, for efficacy. In past tests of such filters, we found that they generally met claims. Whatever brand you buy, make sure its performance claims have been certified by an independent lab.

**Q** I read an experiment where filtered water was boiled either on a stove or in a microwave. After cooling, the water was poured on two identical plants. The plant with microwaved water did poorly compared with the plant using water from the stove. How do microwave ovens affect food we prepare?

—Dean Whittemore Derby, KS

The experiment you describe isn't well-designed to answer whether microwaved water kills plants. The sample size is small, the water temperature might have been too hot,



**LIGHTING LINEUP** Some compact fluorescent bulbs are dimmable and can work with timers.

and even differing container materials for heating the water might have influenced results. Microwaves emit non-ionizing electromagnetic radiation, which causes water molecules to vibrate and heat up. We don't expect chemical changes to occur in microwaved water molecules. The Food and Drug Administration regulates microwave ovens.

**Q** What's your opinion on buying used vehicles from rental-car companies?

—Frank Smith Virginia Beach, VA

A rental car might get harder use than a car driven by a single owner who's making payments. But maintenance records are usually available for rental cars. A prepurchase inspection to check for crash damage and mechanical problems is a good idea, as it is when buying any used car.

**Q** Many compact fluorescent lightbulbs come with warnings about use with electronic timers, among other applications. Is there any danger in using them in electronic timers to turn a lamp on for security purposes when no one's home?

—Peter Karalekas Ludlow, MA

The only danger is that the bulb or device might fail sooner than if you didn't use a timer. If you use a mechanical timer (they usually have plastic pegs that you insert into the face of the timer), the bulb should work fine. Our Ratings note bulbs that are dimmable and those that work with timers. We also show manufacturer information about whether bulbs work with photocells and motion sensors.

**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 VICTORY

### Bye bye, blaring ads

**THE WIN** Broadcast TV, cable, and satellite providers are now required to keep the volume of commercials at a level that matches the programming's.

**WHAT'S IN IT FOR YOU** No more diving for the remote to save your ears from obnoxiously loud commercials, thanks to the Commercial Advertising Loudness Mitigation Act (CALM Act), which took effect at the end of 2012. The law requires that commercials have the same average



volume as the show they accompany.

Consumers Union has long supported the bill and testified in its favor before Congress in 2009. The Federal Communications

Commission receives about 100 complaints each month about loud commercials; before the law took effect, the only advice the FCC could give consumers was to use the mute button.

Think a broadcaster is violating the new law? Report commercials that seem louder than the programming to the FCC by going to [fcc.gov/complaints](http://fcc.gov/complaints) or calling 888-225-5322.

## ON THE RECORD

### 'Reducing particle pollution will prevent heart attacks and asthma attacks, and will keep children out of the emergency room and hospitals.'

**NORMAN EDELMAN, M.D.**, chief medical officer for the American Lung Association on new standards to limit particle pollution (soot), which has been linked to lung and heart disease, acute asthma, and premature deaths. Thousands of Consumers Union activists wrote the federal government in support of new standards.

# 1 in 5

That's the small number of people who obtain their free credit report each year, according to the Consumer Financial Protection Bureau. Only 44 million consumers are taking advantage of the easiest way to identify and fix errors on credit reports before they apply for credit. You can get a free credit report every year from each of the three national credit reporting companies at [annualcreditreport.com](http://annualcreditreport.com).

## WHERE WE STAND

### You need to know about supplement dangers

**THE ISSUE** The government doesn't enable consumers to learn of the reported dangers of dietary supplements in a timely way.

**OUR TAKE** In late November, the makers of the popular weight-loss supplement Hydroxycut agreed to a \$25.3 million settlement to resolve claims that its diet pills were deceptively advertised as safe and effective. The Food and Drug Administration recalled Hydroxycut and issued a warning in 2009, after dozens of reports of serious adverse events, including liver toxicity and at least one death. Prior to that, the only danger signs the public got were case reports in medical journals.

Most dietary supplements are relatively safe, but those peddled for weight loss,

sexual enhancement, or bodybuilding may be spiked with questionable ingredients. Supplements don't have to be tested for safety before they're sold, so problems often appear only after they hit the marketplace.

Since 2007 supplement makers have been required to report serious adverse events to the FDA. More than 6,300 reports have been filed, but the FDA doesn't routinely post summaries on its website, shrouding serious hazards for months or even years. Consumers Union believes the public should get that information immediately. There's clear interest: The FDA's eventual warning about Hydroxycut was the fourth most clicked-on health update on the agency's website in 2012.



## FROM OUR PRESIDENT

### If truth be told

Short of hoofing it down to the farm to see for ourselves, the only way we can learn about the meat and produce we eat is to rely on the label. We trust it to tell us how the food was raised, what's in it, and what isn't. But all too often, we can't.

Here are three labels that we believe should be defined by regulation or ditched altogether.

**Natural** Don't be fooled; it doesn't mean the food is organic, unprocessed, free from pesticides, or otherwise pure. For foods other than meat and poultry, there are no standards for the term "natural." For meat and poultry, the Department of Agriculture's definition has nothing to do with what the animal ate or how it was raised. It mostly outlines, instead, the way the food was processed and the additives that can be used.

Legally the USDA can hold manufacturers accountable for the proper use of the claim, but neither that agency nor any independent organization verifies the veracity of the label before it's stamped on a product.

**Free range** Most of us really want to believe this one, because it sounds wholesome and paints a pastoral picture of livestock roaming in the sun. But there's no standard definition of the term for beef and its use is unregulated. For poultry, the USDA requires that the birds packed into a coop be given the option of access to the outdoors for an undetermined period; there's no assurance that they ever actually made it to the outside.

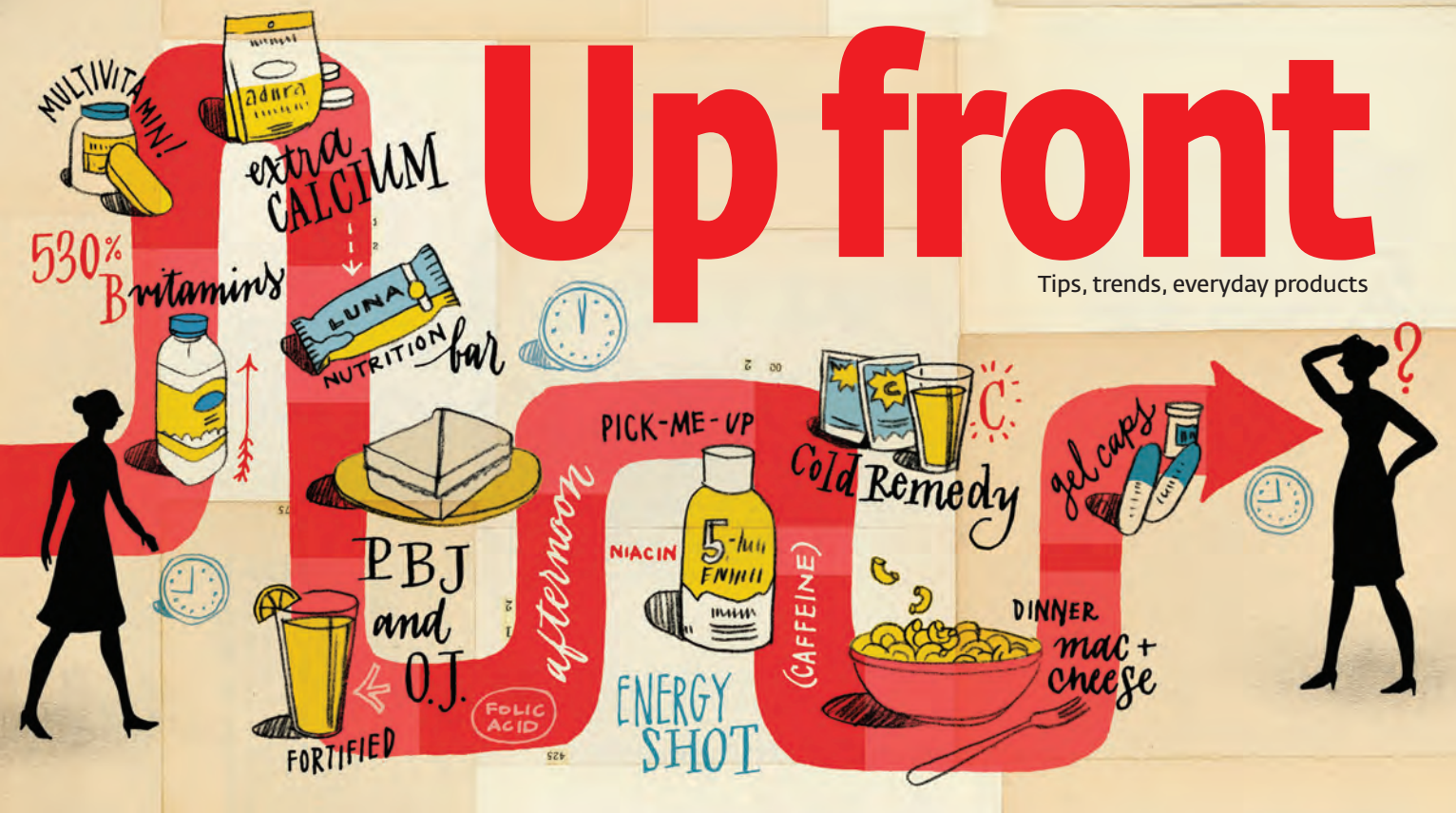
**Fresh** To most of us, frozen is one thing and fresh is better. But to chicken processors, fresh can mean, well, frozen. That's because the standard for "fresh" chickens is 26° F and above. So a "fresh" broiler can be hard enough to use as a bowling ball, which is exactly what some of our advocates once did on the steps of the California state capitol to drive their point home.

For more on labels you can and can't trust, go to Consumers Union's website [GreenerChoices.org](http://GreenerChoices.org). We're working to push the government and producers to provide labels that are trustworthy, transparent, and truthful.



*Jim Guest*  
**JIM GUEST**  
President





# Too much of a good thing?

**SUPERJUICES, ENERGY SHOTS,** vitamin-infused nutrition bars—grocery stores teem with foods that have been pumped up with nutrients during processing. A 12-ounce bottle of Odwalla Superfood Blueberry B Premium Fruit Smoothie Blend, for example, delivers up to 530 percent of the recommended daily value of the B vitamins thiamin, riboflavin, B6, and B12.

## The risks you run

**Caffeine** Most adults can safely consume up to 400 milligrams a day; pregnant women up to 200 milligrams. **Risks of too much:** jitters, insomnia, rapid heart rate, abnormal heart rhythm, increased blood pressure.

**Calcium** Recommended daily value: 1,000 to 1,200 milligrams. **Upper limit:** 2,000 to 2,500 milligrams. **Risks of too much over time:** constipation, kidney stones, impaired absorption of iron and zinc.

**Folate** Recommended daily value: 400 micrograms. **Upper limit:** 1,000 micrograms. **Risks of too much over time:** masking of B12 deficiency, which causes nerve damage. Deficiency is most common in people 50 or older or vegetarians.

**Vitamin C** Recommended daily value: 60 mg. **Upper limit:** 2,000 mg. **Risks of too much:** diarrhea, nausea, vomiting, heartburn, abdominal cramps, bloating.

That's good, right? Not necessarily. Eat enough fortified foods in a day—especially along with a multivitamin or a single-ingredient supplement like calcium—and you could end up not only with more of an ingredient than you need but also more than is good for you.

We calculated how much caffeine, calcium, folate, and vitamin C a person might consume in a day. All of those can have undesirable effects in very high doses (see the table at left). Our hypothetical consumer breakfasted on coffee, cereal, orange juice, a multivitamin, and a couple of calcium chews; snacked on a nutrition bar; lunched on a peanut-butter-and-jelly sandwich and lemonade; snacked on a protein shake; had an energy shot as an afternoon pick-me-up; dined on mac and cheese; and took two packets of a cold remedy and a couple of headache gels at various times during the day.

## The day's tally

Here's what our nutrient-rich consumer took in: 537 milligrams of caffeine (more than 100 milligrams too much); 376 percent of the recommended daily value of calcium; 3,952 percent of the recommended daily value of vitamin C; and 540 percent

of the recommended daily value of folate.

Ingredients other than those we've highlighted can cause problems, too. Some studies have linked high blood levels of iron to an elevated risk of heart disease and type 2 diabetes, and iron supplements can interfere with the body's absorption of zinc. Too much vitamin A can cause birth defects and liver damage.

Some of the products we used in our calculations have other extras: The 5-hour Energy Extra Strength shot our consumer drank (242 milligrams of caffeine) also has 200 percent of the daily value of niacin, 2,000 percent of vitamin B6, and 8,333 percent of vitamin B12.

**Bottom line.** A balanced diet rich in fruits and vegetables, low-fat dairy products, lean protein, whole grains, and legumes should provide all you need of major vitamins and minerals, plus fiber and a rainbow of healthful phytochemicals. If you eat a restricted diet or need more of certain nutrients, a multivitamin or individual supplement can plug the gaps. To avoid becoming overfortified, read labels on processed foods. Although manufacturers don't have to list caffeine levels, they must list amounts of added vitamins and minerals.

# Expired products stay on shelves

**WE SENT FIVE SHOPPERS** to a total of 24 grocery stores, big-box stores, and dollar stores in Connecticut, Florida, New York, Pennsylvania, and Texas to scan the shelves for products that had expired but were still being sold. The good news: In nine stores, shoppers found no out-of-date products during their visits. The bad: In the other 15 stores, they found 51.

Our Texas shopper hit the jackpot, finding outdated products at five of six stores she visited. The oldest food fossil: a box of Betty Crocker Carrot Cake mix from a Fort

Worth Dollar General store. Our shopper bought it on Dec. 4; it had a “better if used by” date of the previous April 14. Among the products she found at three other stores were elderly coconut milk (eight days out of date), oatmeal raisin cookies (70 days), and potato chips (85 days).

Few types of food seemed to escape the expiration curse. Shoppers saw old frozen salmon, ground bison, pizza crust, milk, yogurt, ham salad, frosting, soup, cottage cheese, orange juice, cookies, asparagus tips, rice pudding, smoked turkey, and a shrimp platter.

Except on infant formula, the Department of Agriculture generally doesn't require dates on food products, including canned goods. (For more on expired cans, see Close-up on the facing page.) But some states require them, and many manufacturers choose to include dates voluntarily.

When we asked Stop & Shop (owner of the Connecticut store where we shopped) what procedures it has for removing expired products from shelves, a rep didn't answer the question but did apologize. “We want to ensure that there are



**FOSSIL FOODS** A shopper found these and other outdated products during an hourlong visit to a Connecticut supermarket.

no more outdated products on the shelf,” she wrote, “and that the store associates are more diligent in rotating the stock properly in the future.”

**Bottom line.** Even if an expired product doesn't taste bad or harm you, who wants

## How to read labels

When manufacturers stamp a pack date on packaged food, they can use one of two codes: a calendar date in month-day-year format (Jan. 31, 2012, would be 013112) or a Julian date, in which each day of the year is numbered from 001 to 365. Jan. 31 would read as “0031.” A pack date isn't the same as a “use by” date, but it can help you rotate goods so that you use older ones first.

## TALK THE TALK

# Making sense of money advisers

Tax season is a fine time to examine your finances, but do you need a broker or a registered investment adviser? And just what is a CPA? Here's help.

Note that many advisers hold more than one designation or have extra qualifications, so it's important to find out exactly which services an adviser will provide. Make sure your choice knows your overall financial situation, tolerance for risk, and investment objectives. And before you sign on, find out what he or she will charge (and whether it's a flat fee or commission).

Check for disciplinary information at [cfp.net/search](http://cfp.net/search), [finra.org/brokercheck](http://finra.org/brokercheck) (or call 800-289-9999), [adviserinfo.sec.gov](http://adviserinfo.sec.gov), or your state's Board of Accountancy. (For a listing of state boards, go to [nysscpa.org/useful\\_links/state\\_boards.htm](http://nysscpa.org/useful_links/state_boards.htm).)

**Broker.** A person or company buying and selling stocks, bonds, and other securities for customers. Discount brokerage firms are usually cheaper than full-service firms, which are likely to offer more research and services. The sales people who are usually called brokers are more properly termed registered representatives. (They may also be called



financial advisers—but that's not the same as investment advisers; read on.) Before doing business, representatives must have registered with FINRA (the Financial Industry Regulatory Authority), passed an exam, and been licensed by a state securities regulator. The products they can sell vary with the license(s) they have.

**Registered investment adviser.** Someone paid for providing individually tailored advice about securities but not legally the same as a financial adviser or registered representative. The RIA is registered with the Securities and Exchange Commission or a state securities

regulator. RIAs may also use other names: asset manager, investment counselor, portfolio manager, or wealth manager.

**Accountant.** Trained to help people or companies with taxes, financial planning, auditing, and other financial needs. Many states require new accountants to become Certified Public Accountants: They need to pass a national test and meet education and experience requirements set by a state Board of Accountancy. A Personal Financial Specialist is a CPA with specialized training and certification in personal finance.

**Financial planner.** “They could be brokers or investment advisers, insurance agents or practicing accountants,” FINRA says, “or they have no financial credentials at all.” A Certified Financial Planner has passed a 10-hour professional exam, has at least two years' financial-planning experience, and has completed an approved course of study or has certain professional designations or academic degrees.

**Other terms.** For more info, check FINRA's database ([apps.finra.org/DataDirectory/1/prodesignations.aspx](http://apps.finra.org/DataDirectory/1/prodesignations.aspx)), which explains more than 90 adviser or planner designations.





to eat it? Check sell-by and use-by dates, especially on dairy items and meats. If you see an expired product in the store, tell a manager. If you've brought one home, consider asking for a refund. And never taste food to see if it's spoiled.

## ■ CLOSE-UP

### Does canned food go bad?

If you've cleaned out your pantry and found yourself tossing outdated cans of food, you may have screeched to a halt as another soup can hit the recycling bin, and wondered: Didn't canned foods used to last forever? Why do they have expiration dates?

When cans display calendar dates—also known as “open dates,” to differentiate them from coded dates that only the manufacturer can decipher—they're usually “best if used by (or before)” dates. They indicate the time by which the maker advises eating the food for best flavor or quality. They're not safety-related.

Does that mean you can crank open a can of peaches that's years past its prime? If the can isn't bulging (which could indicate dangerous bacterial growth) or damaged, the contents might be safe to eat. But don't expect old items to taste super-fresh. In general, high-acid canned foods such as tomatoes and pineapple will retain peak quality on the shelf for 12 to 18 months if stored in a clean, cool, dry place, according to the Department of Agriculture. Low-acid canned foods such as meat (Spam, anyone?), poultry, fish, and most vegetables will retain best quality for two to five years.

Even though the dates on cans are more about quality than safety, we were

hard-pressed to find a company that endorsed eating outdated versions of their goods. When we asked whether it would be safe to eat a 10-year-old can of Chef Boyardee spaghetti and meatballs that had been stored in a cool pantry or basement, a rep for ConAgra, makers of Chef Boyardee and other brands, was blunt: “We do not recommend you consume this product.” Reps for Hormel (which makes Spam) and General Mills (Green Giant, Progresso) gave similar advice about their canned foods.



## Spreads' nutrition varies widely



You've probably seen ads for several flavored toppings that have popped up alongside old standbys like regular cream cheese, Nutella, and peanut butter. Our testers compared the nutrition of a range of spreads and tasted some of the flavored ones. The table shows how much nutrition can differ.

Taste differs, too. The Laughing Cow Cinnamon cream cheese spread is thick, smooth, and dense, with only a slight cinnamon flavor. It would be good, tasters said, on breakfast breads or as a dip for fruits or vegetables. Philadelphia Indulgence Milk Chocolate spread adds caramelized-dairy and malt flavors to the taste of milk chocolate and cream cheese. (Other Philadelphia Indulgence versions include dark chocolate, dulce de leche, white chocolate, and cinnamon.) Indulgence would work well as a dip for fruits or pretzels, a frosting, or a waffle topping. Earth Balance Coconut has a fairly strong coconut flavor when tasted “straight up,” seems slightly salty, and feels like butter in the mouth. Jif Chocolate Flavored Hazelnut is creamy, thick, slightly chalky, and tastes a bit less sweet than Nutella.

**Bottom line.** Check the chart, and be aware of how much you spread on bread. Our figures are for just 2 tablespoons.

## Nutrition

In increasing order of calories, within types.

Product	Per 2 tablespoons*				
	Cost	Calories	Fat (g)	Sodium (mg)	Sugars (g)

### NEWER SPREADS

<b>The Laughing Cow</b> Cinnamon	37¢	45	4	110	1
<b>Philadelphia Indulgence</b> Milk Chocolate	43	110	7	80	11
<b>Earth Balance</b> Organic Coconut	50	200	22	140	0
<b>Jif</b> Chocolate Flavored Hazelnut	39	230	14	40	21

### OLD STANDBYS

<b>Philadelphia</b> Regular Cream Cheese	39	80	7	125	1
<b>Jif</b> Regular Peanut Butter	22	190	16	140	3
<b>Nutella</b>	47	200	12	15	21
<b>Butter</b>	varies	200	22	200	0

\*Per wedge for The Laughing Cow.

# Beef to go

**ALTHOUGH BEEF JERKY** and meat sticks prompt an “ick” from some people, they’ve earned enough love to migrate from gas stations to supermarkets, with store brands sold by Costco, Trader Joe’s, and Whole Foods. The target audience of most beef snacks: men, as is evident from the pitch on Slim Jim’s website: “Whenever a man-mergency arises and your menenergy levels start to dip, just peel and eat a cured meat stick to turn your mouth into a deli-flavored stronghold of protection.”

Our trained tasters can’t comment on the stronghold, but they did try 10 sliced beef jerky snacks and five meat sticks. Three of the beef jerkies and two of the sticks tasted very good; the rest were just OK. When it comes to nutrition, the jerkies win, with fewer calories than the sticks and far less fat.

**How good for you?** Jerky is made from lean cuts of beef that are cooked at low heat for a long time, so very little fat makes it into the end product. On the other hand, meat sticks, encased like sausage, have 8 to 13 grams of fat, including 3 to 5 grams of saturated fat. The sticks also have about twice the calories of the jerkies.

All of the tested products are loaded



with sodium. 7 Select Original jerky, for instance, has 600 milligrams per serving. If you were to eat the contents of a 3-ounce bag (that’s not a lot), you’d consume more than 1,500 milligrams of sodium, the American Heart Association’s suggested daily limit.

All of the meat sticks and some of the jerkies contain preservatives, including nitrites. The jerkies from Oh Boy Oberto, Pacific Gold (Costco), Trader Joe’s, and 365 Everyday Value Organic (Whole

Foods) lack those additives.

Other jerkies are made of turkey, chicken, buffalo, bacon, salmon, or tuna, but nutritionally, none we’ve seen varies much from beef.

**How tasty?** The best jerkies have a just-right chewy texture. Oh Boy Oberto Original is a tad spicy, with well-blended smoke, brown sugar, garlic, and fruit flavors. Pacific Gold is sweeter than most and has a distinct black-pepper flavor. Market Pantry Original has fairly complex and intense fla-

## California’s cancer warning



**NOW YOU KNOW** A variety of products may bear words required by a California law.

What does California know that you don’t? Readers from all over have long wondered at this or a similar warning: “This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm.”

They’ve seen the words on products as varied as a flashlight, an eyeglass repair kit, a beach ball, a garden hose, a fishing rod, and—more troubling—on a coffee cup, a water bottle, a steering wheel cover, and an ointment to treat diaper rash. “We certainly want what’s best for baby,” said a New Yorker who bought the ointment, “so this product is going right in the trash!” In California the warning is even placed on some buildings.

What’s up? The answer is Proposition 65, the Safe Drinking Water and Toxic Enforcement Act of 1986. It was a California ballot initiative (voted on by the public) and requires the governor to publish an annual list of chemicals known to cause cancer or reproductive harm. The latest list includes hundreds of chemicals from A-alpha-C to zileuton. (Among the

better-known entries are asbestos, benzene, lead, PCBs, and several phthalates.)

Manufacturers must include the warning if exposure to one or more of those chemicals exceeds “safe harbor levels” adopted by the state’s Office of Environmental Health Hazard Assessment. Prop 65 lists four things that can prompt the listing of a chemical. If evidence changes, chemicals may be delisted.

Although the warning is required only on products sold in California, companies may use it on all of their products to avoid creating different packaging for sales in that state.

**Bottom line.** “Consumers can decide on their own if they want to purchase or use” a product that bears a Prop 65 warning, says the OEHHA. Although the wording certainly gets your attention, it may not mean that the product violates a federal safety standard. Since businesses aren’t required to say exactly why a warning is on their product, the agency suggests that a concerned buyer contact the manufacturer to find out. The list of covered chemicals is available at [oehha.ca.gov/prop65/prop65\\_list/Newlist.html](http://oehha.ca.gov/prop65/prop65_list/Newlist.html).



vors, though our testers found the taste varied slightly from piece to piece. Some of the lower-rated jerky are too dry and tough. Tasters compared the texture of Nice Original jerky to that of a splintering popsicle stick. The bottom-ranked store brands from Whole Foods and Trader Joe's are too soft and have an organ-meat or metallic note.

The best meat sticks aren't from top-selling Slim Jim and Jack Link's; our experts said those taste fatty and have tough casings. Nice, best among the sticks, has salami-like flavors, and runner-up Market Pantry is a little spicy and has more meat flavor than others.

**Bottom line.** Neither jerky nor meat sticks are exactly good for you, but jerky is the more healthful protein pick-me-up. Among the very tasty choices, Pacific Gold is the best value.

#### BY THE NUMBERS

# 12.9%

That's the rise in sales of jerky for the year ending on Dec. 2, 2012, according to SymphonyIRI Group, a Chicago market-research firm.



Pacific Gold Original



Market Pantry Original

## Ratings Jerky and meat sticks

All tested products In order of taste.

Product	Per 28-gram serving			
	Cost	Calories	Fat (g)	Sodium (mg)

### BEEF JERKY

#### VERY GOOD

Oh Boy Oberto Original	\$1.39	80	1	410
Pacific Gold Original (Costco)	0.69	80	1	520
Market Pantry Original (Target)	1.20	70	1	540

#### GOOD

7 Select Original (7-Eleven)	1.66	80	1	600
Family Gourmet Original (Family Dollar)	1.08	80	1	520
Jack Link's Original	1.54	80	1	590
Jack Link's Original (reduced sodium)	1.47	80	1	310
Nice Original (Walgreens)	1.50	80	1	520
365 Everyday Value Organic Original (Whole Foods)	2.33	70	1	270
Trader Joe's Original	1.37	70	1	270

### MEAT STICKS

#### VERY GOOD

Nice (beef) (Walgreens)	0.84	98	8	482
Market Pantry (beef and cheese) (Target)	0.82	115	9	461

#### GOOD

Slim Jim Original (beef and chicken)	1.43	140	12	440
Jack Link's Sasquatch Original Angry (beef)	0.83	150	13	420
7 Select Original Jumbo (beef and chicken) (7-Eleven)	1.21	140	13	500

## K-cup alternatives: Not peas in a pod

Many people own a pod coffeemaker for its convenience, but using the coffee sold in the pod can be inconvenient to your budget. For a cup-a-day drinker, a year's worth of K-cups costs more than \$200. Now there are cheaper alternatives that let people use their own coffee and tailor it to their taste. We checked K-cups and three alternatives for cost, convenience, and brewing time, and our experts tasted the coffee that resulted from each.

**Cost.** In the long run, you'll save the most with the reusable K-cup adapter. The costs we cite at right include one cup of coffee daily brewed with beans bought for an average of \$10 per pound.

**Convenience.** The Keurig K-cup adapter was easiest to use, though you have to wash it between uses. The Simple Cups product was hardest to use: Its lid was especially tough to close.

**Brewing time.** It will vary with different K-cup machines and serving sizes, but in our tests Simple Cups and EZ-Cup took



#### K-cup

**\$48** per box in bulk. Average cost for one year: bulk, \$220; 24 count, \$275. Sold with coffee inside; disposable.



#### Simple Cups

**\$14** for 50. Average cost for one year: \$185. Use your own coffee; disposable cup, filter, and lid.



#### EZ-Cup

**\$13** plus \$7.65 for 50 filters. Annual cost after initial purchase: \$135. Use your own coffee; reusable cup with biodegradable filter.



#### Keurig K-cup adapter

**\$18** per adapter. Annual cost after initial purchase: \$80. Use your own coffee; reusable cup and reusable filter.

longer than the K-cup or Keurig K-cup adapter. The adapter can hold a little more coffee than the others.

**Taste.** We used identical ground coffee in the K-cup and K-cup alternatives, and our

tasters found that the coffee brewed in all four was of similar quality.

**Bottom line.** Any of the K-cup alternatives will save money. You'll save the most, and limit trash, with a Keurig K-cup adapter.

# Three keys to a great retirement

**FOLKS IN RETIREMENT** or nearing that milestone have a bit of news to cheer. A recent retirement survey of online subscribers by the Consumer Reports National Research Center found that the average retirement-account balance rose by 6 percentage points in the past year, the largest gain we've measured since the financial crisis hit in 2008.

But if you're feeling buoyed enough to start your countdown to retirement, take note: Our survey also identified three factors—not all monetary—that can undermine retirement satisfaction. Here's how to address them:

## Set money boundaries

Create realistic financial limits with your adult children, especially those more likely to seek your help. Retirees in our survey who reported family concerns had less positive experiences after retiring than those who didn't. And leading the list of such concerns was financial support for adult children (17 percent) and elderly parents (3 percent). Our readers were generous, providing a median of \$8,990 annually to family members.

Jon Gallo, an estate attorney in Los Angeles, and his wife, Eileen Gallo, a psychotherapist, have written two books on family financial literacy. They say that for adult children, four types of expenses are worth paying for, at least in the short run, because they can foster independence: tuition, vocational testing, health insurance, and specialized services, such as psychiatry and treatment for substance abuse.

With any subsidy, the Gallos say, you should communicate your expectations up front and set monetary and time boundaries—in writing. For example, if your son wants to live at home to save money, he should tell you how he plans to earn money, what he's saving for, and when he'll be leaving.

In the interim, you can charge rent, assign chores, and even require that he pay interest if you decide to give him a loan. If the money you provide is a gift, limit the amount but don't attach strings.

## Get your house in order

Address your housing situation well before retirement. Our survey found that only 43 percent of respondents who felt stuck in their homes were highly satisfied with



**PURSUE YOUR INTERESTS** Hobbies help you maintain your identity post-career.

their retirement, compared with 71 percent who didn't feel stuck. Seven percent of respondents said they wanted to sell or downsize but couldn't.

A home that's selling for just a bit less than comparables in your area will sell more quickly, real-estate experts say. Pricing it at a round number—say, \$250,000 rather than \$249,000—will get the attention of buyers searching online for homes up to \$250,000 and those looking for homes costing \$250,000 and above. And consider improvements that might help you sell. Remodeling magazine's 2011-2012

list of home-improvement cost-to-value figures includes several projects that can add to curb appeal: a steel entry door (73 percent of the cost might be recouped), a garage-door replacement (72 percent), a wood deck (70 percent), and vinyl siding (70 percent).

## Reach out

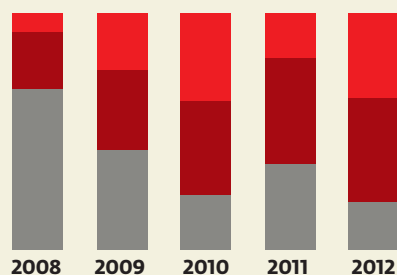
Plan for hobbies or a second career to ease the transition into retirement. Our survey found that letting go of a familiar identity, say, as an employee of a company or member of a profession, can take its toll. Survey respondents who reported a loss of identity in retirement were only one-third as likely to be highly satisfied as those who felt no such loss. That gap didn't vary with income.

Nella G. Barkley, CEO of Crystal-Barkley, a life- and career-coaching company in Charleston, S.C., offers this suggestion: First, list your "inventory of skills," such as troubleshooting or the ability to direct groups in decision-making. Ask others to evaluate you, too, for fresh perspectives.

Match those skills with pursuits—either paid or unpaid—you'd like to try. An accountant who wants to play in a jazz band, for instance, might first offer book-keeping services to one, which could lead to informal jamming and maybe performances. Researching your interest will help you find people doing what you'd like to do. "Then," Barkley says, "you get sent to the other people who are active in that world, and your knowledge grows."

## How are you doing? Better.

Thirty-six percent of subscribers told us they were better off financially than they were a year ago, and 20 percent reported being worse off. That's a reversal from the results of our 2011 survey. Here's how our subscribers' fortunes have fared since the 2008 financial crisis started.



■ Better off ■ The same ■ Worse off

Source: Consumer Reports National Research Center. Based on a survey of 24,630 ConsumerReports.org subscribers 55 to 75 years old.



## ▶ LG and Kenmore washers recalled

About 457,000 washing machines manufactured for the LG and Kenmore brands are being recalled because of potential problems with excessive vibrations, according to the Consumer Product Safety Commission.

The top-loading washers, made by LG Electronics of South Korea for both brands, could shake excessively with an unbalanced load, which may cause the drum to come loose.

The CPSC says it has received at least 343 reports of that type of problem, with 187 instances of property damage and, in one case, a minor injury.

The agency advises consumers to stop using the washing machine immediately if they experience the problem.

The LG machines involved are models WT5001CW, WT5101HV, and WT5101HW. They have serial numbers beginning with 002KW through 111KW. The Kenmore Elite models are 29002, 29272, and 29278, with serial numbers beginning 005KW through 111KW.

The washers cost \$899 to \$1,099, were made from February 2010 through November 2011, and were sold from April 2010 to December 2012. Best Buy, Home Depot, Kmart, Sears, and local retailers sold the LG models. The Kenmore Elite models were sold by Kmart and Sears.

Consumers should contact LG or Sears for a free in-home repair. For LG, call 855-400-4639



Kenmore Elite 29272

or go to [lg.com/us](http://lg.com/us) and click on Public Notices. For Kenmore or LG washers purchased at Sears or Kmart, call 888-812-2935 or go to [sears.com](http://sears.com) and click on Customer Service Home, then Product Recalls in the Product Information section.

## ▶ RECALLS

### AUTOMOBILES

#### '06-'12 Subaru various models

Vehicles may have been equipped with accessory puddle lights that when lit brighten area under doors. A short circuit can occur when either the light or connector is exposed to electrolytic moisture (such as road spray with salt) and the moisture penetrates the circuit board of the light or the pins of the light connectors.

**MODELS** 633,842 '06-'12 Tribeca, '09-'12 Forester, '10-'11 Legacy and Outback vehicles.

**WHAT TO DO** Dealer will install additional fused harness free of charge. Call Subaru at 800-782-2783 for details.



#### 2013 Ford Fusion and Escape

Coolant system leaks may cause the engine to overheat and leak flammable engine fluids. If the fluids come in contact with the hot exhaust system, there is a risk of fire.

**MODELS** This recall updates a November 2012 recall and includes 80,057 2013 Ford Escape and Fusion vehicles with 1.6L engines.

**WHAT TO DO** Dealer will inspect engine for coolant system leaks and reprogram the powertrain control module and instrument cluster free of charge. Call Ford at 866-436-7332 for details.



## Two strollers pose a hazard to children

Our recent stroller tests found that the iCandy Cherry and Mutsy Evo pose a strangulation risk to children. We have designated each model a Don't Buy: Safety Risk.

Like many strollers, the Cherry and the Evo have a removable grab bar that attaches above the child's legs. The problem: When a child is placed in either model with the grab bar in its normal use position, the opening between the grab bar and the seat surface may be large enough to allow the child's torso, but not the child's head, to pass through. As a result, a child's head could get caught on the bar, potentially strangling him or her.

That hazard exists only if the child is placed unharnessed in the stroller, something you should never do.

At least 10 children died between 1995 and 2008 from such hazards in strollers, according to the most recent

statistics from the Consumer Product Safety Commission. We do not know of any injuries specifically associated with the iCandy Cherry or Mutsy Evo.

If you already own a Cherry or an Evo, we recommend that you remove the grab bar from the stroller. The strollers are safe if you always use their harness, as you should do with any stroller.

The Cherry from iCandy World Limited of Bedfordshire, England, and the Evo from Mutsy USA of Newark, N.J., are made in China. When contacted, representatives of iCandy and Mutsy acknowledged

that their respective stroller models do not meet the passive containment section of a U.S. safety standard and indicated that their companies would work with the CPSC on an appropriate action. If you have questions, call iCandy at 212-219-8008 and Mutsy at 877-546-9230.



**Don't Buy: Safety Risk**  
iCandy Cherry (left) and Mutsy Evo.

### HOME AND GARDEN Kawasaki lawn mower engines

The fuel filter can leak, posing a fire hazard.

**PRODUCTS** 210,000 lawn mower engines used in riding and wide area, walk-behind lawn mowers sold at Kawasaki engine dealers and lawn- and garden-equipment retailers between October 2011 and August 2012 for \$2,000 to \$10,000. Recalled brand names are Ariens, Bad Boy Mowers, Big Dog, Bob-Cat, Bush Hog, Country Clipper, Cub Cadet, Dixie Chopper, Dixon, DR Power Equipment, Encore, Exmark, Ferris, Gravely, Hustler, Husqvarna, Land Pride, SCAG, Simplicity, Snapper Pro, Tiger, Toro, Worldlawn, and Woods.

**WHAT TO DO** Stop using the mower and contact Kawasaki at 866-836-4463 or go to [kawpower.com](http://kawpower.com) to arrange for a free repair.



# Health reform questions answered



**Nancy Metcalf** is CONSUMER REPORTS' health insurance expert. Send questions to [asknancy@cro.consumer.org](mailto:asknancy@cro.consumer.org).

**READY, SET ...** the biggest change ever in the way Americans buy health insurance will roll out this fall, thanks to the Affordable Care Act of 2010. On Oct. 1, a health insurance “exchange,” or marketplace, will open for business in every state, selling plans that begin on Jan. 1, 2014. That’s the date by which almost all

Americans will be required to have health insurance or pay a fine.

Individuals and small businesses will be able to access their state exchange online, on the phone, or in person, and compare and purchase health plans that meet new, higher standards for quality and value. They will also be able to find out whether they qualify for subsidies or tax credits to help pay the premiums.

The outline sounds simple, but the devil is in the details. And boy, are there a lot of them. As the CONSUMER REPORTS health insurance blogger, I’ve been getting more and more questions to my “Ask Nancy” column about how the Affordable Care Act will work for people in different

situations. Here, to kick off our 2013 coverage of health reform, are answers to key questions on the minds of consumers.

**Q I make about \$35,000 a year, and my employer doesn’t provide health insurance. I barely make it through the month as it is, and I definitely won’t be able to afford health insurance or a fine once the Affordable Care Act mandate starts. I’m afraid of what will happen.**

**ANSWER** The affordability of health insurance is somewhat in the eye of the beholder. I’m betting you’re generally healthy and have never experienced the breathtaking bills that can come with a serious illness or injury. If you had, you might be more motivated to find room in your budget for health insurance.

In the fall you’ll access your state’s exchange to find out, among other things, how much insurance is going to cost you based on your age, income, family size, and whether you smoke. To get a rough idea of what you might pay in 2014, check out the Kaiser Family Foundation’s online subsidy calculator ([healthreform.kff.org/subsidycalculator](http://healthreform.kff.org/subsidycalculator)). If you are single, age 40, and making \$35,000 a year, you’ll qualify for a subsidy of about \$98 a month, which will be paid directly to the health plan you choose. (The calculator’s regional cost factor was set at “medium.”)

You would then choose a “tier” of coverage.

They are, in descending order of generosity, platinum, gold, silver, and bronze. If you buy a midpriced silver plan (the only type the Kaiser calculator includes), you’ll be expected to pay an additional \$277 a month yourself. Like all plans sold on the exchange, it would provide comprehensive coverage of all types of medical care.

You can opt for a bronze plan, in which case your \$98 subsidy will cover a larger share of your premium. The trade-off is a higher deductible, copays, and/or coinsurance.

If your share of the premium for the cheapest bronze plan on your exchange is more than 8 percent of your income—which in your case works out to about \$233 a month—you’ll be exempt from paying a fine for not having health insurance. But you would qualify for catastrophic insurance. The exact dollar amount will depend on the prices available on your state exchange. Those under 30 will be eligible for catastrophic insurance regardless of income.

The catastrophic plan will probably be slightly cheaper than a bronze plan, but the only things covered without a deductible will be preventive care and three primary-care doctor visits a year, and the deductible could be as high as about \$6,250. You may think it’s not worth it, but if you should come down with something as minor as appendicitis, you’d run through that deductible in no time, and everything above it would be covered 100 percent.

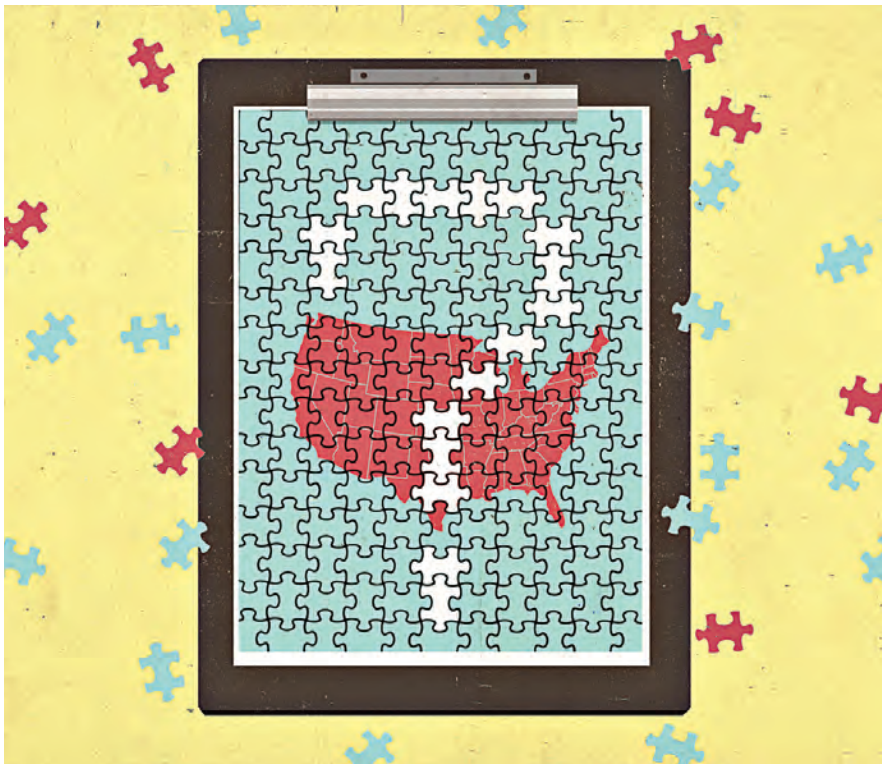
**Q I’m on Medicare. Do I have to buy additional insurance to comply with Obamacare?**

**ANSWER** Nope. Pretty much any kind of decent health insurance will comply with the mandate for everybody to have health insurance. Medicare definitely qualifies, as does Medicaid for lower-income Americans, CHIP for kids, employer group plans, private insurance purchased on your own, VA and Tricare for active military and veterans, and the Indian Health Service. Americans living abroad are exempt from the mandate.

However, for your own protection, you should consider buying supplemental coverage (Medigap) even though it’s not required. Medicare does not pay 100 percent of your medical expenses. There’s a deductible for every hospital stay (\$1,184 in 2013), and for outpatient expenses you’re liable for 20 percent

## ■ DID YOU KNOW?

Because of the new health care law, 12.8 million individuals and businesses received \$1.1 billion in rebates in 2012 from insurance companies that underspent on medical care.





of the tab, which can add up frighteningly fast if you need expensive treatments such as chemotherapy and radiation.

**Q** My employer told me she will soon have to pay \$1,800 per employee annually for Obamacare. Does that sound accurate? She doesn't provide us health insurance right now.

**ANSWER** You told me in a follow-up e-mail that there are fewer than 50 full-time employees in your company. That's significant, because businesses of that size have no obligation whatsoever under the law to provide insurance to their employees. So, frankly, I don't know what your employer was talking about.

What is accurate is that the Affordable Care Act will make it easier, and in many cases cheaper, for small businesses to provide quality group health insurance for employees.

Today small businesses must scramble to obtain insurance on the private market, and many can't afford coverage. That's why only about a third of workers in small business have insurance through their jobs, compared with 71 percent of workers in companies with 100 or more employees, according to a 2010 survey by the Commonwealth Fund, a nonpartisan health policy research group based in New York.

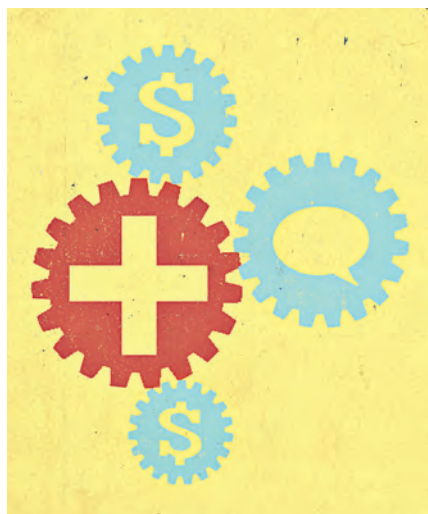
That will change as of 2014, when every state will have a special insurance exchange, the Small Business Health Options Program (SHOP), where small employers can select from a menu of comprehensive plans to offer their workers. For-profit businesses with 25 or fewer employees and average annual wages of less than \$50,000 can get a tax credit for up to 50 percent of their contribution toward the premium in 2014.

Because those SHOP exchanges promise to be more efficient than the current system, the cost of group insurance is expected to drop by more than 7 percent for small employers once the tax credits are factored in, according to a 2012 analysis by the Urban Institute, a nonpartisan Washington think tank.

But again, it will be up to employers to decide whether to take advantage of that. And if they don't, employees won't be left uninsured because they can purchase coverage for themselves and their families through their state's individual exchange.

**Q** I'm confused about CEOs claiming that Obamacare will force them to reduce employees' hours due to the cost of insuring them. Aren't large employers already obligated to provide health insurance to full-time employees?

**ANSWER** They are not, but almost all of them do anyway. That's especially true of companies that employ full-time, higher-paid, skilled workers, who otherwise might balk at taking the job. What you've probably been reading about in the media are threats by companies, such as restaurants and retail chains, that



employ a lot of lower-wage and part-time employees. A much smaller percentage of those companies offer health insurance, and when they do, it may be a plan with benefits that top out at only a few thousand dollars a year.

But as of 2014, companies with more than 50 full-time employees (defined as employed an average of 30 hours a week or more) will face a choice. If they don't offer adequate health coverage and even one of their full-time employees gets a subsidy to buy individual coverage on a state exchange—a likely prospect—they'll be hit with an annual penalty of \$2,000 per full-time worker, with the first 30 workers excluded. So, for instance, a company with 400 employees would owe an assessable payment of \$740,000, or 370 times \$2,000.

One way for a company to dodge the requirement would be to make sure its low-wage, unskilled employees work fewer than 30 hours a week—a tactic that some employers already use to hold down the numbers of workers who get health coverage.

But even if that happens, those low-paid employees will—in 2014, for the first time—have access to good insurance they can afford.

**Q** I was told that Obamacare would take cancer care away from those over 76 years old. True?

**ANSWER** Not true. As best I can determine, that rumor originated from several viral e-mails and online posts. They recount convincing-sounding conversations with doctors who claim to have been briefed on a provision of the Affordable Care Act that will supposedly deny older Medicare beneficiaries treatments for serious conditions such as heart disease and cancer. Reputable fact-checking sites, such as Snopes.com and Factcheck.org, have documented that the stories are fake.

"Nothing in health care reform or in Medicare limits your care based on your age," says Joe Baker, president of the Medicare Rights Center, a nonprofit consumer advocacy and information group.

Far from cutting Medicare benefits, the new health care law has expanded them. Beneficiaries are now entitled to a long list of free preventive-care services that previously weren't covered. And the law is also closing the notorious "doughnut hole" in Part D drug plans.

**Q** Does the health reform law cover people who are not legal U.S. residents?

**ANSWER** No. The law states that it does not allow federal payments, credits, or help with cost-sharing for "individuals who are not lawfully present in the United States."

## Who will be eligible for lower-cost health insurance?

When the health insurance exchanges open in every state in October 2013, individuals and families who use them will be eligible for subsidies to buy insurance if their income falls within certain limits. If their income is very low, they will qualify for free or almost-free Medicaid coverage. The guidelines for subsidies and Medicaid are shown in the table at right.

An important exception: As of January, the governors of 11 states have said they would not expand Medicaid, according to a count by Avalere Health, a private consulting firm. In those states, households with incomes below the federal poverty level (\$11,170 for one person; up to \$23,050 for four people) will not qualify for Medicaid unless they fall into existing eligibility categories, such as pregnant women or certain parents of minor children. And they also won't be eligible for subsidies on their state's exchange, because when the law was written they

were intended to have coverage under an expanded Medicaid program.

The 11 states (as of press time) are Alabama, Florida, Georgia, Louisiana, Mississippi, Oklahoma, South Carolina, South Dakota, Texas, Utah, and Virginia.

In June 2012, the Supreme Court ruled that states can refuse to expand Medicaid to all low-income adults. Governors in states that have declined cite costs, even though federal funding would cover 100 percent of the costs of expanded Medicaid for the first three years and at least 90 percent thereafter. However, states can opt into the expansion at a later date if they choose.

Family size	Eligible for Medicaid (annual income)	Eligible for a subsidy (annual income)
1	Up to \$14,856	\$11,170 to \$44,680
2	Up to \$20,123	\$15,130 to \$60,520
3	Up to \$25,390	\$19,090 to \$76,360
4	Up to \$30,657	\$23,050 to \$92,200

Source: Federal poverty guidelines for 2012-13.

# Best TVs

**Bigger, better, smarter, cheaper—that's what our TV tests found**

**T**HERE'S NO BUYER'S REMORSE in the Mercer household in Tampa, Fla. Cynde Mercer says the 46-inch LCD TV she bought recently has everything she wanted and then some—not only great picture and sound but also features that have changed her viewing habits. “I’ve been able to get by with basic cable because I augment it with streaming TV shows and movies that I get free as an Amazon Prime subscriber,” she says of her Internet-capable TV. She wouldn’t be able to do that without the set’s built-in Wi-Fi, she adds, “because I would never run a cable from the router, which is in another room.”

Other readers praised their TV’s high-definition picture quality as “crystal clear” and “incredibly distinct.” The combination of streaming video and Wi-Fi was a hit with several buyers. Though you can get both of those features by connecting a device such as a Roku or an Apple TV to your set, Mercer notes, “I didn’t want the clutter of another set-top box.” Striking design came in for kudos as well. Susan Kooiman of The Woodlands, Texas, says, “My new TV is very stylish, and it doesn’t take up much room because it’s so thin.”

If you’re thinking about upgrading your TV, or if you’re one of the holdouts planning to buy your first flat-panel TV, here’s what you’ll find when you go shopping: larger, slimmer, smarter, and more feature-rich models, many at prices that will put a smile on your face.

## Inside this special section

**Four things to know before you shop** [Page 18](#)

**Our experts answer your TV questions** [Page 19](#)

**Internet TVs get smarter** [Page 20](#)

**Ratings of 140-plus TVs** [Page 21](#)

**Perfect your TV picture** [Page 25](#)

**Easy hookups with HDMI** [Page 27](#)

## SUPERSIZE MY SET

One in four TVs bought this year will be 50 inches or larger.





## From chunky to chic

The first high-definition TVs were bulky and boxy, and it took muscle to move those behemoths around. Today's flat-panel TVs are slim, sleek, and lightweight. Here's how TVs have evolved over the past 15 years.



24 inches

### ❑ Early HDTVs with picture tubes, 24 inches deep

We were used to picture-tube sets when the first high-definition TVs arrived in the late '90s, so their 24- to 30-inch-deep chassis didn't faze us. These babies were also heavy. A 34-incher, for instance, could easily weigh in at more than 200 pounds.

### ❑ Big-screen rear-projection TVs, 18 to 28 inches deep

Around the same time, the first HD rear-projection TVs came out: picture-tube models as deep as 28 inches. Then came DLP, LCoS, and LCD models that were "only" a foot and a half deep, which was slim by comparison.



18 inches



1 to 2 inches

### ❑ Current LCD (LED) and plasma TVs, 1 to 2 inches deep

The newest models put a whole new spin on "slim." Some LCD TVs with LED backlighting are less than an inch deep. Many plasma and LCD TVs are between 1 and 2 inches in depth, though some are in the 4-inch range. They're also lightweight, averaging 30 to 40 pounds for some 42-inch sets.

### ❑ Early LCDs and plasmas, 4 inches deep

Soon after, flat-panel TV screens burst on the scene at a fraction of the depth of anything that had gone before. But they were also pricey. Some of the first 42-inch sets cost \$5,000-plus, for example.

**Screens are bigger and thinner.** Remember when 42-inch TVs seemed huge? Now they look positively puny alongside the big boys in the TV showroom. You'll find 16 sets in our latest Ratings with screens 60 inches or larger, including a 70-inch model from Sharp. And those aren't even the biggest around. There are 80-inch and larger sets out now. Many Americans are upsizing. An estimated one out of four TVs bought this year will have a 50-inch or larger screen, reports DisplaySearch, a market research firm in Santa Clara, Calif. As their screens are getting bigger, TVs are getting thinner. Many new LCD and plasma TVs measure 2 inches or less in depth, with the slimmest coming in at 1 inch or so—a far cry from the 2-foot-

deep TVs that hogged space in our living rooms not that long ago.

**Smart TV proliferates.** You'll see lots of new TVs that can connect to the Internet to stream video from Amazon Instant

## Many new TVs have Wi-Fi and Web browsers.

Video, Netflix, and other services, putting on-demand movies and TV shows at your fingertips. A growing number have full browsers for surfing the Web, built-in Wi-Fi to connect to your Internet service without wires, and access to an apps mar-

ket that will let you add new content. To help you use such capabilities, some models have sophisticated remote controls with touchpads, QWERTY keyboards, and integrated microphones. Some TVs even respond to gesture and voice control.

**TV prices continue to fall.** As features proliferate, TV prices keep inching downward, though the days of dramatic price cuts are over. For example, a number of 50-inch-plus models we recommend are selling for around \$600, with 42-inchers going for \$400 to \$500. But the largest screens and new technologies are still pretty expensive.

**OLED TVs on deck.** LCD and plasma TVs are likely to dominate the market for years, but OLED (organic light-emitting

diode) technology could be the wave of the future. Not to be confused with current LCD sets using LED backlights, OLED sets combine the slimness and energy efficiency of LCD TVs with the deep blacks, rich colors, and wide viewing angles of plasma sets. We tested Sony's XEL-1 OLED TV when it came out a few years ago and were impressed with its slim design and striking picture. But the 11-inch TV cost \$2,500. New 55-inch sets from LG and Samsung that could arrive this year are expected to sell for about \$10,000.

**Ultra-high-def sets arrive.** Move over, HD. Ultra-high-definition sets are here. These TVs have 4K (3840x2160) resolution, four times as many pixels as 1080p (1920x1080) sets. The first UHD sets available are LG and Sony LCDs with 84-inch screens, a size that enables you to appreciate the added detail. But they're priced in the \$20,000 to \$25,000 range. A few companies are working on slightly smaller models expected to cost less. But UHDTVs won't go mainstream anytime soon because of the high price and lack of 4K content. Sony is providing buyers of its XBR-84X900 UHDTV with a loaner hard-drive player loaded with 10 native-4K movies, plus other 4K video content. The TVs can upconvert regular HD

#### ■ DID YOU KNOW?

### Now's a great time to buy

**Prices are usually lowest in February and March, when manufacturers start shipping new models and retailers cut prices to move old ones. We don't expect to see compelling new features on mainstream 2013 sets, so don't rule out a top-rated 2012. You might get one at a killer price.**

video from cable and Blu-ray to 4K, but that won't take full advantage of the TV's potential and doesn't justify the price.

**3D glasses get another look.** 3D TV hasn't become a must-have, in part because there isn't much compelling content aside from the growing selection of Blu-ray 3D movies. Another likely reason: Viewers don't want to wear—or pay a lot for—special bulky glasses. But today's battery-powered active-3D glasses are lighter, more comfortable, and less expensive than the first models (costing as little as \$20), and some work with several TV brands. Passive-3D sets, which use light, cheap glasses similar to those you get in movie theaters, come with up to six pairs, and extras cost less than \$10. Manufacturers are working on glasses-free “autostereo-

scopic” 3D, but we don't expect it this year. From what we've seen so far, the viewing angle could be limited.

**Extra-wide screens have narrow appeal.** Another new development we saw last year—an ultra-wide LCD TV from Vizio with a 21:9 aspect ratio rather than the typical 16:9 dimensions of today's TVs—doesn't seem like it will gain much steam. We believe that 21:9 TVs, which have a screen ratio that matches the format of many feature films, will remain niche products for movie fans who want to watch wider-format movies at home without black bars above and below the image. (A drawback: You get black bars on the sides when watching 16:9 TV broadcasts.)

### Sizing up TV performance

If a TV can't display satisfying picture quality, it's pretty much a dud, no matter what else it offers. Luckily, lots of TVs can do just that. More than 100 of the models in our Ratings had very good or excellent picture quality that should satisfy most viewers. Critical viewers would probably be happiest with excellent picture quality that delivers razor-sharp detail; vivid, accurate colors; and natural-looking images. There's not much reason to settle for a TV with a

## Four basic questions to consider when you buy a TV

**1 What screen size?** Don't think small and regret it for the life of the TV. If you sit 6 to 8 feet from the TV, get at least a 40-inch set, but consider a 46- to 50-incher to get a more immersive experience. For 10 feet or so, a 55-inch or larger screen would be appropriate. If the screen is too small for your viewing distance, it's difficult to appreciate the clarity that makes 1080p high definition so compelling. Try to simulate your seating setup in the showroom to see whether the size seems right for the viewing distance.

**2 Plasma or LCD?** Many of the highest-scoring models in our Ratings are plasma TVs, which have several advantages over LCD TVs. Plasmas, which come in 42-inch and larger sizes, tend to cost a bit less than comparably sized LCDs, especially those using LED backlights. The best plasmas can provide rich, movie-like images with deep blacks that add depth and dimension. Unlike most LCD TVs, they have blur-free motion and unlimited viewing angles, so the color and brightness will look the same from any viewing position. Contrary to what you might have heard, plasma TVs last just as long as LCD sets.

Newer models don't suffer from permanent image burn-in during normal viewing, and they use about the same energy as many LCD sets with fluorescent backlights. Glossy screens can suffer from glare in bright lighting, though.

LCD TVs come in a wider range of sizes, from less than 20 inches to 70 inches and up. The best LCDs have excellent picture quality and a brighter picture than many plasmas. In a sunny room, an LCD with a matte screen won't suffer from reflections and glare. On many sets motion blur is evident in our tough lab tests but might not be obvious in typical program content, except to keen-eyed viewers. A 120Hz or higher refresh rate can reduce blur in scenes with fast motion. But the limited viewing angle of many LCDs can be a concern if you watch the TV from anywhere other than front and center.

**3 1080p or 720p resolution?** Most new TVs have 1080p (full HD) resolution, but some small sets and low-priced 42- and 50-inch plasmas still have 720p. A 1080p set can display finer detail than a 720p TV, but more detail doesn't always result in better picture quality. Some 720p TVs we've tested had very good picture quality. In general, we

recommend a 1080p set if price isn't a concern, but consider 720p for top value.

**4 3D or not?** 3D capability is simply a feature on a regular high-definition TV, not a new kind of TV. Even if you don't plan to watch 3D in the near future, don't rule out a TV that has that feature. Many are among the best HD sets we've tested. And if you get a 3D-capable set, you'll be good to go if 3D becomes more appealing to you later.



**WIDE RECEIVERS** Plasma TVs have unlimited viewing angles that make them a better choice than LCDs if you aren't right in front of the set.



good or fair picture—reflecting some problems with detail, color, contrast, or other critical attributes—when much better sets sell for about the same price.

You have to search harder to get great sound. Many TVs have sound we judge good. That's OK for most content, but it's unable to do full justice to movies or music videos. There's not enough bass and depth to add impact to soundtracks, and you might hear distortion when you pump up the volume. In some cases, that could be a result of slim cabinets that don't have room for speakers with large drivers.

A number of TVs, especially smaller ones, had fair or poor sound, with such noticeable flaws that you might wince even when listening to a talking head. The worst ones sounded alarmingly like AM radio, as reader Roger Malson, of Groveland, Ill., found. "We bought a small TV for our kitchen, and the sound is terrible, much tinnier and cheaper-sounding than on the tube TV we had before," he said.

If you're connecting your TV to a sound bar or other external speakers, its sound isn't a major concern. Otherwise look for a TV with at least a good sound score. For the most satisfying audio, opt for one of the two dozen or so sets with very good sound.

3D is another area in which we see varying performance. Many TVs do a very good job presenting convincing 3D, but some still have viewing-angle limitations or struggle with ghosting, which refers to double im-

## You have to look hard to find great sound. It's often middling at best.

ages you see even when wearing 3D glasses. TVs that use active-3D technology present full 1080p resolution but tend to have a somewhat dim picture in 3D. TVs that use passive-3D glasses usually have brighter 3D images, but they don't present full resolution, so you lose detail. Many viewers might be OK with that because brighter images are easier on the eyes. There are enough TVs in our Ratings with very good 3D performance to skip those with lower scores.

TVs also vary in their features. Expect to pay more for models that have all of the latest features. If you don't want the extras, you can often save a bundle buying a more bare-bones set that provides

great performance. Two 60-inch plasma TVs from LG illustrate the point. The 60PM9700, which has 3D, Internet services with Wi-Fi, and a Web browser, sells for \$1,800. The 60PA6500, which has comparable scores but none of those features, sells for \$900.

### 'Bargains' can be risky

A bargain price is always appealing, but think twice about super-low-priced sets,

especially from lesser-known brands. Our experience is that the lowest-priced TVs aren't always the best deals. Some of the lowest-rated sets in the Ratings—with below-average scores for picture, sound, or both—include TVs from Coby, Element, Haier, TCL, and Westinghouse.

Another point to consider with such brands is how easy it will be to get the TV repaired. Major brands usually invest in parts and service networks, so the likeli-

## Ask our experts



**HANDLE WITH CARE** Paper towels and window cleaner can damage your TV screen.

### How should I clean my TV screen?

Never use window cleaner, alcohol, ammonia, abrasives, or paper towels, which can damage the screen. Turn off your TV and let it cool down. Wipe the screen gently with a soft, lint-free cloth (similar to the microfiber cloth used on eyeglasses). Make sure the cloth is clean; dust or dirt can scratch the screen. If that doesn't remove all of the dirt or smudges, slightly dampen the cloth with lukewarm water, water mixed with a few drops of mild dish or hand soap, or a product specially designed to clean TV and computer screens. (Spray the cloth, not the screen itself.) Rub the screen gently, then let it dry. That should do it.

### I recently bought a 55-inch LED-LCD TV and the salesperson recommended professional calibration, which costs \$250. Is it worth it?

Not unless Martin Scorsese will be stopping by to watch a movie with you. It's hard to justify spending one-third to one-quarter of the cost of many TVs on calibration. And you don't really need it. New TVs have preset modes that get you close enough to a professional calibration to satisfy even picky viewers. Choose a picture mode such as THX, Movie,

or Cinema, turn down sharpness, and turn off noise reduction and "dynamic" control features and you'll probably be very happy with the picture quality. If you want to go further, try the THX Optimizer that comes free with many DVDs and Blu-ray discs, or try a calibration disc from Avia, Video Essentials, or Spears and Munsil. Having said that, if you're a perfectionist with an expensive home theater, you might want to consider professional calibration. Be sure it's done by an industry-certified professional. (See "Tweak Your TV Picture," on page 25, for tips on doing it yourself.)

### My new TV doesn't have analog audio outputs. How can I connect it to the receiver in my home-theater system, which is a few years old?

That was the problem facing Roger Pool of Littleton, Colo. He solved it by buying a digital-to-analog audio converter (about \$40) so that he could connect the TV's digital audio output to the receiver's analog audio input. Another option: You could connect the cable or satellite box and Blu-ray player's analog audio outputs directly to the receiver, but then you'd have to switch between the two sources, which you might find to be less convenient.

hood that you'll be able to get the TV serviced by an authorized repair center is greater. Also, the manufacturer's warranty on some sets from less familiar brands might be shorter than the average one-year coverage for most sets. Coby and RCA have three-month labor warranties.

**Consider a brand's repair record.** In the event you're thinking about buying a TV we haven't tested, you can glean some

guidance from our brand histories, which cover reliability and performance.

To gauge reliability, every year we ask readers about their TVs. Our latest survey, which covers about 216,000 LCD and plasma TVs purchased between 2008 and 2012, shows that most major brands had an overall repair rate of only 4 percent during the first four years of use.

Fifteen of the 16 LCD brands covered in

our current survey had comparably low repair rates. Those brands, in alphabetical order, are Dynex, Insignia, JVC, LG, Magnavox, Panasonic, Philips, RCA, Samsung, Sanyo, Sharp, Sony, Sylvania, Toshiba, and Vizio. Westinghouse was the most repair-prone of the LCD brands covered. In the plasma category, Panasonic, Samsung, and LG were generally reliable, with a low rate of repairs.

When TVs had problems, they often occurred early—57 percent of reported repairs were made in the first year of ownership, a period usually covered by a standard manufacturer warranty. That reinforces our advice that extended warranties aren't a good investment for most users.

**Check out performance.** Quality of TV performance has been more of a mixed bag. A few brands stand out as solid choices based on our tests over the past few years, but other makes have had higher- and lower-scoring sets.

LCD TVs from LG, Panasonic, Samsung, and Sony have consistently been among the best performers in our Ratings. Plasma TVs from Panasonic have been tops, followed closely by Samsung and LG. Given their solid track record over a few years, we believe other TVs from those brands are likely to do as well—reassuring if you're considering a TV we haven't tested.

Vizio, Sanyo, and Sharp LCDs have delivered generally strong performance that should satisfy all but the most demanding viewers, a track record that suggests other models will follow suit.

Other brands have had less consistent performance. Some LCD TVs from Insignia, JVC, Philips, and Toshiba did quite well, but others had lower scores. We have less confidence that an untested model from those brands will match the performance of its best siblings. Magnavox and Westinghouse LCDs have had lower overall scores than most over the past few years, but some new TVs have done better. With all of those brands, your safest choice is a tested model from our Ratings.

#### ■ DID YOU KNOW?

### The truth about 'LED TVs'

That's ad-speak for an LCD TV with LED backlighting rather than fluorescent bulbs. (To those of you who have asked, we do test them. They're more clearly identified in the Ratings now.) LED backlights don't necessarily result in better picture quality, though some sets are super-thin and energy-efficient.

## Internet-capable TVs get smarter



#### ONLINE OPTIONS

Connect a TV to the Internet to watch movies and TV shows when you like.

**Streaming video** is a great reason to get a TV with Internet capability. Netflix, by far the most-used paid service, is a given, as is access to free videos on YouTube. Other services aren't universal, so see whether a TV has what you want—say, Amazon Instant Video because you get free videos through an Amazon Prime subscription. Want Blockbuster? Only Samsung TVs have it.

To stream video, you have to connect the TV to your broadband service, either wirelessly via Wi-Fi or by using a wired Ethernet connection (which can be a bit more stable). Some TVs have built-in Wi-Fi; others require an adapter that sometimes comes with the set. Picture quality of streaming video can be quite good with most high-speed Internet services, but you might occasionally experience momentary image degradation or low resolution.

#### Music, social media, and more

In addition to streaming video services, most Internet-capable TVs let you connect to a music service such as Pandora, social networking sites such as Facebook and Twitter, and the auction site eBay. They often include news and traffic services as well as photo-sharing sites such as Picasa. Some brands let you download games, fitness apps, and more, either free or paid.

Increasingly, new smart TVs have Web

browsers that let you surf far and wide. But some TVs don't support Flash or HTML 5, which are used on many websites. Also, some sites, such as Hulu, block devices other than a computer. For now, browsing on a TV is a welcome, though not a must-have, feature.

#### Remote possibilities

The remote also comes into play. If the TV has only a plain push-button remote, it's not easy to enter text for a URL or a search term, observes reader Rolf Thorsen of Deep River, Conn. "It's tedious to enter text by pointing at an alphabet on the screen," he says. "It's not bad when you're just browsing through menus, though."

Remotes with keyboards can take some of the tedium out of the process. LG's Magic Remote uses a Wii-like point-and-click action for onscreen navigation, and its built-in mic allows for limited voice control of some functions. Samsung's E8000 plasmas and ES8000-series LCD TVs can be controlled (albeit a bit clumsily) by hand gestures and voice commands. Some new remotes have a touchpad that simplifies navigation. Many TVs that have sophisticated remotes also come with a regular remote, which can be more user-friendly for changing channels and adjusting the volume.





A2 Samsung



A7 LG



B1 Panasonic

# Ratings LCD and plasma TVs

All tested models In performance order, within types.

CR Best Buy  
Recommended

Excellent  
Very good  
Good  
Fair  
Poor

Recommendation	Rank	Brand & model	Type	Price	Overall score	Test results	Features
						Picture quality	
						High-def. 3D performance	
						Viewing angle	
						Motion blur	
						Sound quality	
						Streaming video	
						Wi-Fi	
						Full browser	
						Available screen sizes (tested size in bold)	

## A 60-INCH AND LARGER All have 1080p resolution.

✓	1	Panasonic Viera TC-P65VT50	plasma	\$3,700	81	• • • U	• • • • • 65, 55
✓	2	Samsung PN60E8000	plasma	2,300	79	• • • U	• • • • • 64, 60, 51
✓	3	Samsung PN60E550	plasma	1,300	78	• • • U	• • • • • 64, 60, 51
✓	4	Panasonic Viera TC-P60GT50	plasma	2,200	77	• • • U	• • • • • 65, 60, 55, 50
✓	5	Panasonic Viera TC-P60ST50	plasma	1,700	77	• • • U	• • • • • 65, 60, 55, 50
✓	6	Samsung PN64E550	plasma	2,000	71	• • • U	• • • • • 64, 60, 51
✓	7	LG 60PM6700	plasma	1,250	70	• • • U	• • • • • 60, 50
✓	8	LG 60PM9700	plasma	1,800	69	• • • U	• • • • • 60, 50
✓	9	LG 60PA6500	plasma	900	67	• • • U	• • • • • 60, 50
✓	10	Sharp Aquos LC-60LE745U	LED	1,600	66	• • • N	• • • • • 70, 60
✓	11	Samsung UN60ES6100	LED	1,800	65	• • • N	• • • • • 60, 55, 50, 46, 40
	12	Sharp Aquos LC-60LE847U	LED	1,900	64	• • • N	• • • • • 70, 60
	13	Vizio E601i-A3	LED	980	63	• • • N	• • • • • 70, 60
	14	Sharp Aquos LC-60LE845U	LED	2,000	63	• • • N	• • • • • 70, 60
	15	Sharp Aquos LC-70LE640U	LED	2,300	62	• • • N	• • • • • 70, 60, 52
	16	Toshiba 65HT2U	LCD	1,300	58	• • • M	• • • • • 65

## B 55- TO 59-INCH All have 1080p resolution.

✓	1	Panasonic Viera TC-P55VT50	plasma	2,500	79	• • • U	• • • • • 65, 55
✓	2	Panasonic Viera TC-P55ST50	plasma	1,300	78	• • • U	• • • • • 65, 60, 55, 50
✓	3	Panasonic Viera TC-L55WT50	LED	2,300	74	• • • W	• • • • • 55, 47
✓	4	Samsung UN55ES8000	LED	2,500	74	• • • M	• • • • • 75, 65, 60, 55, 46
✓	5	LG 55LM9600	LED	2,800	74	• • • W	• • • • • 60, 55, 47
✓	6	LG 55LM6400	LED	1,200	74	• • • W	• • • • • 55, 47
✓	7	Sony Bravia XBR-55HX950	LED	3,000	74	• • • M	• • • • • 65, 55
✓	8	LG 55LM6200	LED	1,400	72	• • • W	• • • • • 65, 55, 47, 42
✓	9	Sony Bravia KDL-55HX850	LED	2,000	72	• • • M	• • • • • 55, 46
✓	10	Samsung UN55ES6500	LED	1,600	72	• • • N	• • • • • 65, 60, 55, 50, 46, 40, 32
✓	11	LG 55LM6700	LED	1,500	71	• • • W	• • • • • 55, 47, 42

U=unlimited, W=wide, M=moderate, N=narrow. LED LCD TV with LED backlighting.

Ratings continued on next page

## Overview

Many of these plasma and LCD TVs (including LCD TVs that use LED backlighting, noted in the Ratings) offer fine performance that would please most viewers. The TVs highlighted below stand out for the reasons noted, but any recommended set is worth considering. If a tested model isn't the size you want, check the last column to see whether a bigger or smaller screen is available.

## BEST VALUES IN 60-INCH TVs

A3 Samsung \$1,300 CR Best Buy

A7 LG \$1,250 CR Best Buy

A9 LG \$900 CR Best Buy

All of these are 1080p plasma sets that offer top performance and bang for the buck.

A3 and A7 are loaded with features, including 3D capability, built-in Wi-Fi, and Internet with full browser; A3 also has very good sound.

A9 is very low-priced for a set this size and has excellent picture quality, but it lacks the 3D and Internet capabilities found on the others. It has three HDMI inputs, one fewer than A7, and doesn't have the gesture-based Magic Remote that comes with its higher-priced brandmate. Still, if performance matters most, check it out.

## FULL-FEATURED 60-INCH AND LARGER TVs

A1 Panasonic \$3,700

A2 Samsung \$2,300

A5 Panasonic \$1,700

A6 Samsung \$2,000

A8 LG \$1,800

These higher-priced plasma TVs have lots of features, including 3D, streaming video, and Web browsers. A1 Panasonic and A6 Samsung are the largest, with 65- and 64-inch screens, respectively. A1 is a premium flagship model with a high price that gets you impressive black levels, better-than-average sound, and a second, touchpad remote that's handy for Internet activities. You can save almost \$2,000 with

**WHICH TYPE OF TV FOR YOU?**  
Use your smart phone to download the RedLaser or ShopSavvy app and scan the code for our video.



**A5** if you can live with a slightly smaller screen (60 inches) and without the premium design, touchpad remote, and THX mode that comes with **A1**. **A2** and **A8** are 60-inch flagship plasmas; **A2** can be controlled via hand movements and voice and has very good sound and a touchpad remote. **A8** comes with a gesture-based remote.

#### BEST VALUES IN 55- TO 59-INCH TVs

- B2** Panasonic \$1,300 **CR Best Buy**
- B6** LG \$1,200 **CR Best Buy**
- B12** Vizio \$1,330 **CR Best Buy**
- B14** Samsung \$1,300 **CR Best Buy**
- B15** Sony \$1,300 **CR Best Buy**
- B16** Vizio \$830 **CR Best Buy**

All of these models have 1080p resolution, and all but **B16** have excellent picture quality. **B2** is a plasma TV; the rest are LCD sets, most of them with LED backlighting. The lowest-priced, **B16**, has a fluorescent backlight. **B2** and **B6** are loaded, with Internet access, Wi-Fi, a browser, and 3D; **B12** has all but a browser. **B16** is especially well-priced, with very good scores for picture and sound quality, a wider viewing angle for an LCD, and streaming video and Wi-Fi. **B12** is the first TV we've ever tested with an extra-wide 21:9 aspect ratio rather than the 16:9 screens on most HDTVs. It displays wider-format movies without black bars on top and bottom.

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

- B1** Panasonic \$2,500
- B3** Panasonic \$2,300
- B4** Samsung \$2,500
- B5** LG \$2,800
- B7** Sony \$3,000

All of these 55-inch TVs are loaded with features, including Internet access, Wi-Fi, browsers, and 3D. **B1**, a plasma in Panasonic's flagship line, is the best all-around choice for HD, 3D, and sound quality. The other TVs in this group, all LCD sets with LED backlighting, are fine



**B2** Panasonic



**B7** Sony

## Ratings LCD and plasma TVs

		Brand & model	Type	Price	Overall score	Test results				Features			
Recommendation	Rank				0100 P   F   G   V   G   E	Picture quality			Sound quality	Streaming video	Wi-Fi	Full browser	Available screen sizes (tested size in bold)
						High-def. 3D performance	Viewing angle <sup>[1]</sup>	Motion blur					

### B 55- TO 59-INCH continued

✓	12	Vizio XVT3D580CM	LED 2	\$1,330	70	●	○	N	●	●	●	●	●	58
✓	13	Panasonic Viera TC-L55ET5	LED 2	1,400	67	●	○	W	●	●	●	●	●	55, 47, 42
✓	14	Samsung UN55EH6000	LED 2	1,300	66	●	—	M	○	○	●	●	●	65, 60, 55, 50, 46, 40
✓	15	Sony Bravia KDL-55EX640	LED 2	1,300	66	●	—	M	●	○	●	●	●	55, 46, 40
✓	16	Vizio E552VLE	LCD	830	65	●	—	W	○	●	●	●	●	55, 47, 42
✓	17	LG 55G2	LED 2	1,500	65	●	●	W	●	○	●	●	●	55, 47
	18	Toshiba 55L7200U	LED 2	1,400	64	●	○	W	●	●	●	●	●	55, 47
	19	Insignia NS-55L260A13	LCD	750	56	●	—	W	●	●	●	●	●	55, 42
	20	TCL LE55FHD3300Z	LED 2	800	54	●	—	M	●	○	●	●	●	55, 48
	21	Philips 55PFL3907	LCD	800	53	●	—	W	●	○	●	●	●	55
	22	Philips 55PFL4706	LED 2	1,100	51	●	—	N	●	●	●	●	●	55, 46, 40

### C 46- TO 51-INCH All have 1080p resolution except C7 and C13, which have 720p.

✓	1	Samsung PN51E6500	plasma	1,250	77	●	●	U	●	●	●	●	●	60, 51
✓	2	Panasonic Viera TC-P50ST50	plasma	1,100	76	●	●	U	●	○	●	●	●	65, 60, 55, 50
✓	3	Samsung PN51E7000	plasma	1,400	76	●	●	U	●	○	●	●	●	60, 51
✓	4	Samsung PN51E550	plasma	850	74	●	●	U	●	○	●	●	●	64, 60, 51
✓	5	LG 47LM8600	LED 2	1,600	74	●	●	W	●	○	●	●	●	55, 47
✓	6	LG 47LM7600	LED 2	1,200	73	●	○	W	●	○	●	●	●	55, 47
✓	7	Samsung PN51E490	plasma	650	72	●	●	U	●	○	●	③	●	51
✓	8	Samsung UN46ES6500	LED 2	1,100	72	●	○	M	●	●	●	●	●	65, 60, 55, 50, 46, 40, 32
✓	9	Panasonic Viera TC-L47ET5	LED 2	1,100	72	●	●	W	●	○	●	●	●	55, 47, 42
✓	10	LG 47LM6200	LED 2	900	71	●	●	W	●	○	●	●	●	65, 55, 47, 42
✓	11	Samsung UN46ES6600	LED 2	1,200	70	●	○	N	●	●	●	●	●	60, 55, 46
✓	12	Sony Bravia KDL-46HX750	LED 2	1,100	69	●	○	M	●	○	●	●	●	55, 46
✓	13	Panasonic Viera TC-P50XT50	plasma	800	69	●	○	U	●	○	●	③	●	65, 60, 55, 50
✓	14	LG 50PA6500	plasma	600	69	●	—	U	●	●	●	●	●	60, 50
✓	15	Samsung UN46EH5300	LED 2	800	68	●	—	M	●	●	●	●	●	50, 46, 40, 32
✓	16	Samsung PN51E530	plasma	700	68	●	—	U	●	○	●	●	●	60, 51
✓	17	Panasonic Viera TC-L47DT50	LED 2	1,200	68	●	●	W	●	○	●	●	●	55, 47

① U=unlimited, W=wide, M=moderate, N=narrow. ② LCD TV with LED backlighting. ③ Optional adapter required.

#### COMPARING BRANDS

### Sound quality

If you won't be hooking your TV up to external speakers, it's worth checking out the set's sound score in the Ratings—especially if you're fussy or like to watch lots of movies or music videos. Only 23 of the 143 TVs in our Ratings have very good sound quality, many of them in the larger screen sizes. A number of the Samsung models we tested have better-than-average sound, along with a few LG, Panasonic, and Vizio sets. A good score for sound should be OK for typical TV programming, but think twice about any set with fair or poor sound.





Recommendation	Rank	Brand & model	Type	Price	Overall score	Test results					Features		
						Picture quality	High-def. 3D performance	Viewing angle	Motion blur	Sound quality	Streaming video	Wi-Fi	Full browser

## C 46- TO 51-INCH continued

✓	18	LG 50PA5500	plasma	\$ 600	67	●	—	U	●	○			60, 50
✓	19	LG 47LS5700	LED 2	850	66	●	—	W	●	○	●	●	60, 55, 47, 42
✓	20	Panasonic Viera TC-P50U50	plasma	700	66	●	—	U	●	○			50
✓	21	Vizio M470SL	LED 2	700	66	●	—	W	●	○	●	●	55, 47, 42, 37
✓	22	Samsung UN46EH5000	LED 2	680	65	●	—	M	●	○			50, 46, 40, 37, 32
✓	23	LG 47CM565	LCD	600	65	●	○	W	●	○			47
	24	Sanyo DP46861	LCD	530	64	●	—	M	●	○	●	●	46, 42
	25	Magnavox 50MF412B	LCD	690	62	●	—	M	●	○			50, 39
	26	Toshiba 47L6200U	LED 2	1,200	61	●	○	W	●	○	●	●	55, 47, 42
	27	Panasonic Viera TC-L47E5	LED 2	650	59	●	—	W	●	○	●	③	47, 42, 37, 32
	28	Insignia NS-46E480A13	LED 2	600	58	●	—	N	○	○			55, 46
	29	Insignia NS-50L240A13	LCD	600	57	●	—	M	●	○			50, 46, 40, 32, 24
	30	Toshiba 50L2200U	LED 2	800	57	●	—	M	●	○			50
	31	Hisense 46K316DW	LED 2	500	57	○	●	M	●	○	●	●	50, 46, 42
	32	Sanyo DP46142	LED 2	550	54	●	—	M	●	○			46
	33	Sanyo FVM5082	LCD	530	54	●	—	M	●	○			50
	34	Element ELDFT465J	LCD	500	50	○	—	N	●	○			46
	35	Westinghouse EW46T4LZ	LED 2	550	48	●	—	N	●	○			46, 39
	36	Coby LEDTV5028	LED 2	600	44	○	—	M	●	○			50, 39

## D 40- TO 43-INCH All have 1080p resolution except D3, D4, D7, D9, and D21, which are 720p.

✓	1	LG 42LM6200	LED 2	800	72	●	●	W	●	○	●	●	65, 55, 47, 42
✓	2	Samsung UN40ES6580	LED 2	1,000	72	●	○	M	●	○	●	●	55, 50, 46, 40
✓	3	LG 42PM4700	plasma	550	68	●	○	U	●	○	●	●	50, 42
✓	4	Samsung PN43E450	plasma	430	68	●	—	U	●	○			51, 43
✓	5	Samsung UN40EH6000	LED 2	650	67	●	—	M	○	○			65, 60, 55, 50, 46, 40
✓	6	Vizio M420SL	LED 2	550	67	●	—	W	●	○	●	●	55, 47, 42, 37
✓	7	LG 42PA4500	plasma	450	66	●	—	U	●	○			50, 42

Ratings continued on next page

performers worth considering. For easier use of Internet features, you might like the touchpad remotes that come with **B1**, **B3**, and **B4** or the gesture-based wand-style remote with **B5**. **B7** may well have the best black levels we've seen on an LCD. **B3** and **B5** have wide viewing angles for LCDs.

## BEST VALUES IN 46- TO 51-INCH TVs

**C7 Samsung \$650 CR Best Buy**  
**C14 LG \$600 CR Best Buy**  
**C16 Samsung \$700 CR Best Buy**  
**C18 LG \$600 CR Best Buy**  
**C20 Panasonic \$700 CR Best Buy**  
**C21 Vizio \$700 CR Best Buy**  
**C22 Samsung \$680 CR Best Buy**  
**C23 LG \$600 CR Best Buy**

Most viewers should be happy with the picture and sound on all of these TVs. The first five are 50- to 51-inch plasmas, which tend to cost less than similar-sized LCDs. **C21**, **C22**, and **C23** are LCDs with 46- or 47-inch screens; **C21** and **C22** have LED backlighting, and **C23** uses fluorescent backlights. All except **C7** have 1080p resolution. If you want to watch 3D, check out **C7** and **C23**. **C21** is the only one in the group with Internet capability. Among LCD sets, **C21** and **C23** have wide viewing angles; like all plasmas, **C7**, **C14**, **C16**, **C18**, and **C20** have unlimited viewing angles.

## FULL-FEATURED 46- TO 51-INCH TVs

**C1 Samsung \$1,250**  
**C2 Panasonic \$1,100**  
**C3 Samsung \$1,400**  
**C4 Samsung \$850**  
**C5 LG \$1,600**  
**C6 LG \$1,200**  
 All of the models in this group have excellent high-def picture quality and many features, including Internet access, Wi-Fi, browsers, and 3D capability. **C1**, **C2**, **C3**, and **C4** are plasmas with 50- or 51-inch screens. **C5** and **C6** are 47-inch LCDs with LED backlighting. **C4** stands out for its comparatively low price, considering its many features. **C1** is the only model in this group with very good sound quality. **C5** and **C6** have wide viewing angles for an LCD TV. Among the Samsung models, the most expensive, **C3**, has an ultraslim design and more picture controls than its brandmates. The main differences between **C5** and **C6** are that the pricier LG has a more stylish frame and limited voice control using the microphone in the wand-style gesture-based remote control.

## BEST VALUES IN 40- TO 43-INCH TVs

**D3 LG \$550**  
**D4 Samsung \$430 CR Best Buy**  
**D6 Vizio \$550**  
**D7 LG \$450 CR Best Buy**  
**D8 LG \$550**  
**D9 Panasonic \$400 CR Best Buy**

These are all solid performers with pleasing picture quality and sound that's at least



F1 Samsung

decent, and better than that for **D6** and **D7**. **D3** gives you plenty of bang for the buck—a 42-inch 720p plasma screen, 3D capability, streaming video, Wi-Fi, and a full browser. **D6**, a 42-inch 1080p LCD set with LED backlighting, comes close. It has streaming video, Wi-Fi, and a wide viewing angle for an LCD set but no 3D or browser. If you don't want any of those features, you can spend even less. **D4** (43 inches) and **D7** and **D9** (both 42 inches) are fairly basic 720p plasma sets at low prices; **D8** is a 42-inch LCD with fluorescent backlighting,

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

**D1** LG \$800  
**D2** Samsung \$1,000  
**D5** Samsung \$650  
**D10** Sony \$800

All of the TVs in this group are fine performers with 1080p resolution. **D1**, a 42-inch LCD set with LED backlighting, is the best choice if you want to watch 3D as well as HD, with very good performance for both. It also has all of the Internet-related bells and whistles you could want. You'll get excellent HD picture quality from **D2** and **D5**, 40-inch LCDs with LED backlighting. The more expensive of those two Samsung sets, **D2**, has more features

#### COMPARING BRANDS

### Viewing angle

If you may watch your big-screen set from an off-angle, either horizontally or vertically—say, at the end of a long sectional, kicked back in a recliner, or standing at the kitchen counter—consider the TV's viewing angle to ensure that you see the best picture quality from all positions. Plasma TVs have unlimited viewing angles, so they're the best choice for wide-angle viewing. If you prefer an LCD TV, note that models with a narrow viewing angle only deliver their best images within a fairly small zone. The picture will deteriorate as you move off to the side or up and down. We've found that some brands of LCD TVs—including LG, Panasonic, and Vizio—generally have wider viewing angles than others.

# Ratings LCD and plasma TVs

● Excellent  
 ● Very good  
 ○ Good  
 ○ Fair  
 ● Poor

CR Best Buy  
 Recommended

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

#### D 40- TO 43-INCH continued

✓	8	LG 42CS570	LCD	\$550	66	● – W ● ○	47, 42
✓	9	Panasonic Viera TC-P42X5	plasma	400	65	● – U ● ○	50, 42
✓	10	Sony Bravia KDL-40EX640	LED 2	800	65	● – M ● ○ • • •	55, 46, 40
	11	LG 42LM5800	LED 2	680	64	● – W ● ○	55, 47, 42
	12	Panasonic Viera TC-L42E50	LED 2	650	63	● – W ● ○ • •	55, 47, 42
	13	LG 42LS3400	LED 2	550	63	● – W ● ○	42, 32
	14	Vizio E422VLE	LCD	500	62	● – W ○ ○ • •	55, 47, 42
	15	Sanyo DP42851	LCD	480	62	● ○ W ● ○ • •	42
	16	Sony Bravia KDL-42EX440	LED 2	580	61	● – M ● ○	42
	17	Sony Bravia KDL-40BX450	LCD	500	60	● – M ● ○	46, 40
	18	TCL L40FHD60	LCD	330	59	● – M ● ○	40
	19	JVC JLC42B3002	LCD	370	58	● – W ● ○	47, 42, 37
	20	Toshiba 40E220U	LCD	420	58	● – M ● ○	40
	21	RCA 42PA30RQ	plasma	300	57	● – U ● ○	42
	22	Insignia NS-42E470A13	LED 2	400	57	● – N ○ ○	42
	23	Sanyo DP42841	LCD	400	56	● – M ● ○	46, 42
	24	Philips 40PFL4907	LED 2	550	56	● – M ● ○ • •	40, 32, 26, 22
	25	Dynex DX-40L261A12	LCD	320	56	● – M ● ○	40
	26	Sceptre X405BV-FHD3	LCD	290	55	● – N ● ○	40
	27	TCL LE43FHD3300	LED 2	400	54	● – M ● ○	43, 39
	28	Toshiba 40L5200U	LED 2	600	53	● – M ○ ●	50, 46, 40

#### E 37- TO 39-INCH All have 1080p resolution.

	1	Magnavox 39MF412B	LCD	330	62	● – N ● ○	50, 39
	2	JVC JLC37BC3002	LCD	290	61	● – W ● ○	47, 42, 37, 32
	3	Westinghouse EW39T6MZ	LED 2	400	60	● – N ● ○	39
	4	LG 37CS560	LCD	400	59	● – W ● ○	42, 37, 32
	5	TCL LE39FHD3300	LED 2	380	55	● – N ● ○	43, 39
	6	Westinghouse CW39T8RW	LCD	300	55	● – N ● ○	39
	7	Sanyo FVM3982	LCD	330	52	● – N ● ○	39
	8	Westinghouse VR-3730	LCD	300	48	○ – M ● ○	37
	9	Haier LE39F2280	LED 2	400	45	○ – N ● ○	42, 39
	10	Coby TFTV3925	LCD	280	43	○ – N ● ●	39

#### F 32-INCH F1, F2, F5, and F21 have 1080p resolution; the rest are 720p.

✓	1	Samsung UN32ES6500	LED 2	700	73	● ● M ● ○ • • •	65, 60, 55, 50, 46, 40, 32
✓	2	Samsung UN32EH5000	LED 2	450	66	● – M ● ○	50, 46, 40, 37, 32
	3	Vizio E320i-A0	LED 2	300	64	● – N ● ○ • •	32
	4	Sony Bravia KDL-32EX340	LED 2	350	64	● – M ● ○	32
	5	LG 32CS560	LCD	330	63	● – W ● ○	42, 37, 32
	6	Philips 32PFL4907	LED 2	320	61	● – W ● ○ • •	40, 32, 26

1 U=unlimited, W=wide, M=moderate, N=narrow. 2 LCD TV with LED backlighting.

Ratings continued on page 26



## Tweak your TV picture

In our labs, we fine-tune each TV before evaluating the picture. Here's how to get the best picture quality yours can offer:

### Pick the picture mode

In your typical room lighting, freeze on an image with faces and detail. Press the menu button on the remote and find picture settings in the menu, then picture mode. Try the options. If there's a THX mode, that might be the best choice. If not, try Movie, Cinema, or Pro, which usually provide a natural-looking picture. Modes such as Natural or Standard might trade off color accuracy for brightness, so see how they look. Avoid Vivid or Dynamic modes, which are overly bright and harsh.

You can usually fine-tune attributes within a mode, though some TVs will let you do that only in Custom mode. Turn sharpness down to zero and inch up only if the image looks soft or edges are indistinct. Turn off noise reduction and enhancement, which can reduce detail. Turn off dynamic and power-saving controls (which can create brightness fluctuations) and motion smoothing (which creates a soap opera-like look).

### Tackle brightness and color

Next, get shadows right. Freeze on a dark scene. Raise the brightness control (black level) to expose shadow details. Now inch down the same brightness control to get the deepest black without losing detail in the darkest areas. Then freeze on an image with near-white shadows, such as a wedding dress. Set contrast (white level) to the max, then lower it until you can see subtle details, such as folds in the dress.

Now adjust colors. Find "color temperature" in the menu and select warm or low. Set tint/hue and color controls at the midpoint. Adjust tint so that flesh tones look natural and color level so that colors don't appear too hyped up.

**TIP** Don't worry about messing up—the Reset button in the onscreen menu lets you restore default settings and start over.



**FINE-TUNE IT** Use an image from a DVR or disc player to experiment.

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G3 Philips

than its cheaper sibling, including 3D and Internet-related features, and it did a bit better with sound and motion blur. **D5** can save you hundreds if you don't need those extras. **D10**, a 40-inch LCD that uses LEDs, has excellent HD quality. The Sony has streaming video services, Wi-Fi, and a full Web browser.

### BEST SMALLER TVs

**F1** Samsung \$700

**F2** Samsung \$450

**G1** Samsung \$280

**G2** LG \$260

**G3** Philips \$280

**G4** Toshiba \$250

**F1**, a pricier 32-inch LCD set, has LED backlighting and 1080p resolution. It's the only TV in this group with 3D, and it has streaming video, Wi-Fi, and a browser. **F2**, also a 32-inch 1080p set with LED backlighting, has fewer features but delivers excellent HD picture quality at a lower price. Among the 26-inch models, **G1** has excellent HD; the others were very good. **G2** is the only model in this group with a wide viewing angle for an LCD set, and **G3** is the only model other than **F1** with access to online content. The 24-inch **G4** is the only other set here with 1080p resolution, a plus if you also use it as a computer monitor. We don't recommend any of the tested 37- to 39-inch sets, but check out **E1**, **E2**, **E3**, and **E4** if you want that size.

## Guide to the Ratings

**Overall score** is based mostly on picture quality but also considers sound quality, ease of use, and viewing angle. 3D effect is factored in as well. Displayed scores are rounded; models are listed in order of precise overall score. **Picture quality**

score is based on clarity, detail, and color accuracy of high-definition 1080i signals routed via HDMI. **3D performance score** 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**

indicates how well the TV displays fast motion without blurring. **Sound quality** combines objective measurements and subjective listening by trained panelists. Under **Type**, we use the label LED <sup>2</sup> for LCD TVs with LED backlighting. Under **Features**,

we indicate which models offer streaming video from Internet services, Wi-Fi, and a Web browser.

**Other sizes** indicates additional sizes in same series as the tested model. **Price** is approximate retail.

# Ratings LCD and plasma TVs

● Excellent  
● Very good  
○ Good  
○ Fair  
● Poor

✓ CR Best Buy  
✓ Recommended

	Brand & model	Type	Price	Overall score	Test results	Features
Recommendation	Rank				Picture quality High-def. 3D performance Viewing angle <sup>1</sup> Motion blur Sound quality Streaming video Wi-Fi Full browser Available screen sizes (tested size in bold)	
				0 100 P   F   G   V   E		

### F 32-INCH continued

7	Insignia NS-32L120A13	LCD	\$200	61	● – N ● ●	32, 29
8	Magnavox 32ME402V	LED <sup>2</sup>	300	61	● – W ● ○	32, 26, 22, 19
9	Panasonic Viera TC-L32X5	LED <sup>2</sup>	350	60	● – W ● ●	32, 24
10	JVC JLC32BC3002	LCD	230	60	● – W ● ○	47, 42, 37, 32
11	Vizio E322AR	LCD	280	60	● – N ● ○ ● ●	42, 32
12	Sony Bravia KDL-32BX330	LCD	330	57	● – N ● ●	32
13	Panasonic Viera TC-L32C5	LCD	300	57	● – N ● ○	32
14	Toshiba 32C120U	LCD	250	56	● – N ● ●	32
15	RCA LED32B30RQ	LED <sup>2</sup>	240	54	● – W ● ●	32
16	Dynex DX-32L100A13	LCD	230	52	● – M ● ●	32
17	Sanyo DP32242	LED <sup>2</sup>	290	52	● – N ● ○	32
18	Sceptre X322BV-HD	LCD	200	52	○ – W ● ○	32
19	Sanyo DP32642	LCD	250	51	● – N ● ○	32
20	TCL L32HDP60	LCD	230	51	● – N ● ●	32
21	RCA 32LB45RQ	LCD	230	50	● – M ● ●	50, 46, 42, 40, 39, 37, 32, 22
22	TCL LE32HDE5300	LED <sup>2</sup>	240	49	○ – N ● ●	32
23	Westinghouse EW32S3PW	LED <sup>2</sup>	200	48	○ – W ● ●	32
24	Haier LE32F2220	LED <sup>2</sup>	300	46	○ – N ● ●	32
25	Coby LEDTV3226	LED <sup>2</sup>	270	43	○ – N ● ●	32

### G 26-INCH AND SMALLER G4 has 1080p resolution; the rest are 720p.

✓ 1	Samsung UN26EH4000	LED <sup>2</sup>	280	64	● – M ● ○	32, 26
✓ 2	LG 26L3500	LED <sup>2</sup>	260	63	● – W ● ○	32, 26, 22
✓ 3	Philips 26PFL4907	LED <sup>2</sup>	280	56	● – M ● ○ ● ●	40, 32, 26, 22
✓ 4	Toshiba 24L4200U	LED <sup>2</sup>	250	55	● – N ● ●	32, 24, 19
5	RCA 26LB30RQD	LCD	220	52	● – N ● ●	32, 26
6	Magnavox 26MF321B	LCD	230	43	○ – N ● ●	26

<sup>1</sup> U=unlimited, W=wide, M=moderate, N=narrow. <sup>2</sup> LCD TV with LED backlighting.

### COMPARING BRANDS

## Streaming video services

All the tested TVs that stream video from online services offer Netflix, but the availability of other services varies by brand and might influence your choice. Here are the major video services available on most models from the major TV brands. (In some cases, lower-priced models within a brand might have fewer services than higher-priced siblings.)

	Amazon	Blockbuster	CinemaNow	Hulu Plus	Netflix	Vudu
LG			•	•	•	•
Panasonic	•		•	•	•	•
Samsung		•	•	•	•	•
Sharp			•	•	•	•
Sony	•			•	•	
Vizio	•			•	•	•



## Easy hookups with HDMI

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, \$7 or so online for a 6-foot length, a bit more at retailers such as 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.

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 connect so that you don't have to unplug one to use another. You don't need as many inputs on the TV if you'll be using an A/V receiver to switch between devices.

**Basic setup.** If all you want to connect is the box from your TV service provider, plug the 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 both the video and audio.

**Adding a Blu-ray player.** You do essentially the same thing. If the inputs are numbered, note the number so that you can switch to that source to play a disc. Some TVs let you assign a name, such as "Blu-ray."

**Adding a streaming media box.** If your TV doesn't have Internet capability, you can add it via a streaming-media player, such as an Apple TV or a Roku box. Follow the same steps, connecting the box to another HDMI input on your TV. (Google TV connects between your cable box and TV.)

**Adding a sound bar.** The most common setup is to run audio from your cable box, Blu-ray player, or TV to the sound bar via digital (optical or coaxial) or analog (stereo) cables. You can use an HDMI cable with some sound bars that have multiple inputs and the ability to switch between components. In this scenario the audio of the program you're watching on the TV will be steered to the sound bar. Some TVs support ARC (audio return channel) via the HDMI cable, enabling the TV to send the TV's audio back to the sound bar on that cable instead of via the digital audio output. Even simpler: a wireless Bluetooth connection between the sound bar and the TV. Look for TVs with that feature this year.



**LESS CLUTTER** Most larger TVs have three or four HDMI inputs, so you can plug in several devices, each with only one cable.

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3. Class B mutual funds are as good as no-load mutual funds

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<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

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### Answers:

1. **GOOD ADVICE.** If keeping ahead of inflation without any significant risk appeals to you, consider a high-yield money market account for your cash reserves.
2. **BAD ADVICE.** New research shows that the old notion of retiring on 75% of your pre-retirement income does NOT apply to most people. A **BETTER PLAN:** Keep part of your portfolio invested in stocks, even after you retire, to generate additional income.
3. **BAD ADVICE.** Brokers will sometimes tell you – *misleadingly* – that B shares are just like no-load funds. But when you redeem B shares you are charged a fee that's *higher* than no-load funds. A **BETTER PLAN:** Avoid Class B shares.



**SERIOUS CONDITION** Jeffrey Starke, M.D., says he developed a life-threatening infection after a biopsy prompted by prostate-cancer screening.

# Save your life

Cancer screening is oversold. Know the tests to get—and those to skip.

**E**ARLY DETECTION saves lives. That's the assumption that drives aggressive cancer-screening campaigns. It's what persuades women to host "mammogram parties" where they gather friends for wine, cheese, massages, prizes, and breast-cancer screenings. It's what persuades men to offer up blood for prostate-cancer tests at hockey games or onboard a huge red bus parked at sporting-goods stores.

But the big red bus and other direct-to-consumer screening efforts raise big red flags, our experts say. For one, those campaigns may not be entirely altruistic. In exchange for snacks and door prizes, the radiology clinics and hospitals often behind the campaigns benefit from a new crop of paying customers. Zero, the non-profit group that offers free prostate-cancer screening at events around the country, counts among its partners doctors and businesses that can benefit financially from cancer testing and treatment.

But most important, the message that you have nothing to lose and everything to gain from being screened for cancer—that

is, to be tested for a cancer before you have any symptoms of it—simply isn't true.

"The medical and public-health community has systematically exaggerated the benefits of screening for years and downplayed the harms," says H. Gilbert Welch, M.D., a professor of medicine at the Dartmouth Institute for Health Policy and Clinical Practice in Lebanon, N.H.

In a recent article in the *New England Journal of Medicine*, Welch found that the number of early breast-cancer cases had shot up since mammography became common three decades ago but that advanced cancer cases hadn't declined much. Welch estimated that in 2008 more than 70,000 women 40 and older were found to have small, nonaggressive cancers that were treated even though they probably wouldn't be life-threatening.

Such treatment, including radiation or the surgical removal of all or part of the breast, can cause serious complications, such as bone loss and menopauselike symptoms. And even when it doesn't lead to treatment, screening can lead to unnecessary biopsies, which can cause anxiety

and pose a small risk of infection.

"When it comes to screening, most people see only the positives," says Otis Brawley, M.D., chief medical officer of the American Cancer Society. "They don't just underestimate the negatives, they don't even know they exist."

Of course, for some tests, the benefits clearly do outweigh the risks. "My family's experience illustrates how screening can make all the difference," says Tracy Doss, an educational assistant in Austin, Texas. Doss lost her father and a grandfa-

## Questions you should ask

**Before undergoing any cancer screening, ask your doctor:**

- If the test results are positive, will it save my life?
- Am I at higher risk for cancer than the average person, and if so, why?
- How often does the test give false alarms? How often does it provide falsely reassuring results?
- Are any other tests just as good?
- If the results are positive, what's next?



ther to colon cancer but probably won't develop the disease herself, because doctors found and removed precancerous growths using colonoscopy and she will continue to be screened.

But for many other cancer tests, the benefits and risks are more evenly balanced, with the final decision depending on a thorough conversation between patient and doctor. And with some tests, routine screening poses more risks than benefits, and needless expense.

"The marketing message that early detection saves lives is simple and compelling," says Laura Nikolaides, M.S., director of research and quality-care programs at the National Breast Cancer Coalition. "But the reality as we understand it today is much more nuanced. The problem is how to get that more complex message to the public when it's so different than what they've come to believe."

For this investigation, we pored over reams of research, consulted medical experts, surveyed more than 10,000 readers, and talked with patients. We found that too many people are getting tests they don't need or understand, and too few are getting those that could save their lives. Many patients, and even some doctors, can be confused by cancer screening. That's because:

#### **Cancer is different than once thought.**

Doctors used to view cancer as uniformly deadly, but researchers now understand that cancer cells can appear and then disappear on their own, or never spread. Most screening tests don't discriminate between the harmless and deadly kinds.

**Statistics can mislead.** "Doctors and patients don't understand numbers," says Jeffrey Starke, M.D., director of infection control at Texas Children's Hospital in Houston. "You can take the same set of data and either scare people or reassure them depending on how you represent the numbers." Starke knows firsthand about the potential harm of screening. He almost died of an infection following what he now views as an unwarranted biopsy triggered by prostate-cancer screening.

**Some tests just aren't very good.** For example, screening for pancreatic and ovarian cancers doesn't save lives in part because tests rarely find them at a curable stage.

**Bottom line.** Weighing the risks and benefits of cancer screening is best done in the context of a doctor-patient relationship, not at a party or a sporting event. "It's wrong to promote these tests for everybody," says Roger Chou, M.D., an as-

sociate professor of medicine at the Oregon Health and Science University in Portland. "Truth is, sometimes the choice to screen or not is a close call."

## **Cancer 2.0**

Cancer screening and treatment are at a crossroads. As tests become more sensitive, they find increasingly tinier cancers, and more of them. But many of those abnormal cells don't fit our conventional notion of how cancer behaves.

"The popular understanding of cancer—that if you have even a single cancer cell, it will multiply to the point that it eventually kills you—is fundamentally wrong,"

## **Too many people are told to get cancer tests they don't really need.**

says Virginia Moyer, M.D., a professor of pediatrics at the Baylor College of Medicine in Houston and chairwoman of the U.S. Preventive Services Task Force, an independent panel that provides evidence-based guidelines on health care. "What we've learned in the last decade or so is that cancer doesn't always act like that. Lots and lots of cells in our body turn cancerous and then disappear; others look like cancer but do absolutely nothing."

For example, in younger women, cancer-

like changes in the cervix are more likely to clear up on their own. That's one reason the task force no longer recommends Pap smears for women younger than 21.

In fact, no screening test is right for everyone. To reduce the number of false alarms, guidelines target those at increased risk for a disease. So, for example, screening CT scans for lung cancer have only been found to help people at the highest risk, those age 55 to 74 who were heavy smokers for many years. Screening those at lower risk wouldn't reduce mortality rates, research suggests, but would expose people to radiation, as well as follow-up tests and procedures to chase down false alarms.

Focusing on high-risk populations alone, however, doesn't solve the problem of tests that are pretty good at finding suspicious changes but don't tell much about whether they can actually hurt you, such as mammograms for breast cancer and prostate-specific-antigen (PSA) blood tests for prostate cancer. And that leaves many people in a quandary, trying to decide whether the risk of treatment is worth the slight chance of finding a deadly cancer.

"People are compelled toward screening and prevention as a means to secure their health," says Kimberly Lovett, M.D., of the Center for Patient Safety at the University of California at San Diego. "It's frustrating that we don't have the data to address these uncertainties."

Some people are even taking matters in their own hands, seeking tests through

## **Doctor knows best?**

When it comes to cancer screening, most people do what their doctor recommends. Unfortunately, health care providers don't always agree on which tests are necessary. In fact, research suggests that advice often varies among medical practices.

Although health care providers rarely publish information on the percentage of their patients who are screened for specific cancers, we were able to get that information from organizations in Massachusetts, Minnesota, and Wisconsin. Because of differences in the

data collected from each organization, we can't compare results. But the numbers illustrate the variation within states, as shown below for colon-cancer screening.

**Bottom line.** Don't assume that your doctor will bring up cancer screening or follow guidelines. So educate yourself using our Ratings as a starting point. If you live in one of the states shown below, you can see how practices compare on the organizations' websites: for Massachusetts, [mhqp.org](http://mhqp.org); Minnesota, [mnhealthscores.org](http://mnhealthscores.org); Wisconsin, [wchq.org](http://wchq.org).

### **Percentage of patients offered colon-cancer screening**

State	Number of medical groups*	Lowest group rate	Highest group rate
Massachusetts	150	47%	95%
Minnesota	130	15%	97%
Wisconsin	19	63%	81%

\*A medical group is one or more medical clinics that operate as a single business.

companies that advertise directly to consumers. They include blood tests for prostate cancer, stool tests for colon cancer, and even self-referrals for breast-cancer screening, including thermographic (heat) imaging, which the American Cancer Society says should never be used in place of mammography.

Bypassing your doctor is a mistake, Lovett says, because she has found that almost no screening test marketed directly to consumers is clearly supported by evidence-based guidelines. “The system is breaking under consumer demand for screening and preventive care,” she adds. “Truly, there is dissatisfaction among both patients and physicians.”

## Misleading numbers

Americans’ understanding of cancer screening is rooted in simplistic advertising campaigns from the 1950s and 1960s that focused almost exclusively on early detection, according to Brawley of the American Cancer Society. “Those messages were appropriate in their time, but the science has evolved and our ability to detect tumors earlier and earlier has progressed,” he says. “Unfortunately, the message hasn’t changed.”

Consider this message from a 2011 promotional campaign run by the breast-cancer nonprofit Susan G. Komen for the Cure: “Early detection saves lives. The 5-year survival rate for breast cancer when caught early is 98%. When it’s not? 23%.”

Those numbers deserve an Oscar for best use of misleading statistics, according to an August 2012 editorial in the *British Medical Journal*. “Just because you are diagnosed earlier doesn’t mean that you will ultimately live any longer,” says co-author Steven Woloshin, M.D., a director at the Center for Medicine and Media at the Dartmouth Institute.

He provides an example: Imagine that 100 women receive a diagnosis of breast cancer after feeling a lump at age 67 and die at age 70. Their five-year survival rate is

### ► CLOSE-UP

## What about self-exams?

Self-checks might be reassuring, but there’s no good evidence that a methodic examination of breasts, skin, or testes on a regular basis reduces cancer deaths. Still, if you notice something out of the ordinary—a lump, changes in an existing mole, or a new mole that looks different—bring it to your doctor’s attention.



**EXCESS X-RAYS** Susan Kesler had multiple mammograms for what proved to be benign changes.

0 percent. Now imagine that their cancer is detected at age 64 but they still die at age 70. Their five-year survival is now 100 percent, “even though,” Woloshin says, “no one lived a second longer.”

Survival statistics also tend to be inflated by overdiagnosis or by finding cancers that won’t become deadly. The more cases detected, even harmless ones, the more people are designated as survivors.

## Cancer screening remains stuck in a 1960s view of the disease.

That leads to what Welch calls the popularity paradox. “The more overdiagnosis, the more effective a test appears and the more popular it becomes,” he says. “It’s a vicious cycle.”

Komen still runs those confusing numbers on its website, and other messages that make screening seem more effective than it really is still abound. “This shows how numbers can trick you to believing that screening has a really big benefit even when it is small or even nonexistent,” Woloshin says.

If you find disease-related statistics confusing, don’t feel bad. Many doctors don’t get them, either. In one study, researchers presented 412 doctors with what appeared to be data from two tests. The first showed

a five-year survival rate that improved from 68 percent to 99 percent; the other, that the mortality rate dropped from two deaths per 1,000 people screened to 1.6 deaths. The doctors were three times more likely to recommend testing based on the first set of data than the second. But here’s the kicker: The data applied to the same test, PSA screening for prostate cancer. Many doctors didn’t understand that the five-year survival rate could make a test look better than it really was.

Experts we talked with said that there is a need for statistics to be presented more clearly. “We just need to be honest,” Chou says. “In the end, it’s about trusting people with the information and empowering them to make good decisions.”

## So what’s the harm?

For many people, the risks of screening—overtreating harmless cancers or undergoing additional tests and procedures only to discover a test was a false alarm—isn’t a big concern. After all, it’s better to be safe than sorry, right? If following up on those red-herring results was simple and risk-free, that would be true. But you don’t have to look far to find cautionary tales.

For example, even though most men with prostate cancer will never die of the disease, many are understandably uncomfortable living with it. Research has found that almost 90 percent of men with PSA-detected prostate cancer wind up treating it with hormone therapy, radiation, or surgery. But treatment can have



# Three tests to get—and eight to avoid

Screening tests for cervical, colon, and breast cancers are the most effective tests available, according to our first Ratings of cancer-screening tests. But most people shouldn't waste their time on screenings for bladder, lung, oral, ovarian, prostate, pancreatic, skin, and testicular cancers.






Note that our recommendations often differ with age. For example, colon-cancer screening gets our highest Rating for people age 50 to 75 but our lowest Rating for those 49 and younger, because the cancer is uncommon among younger people.

In addition, the Ratings are for people who are not at high risk; those who are at increased risk, as well as those who have signs

or symptoms of cancer, may need the test or should be tested sooner or more often.

Our Ratings are based mainly on reviews from the U.S. Preventive Services Task Force, an independent group supported by the Department of Health and Human Services. We also considered other factors: evidence that emerged after the task force's report; the number of people affected by the cancer; the cost of testing and treatment; and the benefits of a test beyond its ability to detect cancer.

## Do the benefits of the test outweigh the harms?

Very likely      Very unlikely

## Get these screenings

### Cervical cancer

#### RATINGS

● for women age 21 to 65

● for women of all other ages

**WHAT'S INVOLVED** A Pap smear (a microscopic analysis of cervical tissue samples) and a human papillomavirus (HPV) test, which looks for the virus that can cause the cancer.

**WHO NEEDS IT** Women age 21 to 30 should have a Pap smear every three years. Those 30 to 65 can go five years between Pap smears if they have had HPV testing. High-risk women may need to be screened more often. Women 65 and older don't need to be tested as long as they've had regular screenings when they were younger. Women under 21 don't need to be screened because the cancer is uncommon before then and the tests are not accurate for them.

**RISK FACTORS** A family history of the disease, a history of HPV infection, using birth-control pills for five or more years, having three or more children, and having weakened immunity because of HIV infection or other causes.

### Colon cancer

#### RATINGS

● for people age 50 to 75

○ for people 76 to 85

○ for people 86 and older

● for people 49 and younger

**WHAT'S INVOLVED** Colonoscopy (exam of the entire colon with a flexible scope) every 10 years, sigmoidoscopy (exam of the lower third of the colon) every five years plus a stool test every three years, or a stool test every year.

**WHO NEEDS IT** People age 50 to 75 should be regularly screened. Older people should talk with their doctor about the benefits and harms of the test based on their health and risk factors. Younger people should consider testing only if they are at high risk, because the cancer is uncommon before age 50.

**RISK FACTORS** A family history of the disease or a personal history of precancerous polyps, inflammatory bowel disease, obesity, smoking, type 2 diabetes, excessive alcohol consumption, and a diet high in red or processed meats.

### Breast cancer

#### RATINGS

● for women age 50 to 74

○ for women 40 to 49

○ for women 75 and older

● for women 39 and younger

**WHAT'S INVOLVED** Mammogram (an X-ray of the breast).

**WHO NEEDS IT** Women age 50 to 75 should have mammograms every two years. Women in their 40s or those 75 and older should talk with their

doctor to see whether the benefits outweigh the harm based on their risk factors. Women younger than 40 should consider testing only if they are at high risk, because the cancer is uncommon at that age.

**RISK FACTORS** A personal or family history of the cancer, a personal history of benign breast conditions such as atypical hyperplasia, dense breasts, menstrual periods before age 12 or after age 55, not having a child before age 30, postmenopausal hormone-replacement therapy, obesity, excessive alcohol consumption, smoking, or genetic susceptibility.

## Avoid these screenings

### Bladder cancer

#### RATING

○ for adults of all ages

**WHAT'S INVOLVED** A test to check for blood or cancer cells in urine.

**WHO NEEDS IT** Most people don't need to be screened unless they are at high risk, because it has not proved to be effective, and most cancers found without screening are curable.

**RISK FACTORS** Smoking, a family history of the disease, and exposure to workplace chemicals.

### Lung cancer

#### RATING

○ for adults of all ages

**WHAT'S INVOLVED** A low-dose CT scan.

**WHO NEEDS IT** Most don't need the test unless they are at the highest risk, because the cancer is uncommon in nonsmokers and the test is not very accurate.

**RISK FACTORS** Smoking, a family history of the disease, and long-term exposure to radon, asbestos, or arsenic.

### Skin cancer

#### RATING

○ for adults of all ages

**WHAT'S INVOLVED** A visual exam of your skin by a physician looking especially for signs of melanoma, the deadliest form of skin cancer.

**WHO NEEDS IT** Most adults don't need the exam unless they are at high risk, because the effectiveness of screening has not been proved. But see a doctor if you notice suspicious changes in the color, size, shape, or number of moles.

**RISK FACTORS** A family history of melanoma, a personal history of frequent sunburns, a large or increasing number of precancerous moles, and being fair-skinned or heavily freckled.

### Oral cancer

#### RATING

○ for adults of all ages

**WHAT'S INVOLVED** A visual exam of the mouth by a dentist or other health-care provider.

**WHO NEEDS IT** Most people don't need the test unless they are at high risk, because the cancer is relatively uncommon.

**RISK FACTORS** Smoking, chewing tobacco, excessive alcohol consumption, HPV infection, and weakened immunity from medication, disease, or certain other causes.

### Prostate cancer

#### RATINGS

○ for men age 50 to 74

● for men of all other ages

**WHAT'S INVOLVED** Prostate-specific antigen (PSA) blood test.

**WHO NEEDS IT** Men age 50 to 74 should talk with a doctor to see whether the benefits of the test outweigh the harm for them based on their risk factors. Older men rarely need the test because the cancer typically progresses so slowly that treatment does not improve survival. Younger men should consider testing only if they are at high risk, because the cancer is uncommon before age 50.

**RISK FACTORS** A family history of the disease, being African-American, and smoking.

### Ovarian cancer

#### RATING

● for women of all ages

**WHAT'S INVOLVED** A transvaginal ultrasound or the CA-125 blood test, which measures a protein possibly associated with ovarian cancer.

**WHO NEEDS IT** Women don't need to be tested unless they are at high risk, because neither test is likely to detect the disease at a curable stage.

**RISK FACTORS** A family history of ovarian, breast, or colon cancers, and possibly use of estrogen after menopause for more than five years.

### Pancreatic cancer

#### RATING

● for adults of all ages

**WHAT'S INVOLVED** Genetic tests or imaging tests of the abdomen.

**WHO NEEDS IT** People don't need to be tested unless they are at high risk, because no test is likely to detect the disease at a curable stage.

**RISK FACTORS** A family history of the disease, smoking, obesity, and possibly type 2 diabetes.

### Testicular cancer

#### RATING

● for men of all ages

**WHAT'S INVOLVED** A physical exam of a man's testicles by a health-care professional.

**WHO NEEDS IT** Men don't need to be tested unless they are at high risk, because most cancers found without screening are curable.

**RISK FACTORS** A family history, an undescended testicle, or HIV infection.

## Colon-cancer screening: Just do it

Of the estimated 52,000 people who died of colorectal cancer last year, screening could have saved more than half, according to the American Cancer Society. Yet around 40 percent of people 50 and older don't get recommended screening tests.

Not surprising, our readers, who tend to be a health-savvy bunch, do better than that, according to a survey of more than 10,000 subscribers 50 and older conducted by the Consumer Reports National Research Center.

Eighty percent of them had been screened for colon cancer in the last five years. But our survey also found worrisome gaps in their knowledge of the tests used.

For example, less than half of them were told what the test was looking for, about a third weren't told of potential complications, and a quarter weren't told what would happen if the tests had abnormal results. Only 10 percent of people who had colonoscopy or sigmoidoscopy, invasive forms of testing that

use a scope to inspect the colon, were told there was a simpler option. And only 55 percent were told of the main risk of the procedures, a perforated colon.

Last, some patients got tests that are not proved effective, including fecal DNA tests and CT colonography (also called virtual colonoscopy). That's unfortunate, because there are a number of good colon-cancer tests to choose from. The chart below shows the pros and cons of each.

Test	How it works	Cost*	Advantages	Disadvantages
<b>Colonoscopy</b> Every 10 years; starting at age 50. Sooner or more often for some high-risk people or if results are abnormal.	Long, flexible scope is passed through the rectum and entire colon to look for polyps and tumors.	\$1,120	Allows immediate removal of polyps and biopsies; shows entire colon; needs to be done just once a decade for most.	Risk of bowel infection, perforated bowel, and other complications; requires full-day preparation with laxatives and dietary restrictions; sedation required; full-day recovery likely.
<b>Flexible sigmoidoscopy</b> Every five years, with stool test (below) every three years.	Short, flexible scope is inserted into the lower colon to look for polyps and tumors.	\$740	No sedation required; can return to work same day; simpler bowel preparation than for colonoscopy; fewer complications than for colonoscopy.	Colonoscopy required if positive; shows only the lower third of the colon, so not as thorough as colonoscopy.
<b>Stool testing</b> (immunochemical or guaiac-based) Every year.	Detects traces of blood in stool from tumors and polyps that tend to bleed.	\$5 to \$25	Noninvasive; lowest risk of complications; samples are taken at home.	Colonoscopy required if positive; can't detect most polyps; requires yearly testing; some people might find the test unpleasant.

\*Costs vary widely depending on location and practice and are estimated based mainly on data from [healthcarebluebook.com](http://healthcarebluebook.com).



**SUCCESS STORY** For Tracy Doss, colon-cancer screening allowed doctors to detect and remove precancerous growths.

devastating repercussions, including incontinence and impotence.

At age 62, John James of Houston had his prostate removed after a PSA test and follow-up biopsy found cancer. "My initial reaction was joy that I was cancer-free," he says, "but I do believe that the side effects of surgery were vastly underrepresented.

"There's no point in brooding, and in the end, I am still happy to not have cancer, but did it save my life? Truth is, I'll never know."

Jeffrey Starke's experience is less typical but underscores the idea that testing itself poses risks. Even though he described his PSA numbers as "on the low side," Starke

didn't question his doctor's recommendation to do a biopsy, then a follow-up about three years later when his reading inched up. "Once you decide to go down the road of testing, you follow it where it takes you," he says. After the second biopsy he developed sepsis, a systemic infection that almost killed him.

The experience has left a mark. "I'm of an age when I should be going in for a colonoscopy, but I'm finding that I'm resistant to it," he admits. "I'm a physician. I'm supposed to be rational, but that kind of experience has a long-lasting emotional effect."

Though the numbers for mammography look better than those for PSA testing, the benefits for women in their 40s aren't as significant as they are for older women. As a result, even experts disagree. For example, the American Cancer Society says that women should be screened every year starting at age 40. But the U.S. Preventive Services Task Force says they should generally wait until age 50 and then be screened every two years. European guidelines agree, as does the World Health Organization, though it

## Risks and benefits of two tests

The data below show that the risks of prostate-cancer screening probably outweigh the benefits and that the benefits of breast-cancer screening are smaller than many women may suspect.

### ► Prostate cancer

**Screening 1,000 men every one to four years from age 55 to 69 results in:**

- 0 to 1 prostate-cancer deaths prevented
- 3 serious complications caused by treating the cancer, including death, heart attacks, and blood clots in the legs or lungs
- 40 men becoming impotent or incontinent from treatment complications

Source: U.S. Preventive Services Task Force, *Annals of Internal Medicine*, July 17, 2012.

### ► Breast cancer

**Screening 1,000 women every two years from age 50 to 69 results in:**

- 5 breast-cancer deaths prevented
- 780 false-positive results
- 55 unneeded biopsies
- An unknown number of complications from breast-cancer treatment, including infection, nausea, and exposure to radiation, which may itself cause cancer. Starting screening at age 40 instead of 50 will prevent one additional death but cause an additional 470 false positives and an additional 33 unneeded biopsies.

Source: "Effects of Mammography Screening Under Different Screening Schedules," *Annals of Internal Medicine*, Nov. 17, 2009.



recommends screening every year or two.

“Something we all agree on is that mammography saves lives,” Brawley says. “But women need to know the limitations up front. They need to know the risks of false positives and overdiagnosis.” And, he adds, presented with that information, “some women will choose to say no.”

Susan Kesler, 47, a teacher in Fredericksburg, Va., knows the downside of screening. After undergoing mammography for a few years, she switched to a clinic that recommended more aggressive follow-up for breast calcifications, abnormalities that are typically worrisome only when they form suspicious clusters. Kesler was called back for mammograms every six months and eventually a biopsy. But what should have been a simple procedure to obtain a tissue sample turned into a 4-hour ordeal in which she was strapped to a table, subjected to multiple punctures, and X-rayed so many times she lost count. The tests found no cancer. “I am normally very tough, but the experience left me totally shaken,” Kesler says. “And I still can’t get anyone to tell me how much radiation I was exposed to.”

## What’s being done

Getting patients and doctors to change their approach to cancer screening is hard. But a number of organizations are working on the problem.

For example, in an initiative called Choosing Wisely, Consumer Reports is working with more than two dozen medical organizations to identify overused interventions, including screening tests such as Pap smears for women younger than 21. Other organizations, such as the Informed Medical Decisions Foundation, have developed brochures and videos in plain language to help patients navigate complex medical choices. And the U.S. Preventive Services Task Force and other groups are working to provide more nuanced, accurate information on cancer-screening tests.

“Cancer turns out to be a much more complicated and unpredictable disease than we used to think,” says Virginia Moyer of the task force. “And the tests we have available to us don’t work as well as we’d hoped, and can even cause harm.”

“Scientific evidence shows that some cancer-screening tests work, and people should focus on those tests rather than on screening tests that are only supported by theories and wishful thinking.”

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**SHARED STORY** Neighbors Suzy Feeney and Robert Webster own KitchenAid microwave ovens that needed repair after they turned on by themselves.

# Microwave mystery

When do wayward ovens warrant a recall?

**T**HE ANTILLES, a gated community in Vero Beach, Fla., with about 90 luxury homes, is built in an Anglo-Caribbean style meant to combine colonial grandeur with a casual, island-inspired grace. The single-family residences' many upscale features include European-style cabinets, oil-rubbed bronze hardware, and higher-end kitchen appliances.

Robert Webster is among the residents of Antilles who say they're lucky to live there, but for one of those appliances—an over-the-range microwave from KitchenAid that turned on in the middle of the night in October 2009 and became very hot, according to a report he filed with the Consumer Product Safety Commission.

Webster's report is among the thousands of pages of documents that CONSUMER REPORTS obtained through Freedom of Information Act requests filed as part of an ongoing investigation into appliance fires. We filed FOIA requests for CPSC documents about microwaves from KitchenAid and General Electric in part because they had among the most fire-related microwave complaints on SaferProducts.gov, a CPSC website where consumers can report problems. And an ongoing class-action suit against GE over self-starting microwaves added to the concern.

The CPSC provided us with 70 reports

about KitchenAid microwave ovens, and 41 of them detailed incidents in which the ovens apparently started by themselves or caught fire while not in use. Most of the cases occurred in 2009 and 2010; a few go back to 2002. Many of the other reports described glass doors shattering spontaneously.

Webster's case was not the only one from The Antilles, where the first phase of construction was completed in 2007. A second report describes a 2008 microwave explo-

## Experts call for more disclosure in ongoing safety investigations.

sion and fire at the home of Patrick McCaffery, who lived a few doors down from Webster. And that's not all. Through interviews with half a dozen other Antilles residents, we received similar accounts of microwaves starting up unexpectedly. They involved the same microwave model, the KitchenAid KHMS155LSS, installed throughout the community, as did many cases reported elsewhere. The incidents led to the inside of oven cavities becoming hot, smoking, or electronics and other components melting, according to the files.

Neighbor Suzy Feeney, like Webster, had to pay about \$150 to get a new control panel for her microwave; she says it turned itself on three times in one day.

Larry Latack, director of global product safety for Whirlpool, which owns KitchenAid, says the company is very careful about safety issues and that it has analyzed cases of supposed self-starting but has never been able to verify one.

Though the number of cases is relatively small given the millions of microwaves in use, the consequences can be big if a fire results. A recent CPSC report identified cooking equipment as the leading cause of home fires, an estimated 147,000 a year.

In our March 2012 report on appliance fires, we found that 23 percent were clearly attributable to some problem with the appliance itself, such as mechanical, electrical or design defects, and that the percentage could be much higher.

The FOIA files, along with interviews with consumers, government officials, and industry experts, provide a window onto some of the challenges in the world of appliance safety, especially as electronics play a greater role. They show how the CPSC is restricted from sharing more information about safety investigations, and they raise questions about why some products are recalled but not others and whether manufacturers respond appropriately.



## Deciding what to investigate

Since 1972 the CPSC has been responsible for protecting the public from unreasonable risks of injury and death associated with consumer products. Its current staff of about 520, including some 120 investigators and compliance officers, has jurisdiction over about 15,000 products, everything from toys to tools to toaster ovens. The agency launches almost 4,000 in-depth investigations each year and announces 450 to 500 that result in voluntary recalls in conjunction with manufacturers and retailers.

So what does it take to start a recall? It's not always clear. A recent study by the federal Government Accountability Office says the CPSC "has broad authority to identify, assess, and address product risks, but faces some challenges in identifying and responding to new risks in a timely manner."

Some safety experts would like to see more openness so that it's better known what's under investigation. "If you look at some of the fights that are picked by the CPSC, it's not clear what the methodology is behind its decision making," says Sean Kane, president of Safety Research and Strategies, a safety consultancy firm in Rehoboth, Mass.

CPSC spokesman Scott Wolfson says there is a clear threshold: "In determining whether to open an investigation, CPSC staff assess whether the agency has taken action on a similar product, whether there are similar incident reports in our files, the severity of risk, jurisdiction, severity of injuries reported, available resources, and other factors."

Besides the reports uncovered by our FOIA request, complaints continue to be filed on SaferProducts.gov, including one from June 2012 claiming multiple self-starts for KitchenAid KHMS155LSS microwave ovens in a 137-unit condo building in Seattle. "We saw red and yellow arcs jumping wildly inside the microwave," one complainant wrote, saying she and her husband had been jolted awake by a booming sound that stopped when they turned off the appliance. Rod K. Pray, vice president of the Queen Anne High School condominium board, says at least 10 homeowners have reported problems with self-starting microwaves.

The GE documents offer cause for concern, too. Of the more than 400 incident reports we reviewed, 82 involved self-starting or spontaneous ignition of micro-



**AFTERMATH** Patrick McCaffery says his microwave caused a fire in his kitchen.

wave ovens. Model numbers varied, but 30 complaints listed the Spacemaker line of over-the-range microwave units. Other complaints included shattering glass doors and units that continued to run after the door was opened.

There were at least six reports of serious fire, including a 2008 home blaze in Hudson, Ohio, blamed on a GE Spacemaker microwave and causing \$60,000 of property damage. According to the insurance company's official laboratory examination from that case, the fire was caused by an electrical failure or malfunction of the microwave's control panel. But the problem is not confined to those two brands. Several other manufacturers' microwaves

received consumer complaints on SaferProducts.gov for fire-related incidents.

Stuart M. Statler, a former commissioner and acting chairman of the CPSC who now works as a product-safety and risk-management consultant in Mooresville, N.C., says: "There's enough smoke, literally and figuratively, that a full-scale investigation should have commenced. Some of the instances clearly indicate a needless and preventable risk of fire. From a vulnerability aspect, if the fire were to happen during the night, an entire family could be consumed."

According to Wolfson, the agency does in fact have "an open investigation into the safety of kitchen appliances, including microwaves." But when pressed for specifics, such as which brands are involved, he said the agency is prohibited by law from commenting.

That gets to another wrinkle in the investigation of faulty products: the limits of disclosure imposed on the agency by Section 6(b) of the Consumer Product Safety Act. That provision requires the CPSC to consult with manufacturers and distributors before going public with specific product dangers. "With Section 6(b), companies have an unbelievable amount of protection, and they cling to that," says

## How to protect yourself

If you're concerned about the safety of an appliance, you need to have it repaired or replaced. Start by calling the manufacturer. Be explicit about the safety nature of your problem—and persistent, too.

In her 2012 study "Access to Consumer Remedies in the Squeaky Wheel System," University of Colorado Law School associate professor Amy Schmitz found that consumers are often quick to give up when their initial complaints are ignored. What's more, "companies also may hinder consumers' pursuit of claims by making it very unpleasant or stressful for consumers to seek redress," Schmitz wrote.

### Steps you can take

- If your microwave starts by itself, try to turn it off by hitting the off/cancel button or opening the door if there is no fire inside. But if it continues running, close it quickly to avoid microwaves.
- Know where the unit is plugged in and which circuit breaker turns off the microwave in case it turns on again.

- Be on the lookout for unusual error messages on digital display panels. In our FOIA document review, several consumers say their panel started flashing the code "PAN" or "F2" as the self-starting began.

- Never use the microwave to store items, such as food or cooking utensils, since they can increase the risk of fire if the unit starts up.
- Keep a multipurpose fire extinguisher accessible and know how to use it.
- Register your appliance with the manufacturer so that you can be informed of any service issues or recalls.
- Report any malfunctions to the Consumer Product Safety Commission at [saferproducts.gov](http://saferproducts.gov) or by going to [cpsc.gov](http://cpsc.gov) or calling 800-638-2772.



Rachel Weintraub, legislative director and senior counsel for the Consumer Federation of America, an association of nonprofit consumer groups. Section 6(b) can also slow down the recall process by enabling a lengthy back-and-forth between the CPSC and manufacturers.

The issue of Section 6(b) came up at a safety summit in September 2012, where the CPSC indicated that it might take steps to announce product investigations more quickly. That would be more in line with the protocol used by the National Highway Traffic Safety Administration, which can enlist help from consumers and safety advocates after making investigations public.

But companies protested. In a letter to CPSC Chairman Inez Tenenbaum, industry leaders wrote, "An announcement of an investigation has the potential to depress or even to halt sales and affect the relationship between the company and its distributors. For small companies with limited product lines, it could place the company's very survival in jeopardy."

### What manufacturers say

Carol Pollack-Nelson, Ph.D., a safety consultant in Rockville, Md., says she encourages manufacturers to open up. "I tell them, 'Your customers are your constituents. You should want to do the right thing,'" she says. "A manufacturer should never rely on the CPSC to get them to take action."

Whirlpool insists that this attitude pervades its safety program. "We tend to be very conservative and overreport to the CPSC," says Latack, the company's

product-safety director. "For every one time we do a recall, we'll probably have 10 reports into the CPSC."

Latack says appliances must pass forced-failure testing designed to cover worst-case scenarios. For microwaves, that means forcing food and paper placed in the unit to catch fire to check that the flames can't escape the oven cavity.

Once an appliance goes to market, an early monitoring process is supposed to nip problems in the bud. "The best data we have is direct contact from consumers to call centers," Latack says. Customer service representatives are given a list of words that when used by a customer should result in the call being transferred to a special safety team.

## New technology could help reduce appliance fires.

"Self-start" is one of the trigger words, and it has led to units being retrieved and analyzed. Though Latack acknowledges that a self-starting microwave "is conceivable from a technical perspective," he says that "through years of formal risk assessment we have not been able to verify a single self-start."

But several KitchenAid microwave owners we interviewed said they were told by a customer service representative that the company had never heard of a problem.

Latack responds, "I'd be upset if one of our call persons heard 'self-start' and

didn't transfer the call to our safety team, but we have hundreds of people who work in our call centers, so I'd be naive to say it never happens."

Underwriters Laboratories, which tests and certifies appliances and many other products, says it is aware of microwave self-starting incidents and is investigating possible causes. "It could be something as simple as a cell phone turning on a microwave," says UL safety director John Drengenberg. "It could also be a manufacturing error in the control panel, noise coming in on the electrical line, or debris on a component that's creating a bridge for an unwanted signal." Based on the findings, UL will consider new safety requirements.

Whirlpool has taken some steps, too, while not linking it to the problem. Its engineers have developed door-monitoring software that prevents a microwave from turning on if the door has not been opened in the past 5 minutes.

GE spokeswoman Kim Freeman says the company has a rigorous safety program and meets UL standards for microwaves. She also says, "GE has investigated unverified reports of 'self-start' and found them to constitute product quality, not product safety, concerns. Many have been determined not to be 'self-starts' at all."

### Making appliances safer

Since our March report, the CPSC has published a study promoting the use of heat-limiting technologies in appliances; an industry group is developing standards.

Consumers Union, the advocacy arm of Consumer Reports, supports greater disclosure in the investigation of product-safety problems. It has also joined with other consumer groups in legal action to help protect the consumer complaint database, SaferProducts.gov. The action seeks to make public the details of a federal lawsuit brought by an unnamed company that had a consumer complaint removed from SaferProducts.gov. Consumers Union believes that the consumer safety database is an essential tool for helping to spot emerging safety problems and that actions to keep complaints secret hinders that role.

"When people have the kind of experience we did, they need to let others know," says Robert Webster at The Antilles community. "I'm dumbfounded that this microwave hasn't been recalled yet. The least I can do is tell my friends, neighbors, and anyone else who will listen about it."



**COMMON CAUSE** Several Antilles residents had problems with their microwave ovens.



# The Hot List

A monthly guide to the top products our testers recommend

These pages feature the top recommended models in many categories, updated every month. (We'll typically feature 10 products per category; not as many if fewer models are recommended.) So no matter when you're buying appliances or electronics, you'll find good choices in every issue.

## SLR cameras

MODEL	SCORE
Canon EOS 60D, \$1,050	74
Olympus E-5, \$1,700	73
Nikon D7000, \$1,200	72
Canon EOS Rebel T3i, \$650	72
Canon EOS 7D Digital, \$1,800	72
Sony DSLR-A580L, \$880	71
Canon EOS Rebel T4i, \$750	71
Canon EOS Rebel T3, \$550	70
Canon EOS Rebel T2i, \$650	70
Nikon D3200, \$600	68
Nikon D3100, \$480	68



Canon EOS 60D



Honda  
EM6500SX

## Generators

MODEL	SCORE
<b>PORTABLE</b>	
Troy-Bilt XP 7000 30477, \$900	72
Honda EM6500SX, \$2,800	70
Generac GP5500 5939, \$670	67
Troy-Bilt 6000 30475, \$700	65
<b>STATIONARY</b>	
Kohler 8.5 RES-QS7, \$3,200	92
Generac CorePower 5837, \$1,800	77

## E-book readers

MODEL	SCORE
<b>6- TO 7-INCH</b>	
Barnes & Noble Nook Simple Touch with GlowLight, \$120	83
Barnes & Noble Nook Simple Touch, \$100	82
Amazon Kindle Paperwhite 3G with Special Offers, \$180	82
Amazon Kindle Paperwhite 3G without Special Offers, \$200	82
Amazon Kindle Paperwhite with Special Offers, \$120	81
Amazon Kindle Paperwhite without Special Offers, \$140	81
Amazon Kindle Keyboard 3G with Special Offers, \$140	79
Amazon Kindle Keyboard 3G without Special Offers, \$160	79
Barnes & Noble Nook Color, \$150	77
Kobo eReader Touch Edition, \$100	75

## Smart phones



LG Optimus G



Motorola Droid  
Razr Maxx HD

MODEL	SCORE
<b>AT&amp;T</b>	
LG Optimus G (Android, 32GB), \$200	79
Samsung Galaxy S III (Android, 16GB), \$200	78
Apple iPhone 5 (16GB), \$200 (and similar 32GB, \$300, and 64GB, \$400)	77
<b>SPRINT</b>	
LG Optimus G (Android, 32GB), \$200	77
Samsung Galaxy S III (Android, 16GB), \$200 (and similar 32GB, \$250)	76
Apple iPhone 5 (16GB), \$200 (and similar 32GB, \$300, and 64GB, \$400)	75
<b>T-MOBILE</b>	
Samsung Galaxy S III (Android, 16GB), \$280 (and similar 32GB, \$330)	78
HTC One S (Android, 16GB), \$150	77
Samsung Galaxy Note II (Android, 16GB), \$370	76
<b>VERIZON</b>	
Motorola Droid Razr Maxx HD (Android, 32GB), \$300	79
Motorola Droid Razr Maxx (Android, 16GB), \$200	78
Motorola Droid Razr HD (Android, 16GB), \$200	76

Prices include a two-year contract and rebates.

# Ranges

MODEL	SCORE
<b>30-INCH ELECTRIC SMOOTHTOPS</b>	
Kenmore 92163, \$1,480 (and similar Kenmore 97103, \$1,650)	<b>87</b>
GE JB705STSS, \$1,000	<b>86</b>
LG LRE3023S, \$1,000	<b>86</b>
GE PS978STSS, \$2,500	<b>86</b>
GE Café CS980SN[SS], \$2,800	<b>86</b>
LG LRE3025S, \$1,250	<b>86</b>
GE PB920STSS, \$1,500	<b>85</b>
Electrolux EI30EF35JS, \$1,500	<b>85</b>
Kenmore 92803, \$950	<b>84</b>



GE JB705STSS



LG LRE3023S



HP Photosmart 7520

## Printers

MODEL	SCORE
<b>ALL-IN-ONE INKJETS</b>	
HP Photosmart 7520, \$180	<b>78</b>
Canon Pixma MG8220, \$250	<b>72</b>
HP Photosmart 6520, \$120	<b>72</b>
Lexmark OfficeEdge Pro 4000, \$250	<b>72</b>
Canon Pixma MG3220, \$90	<b>72</b>
Lexmark Pro 915, \$190	<b>72</b>
HP Deskjet 3520, \$90	<b>71</b>
Brother DCP-J140W, \$100	<b>71</b>
HP Officejet Pro 8600 Plus, \$230	<b>71</b>
Brother MFC-J825DW, \$150	<b>70</b>



Canon Pixma MG8220

## Tablets

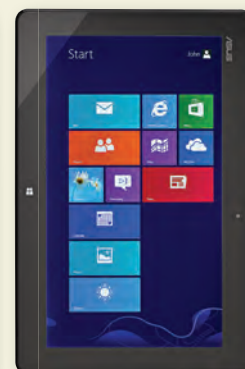
MODEL	SCORE
<b>9- TO 10-INCH WI-FI ONLY</b>	
Google Nexus 10 (16GB), \$400 (and similar 32GB, \$500)	<b>84</b>
Apple iPad (16GB, 4th gen.), \$500 (and similar 32GB, \$600, and 64GB, \$700)	<b>83</b>
Asus VivoTab RT TF600T (32GB), \$550 (and similar 64GB, \$600)	<b>83</b>
Samsung Galaxy Note 10.1 (16GB), \$550 (and similar 32GB, \$600)	<b>81</b>
Windows Surface with Windows RT (32GB), \$500 (and similar 64GB, \$600)	<b>81</b>
Samsung Galaxy Tab 2 10.1 (16GB), \$400	<b>81</b>
Asus EeePad Transformer Prime TF201 (32GB), \$500 (and similar 64GB, \$600)	<b>80</b>
Sony Xperia Tablet S (16GB), \$400 (and similar 32GB, \$500)	<b>79</b>
<b>9- TO 10-INCH 3G/4G PLUS WI-FI</b>	
Apple iPad (16GB, 4G, 4th gen.), \$630 (and similar 32GB, \$730, and 64GB, \$830)	<b>85</b>
Apple iPad 2 (16GB, 3G), \$530 (and similar 32GB, \$630, and 64GB, \$730)	<b>80</b>
Samsung Galaxy Tab 10.1 (16GB, 4G), \$530 (and similar 32GB, \$800)	<b>78</b>
Motorola Droid Xyboard 10.1 (16GB, 4G), \$530 (and similar 32GB, \$800, and 64GB, \$900)	<b>78</b>
Asus Transformer Pad TF300TL (32GB, 4G), \$500	<b>75</b>



Google Nexus 10



Apple iPad



Asus VivoTab RT TF600T



## Reports

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# Lab tests

Ratings, reviews, recommendations

## Music and more to go

### Media players

They let you carry music in your pocket, take still pictures and video, and download apps without monthly fees for cell service.

#### Apple iPod Touch (fifth generation)

32GB \$300 64GB \$400

This model, at far right, looks like an iPhone 5 twin; it has the same 4-inch Retina display, a dual-core A5 chip, and iOS 6. It also gets iPhone's Siri voice command, complete with new capabilities to control apps, including allowing posts via voice to Facebook and Twitter.

The Touch, which has Wi-Fi capability, is less than a quarter-inch thick and weighs 3.1 ounces. It also has a 5-megapixel camera with autofocus, support for 1080p video recording with video-image stabilization, face detection, and an LED flash.

It has 56-hour playback time for music and very good still-picture and video quality. It uses Apple's Lightning connection.

**Bottom line.** The Touch has a stunning display and very capable cameras but is one of the priciest players on the market.

#### Samsung Galaxy Player 4.2 (YP-G11C/NA)

8GB \$200

Closely resembling Samsung's Galaxy smart phones in appearance, this player has a 4.2-inch LCD touch screen, albeit one that lacks the resolution of the company's best phones. It also has a 2-megapixel rear camera and a front camera for self-portraits and video chats. The Galaxy is slightly bigger than the Touch, at 4.2 ounces.

You can expand the player's capacity by up to 32GB via a microSD card, which costs about \$20. That gives you a 40GB player for around \$80 less than you'd pay for a 32GB iPod Touch, which can't be expanded. This model has very good still-picture and excellent video quality.

As with the iPod Touch, the Galaxy Player's Wi-Fi connection gives you access to your calendars, e-mail, and social-network accounts; GPS navigation; ThinkFree Office; and apps and other content from the Android Market.

**Bottom line.** The Galaxy Player is a fine value for people who prefer an Android device.

#### Sony Walkman (NWZ-E475)

16GB \$110

This Walkman doesn't have a touch screen, but its controls are simple and intuitive. Audio playback is an impressive 49 hours, and video playback is a very good 8.5 hours.

The Walkman's Play/Pause button is centered within the directional rocker pad, which is flanked by a Back button on the left and an Options button on its right. You also get an FM tuner. The unit is lightweight, at 1.7 ounces.

**Bottom line.** The Walkman is easy to use, but video and pictures don't look very impressive on its 2-inch low-resolution screen.

### Music players

These less-expensive players are primarily for music listening. They have smaller screens than full-fledged players and they lack apps.

#### Apple iPod Nano (seventh generation)

16GB \$150

Apple's midsized player, at left above, returns to the rectangular shape of the fifth-generation Nano. The screen has been enlarged to a 2.5-inch multitouch display. It weighs 1.1 ounces and uses the smaller Lightning connector. It offers a solid 37 hours of music playback time, a very fast startup time, and very good video quality.

**Bottom line.** One of the slimmest iPods ever, the Nano is easy to use.

#### Philips GoGear Raga (SA4RGA04KF/37)

4GB \$40

This diminutive player measures 2x1.7x0.5 inches and weighs less than an ounce. It has more storage than the Apple Shuffle's 2GB. Its display is 0.5x0.9 inches. It has an FM radio, an equalizer, and a volume limiter to protect hearing. The player's controls are simple but a tad slow. The GoGear Raga comes with an adjustable elastic fabric armband.

**Bottom line.** When used with better headphones its sound quality can be very good, but the controls are sluggish.



## Appliance reliability

## More than 90,000 readers sound off

Considering a new range, cooktop, or wall oven? Our latest Annual Product Reliability Survey has reshuffled the deck when it comes to brands that have held up over time.

The graphs are based on more than 90,000 subscribers' experiences and show the

percentage of models for each brand that were repaired or had a serious problem. Differences of fewer than 3 points (5 points for cooktops) aren't meaningful, and we've ruled out differences linked solely to a product's age. Here's how the brands stack up:



GE Profile



Kenmore



Whirlpool

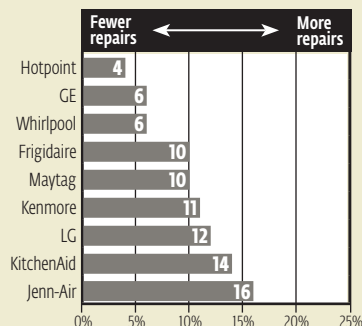


KitchenAid

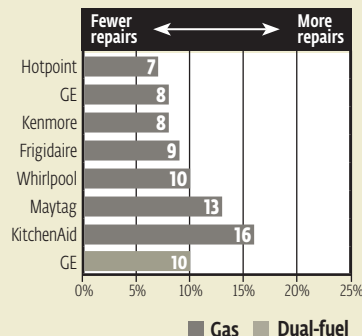
## ► Ranges

Whirlpool now joins Hotpoint and GE as the most reliable brands of electric ranges, with KitchenAid and Jenn-Air among the more repair-prone. KitchenAid and Maytag also proved to be repair-prone among gas ranges. Data we have, while not sufficient for inclusion in the chart, indicate that Kenmore dual-fuel ranges have been reliable; Jenn-Air dual-fuel and gas ranges have not.

## ELECTRIC RANGES



## GAS RANGES

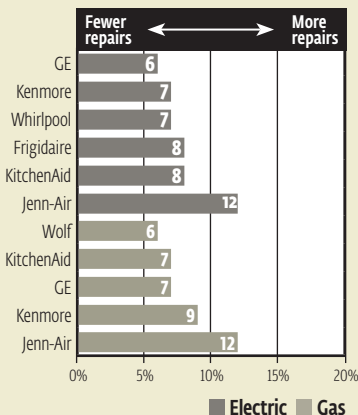


■ Gas ■ Dual-fuel

## ► Cooktops &amp; wall ovens

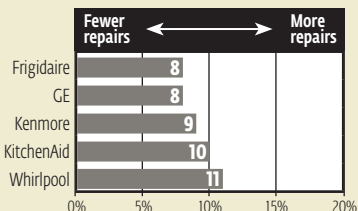
It seems that ranges aren't the only problem for Jenn-Air. The brand was also among the more repair-prone for both electric and gas cooktops. We lacked enough data to include Jenn-Air in the graph for electric wall ovens, but our latest results indicate that it has been repair-prone in that category as well.

## COOKTOPS



■ Electric ■ Gas

## ELECTRIC WALL OVENS



## Over-the-top countertop appliances

Considering all the time they spend on your countertop, it's not that surprising that small appliances have been getting serious style makeovers. But keeping up appearances may be going too far. Adorned with Swarovski crystals, the **Cuisinart Crystal SCC-1000 Limited Edition Perfect Temp** coffeemaker, \$200, dazzled our testers with its fine brewing, not its bling. It's also the only drip coffeemaker we recently tested that can make about 65 ounces of coffee at a time, and it has a water filter and an indicator to tell you when it's time for cleaning. If you prefer to spend your money on jewels for yourself, the similar **Cuisinart Perfect Temp DCC-2800**, available in classic black and stainless-steel or white and stainless-steel finishes, loses the crystals and costs \$100.

KitchenAid offers its stand mixer in limited-edition, hand-painted designs (one is shown below) for \$1,900. If you prefer to be known for your cooking rather than your appliances, consider **KitchenAid's Classic and Artisan KSM150PS** stand mixers, \$200 and \$300, respectively. Both aced our kneading, mixing, and whipping tests. The Artisan is available in more than 20 colors. The **Breville BEM800XL**, \$300, is now our top-rated stand mixer.



Source: Data are based on more than 40,000 readers who bought an electric range between 2007 and 2012, and 27,000 who bought a gas or dual-fuel range between 2006 and the first half of 2012; 11,788 electric and gas cooktops bought from 2008 through the first half of 2012, and on more than 13,000 electric wall ovens bought between 2007 and 2012. Note that models within a brand may vary, and design or manufacture changes may affect future reliability.



# Friendlier directions

**NOTHING BEATS** a dedicated navigation unit for ease of use, especially when you need clear, quick help in the middle of a busy highway.

Improvements in GPS models we've tested include good turn-by-turn navigation, more conversational directions, and more realistic views of landmarks and interchange signs.

Manufacturers continue to update their lines, and Garmin, for one, is rolling out new models early this year.

That means you'll see some new bells and whistles. It also means you might be able to find deals on previous devices. Here we have Ratings on recommended models with 4.3-inch screens from among more than 100 models we tested in all size categories.

Many models offer Bluetooth, which lets you make hands-free calls with your cell phone if your car doesn't already have that capability. Most devices include spoken street names and even traffic services. The traffic information is imperfect, especially in the low-cost units, but it can be helpful. Consider buying lifetime traffic and map updates because they will extend the device's usefulness and are much cheaper to purchase up front. Model names typically include "M" or "T" to indicate those services.

**1 Garmin** provides a very clear and sensitive touch-screen display packaged in a thin, sleek design. It's easy to use and has plenty of features, including updated mapping, Bluetooth, and more.

**8 TomTom** improves upon earlier devices. Features include IQ routes, lane guidance, Bluetooth hands-free calling, and revamped voice-recognition software. **10 Garmin** is a CR Best Buy at \$160, providing very good navigation. It offers free traffic information that's supported by advertising, but it excludes Bluetooth.

Small 3.5-inch devices have become the exception rather than the rule, as they were a couple years ago. But they're extremely portable, just right for storing in a pocket-book or briefcase.

The more common 4.3-inch size provides a larger screen, making it easier to read the maps and enter addresses. Large 5-inch devices might be a good choice for full-sized pickups, SUVs, commercial trucks, and RVs, but they can be too big for a conventional car.



10 Garmin



8 TomTom

## Ratings GPS navigators

Recommended models only From 40 tested.

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

			Price	Overall score								
Recommendation	Rank	Similar models, in small type, are comparable to tested model.		0100 P   F   G   V   G   E	Ease of use	Routing	Info for driver	Mount design	Display	Traffic interface	Bluetooth hands-free	Spoken street names
4.3-INCH SCREENS												
✓	1	Garmin Nuvi 3490LMT	\$400	82								
✓	2	Garmin Nuvi 3450 Garmin Nuvi 3450LM	330	80								
✓	3	Garmin Nuvi 3790T Garmin Nuvi 3790LMT	350	77								
✓	4	Garmin Nuvi 3760T Garmin Nuvi 3760LMT	350	76								
✓	5	Garmin Nuvi 2495LMT	230	75								
✓	6	Garmin Nuvi 3750	250	74								
✓	7	Garmin Nuvi 2475LT	230	74								
✓	8	TomTom Go 2435 TM	300	74								
✓	9	TomTom Go 2405 TM	300	74								
✓	10	Garmin Nuvi 2455LT Garmin Nuvi 2455LMT	160	73								
✓	11	Garmin Nuvi 2370LT	270	71								
✓	12	Garmin Nuvi 2360LT Garmin Nuvi 2360LMT	250	71								
✓	13	Garmin Nuvi 2350LT Garmin Nuvi 2350LMT	170	71								
✓	14	Garmin Nuvi 2350	160	70								
✓	15	Garmin Nuvi 1390T Garmin Nuvi 1390LMT	175	68								
✓	16	Garmin Nuvi 1350T Garmin Nuvi 1370T, Garmin Nuvi 1350LMT	130	65								
✓	17	Garmin Nuvi 2300 Garmin Nuvi 2300LM	160	65								
✓	18	Garmin Nuvi 1350	130	64								
✓	19	Magellan RoadMate 2145T LM	150	63								
✓	20	Magellan RoadMate 2210	100	63						NA		
✓	21	TomTom Via 1435 T	200	62								
✓	22	TomTom Go 730 TomTom Go 630	160	62								
✓	23	Magellan RoadMate 2136T LM	140	62								
✓	24	Garmin Nuvi 1300 Garmin Nuvi 1300LM	110	62								



**COOL COMBO** Pressing a button makes Shark's Rotator Professional Lift-Away NV501, \$250, switch between canister and handheld modes.

skims hair from the brush roll when you press a foot-controlled lever. The feature worked flawlessly in our tests; too bad this bagless upright was less than stellar at cleaning carpets and delivering the airflow needed for tools.

## How to choose

Start by matching the type of vacuum to the cleaning you usually do. Uprights, especially those with a bag, do better overall on carpets. Canisters are easier to maneuver, especially on stairs. Here's what else to consider before you buy:

**For allergies, stick with bags.** Emptying a bagless vac's bin tends to be a messy, dusty process, though changing bags can also raise dust if you aren't careful. Consider wearing a dust mask and clearing the bin or bag outside if you have allergies, asthma, or other respiratory problems.

**Check the features.** A brush on/off switch protects bare floors and avoids scattering debris. A motorized brush deep-cleans carpets far better than suction alone. Other smart features include manual pile-height adjustment and suction control for cleaning drapes with tools.

**Try it out.** Even if you order online, go to a store first. Push, pull, turn, and lift models you're considering. Check controls and features. And see whether the store will match a lower price you get online.

# Vacuums

## A triple-duty model makes our picks

**W**ANT AN UPRIGHT that's also a canister? You'll find one in our Ratings, along with an upright that steam-cleans floors. But as multitasking vacs become a trend, our tests show that some skimp on the cleaning that counts.

Lower prices and freedom from bag changes help make bagless uprights the hottest sellers. Shark's Rotator Professional Lift-Away NV501, \$250, has a canister component that lifts out onto a wheeled base and doubles as a handheld vac. Strong carpet cleaning, a swiveling head for easier steering, and an arsenal of tools helped it join our winners' list. But you'll find even better vacs for as little as \$120, especially for pet hair. And using this model in the handheld mode takes some muscle.

You'll also find Samsung among your canister choices after a long absence from the U.S. market. We tested the Electric Blue VCC88P0H1B, \$350, and Champagne VCC96P0H1G, \$450, which has more dust-separating chambers inside. But both had dismal suction for tools and were just mediocre at carpet cleaning, still a vacuum's top task. And small bins make dust capacity minimal for both models.

Our tests with almost 700 pounds of sand, wood flour, cat fur, and other messes found other models that put features before performance. Here are the details:

**A combo that doesn't cut it.** Oreck's VersaVac upright, \$250, has two pads and a plastic frame that convert it to a steam mop. It's also the brand's first bagless vacuum and, at 13 pounds, one of the lightest we've tested. But it was only middling on carpets and worked better on bare floors with the brush on. Doing that with this model didn't scatter dirt, but we usually recommend turning the brush off on bare floors, if possible, to reduce that risk. What's more, the Oreck doesn't accept tools and lacks suction control and other features you'd expect for the price.

**A name that doesn't deliver.** Eureka's AirExcel NLS upright, \$100, aced our pet-hair tests and maintained suction as claimed. But don't take its "excel" moniker too seriously: The bagless vac was subpar at carpet cleaning and emissions, and it ended up far below the humbler Eureka AirSpeed AS1000A, a CR Best Buy at \$120.

**A smart feature on a so-so vac.** The Electrolux Precision Brushroll Clean EL8807A, \$300, has a built-in comb that



### MIDDLING MULTITASKER

A steam-mop attachment on Oreck's VersaVac, \$250, adds pizzazz to an otherwise mediocre model.



# Ratings Upright vacuums

All tested models In performance order, within types.

CR Best Buy  
Recommended

Excellent  
Very good  
Good  
Fair  
Poor

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

## A BAGGED UPRIGHTS These tend to be best for carpets.

✓	1	Hoover WindTunnel Anniversary Edition U6485-900 TurboPower WindTunnel Anniversary Edition UH50000 [1]	\$ 230	73	21	●	●	●	●	●	●	●
✓	2	Miele S 7210 Twist	475	72	22	●	●	●	●	●	●	●
✓	3	Kirby Sentria [1]	1,350	72	23	●	●	●	●	●	●	●
✓	4	Miele S 7260 Cat & Dog	715	72	22	●	●	●	●	●	●	●
✓	5	Kenmore Intuition 31100	250	71	21	●	●	●	●	●	●	●
✓	6	Kenmore Progressive 31069	200	71	19	●	●	●	●	●	●	●
✓	7	Hoover WindTunnel Max UH30600	180	70	17	●	●	●	●	●	●	●
✓	8	Hoover Platinum Bagged UH30010COM [2] [3]	300	70	13	●	●	NA	●	●	●	●
✓	9	Kenmore Intuition 31200	300	69	21	●	●	●	●	●	●	●
✓	10	Kenmore Intuition 31810	270	69	21	●	●	●	●	●	●	●
✓	11	Miele S 7580 Bolero Swing	880	69	22	●	●	●	●	●	●	●
✓	12	Miele S 7280 Jazz Salsa	600	69	22	●	●	●	●	●	●	●
✓	13	Eureka Boss Smart Vac 4870 [ ]	160	67	20	●	●	●	●	●	●	●
✓	14	Sebo Felix Premium	600	66	16	●	●	●	●	●	●	●
✓	15	Hoover WindTunnel T-Series Pet UH30310	150	65	17	●	●	●	●	●	●	●
✓	16	Hoover WindTunnel T-Series UH30300	140	65	16	●	●	●	●	●	●	●
	17	Panasonic MC-UG471 [2]	150	63	17	●	●	●	●	●	●	●
	18	Eureka AirSpeed ABS AS1050A (Walmart) [2]	130	61	18	●	●	●	●	●	●	●
	19	Riccar Supralite RSL4 Simplicity Freedom F3600 [2] [4]	470	59	9	●	●	NA	●	●	●	●
	20	Riccar Brilliance Premium Simplicity Synchrony Premium	900	59	20	●	●	●	●	●	●	●
	21	Oreck Forever Series Edge [2]	600	58	16	●	●	●	●	●	●	●
	22	Oreck Magnesium [2] [4]	500	57	9	●	●	NA	●	●	●	●
	23	Oreck Forever Series Pilot [2] [4]	600	57	12	●	●	NA	●	●	●	●
	24	Lindhaus Diamante 380	930	50	19	●	●	●	●	●	●	●
	25	Dirt Devil Featherlite Bagged M085590 [2]	50	49	14	●	●	●	●	●	●	●
	26	Sebo Automatic X5 [2]	700	48	19	●	●	●	●	●	●	●
	27	Oreck Graphite [2] [4]	350	47	11	●	●	NA	●	●	●	●
	28	Oreck XL Element Professional Series [2] [4]	200	46	10	●	●	NA	●	●	●	●
	29	Aerus FreshEra [2] [4]	500	44	11	●	●	NA	●	●	●	●
	30	Royal Eminence MRY9750	600	43	20	●	●	●	●	●	●	●
	31	Cirrus Performance Pet CR99	500	41	22	●	●	●	●	●	●	●

## B BAGLESS UPRIGHTS These trade a bag for a bin but can be messier to empty.

✓	1	LG Kompressor LuV350P	400	70	18	●	●	●	●	●	●	●
✓	2	Hoover WindTunnel T-Series Rewind Bagless UH70120 UH70110 [2]	130	69	18	●	●	●	●	●	●	●
✓	3	LG Kompressor Total Care LuV400T	500	68	22	●	●	●	●	●	●	●
✓	4	Kenmore Intuition 31040	250	66	23	●	●	●	●	●	●	●
✓	5	Eureka AirSpeed AS1000A AS1001A Gold, AS1002A (Target) [2]	120	66	18	●	●	●	●	●	●	●
✓	6	Hoover Platinum Bagless UH70015	270	65	22	●	●	●	●	●	●	●
✓	7	Shark Rotator Professional Lift-Away NV501	250	65	17	●	●	●	●	●	●	●

[1] Self-propelled. [2] Lacks brush on/off. [3] Comes with a mini canister. [4] Doesn't accept tools.

Ratings continued on next page



A1 Hoover

A6 Kenmore

## Overview

Vacuums that scored highest did well in our carpet, floor, and airflow tests. Upright models generally do better on carpets than canisters, with bagged models having the edge in airflow. We focus below on top picks with special strengths, value, or both.

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

✓ **Recommended** These are fine performers that stand out for the reasons below.

## BEST UPRIGHTS FOR MOST

A1 Hoover \$230

A2 Miele \$475

A6 Kenmore \$200 **CR Best Buy**

A13 Eureka \$160 **CR Best Buy**

All four bagged models are fine for pet hair. A1 is self-propelled; A2 is pricier but quieter and better on pet hair. A6 weighs the least; A13 costs even less but lacks suction control and gives up some airflow and handling ease.

## IF YOU WANT A BAGLESS UPRIGHT

B1 LG \$400

B2 Hoover \$130 **CR Best Buy**

B5 Eureka \$120 **CR Best Buy**

B9 Bissell \$100 **CR Best Buy**

All are fine for pet hair and weigh less than 20 pounds. B1 blends top cleaning and easy handling. The CR Best Buys come close and have manual pile-height adjustment but give up a brush on/off switch. Consider B2 for its airflow, B5 for its convenient on/off switch, and B9 for its lighter weight and lower price.

## IF YOU WANT A COMBO UNIT

B7 Shark \$250

This bagless upright converts to a canister, which can also act as a hand vacuum. It's relatively quiet and light, though using the lift-out canister as a handheld vac is a handful. Swivel steering is another plus. But look elsewhere if you have pets.



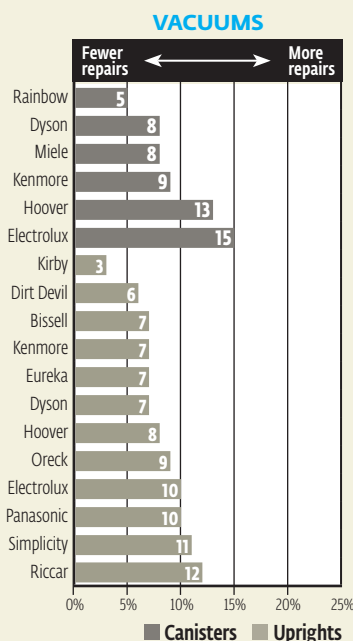
B1 LG

C1 Kenmore

## Most and least reliable

### 102,000 readers sound off

Choosing a vacuum with a good repair history can improve your odds of getting a reliable model. So each year we survey thousands of our readers about their experiences. Kirby was among the least repair-prone brands of upright vacuums in our latest survey. Rainbow was among the least repair-prone brands of canister vacuums, and Hoover and Electrolux were the most repair-prone in that category.



Source: Consumer Reports Annual Product Reliability Survey. Our findings are based on more than 100,000 vacuums readers bought new between 2008 and 2012. 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.



#### WATCH OUR FREE BUYING GUIDE VIDEO

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



# Ratings Upright vacuums

All tested models In performance order, within types.

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

## B BAGLESS UPRIGHTS continued

✓	8	LG Kompressor LuV200R	\$300	64	23	●	●	●	●	●	●
✓	9	Bissell CleanView Helix Deluxe 71V9 71V9-2 (Lowe's) [2]	100	64	16	●	●	●	●	●	●
✓	10	Shark Navigator Lift-Away NV352 NV351 (Walmart), NV350	200	63	14	●	●	●	●	●	●
	11	Panasonic MC-UL815	200	62	18	●	●	●	●	●	●
	12	Shark Navigator Professional Lift-Away NV356E [3]	200	62	16	●	●	●	●	●	●
	13	Hoover WindTunnel Pet Rewind UH70210	160	61	19	○	●	●	●	●	●
	14	Hoover WindTunnel T-Series Purely Clean UH70202	130	61	19	○	●	●	●	●	●
	15	Bissell Momentum 82G71 [2]	100	60	18	●	●	●	●	●	●
	16	Hoover WindTunnel Rewind Plus UH70205	150	59	19	○	●	●	●	●	●
	17	Panasonic MC-UL915	230	59	21	○	●	●	●	●	●
	18	Panasonic MC-UL810 [2]	170	58	17	●	●	●	●	●	●
	19	Shark Navigator NV22L	150	58	16	○	●	●	●	●	●
	20	Hoover WindTunnel Max UH70600	220	57	20	●	●	●	●	●	●
	21	Electrolux Nimble EL8602 [ ]	300	57	19	○	●	●	●	●	●
	22	Bissell Pet Hair Eraser 87B4 87B4-2 (Lowe's), 87B4-3 (Best Buy) [2]	150	57	21	●	○	○	○	○	○
	23	Panasonic JetForce MC-UL427	170	57	16	○	●	●	●	●	●
	24	Dyson DC41 Animal	600	56	17	○	●	●	●	●	○
	25	Eureka Whirlwind+ Pet Lover 3276 [ ] [2]	100	56	20	●	○	●	●	○	●
	26	Bissell PowerClean 16N5-9	200	56	22	○	●	○	●	○	○
	27	Bissell Healthy Home 16N5-F	200	56	22	○	●	○	●	○	○
	28	Eureka SuctionSeal Pet AS1104A	160	55	21	○	●	●	○	○	●
	29	Eureka AirSpeed Zoom AS5203A [2]	100	55	14	●	●	●	○	●	●
	30	LG Kompressor LuV250C	250	54	17	○	●	●	○	○	●
	31	Hoover WindTunnel Pet Cyclonic UH70085	200	52	23	○	●	○	○	○	○
	32	Bissell Total Floors Pet 61C5W	140	52	19	○	●	○	○	○	○
	33	Bissell Lift-Off Multi Cyclonic Pet 89Q9 89Q9-4 (Kohl's), 89Q9-6 (Bed Bath & Beyond), 1826 (Target)	180	52	22	○	●	○	○	○	○
	34	Electrolux Versatility EL8505 EL8502	270	52	24	●	○	○	○	○	○
	35	Hoover WindTunnel Air UH70400	180	50	13	○	●	○	○	○	○
	36	Electrolux Precision Brushroll Clean EL8807A EL8805A	300	49	18	○	○	○	○	○	○
	37	Bissell ProLite Multi Cyclonic 17G5 17G5-2 (Lowe's)	150	48	17	○	●	○	○	○	○
	38	Bissell OptiClean Pet 30C7T (Target)	150	48	21	○	●	○	○	○	○
	39	Oreck VersaVac [4]	250	48	13	○	●	NA	○	○	○
	40	Dyson DC40 Multi Floor	500	45	15	○	●	○	○	○	○
	41	Dyson DC24 Ball Multi Floor	430	44	12	○	●	○	○	○	○
	42	Shark Navigator Light NV100	150	43	12	○	●	○	○	○	○
	43	Hoover WindTunnel Pet Rewind Plus UH70086	165	41	23	○	○	○	○	○	○
	44	Eureka AirExcel NLS 5403A [2]	100	40	17	○	○	○	○	○	○
	45	Eureka Endeavor NLS 5400A (Walmart) [2]	80	33	16	○	○	○	○	○	○



# Ratings Canister vacuums

All tested models In performance order, within types.

CR Best Buy  
Recommended

Excellent  
Very good  
Good  
Fair  
Poor

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

## C BAGGED CANISTERS These tend to do better with tools than uprights and are more stable on stairs.

✓	1	Kenmore Intuition 28014	\$ 500	72	26	○	●	●	●	●	○	●
✓	2	Kenmore Progressive 21714	400	72	24	○	●	●	○	●	○	●
✓	3	Miele S 5281 Callisto	990	71	24	○	●	●	●	●	○	●
✓	4	Kenmore Progressive 21614	300	70	23	○	●	●	○	●	○	●
✓	5	Kenmore Progressive 21514	250	68	23	○	●	○	○	●	○	○
	6	Hoover WindTunnel S3670	250	68	24	○	●	●	○	●	●	○
	7	Electrolux UltraOne EL7070A	800	67	25	○	●	●	○	●	●	○
	8	Electrolux UltraSilencer DeepClean EL7060 [ ] EL7061 [ ] (Lowe's)	500	65	23	○	●	○	○	●	●	○
✓	9	Panasonic MC-CG902	250	65	23	○	●	●	○	●	○	○
	10	Miele S 2181 Titan	660	63	17	○	●	○	○	●	○	○
	11	Panasonic MC-CG983	500	63	24	○	○	○	○	●	○	○
	12	Panasonic MC-CG917	300	63	24	○	○	○	○	●	○	○
	13	Riccar Immaculate Premier Simplicity Gusto	1,400	63	27	○	●	●	○	●	○	○
	14	Electrolux JetMaxx Green EL4040 [ ]	400	61	19	○	●	○	○	●	○	○
	15	Miele S 2121 Olympus	330	58	13	○	●	○	○	●	○	○
	16	Miele S 2121 Delphi	550	56	16	○	●	○	○	●	○	○
	17	Electrolux UltraSilencer EL6986A	300	55	17	○	●	○	○	●	○	○
	18	Miele S 6270 Topaz	800	55	17	○	●	○	○	●	○	○
	19	Aerus Lux Legacy	1,300	55	21	○	●	○	○	●	○	○
	20	Aerus Lux Guardian Ultra	1,500	52	21	○	●	○	○	●	○	○
	21	Sebo Air Belt C3.1 [2]	900	51	25	○	●	○	○	●	○	○
	22	Sebo Air Belt K3 Volcano [2]	880	51	21	○	●	○	○	●	○	○
	23	Miele S 6290 Jasper	520	48	15	○	●	○	○	●	○	○

## D BAGLESS CANISTERS These trade a bag for a bin but can be messier to empty.

✓	1	LG Kompressor LcV900B	400	69	23	○	●	○	○	●	○	○
	2	Hoover Platinum S3865	400	65	27	○	●	○	○	●	○	○
	3	Rainbow e-series E2	1,350	54	33	○	●	○	○	●	○	○
	4	Dyson DC39 Animal	500	51	17	○	●	○	○	●	○	○
	5	Hoover Elite Cyclonic S3825	200	51	24	○	●	○	○	●	○	○
	6	Electrolux UltraActive DeepClean EL4300A	450	50	22	○	●	○	○	●	○	○
	7	Hoover Multi-Cyclonic SH40060	150	49	17	○	●	○	○	●	○	○
	8	Hoover Zen Whisper SH40080	250	44	20	○	●	○	○	●	○	○
	9	Samsung Electric Blue VCC88POH1B	350	43	21	○	●	○	○	●	○	○
	10	Samsung Champagne VCC96POH1G	450	42	23	○	●	○	○	●	○	○
	11	Dirt Devil Vision M082750	170	37	23	○	●	○	○	●	○	○
	12	Dyson DC26 City Multi floor	400	31	12	○	●	○	○	●	○	○

[1] Self-propelled. [2] Lacks brush on/off. [3] Comes with a mini canister. [4] Doesn't accept tools.

## Guide to the ratings

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

## Overview

Top canisters have a powered brush for better carpet cleaning. Subpar brand reliability kept Hoover and Electrolux canisters out of our picks. Here are models with special strengths, value, or both.

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

## BEST CANISTERS FOR MOST

- C1 Kenmore** \$500
- C4 Kenmore** \$300 **CR Best Buy**
- C9 Panasonic** \$250 **CR Best Buy**

All have bags and did well at carpet cleaning. **C1** offers superior airflow and quietness with top pet-hair pickup. **C4** trades some airflow and quietness for a lower price. **C9** gives up some bare-floor and pet-hair performance; consider it if you prefer the Panasonic brand.

## IF YOU WANT A BAGLESS CANISTER

- D1 LG** \$400

Impressive cleaning and quietness helped put this LG above 11 other bagless canisters we tested. **D2** offers much better pet-hair pickup, but subpar brand reliability for canisters kept it off our list of picks.

## Can't find a rated model?

We analyzed vacuums we've tested over the past three years to see which brands have performed best over time. A strong performance history doesn't guarantee that all of a brand's models will be winners, but it boosts the odds.

**Upright vacuums.** Relatively safe bets include LG and Miele. Both brands have performed very well overall, with many models among our top-scoring uprights. Miele models have also been notably quiet. *Also strong:* Hoover, Kenmore, Panasonic, and Riccar, though some of their models haven't matched the best from Miele and LG. *Less steady:* Bissell, Dirt Devil, Dyson, Electrolux, Eureka, Oreck, Sebo, and Shark. Several of those brands have included top-scoring models, but they've had fewer of them and, for many, a number of low performers. For those brands, stick with models that score well in our Ratings.

**Canister vacuums.** Kenmore is the safest bet if you want a top-performing canister. Most models have scored Very Good in our tough tests. *Less steady:* Dyson, Electrolux, Hoover, and Miele. All four have had fewer top performers and more low scorers for canisters. For those, stick with models that scored well in our Ratings. Electrolux and Hoover have also been the most repair-prone canister brands in our latest reliability survey, on the facing page.

# Interior paints

A new brand takes the top spot

**N**EW FORMULAS HAVE improved some paints, but others performed worse than they did just a year ago. And a newcomer, Clark+Kensington, had the highest scores of the 65 paints we tested.

Clark+Kensington was superb at hiding, leaving a smooth finish that resisted stains and scrubbing. It earned high scores in each finish—satin, flat, and semigloss. It's sold only at Ace stores. Other paints that were easy to apply, great at hiding, durable, washable, and better for the environment are as close as Home Depot, Lowe's, and Benjamin Moore retailers.

But that doesn't mean you can pick any paint off their shelves. Compared with earlier versions, Behr Premium Plus Ultra Satin Enamel and Behr Premium Plus Satin Enamel weren't quite as good at hiding, and the Premium Plus Satin became dull when cleaned. But

## DID YOU KNOW?

For uniform color, mix cans of the same color—whether it's two or six—into a big container and stir. Then pour into a paint tray or small can.



Olympic One Flat Enamel improved at hiding. Better hiding also helped move Valspar Signature matte and semigloss to the top, joining Behr in besting Benjamin Moore, a brand that costs twice as much as most. Now that we've put down our paint rollers, here's what else our tests have found:

### Self-priming paints save work.

Twenty of our top picks let you skip priming and paint directly over old finishes, bare wood, and wallboard. They're footnoted in the Ratings. One coat of a recommended paint should be enough to hide most colors beneath. Even with these paints, a second coat adds richness and results in a more even finish.

### Better Homes is cheaper, not better.

Don't expect to be featured in the pages of its magazine if you buy Better Homes and Gardens paint. All three finishes left roller marks and mottled surfaces, and the flat paint also had mediocre stain resistance and hiding. Only the semigloss made our picks, offering impressive hiding and excellent resistance to staining, gloss change, and scrubbing.

**How low can they go?** More manufac-

turers are claiming that their paint, including the top-rated Behr semigloss, is free of volatile organic compounds, though the tints used to color the bases might have some. Those solvents, released into the air as paint dries, are linked to respiratory problems and air pollution. Most companies now say that their products have 50 grams of VOCs or less per liter. But low or no VOCs doesn't mean the paints are odor-free.

### How to choose

Colors often look different in different light. So it's usually best to buy a sample, paint a patch and live with it for a day or two before you buy more. Here's what

else to keep in mind:

### Go online before you hit the store.

Manufacturer and retailer websites and Facebook pages offer a wealth of tips on choosing colors, including photo galleries of finished rooms and calculators to help you figure out how much paint you'll need. They're also the place to check for such deals as free samples, moving discounts, and rebates if you





don't like the color you've painted.

**Find the perfect color.** Certain hues are specific to a brand. Martha Stewart Living colors are made with Glidden's Premium and Duo paints, and Pottery Barn colors are made with Benjamin Moore paints. But retailers can often match colors. Paint-color formula books and color-matching computer technology mean you don't have to rely on the skills of a sales clerk, though one with a good eye and mixing equipment with clean nozzles may be able to match colors, too.

Since the paint base and sheen can differ slightly among brands, be sure to have the salesperson put a dab of the color on the paint chip or sample you've brought with you, and then dry it. That's why retailers keep hair dryers handy. It also helps to shop when there are experienced salespeople on duty and fewer customers.

**Match sheen to surface.** The best low-luster satin and eggshell paints offer easy hiding and durability, making them ideal for most surfaces. Flat paints hide flaws better but are less resistant to stains and smudges, so use them in low-traffic areas. Semigloss works well for trim and other surfaces that don't need to be wiped frequently, because repeated cleaning will dull most finishes. But if little hands leave big marks on your doors and handrails, choose a semigloss that scored Very Good or better in our gloss-change tests, and consider applying two coats.



## Colors that sell houses

Emerald green might be this year's hot color, according to Pantone, which creates color standards for paint companies and other industries. But if you're trying to take advantage of rising real-estate values to sell your home this spring, you're better off sticking with neutral colors, according to color experts and home stagers. Neutral doesn't mean boring or painting everything white. Here are their tips for a quick sale.

**Go with the flow.** You're selling space. To make your home feel larger, it's important that you use neutral colors that allow the eye to move from one space to another without interruption. "Really dark colors are out," says Mark Woodman, president of the Color Marketing Group,

which forecasts trends and selects colors for manufactured goods. "They take a lot of light away, and Realtors are selling light and space that's fresh and welcoming." And that purple bedroom your teenager loved? Time to go.

**Warm it up.** Choose paint colors with a slightly warm cast, such as off-white, creamy white, or light beige. Pass on bright whites and whites with blue or gray undertones, because they're too cool and can make a room feel sterile.

**Use accessories to inject color.** Use pillows, throws, bedspreads, and art to add color (perhaps some emerald green). They add personality but won't keep people from buying a home because they think they have to repaint.

## Which tape is best?



**TAPE DECK** We tested painter's tapes to see which ones left sharp lines, were easy to remove, and didn't damage surfaces.

At \$3 to \$8 per roll, painter's tape isn't a big investment, but the time you spend applying it can be. So the last thing you want is a tape that's hard to remove, pulls paint off with it, or lets paint bleed underneath. We tested six versions and compared them with plain old masking tape.

FrogTape Delicate Surface tape, around \$6 to \$8, was the clear winner. It left a very sharp line, was easy to remove, and didn't damage any surface no matter how long the paint had dried or the tape was left on. We taped various surfaces, including bare wallboard, wood, plastic panels, and wallboard painted

white. Then we painted a blue topcoat and let some surfaces dry for half an hour, others for 4 hours, 24 hours, three days, and 14 days before we pulled off the tape.

FrogTape Multi-Surface, 3M Edge-Lock Multi-Surface, and 3M Edge-Lock ScotchBlue Advanced Delicate Surface, all \$6 to \$8, left nearly as sharp a line but weren't quite as forgiving. Duck Clean Release Multiple Surfaces and ScotchBlue Original Multi-Use cost about \$3 and provided an



**COLOR CODE**  
The yellow FrogTape outperformed others tested.

acceptable line. None of the tapes damaged any surfaces or left adhesive residue, but they were slightly harder to pull off. Masking tape tore when peeled, creating more work.

**CR expert tip.** It's best to remove the tape as soon and as carefully as possible after applying paint.



### How can I prevent roller marks?

Avoid cheap rollers with obvious seams. Synthetic, short-napped rollers work best on most walls, ceilings, and trim. Use longer-nap rollers for textured walls. Steel frames with lots of tines will be stiffer and sturdier, and sealed ends will keep the paint on the roller. Be sure to give a new roller a rubdown before use to remove loose lint. The paint matters, too, so look for high smoothness scores in our Ratings.

### What if I missed a spot?

After the paint dries, usually in about 4 hours, touch it up. If you do it before the paint dries you'll mess up the paint surrounding the spot.

## There are paint runs. Now what?

Once the paint is dry, use fine sandpaper to remove the run, then retouch with a brush and a little paint. Runs can be a sign that you're loading too much paint on the roller or brush or not spreading the paint well.

### Can unused paint go in the trash?

You should always keep a little for touch-ups. Pour it into a small container and label it with paint color, number, and room it was used in. You can try contacting local charities, religious organizations, or high school or college drama departments to ask whether they can use extra paint, or see if your community collects it for reuse. If there are no takers, follow local requirements for proper disposal (such as taking the lid off latex paint and letting it dry before disposing of the can).



## Ratings Interior paints

**All tested products** In performance order, within types. **A1** Clark+Kensington

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

**A SATIN AND EGGSHELL** Low sheen and general durability make these best for most areas.

	1	Clark+Kensington Satin Enamel (Ace)	\$32	<div><div>86%</div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	50
	2	Benjamin Moore Aura Satin	68	<div><div>84%</div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	50
	3	Kilz Casual Colors Satin	30	<div><div>82%</div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	50
	4	Glidden Premium Satin (Home Depot)	24	<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><div></div><div></div></div></div>	50
	5	Behr Premium Plus Ultra Satin Enamel (Home Depot)	34	<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><div></div><div></div></div></div>	0
	6	Olympic One Satin Enamel (Lowe's)	27	<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><div></div><div></div></div></div>	50
	7	Glidden Duo Eggshell (Home Depot)	26	<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><div></div><div></div></div></div>	50
	8	Valspar Signature Satin (Lowe's)	34	<div><div>75%</div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	50
	9	Benjamin Moore Regal Select Eggshell	51	<div><div>75%</div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	50
	10	Royal Interiors by Ace Satin	27	<div><div>74%</div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	50
	11	Valspar+ Satin (Lowe's)	42	<div><div>74%</div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	0
	12	Valspar Ultra Satin (Lowe's)	29	<div><div>72%</div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	0
	13	Benjamin Moore Natura Eggshell	57	<div><div>72%</div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	0
	14	Pittsburgh Paints Manor Hall Timeless Eggshell Plus	57	<div><div>72%</div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	45
	15	Olympic Premium Satin (Lowe's)	25	<div><div>72%</div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	0
	16	Glidden Brilliance Satin (Walmart)	25	<div><div>71%</div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	0
	17	Better Homes and Gardens Satin (Walmart)	23	<div><div>69%</div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	0
	18	True Value EasyCare Ultra Premium Satin	26	<div><div>68%</div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	50
	19	Behr Premium Plus Satin Enamel (Home Depot)	28	<div><div>67%</div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	0
	20	True Value EasyCare Platinum Satin	35	<div><div>65%</div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	50
	21	Sherwin Williams Duration Home Satin	49	<div><div>60%</div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>	42

**B FLAT AND MATTE** Best for low-traffic areas and for hiding surface imperfections.

[illegible]



A4 Glidden



B2 Behr



C3 Valspar



Rec.	Rank	Product	Price (per gal.)	Overall score	Test results	Resists	VOCs
				0 100 P   F   G   V   E	Hiding Staining Gloss change Scrubbing Smoothness Mildew Sticking Fading Claimed (grams/liter)		

## B FLAT AND MATTE continued

15	Kilz Casual Colors Flat	\$27	63	● ● ○ ○ ○ ● ●	50
16	Sears Easy Living Ultra Flat	29	63	● ● ● ○ ○	53
17	Royal Interiors by Ace Flat [4]	24	60	○ ● ○ ● ○ ● ●	100
18	Sherwin Williams Duration Home Matte [1]	47	60	● ● ● ○ ○ ●	41
19	True Value EasyCare Platinum Flat Enamel [1][4]	33	59	● ● ● ● ○ ●	50
20	Olympic Premium Flat (Lowe's)	20	58	● ● ○ ● ● ●	0
21	True Value EasyCare Ultra Premium Flat [4]	22	58	● ● ● ● ● ●	50
22	Better Homes and Gardens Flat (Walmart)	19	58	○ ○ ● ● ○	0
23	Glidden Brilliance Flat (Walmart) [1]	24	57	○ ○ ● ● ●	0

## C SEMIGLOSS Best for trim, doors, windows and shelves.

✓ 1	Clark+Kensington Semi-Gloss Enamel (Ace) [1]	33	85	● ● ○ ● ● ● ●	50
✓ 2	Behr Premium Plus Ultra Semi-Gloss Enamel (Home Depot) [1]	34	84	● ● ● ● ● ●	0
✓ 3	Valspar Signature Semi-Gloss (Lowe's) [1]	35	82	● ● ● ● ● ● ●	50
✓ 4	Benjamin Moore Aura Semi-Gloss [1]	68	80	● ● ○ ● ● ●	50
✓ 5	Royal Interiors by Ace Semi-Gloss [4]	28	77	● ● ● ● ● ●	50
✓ 6	Glidden Brilliance Semi-Gloss (Walmart) [1]	26	77	● ● ● ● ○ ●	0
✓ 7	Glidden Premium Semi-Gloss (Home Depot)	26	76	● ● ○ ● ○ ● ●	50
✓ 8	Better Homes and Gardens Semi-Gloss (Walmart)	26	76	● ● ● ● ● ●	0
✓ 9	Glidden Duo Semi-Gloss (Home Depot) [1]	27	75	● ● ● ● ○ ●	50
✓ 10	Benjamin Moore Natura Semi-Gloss [4]	57	75	● ● ○ ● ● ●	0
11	Behr Premium Plus Semi-Gloss Enamel (Home Depot) [1]	29	73	● ● ● ● ● ●	0
12	Kilz Casual Colors Semi-Gloss	31	72	● ● ● ● ○ ●	50
13	Olympic One Semi-Gloss Enamel (Lowe's) [1]	27	72	● ● ● ● ● ●	50
14	Valspar Ultra Semi-Gloss (Lowe's) [1]	30	71	● ● ● ● ● ●	0
15	Benjamin Moore Regal Select Semi-Gloss [1]	51	71	● ● ● ● ○ ●	50
16	Olympic Premium Semi-Gloss (Lowe's)	26	70	● ● ● ● ○ ●	0
17	Valspar+ Semi-Gloss (Lowe's)	43	69	● ● ● ● ● ●	0
18	Pittsburgh Paints Manor Hall Timeless Semi-Gloss	58	66	● ● ● ● ○ ●	46
19	True Value EasyCare Platinum Semi-Gloss [1][4]	35	65	● ● ● ● ● ●	50
20	Sherwin Williams Duration Home Semi-Gloss [1]	51	62	○ ● ● ○ ○ ● ●	40
21	True Value EasyCare Ultra Premium Semi-Gloss [4]	28	59	● ● ● ● ○ ●	50

[1] Self-priming. [2] Glossier than labeled. [3] Flatter than labeled. [4] Manufacturer claims that paint has been reformulated since our last tests.

## Overview

Impressive hiding and stain resistance help make these interior paints top picks. Since you'll probably need more than one finish for your project, we've grouped the paints by retailer for easy one-stop shopping.

### BEST FROM ACE

- A1 Clark+Kensington \$32
- A3 Kilz \$30
- B6 Clark+Kensington \$30
- C1 Clark+Kensington \$33
- C5 Royal Interiors \$28 CR Best Buy

All but **A3** and **C5** are self-priming. The Clark+Kensingtons were fade resistant, making them ideal for sunny rooms. **A1** performed better than Benjamin Moore Aura, sold at some Ace stores, for less than half the price. **A1** and **A3** also resisted sticking better than most paints, a plus if you're doing windows, but **A3's** finish wasn't as smooth. **C1** was one of the few semiglosses that was superb at hiding. **C5** was better than most at resisting mildew.

### BEST FROM HOME DEPOT

- A4 Glidden \$24 CR Best Buy
- A5 Behr \$34
- B2 Behr \$32
- B4 Behr \$26 CR Best Buy
- C2 Behr \$34

Among satin paints, **A4** costs less than **A5** and buys better resistance to gloss change even after aggressive cleaning. **B2**, a flat paint, left a smoother finish than **B4**. **C2** held its semigloss sheen after cleaning. All but **A4** are self-priming.

### BEST FROM LOWE'S

- A6 Olympic \$27 CR Best Buy
- A8 Valspar \$34
- B1 Valspar \$32
- B7 Olympic \$25 CR Best Buy
- C3 Valspar \$35

All let you skip priming. Among satin paints, **A6** costs less and was better than **A8** at holding its sheen after cleaning, though both showed some roller marks. Pick **B1**, a flat, for its excellent hiding, smooth finish, and fade resistance. **C3** offers excellent hiding and stain resistance but lost more of its sheen after cleaning.

### BUY PAINT LIKE A PRO

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



## 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 with one or two coats (one coat was weighted more). **Staining** is resistance to greasy stains. **Gloss change** is appearance change after 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 under UV light. **Claimed VOCs** are the maximum grams per liter for untinted base. **Price** is approximate retail.



# Laptops

## New touch controls show up

**IT DIDN'T TAKE LONG** for computers to start morphing in response to the Windows 8 operating system. Most notable are the latest convertible laptop models, which turn into tablets, usually when you twist their display.

Convertibles have been around for years, but manufacturers have become more clever in their designs. And with Windows 8's tablet-like features, a laptop that doubles as a tablet now makes a lot more sense.

**Twist and touch.** Dell and Lenovo take different approaches to how their laptops convert into tablets. The Dell XPS 12 Convertible Touch Ultrabook has a display that swings around in a frame, then folds over the keyboard. Besides serving as a laptop, Lenovo's Yoga IdeaPad twists into three positions—tablet, stand, and tent. Both models were excellent performers with responsive touch screens; the Lenovo's was a bit better. The battery life on both was quite good compared with that of other laptops and many tablets, although the best tablets get a few more hours.

**Downsides to consider.** The convertibles we've looked at so far may be light for laptops, but they're heavier than tablets, which generally weigh no more than 1.5 pounds. Since the convertibles weigh about twice that, they're not really suitable for holding in your hand for long periods. Of course, the displays on both of the convertibles are also bigger than the screens found on tablets.

**More ways to interact.** Windows 8 also spurred a few manufacturers to add gesture controls to their computers. They let you execute common tasks such as flipping through Web pages by waving at, but not actually touching, the screen.

For example, the Sony Vaio is a CR Best Buy that features gesture controls at quite an attractive price for a 13-inch laptop. When we tried those controls, however, we found they took some getting used to and didn't always respond quickly.

Gesture controls can be useful on a desktop whose touch screen may not be within easy reach, but that's less likely with a laptop because it's typically used at close range. So think twice before paying extra for that feature on a laptop.



A1 Dell



B1 Apple

## Ratings

**Recommended models only** From 42 tested.

☒ CR Best Buy  
☒ Recommended

● Excellent  
 ● Very good  
 ○ Good  
 ○ Fair  
 ● Poor

		Brand & model	Price	Overall score	Display size (in.)	Memory (GB)	Storage (GB)	Ergonomics	Portability	Performance	Versatility	Display	Battery life (hr.)	Weight (lb.)	Touch screen	DVD drive
Recommendation	Rank															
				0 100												
				P   F   G   V   E												

### A 11- TO 13-INCH CONVERTIBLES

<input checked="" type="checkbox"/>	1	Dell XPS 12 Convertible Touch Ultrabook*	\$1,200	75	12.5	4	128	●	●	●	○	○	8	3.3	●	
<input checked="" type="checkbox"/>	2	Lenovo Yoga IdeaPad Ultrabook 13-59340248*	1,000	73	13.3	4	128	●	●	●	○	○	7½	3.4	●	

### B 13-INCH

<input checked="" type="checkbox"/>	1	Apple MacBook Air 13-inch MD231LL/A*	1,200	76	13.3	4	128	●	●	●	○	○	11½	3.0		
<input checked="" type="checkbox"/>	2	Apple MacBook Pro 13-inch with Retina Display MD212LL/A*	1,700	71	13.3	8	128	●	●	●	○	○	8½	3.6		
<input checked="" type="checkbox"/>	3	Toshiba Portégé Z935-P390 Ultrabook*	950	68	13.3	6	128	○	●	●	○	○	6¾	2.4		
<input checked="" type="checkbox"/>	4	Apple MacBook Pro 13-inch MD101LL/A*	1,200	67	13.3	4	500	●	●	●	○	○	9	4.5	●	
<input checked="" type="checkbox"/>	5	Asus Zenbook Prime UX32VD-DH71 Ultrabook*	1,200	67	13.3	4	500	●	●	●	○	○	6½	3.3		
<input checked="" type="checkbox"/>	6	Samsung NP540U3C-A01UB Ultrabook*	850	67	13.3	4	500	●	●	●	○	○	6¾	3.7	●	
<input checked="" type="checkbox"/>	7	Sony Vaio SVT13122CX5 Ultrabook*	700	66	13.3	4	500	●	●	●	○	○	6	3.4		
<input checked="" type="checkbox"/>	8	Apple MacBook Pro 13-inch MD313LL/A*	1,050	65	13.3	4	500	●	●	○	○	○	9¾	4.5	●	

### C 14-INCH

<input checked="" type="checkbox"/>	1	Asus Q400A-BH17N03	780	67	14.0	8	750	●	●	●	○	○	7½	4.4	●	
<input checked="" type="checkbox"/>	2	Vizio CT14-A4 Ultrabook*	850	65	14.0	4	128	○	●	●	○	○	6	3.5		

### D 15- TO 16-INCH

<input checked="" type="checkbox"/>	1	Apple MacBook Pro 15-inch with Retina display MC975LL/A*	2,200	78	15.4	8	250	●	●	●	○	○	12¾	4.5		
<input checked="" type="checkbox"/>	2	Apple MacBook Pro 15-inch MD103LL/A*	1,800	70	15.4	4	500	●	●	●	○	○	11¾	5.6	●	
<input checked="" type="checkbox"/>	3	Vizio CN15-A5*	1,125	70	15.6	8	1000	●	●	●	○	○	5½	5.0		
<input checked="" type="checkbox"/>	4	Acer M5-581T-6807 Ultrabook*	600	70	15.6	6	500	●	●	●	○	○	8	4.6	●	
<input checked="" type="checkbox"/>	5	Samsung NP700Z5C-S02UB*	1,000	68	15.6	8	1000	●	●	○	○	○	9	5.3	●	
<input checked="" type="checkbox"/>	6	Vizio CT15-A4 Ultrabook*	900	65	15.6	4	128	●	●	●	○	○	5¾	4.0		

### E 17- TO 18-INCH

<input checked="" type="checkbox"/>	1	Toshiba Satellite P875-S7310	800	67	17.3	8	750	●	●	●	○	○	4	6.3	●	
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\* Nonremovable battery.

## Reports

**Apps for the road** 51  
**Ford Fusion** 52  
**Ford C-Max Hybrid** 55  
**Electric cars** 57

**COUNTING PENNIES**  
 Users of GasBuddy help one another by reporting fuel prices at local gas stations.



# Cars

Road tests, auto products, hot topics

## Try these apps for the road

**EVER WONDER** where the cheapest gas is in your area? Or how many miles to the next highway rest stop? What about how much a car repair will cost? Well, yes, there's an app for that ... and more. Here are several apps our auto experts have used and found handy for driving. But please, do your setup and searching while the car is parked so that they don't distract you from the road. And if you need to see the screen while driving, we recommend buying a smart-phone mount that attaches to the windshield or dash.



### GasBuddy

This free app helps you find the best fuel prices at nearby stations. After pinpointing your location, it displays prices reported by other users for regular, mid-grade, premium, and diesel at major-brand and independent stations, and shows how recently the prices have been updated. After you choose a station, it will give turn-by-turn directions to it. Turn on your GPS receiver for the most accurate information. The app is compatible with Android, BlackBerry, and iPhone.



### RepairPal

After entering your car's make, model, and other details, this app can give you estimates on what a car repair is likely to cost in your area. It can also help you find a repair shop

and get real-world quotes on the work. If you log your vehicle's maintenance schedule, it will give you service reminders. It even helps you locate emergency assistance if you break down on the road. It's free for Android and iPhone.



### iWrecked

In the harried moments after a fender bender, it can be difficult to think clearly. But it's critical to properly document the event and the parties involved, because capturing that information can save both money and hassles later. This free iPhone app guides you through what to do after a crash, such as taking photos of the scene and getting contact information from other drivers. It can also dial 911 and locate a taxi, tow service, or police.



### DriveSafe.ly

This app is designed to help you keep up with your e-mail and text messages but minimizes their distraction. It reads your messages aloud while you drive and can send a programmed response that says you're unavailable. The free version has a limit of 25 words per message. The "pro" version (\$13.95 annually) can handle messages of 500 words and allows you to change the gender of the "voice." It's compatible with Android, BlackBerry, iPhone, and Windows Mobile.



### iExit

You can help take some of the guesswork out of road-trip pit stops by letting this app identify the restaurants, gas stations, hotels, and other services available at each exit. It displays the information as you approach an exit, or you can search by a category or by a specific brand or company name. Make a selection, and you can call the service with one touch. It also locates rest areas. It costs \$1.99 for iPhone and is free for Android.

## Apps that talk to your car

The automakers are rolling out apps for many of their models that allow you to perform various functions using your phone, such as locking and unlocking doors, remote starting, and monitoring teenage drivers. You can also get maintenance reminders and schedule service appointments. Apps for some electric cars let you monitor and control charging. Check the owner's manual or manufacturer's website to see what's available for your car.



**LOADED UP**  
**The Ford Focus Electric app reports charging progress.**



**LOOKING GOOD**

The new Fusion has a dashing design but needs fine-tuning.

# New sedans from Ford

The redesigned Fusion is fun and stylish, but the devil is in the details

ROAD-TEST SCORE

87

SE Hybrid

ROAD-TEST SCORE

82

SE

ROAD-TEST SCORE

78

Titanium

The 2013 Fusion is the latest in a string of recent redesigns in the popular midsize-sedan category. And in a class generally known for bland styling and a lack of driving excitement, it's a fresh, charismatic newcomer. But like some promising and talented celebrities, it has just enough quirks to erode your enthusiasm.

The new Fusion looks upscale and stylish, and it handles like a really good European sports sedan. We bought three

versions: a top-trim Titanium, a mid-trim SE, and the SE Hybrid.

All versions provide a composed, civilized ride that's as good as that of cars costing twice as much. The cabin is blessedly quiet. The Titanium version is the best-handling midsize sedan we've tested. And the Hybrid model posted the best fuel economy we've measured in a midsize sedan: 39 mpg overall.

So what are the problems? One is Ford's

pair of EcoBoost turbocharged four-cylinder engines that fall short in both acceleration and fuel economy, compared with competitive models such as the Honda Accord, Nissan Altima, and Toyota Camry (see below).

## EcoBoost engines can't keep up

In recent years, Ford has swapped the conventional four-cylinder and V6 engines in several models for smaller, lighter fours that use its EcoBoost technology. That much-hyped design, which uses direct fuel injection and turbocharging, is billed as delivering competitive power along with impressive fuel economy. But we've found that cars with EcoBoost engines aren't measuring up to the competition.

Our Fusions are a good example. The gas mileage of our SE, equipped with an EcoBoost 1.6-liter four, is only 25 mpg overall, which is below the 26 mpg average in this class and far below the 30 and 31 mpg we got from our Honda Accord and Nissan Altima, respectively, even with their larger 2.4- and

Another beef is the MyFord Touch infotainment system, which handles audio, climate, and communications functions. Optional in mid-trim Fusions and compulsory in high-trim versions, it's needlessly complicated and finicky to use.

Cabin space is a little snug, which compromises the driving position and rear-seat room. The Fusion's sleek form reduces function, cutting into outward visibility. And our cars, which we bought soon after the Fusion went on sale, have multiple ill-fitting body and trim parts (see "Teething Pains," on page 54).

For many people, those gripes may be trumped by the new Fusion's dashing styling and stellar driving experience. But they were enough to drag the cars' scores down and keep them out of the top tier in our midsize-sedan ratings. The Fusion is too new for us to have reliability information, but other recently redesigned Ford models, including the Explorer and Focus, have been markedly trouble-prone. Ford has issued a recall for 2013 Fusions with the 1.6-liter engine because of possible coolant leaks (see page 13), but the cars now in dealerships should not have that problem.

## A dynamic performer

The Fusion is a delight to drive. It clings to corners, with quick, decisive turn-in response and well-controlled body lean. The steering is ideally weighted, with reassuring road feel. And all of our cars proved enjoyable, balanced, and predictable at their handling limits. The 18-inch tires, which are standard on the Titanium and optional on SE versions, further improve handling.

We wish the Fusion's EcoBoost engines better complemented its dynamic abilities. The 1.6-liter four in our SE provides decent performance overall but needs to work hard and sounds gruff when revved. The larger 2.0-liter four delivers ample power but lacks

*Continued on page 54*

2.5-liter engines. Moreover, 0-to-60-mph acceleration is about a second slower than that of many peer models.

Similarly, at 22 mpg overall, our Titanium with a 2.0-liter four gets 4 mpg less than the larger 3.5-liter V6s in the Accord and Toyota Camry. And it's a second slower to 60 mph.

All of those competitive four-cylinder engines come standard. By contrast, compared with the Fusion's standard 2.5-liter non-turbo four, you have to pay \$795 additional to get the 1.6-liter EcoBoost option in the SE, and \$2,250 for the 2.0-liter. Neither one matches the refinement and power delivery of better peer engines. In the Edge and Explorer SUVs, you can't pair an EcoBoost four with all-wheel drive.



## Ford Fusion SE Hybrid



### Tested vehicle

<b>HIGHS</b>	Styling, agility, ride, quietness, fun to drive, fuel economy, powertrain
<b>LOWS</b>	Visibility, grabby brakes, slightly snug cabin, small trunk opening
<b>DRIVETRAIN</b>	188-hp, 2.0-liter four-cylinder engine with electric assist; continuously variable transmission; front-wheel drive
<b>MAJOR OPTIONS</b>	None
<b>TESTED PRICE</b>	\$28,290



**KEEPING IT SIMPLE** The basic dash design, found on lower trim levels, includes large, easy-to-use knobs and buttons.



**OPENING UP** Unlike some hybrids, the Fusion Hybrid has a normal-sized pass-through.



Scan for video.

## Ford Fusion SE



### Tested vehicle

<b>HIGHS</b>	Styling, agility, ride, quietness, fun to drive, braking
<b>LOWS</b>	Visibility, slightly snug cabin, small trunk opening
<b>DRIVETRAIN</b>	173-hp, 1.6-liter turbocharged four-cylinder engine; six-speed automatic transmission; front-wheel drive
<b>MAJOR OPTIONS</b>	None
<b>TESTED PRICE</b>	\$25,585



**LOW OVERHEAD** The trunk lid doesn't open far enough, so it's always in the way.

## Ford Fusion Titanium



### Tested vehicle

<b>HIGHS</b>	Styling, agility, ride, quietness, fun to drive, braking
<b>LOWS</b>	MyFord Touch controls, fuel economy, visibility, slightly snug cabin, small trunk opening
<b>DRIVETRAIN</b>	231-hp, 2.0-liter turbocharged four-cylinder engine; six-speed automatic transmission; front-wheel drive
<b>MAJOR OPTIONS</b>	Moonroof, navigation system
<b>TESTED PRICE</b>	\$33,180



**DEAL BREAKER?** The Titanium's MyFord Touch controls include lots of touch-sensitive buttons that are jumbled together and hard to use.

### More test findings

<b>BRAKING</b>	Excellent in the SE and Titanium. The Hybrid's stopping distances were somewhat longer, and the pedal feels a little grabby due to regenerative braking.
<b>HEADLIGHTS</b>	Low beams provide good reach to the front and sides, but they aren't as bright as in the best models, and they have a sharp upper cutoff. High beams shine a good distance and are a bit brighter, but they are still not as bright as the best we've seen.
<b>ACCESS</b>	Getting into the front is easy, but climbing into the rear may take some ducking because of the sloping roofline.
<b>VISIBILITY</b>	Somewhat restricted by wide roof pillars and a high rear deck. The outside mirrors have clever small convex lenses set into them, which help you spot cars in your blind zones. A blind-spot monitoring system is optional. A rear camera would also help but is available only with the frustrating MyFord Touch control system.
<b>CABIN STORAGE</b>	Cabin storage is very generous up front. There are deep door pockets and a large open bin in front of the shifter, but they can be tight to access. Beverages in the front cup holders get in the way of using the center armrest.
<b>HEAD RESTRAINTS</b>	The center-rear restraint must be raised to protect an adult during a rear collision.
<b>CHILD SEATS</b>	Belts alone can secure most child seats. Lower LATCH anchors are provided for the rear outboard seats, but they are hard to access.

the creamy smoothness of competing V6s.

Most Fusions will have a smooth, responsive six-speed automatic transmission, although the SE also offers a six-speed manual and the Hybrid uses a continuously variable transmission. You can get all-wheel drive, but only in the Titanium.

The Hybrid's powertrain is very impressive. It's slick and refined, and it squeezes out an eye-popping 39 mpg overall and 41 mpg on the highway. Though that's nowhere near the model's EPA estimate of 47 mpg for city, highway, and combined fuel economy, it's still excellent overall. It also delivers competitive acceleration. With a light foot on the throttle, you can ease up to about 35 mph using electric power alone. And it can cruise with its gas engine off below 62 mph.

For even more efficiency, you can get the Fusion Energi plug-in hybrid. It uses the same drivetrain as the Fusion Hybrid but with a larger lithium-ion battery pack. We expect it to supply about 20 miles of electric-only range.

Drivers will find plenty of head room and seat travel in the cockpit, but the seating space is a little narrow, and there's not as much room to stretch out as in most rival sedans. Even short drivers found it rather snug.

The front seats are well shaped and comfortable, although we prefer the firmer padding of the leather ones over the somewhat spongy cloth seats. Rear seating is a little tight, and taller people may find their heads brushing the roof. Three adults can fit, but they won't be happy for long.

Optional on the SE and standard on the Titanium is Ford's MyFord Touch system, which uses a touch screen and flush-mounted

touch-sensitive buttons on the center stack. The SE version has knobs for volume and tuning, but the Titanium's more cluttered interface lacks a tune knob. Many screen menus are overly complex and slow to respond, which can prove distracting to operate while driving. We suggest skipping MyFord Touch; many of our testers consider it a deal breaker.

Fortunately, Ford's Sync system lets you use voice commands for audio, climate, and phone

functions. And establishing a Bluetooth link to your phone is easy.

The trunk is a good size; it's a bit smaller in the Hybrid model but not as tight as in most hybrids. The trunk opening is small, however, and the trunk lid doesn't always stay open when loading. In all versions, 60/40-split rear seats fold down to extend the cargo capacity. Rather than a spare tire, the Hybrid has an inflation kit.



Honda Accord



Hyundai Sonata

## Ratings Midsized sedans

All tested models In performance order.

Recommended

Excellent  
Very good  
Good  
Fair  
Poor

	Make & model	Price as tested	In this issue	Overall road-test score	Predicted reliability	Overall mpg
Recommended	Rank			0 100 P   F   G   V   E		

### A ENTRY-LEVEL MIDSIZED SEDANS

✓	1	Honda Accord LX (4-cyl.)	\$23,270	90	⊖	30
✓	2	Hyundai Sonata GLS (2.4)	21,800	89	○	27
✓	3	Toyota Camry LE (4-cyl.)	23,830	88	●	27
	4	Chevrolet Malibu 1LT (2.5L)	26,030	83	new	26
	5	Ford Fusion SE (1.6T)	25,585	82	new	25
✓	6	Kia Optima LX (2.4)	21,885	81	○	25
✓	7	Nissan Altima 2.5 S	23,410	81	⊖	31
✓	8	Subaru Legacy 2.5i Premium	24,189	81	⊖	26
✓	9	Volkswagen Passat SE (2.5)	25,595	76	⊖	25
	10	Dodge Avenger SXT (4-cyl.)	22,290	43	NA	21

### B HIGH-END MIDSIZED SEDANS

✓	1	Toyota Camry Hybrid XLE	\$29,052	93	●	38
✓	2	Toyota Camry XLE (V6)	32,603	92	⊖	26
✓	3	Honda Accord EX-L (V6)	30,860	90	⊖	26
	4	Hyundai Sonata Limited (2.0T)	28,090	89	●	25
✓	5	Subaru Legacy 3.6R Limited	30,094	88	○	22
	6	Ford Fusion SE Hybrid	28,290	87	new	39
✓	7	Nissan Altima 3.5 SL	31,610	84	⊖	24
✓	8	Kia Optima SX (2.0T)	29,050	84	●	24
	9	Volkswagen Passat SEL Premium (V6)	33,720	82	NA	23
✓	10	Volkswagen Passat TDI SE	28,665	80	⊖	37
	11	Ford Fusion Titanium (2.0T)	33,180	78	new	22
	12	Chevrolet Malibu Eco	28,285	76	new	29
	13	Hyundai Sonata Hybrid	26,695	69	⊖	33
	14	Chrysler 200 Limited (V6)	27,825	52	⊖	21

**Why some cars are not recommended.** The Chrysler 200, Dodge Avenger, and Hyundai Sonata Hybrid score too low. The Sonata Limited (2.0T) has below-average reliability. The Fusion and Malibu are too new for us to have reliability data, and we have insufficient reliability data on the Volkswagen Passat V6.

## ▶ Teething pains

We bought our three 2013 Fusions soon after they went on sale, as we typically do with most test cars. But based on their iffy build quality, you may not want to be the first on your block to get one.

Our test cars usually have few, if any, defects. And the Fusion's attractive interior has mostly high-quality materials. But we have been surprised at the number of fit-and-finish flaws we've found in our Fusions, especially in our pricey Titanium version. Its front doors were misaligned. Numerous trim pieces don't line up. And the headliner was lumpy around the sunroof and ragged at the forward edge. In our SE version, the hood didn't line up. In all three of our Fusions, the interior plastic molding had some sharp edges and the center-console lid seemed flimsy.

If you want to buy a Fusion, it might be worth waiting a year or two. We hope Ford will sort out those flaws soon.





**LOAD BUMP** The hybrid battery rides under the cargo area, which raises the floor and robs space.

# Ford C-Max Hybrid

**ROAD-TEST SCORE**  
**83**

New for 2013, the C-Max is an appealing hybrid hatchback that packs a lot of room within its compact size. We measured fuel economy at 37 mpg overall, excellent but well short of the 47-mpg EPA rating.

The C-Max, designed to compete with the Toyota Prius V, can't match its rival's 41-mpg fuel economy or interior space. But the Ford is quieter and much more enjoyable to drive.

We have only a few gripes, including a brake pedal that grabs too quickly and complicated controls. And getting a rear backup camera requires buying other expensive options.

A plug-in version, the C-Max Energi, is also available. Its larger battery and approximate range of 21 miles on electric power will allow some buyers to commute gas-free.

The C-Max is too new for us to have compiled reliability data to recommend it.

## Smooth operation

The Hybrid and Energi models couple an electric motor with a 2.0-liter four-cylinder gasoline engine to achieve 188 hp. A continuously variable transmission is used in each. The hybrid can easily operate on electric power alone up to about 35 mph, and it can glide with its engine shut off at speeds below 62 mph. Acceleration is adequate, and the CVT operates smoothly.

Bumps and ruts are absorbed well, and the

highway ride is composed. The quiet cabin is aided by a noise-cancellation system. The engine makes itself known only when pushed.

Handling is agile, with quick and ideally weighted steering, and it posted a high speed in our avoidance maneuver. It's easy to park with or without the optional automatic hands-free parking system.

## Unfinished business

The interior has padded surfaces, high-quality switches, and a stitched, padded steering wheel. But we found numerous flaws in construction quality, including panel gaps and sharp edges. The gray nylon seats in our test car look cheap and show dirt easily. Drivers sit up high behind a tilt-and-telescoping steering wheel, but the driving position is somewhat narrow.

The standard cloth seats are supportive of the lower back, despite having no lumbar adjustment. But the optional power leather seats are a better choice. The rear seat is roomy enough for three and reclines, but its bottom cushion is flat and low, limiting thigh support.

Controls differ depending on the trim level and options, but they are complicated regardless. All trims have automatic climate control with small buttons and shallow knobs. The standard radio's controls are spread out, and there's no tuning knob. Onscreen menus add unneeded levels of complexity. But all of that is a piece of cake compared with the MyFord Touch system that's optional on SE models and standard on the SEL. Ford's Sync voice-command system and Bluetooth pairing work well.

Cargo room behind the rear seat is good. The 60/40-split seatbacks fold to create a flat load floor. There is no spare tire, only an air compressor and tire sealant.

## Tested vehicle

<b>HIGHS</b>	Fuel economy, ride, handling, quiet interior, access, utility
<b>LOWS</b>	Complicated controls, grabby brakes, it's expensive to get a rear camera
<b>TRIM LINE</b>	Hybrid SE
<b>DRIVETRAIN</b>	188-hp, 2.0-liter four-cylinder engine with electric assist; continuously variable transmission; front-wheel drive
<b>MAJOR OPTIONS</b>	Heated seats and mirrors
<b>TESTED PRICE</b>	\$26,685

## The C-Max line

<b>OTHER TRIMS</b>	SEL, Energi
<b>OTHER DRIVETRAIN</b>	188-hp, 2.0-liter four-cylinder, plug-in electric hybrid
<b>BASE PRICES</b>	\$25,200-\$32,950

## More test findings

<b>BRAKING</b>	Short stopping distances, but the pedal grabs too quickly.
<b>HEADLIGHTS</b>	Halogen lights have very good visibility and good intensity. A sharp upper cutoff reduces visibility over undulations.
<b>ACCESS</b>	Extremely easy, with huge doors and low sills and seats.
<b>VISIBILITY</b>	Lots of glass, but pillars and head restraints impede the view. Optional backup camera requires MyFord Touch.
<b>CABIN STORAGE</b>	Multiple small bins.
<b>HEAD RESTRAINTS</b>	Rear-center restraint must be raised to provide protection.
<b>CHILD SEATS</b>	You may need to remove head restraints to install forward-facing seats.

## How they compare

Rec.	SMALL WAGONS	0	100
		P	F   G   V   G   E
✓	Mazda5 Grand Touring	88	
	Ford C-Max Hybrid SE	83	
✓	Volkswagen Jetta SportWagen TDI (MT)	81	
✓	Toyota Prius V Three	80	



Scan for video.





**POWER JUICER**  
Jon Linkov, one of our  
autos editors, uses  
a Level 2 charger  
on the Focus Electric.

# Electric cars

## Ford shows Mitsubishi how it's done

**THEY'RE EASY** to maintain, environmentally friendly, and inexpensive to operate. Still, plug-in electric cars haven't yet clicked with mainstream drivers, largely because of their limited range, long charging time, and relatively high sticker prices. Alas, as the song goes, "it's not easy being green."

So should drivers who travel only short distances each day even consider an electric car as a way to save fuel and money? The answer might depend as much on the car as it does on driving habits.

We tested the Ford Focus Electric and the Mitsubishi i-MiEV, which join the previously tested Nissan Leaf as the first widely available all-electric vehicles. The Focus is the nicest of the three. It builds on the great handling and refinement of the conventional Focus and adds instant, silent power and the second best fuel efficiency we've recorded, the equivalent of 107 mpg (or 3.18 miles per kilowatt-hour).

The smaller i-MiEV squeezes out the equivalent of 111 mpg overall, or 3.28 miles per kWh, making it the most energy-

efficient car we've tested. But in almost every other way, the i-MiEV is everything we feared an electric car might be. It's slow, chintzy, cramped, and so far off the mark that we often felt it was closer to being a glorified golf cart than an actual car.

Yes, the Focus Electric costs about \$41,000, compared with \$33,630 for the i-MiEV. But if you're sold on going gas free, the Focus is clearly the better choice. Both cars qualify buyers for a \$7,500 federal income tax credit, which offsets a good chunk of the cost. We also suggest that electric-car owners buy a dedicated 240-volt Level 2 charger, which should cost \$750 to \$1,600 and can provide a full charge in just a few hours.

Neither model is recommended. Both are too new for us to have sufficient reliability data for them. And the i-MiEV scores too low in our tests.

## Electrics charge up the horizon

The Ford Focus Electric, Mitsubishi i-MiEV, and Nissan Leaf aren't the only electrics on the market. The Smart ForTwo Electric Drive, Tesla Model S, and Toyota RAV4 EV recently joined them. And the Chevrolet Spark EV, Honda Fit EV, and Fiat 500e are coming soon.

We've already sampled preproduction versions of these cars and found that each has different advantages: The Smart is priced at just \$25,000 before tax credits. The Spark is the first vehicle to be compatible with the new DC Fast Charger standard. We briefly drove the Fit, and found it to be quick, efficient, and fun to drive. The Fiat is agile



Tesla Model S



Fiat 500e

and charges relatively quickly. And the RAV4 has a decent range and a big cargo area.

But some of those EVs will be available only in select states (mainly California and Oregon) and some, such as the Fit, will only be leased in small numbers.

And then there's the Tesla Model S luxury

sedan, which starts at \$57,400 and can reach \$100,000. Even with its smallest battery, its claimed range of 160 miles is double that of other electric cars. Optional larger batteries have a 240- and 300-mile range. We found the Tesla we sampled to be quick, agile, roomy, and refined. Look for a full test soon.

# Ford Focus Electric

**ROAD-TEST  
SCORE**  
**78**

The Focus Electric is one of the best gas-free cars on the market. It's inexpensive to run and accelerates effortlessly. Moreover, excellent handling, a composed ride, and a quiet interior make it rewarding to drive.

We got the equivalent of 107 mpg overall, 1 mpg better than the rival Nissan Leaf. And we got about 80 miles on a full charge. The Environmental Protection Agency rating is 76 miles per charge.

But this electric car can't escape some inherent deficiencies in the Focus, including a cramped rear seat and frustrating MyFord Touch audio and climate controls. In addition, the large, lithium-ion battery pack consumes much of the modest cargo space and creates an inconvenient slope in the load floor.

## Quiet punch

The 143-hp electric motor instantly delivers power, which makes the car feel much quicker than its 10.2-second 0-to-60-mph acceleration time. Energy consumption is about the same in our city and highway tests.

Although the car is quick off the line, the throttle is touchy, and oddly, it has no "Eco" mode to squeeze out more range. Like other electrics, running the heater cuts into the range significantly, but it provides quick heat.

A dedicated 240-volt Level 2 charging station can replenish the Focus from empty in less than 4 hours thanks to its 6.6-kWh onboard charger. A full charge takes about 20 kWh, which would cost about \$2.20 at the national average electricity rate of 11 cents per kWh. You can also charge with the provided 120-volt cord, but that can take up to 16 hours. A smart-phone app can

keep track of the car's state of charge, show the available range, direct you to a public charging station, and log charging times.

The supple and controlled ride befits a luxury car. Bump isolation is impressive, and ride motions are subdued. It's eerily quiet inside as the car glides effortlessly down the road.

Quick steering with good feedback makes the Focus Electric fun to drive, and the heavy battery, sitting low in the chassis, helps quell body lean. At our track, drivers confidently navigated our avoidance maneuver at a good clip with strong tire grip and slight understeer.

A digital "brake coach" display helps drivers maximize the energy recaptured by regenerative braking. It becomes a game to get the most out of riding the brakes, but the touchy pedal takes some getting used to.

## Comfortable, yet cramped

A padded dashboard, chrome accents, and piano-black plastic highlight the inviting interior. We found a few bad fits and rough edges, though.

Drivers have good room behind the tilt-and-telescopic steering wheel. Front seats are supportive and nicely contoured. But the power seat doesn't tilt independent of height. Rear-seat leg room is tight, and the car is too narrow to seat three across comfortably.

The instrument cluster includes two digital readouts with many configurations. The Sync system lets you use voice commands to control personal electronic devices and program the navigation system, which reduces distraction. Connecting a Bluetooth phone is easy and allows pausing, stopping, and advancing streaming audio.

## Tested vehicle

<b>HIGHS</b>	Fun to drive, handling, ride, responsive electric power, quietness, zero emissions
<b>LOWS</b>	Touchy throttle and brake pedal, battery takes up trunk space, tight rear seat, MyFord Touch controls
<b>DRIVETRAIN</b>	143-hp electric motor; single-speed direct-drive transmission; front-wheel drive
<b>MAJOR OPTIONS</b>	Leather, power driver's seat
<b>TESTED PRICE</b>	\$40,990

## The Focus line

<b>OTHER BODY STYLE</b>	Sedan
<b>OTHER TRIM LINES</b>	S, SE, SE SFE, Titanium, ST
<b>OTHER DRIVETRAINS</b>	160-hp, 2.0-liter four-cylinder engine; 252-hp, 2.0-liter turbocharged four-cylinder engine; six-speed automated manual transmission; five-speed manual transmission; six-speed manual transmission
<b>BASE PRICES</b>	\$16,200-\$39,200

## More test findings

<b>BRAKING</b>	OK overall; longer than other Focus versions.
<b>HEADLIGHTS</b>	Xenons provided high levels of intensity and shine a very good distance. An upper cutoff reduces visibility over dips.
<b>ACCESS</b>	Easy in front. The rear seat is tight, and the door doesn't open very wide.
<b>VISIBILITY</b>	A good view out the front, but large head restraints block the small rear window. Side mirrors have inset spotter mirrors.
<b>CABIN STORAGE</b>	Modest, with a large glove box.
<b>HEAD RESTRAINTS</b>	The rear center restraint is not tall enough even when fully raised for adequate protection.
<b>CHILD SEATS</b>	The front seat might have to be pulled far forward to fit rear-facing seats.



Scan for video.



**FULL CIRCLE**  
The glowing ring around the charge port indicates the battery's charge level.







# Mitsubishi i-MiEV

ROAD-TEST  
SCORE  
**34**

Mitsubishi's i-MiEV is the most efficient car on the market. And, at \$33,630 before tax incentives, it's also one of the cheapest electric cars. Unfortunately, the driving experience reflects that fact. The i-MiEV is puny, tinny, slow, jouncy, and clumsy. Its interior never gets warm enough in cold weather. It seats only four people, and they feel crammed together as in cheap theater seats. It also can't go very far on its long charge times. Overall, this low-priced EV is awfully expensive for what you get.

Although the i-MiEV fulfills its mission as an efficient and basic commuter and urban runabout, we think most buyers would be better served spending a little more to buy a more substantial electric car such as the Nissan Leaf or buying a cheaper hybrid car.

## On a short leash

The i-MiEV has a smaller lithium-ion battery than other electric cars we've tested, which gives the car a typical range of just 56 miles in our experience. (The EPA rating is 62 miles.) That's about 20 miles less than other electric cars. A full charge takes between 6 and 7 hours on a 240-volt charger or 21 hours on a standard household outlet.

Many of our drivers noticed that the range indicator didn't seem very accurate, but at least it erred conservatively, showing less range than they were actually left with.

The car's 63-horsepower electric motor delivers good response up to about 30 mph, but beyond that it feels really sluggish. It recorded one of the slowest 0-to-60-mph

acceleration times—14.7 seconds—we've measured in recent years.

The car won't coast downhill normally because it's recapturing regenerative braking energy. In "B," or braking, mode it's possible to reach a stop without applying the brakes.

The i-MiEV's ride is awful, with harsh impacts. The car feels jumpy on uneven roads. And the ride is choppy even on the highway.

In corners, the i-MiEV feels clumsy, and the slow steering requires a lot of input and offers almost no feedback. Ultimately, the car's narrow width helped it thread our avoidance maneuver quickly and securely. But it felt ungainly and did not inspire confidence because the skinny front tires lost grip easily.

At low speeds the electric motor whines loudly. As speed builds, tire and wind noise become louder.

## Chintzy interior

The cabin feels dated and cheap. Almost all of the plastic trim is hard, several screw heads are visible, and plenty of mold lines are evident in the trim.

Sitting up high makes you feel less vulnerable, but the fixed steering wheel is too far away and the pedals are too close, contributing to an awkward driving position. Plus the seat doesn't go back far enough.

Most controls are simple, except for the radio and integrated navigation system, which has no knobs and can be very distracting. Ridiculously, the navigation system displays gas stations rather than charging stations. Bluetooth connectivity is standard.



## ENERGY SAVER

This remote lets you heat the car while it's plugged in to avoid cutting into range.

## Tested vehicle

<b>HIGHS</b>	Low energy consumption, zero emissions, turning circle
<b>LOWS</b>	Short range, long charging time, weak heat, spartan interior, acceleration, ride, agility, complicated radio, headlights, driving position
<b>TRIM LINE</b>	SE
<b>DRIVETRAIN</b>	63-hp electric motor; single-speed direct drive; rear-wheel drive
<b>MAJOR OPTIONS</b>	Navigation, quick-charge port, rear camera, battery warming system
<b>TESTED PRICE</b>	\$33,630

## The i-MiEV line

<b>OTHER TRIM LINE</b>	ES
<b>BASE PRICES</b>	\$29,125-\$31,125

## More test findings

<b>BRAKING</b>	Stops are short, but the regenerative brakes make the pedal feel touchy.
<b>HEADLIGHTS</b>	Weak low beams don't shine far enough. High beams are only slightly brighter, but they reach a good distance.
<b>ACCESS</b>	Easy to the front; more difficult to the rear because of a narrow footpath.
<b>VISIBILITY</b>	Feels like a fishbowl, but the rear window is small.
<b>CABIN STORAGE</b>	Modest; the glove box is about the only available storage.
<b>HEAD RESTRAINTS</b>	All are sufficiently tall for protection.
<b>CHILD SEATS</b>	Difficult to fit in a car so small. Rear belts might not secure rear-facing seats adequately.



Scan for video.



# HOW TO BUY A NEW CAR

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CAR 1

CAR 2

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**3** **RECORD** the following prices for the car you want to purchase: (See your New Car Price Report for accurate pricing)

MSRP

DEALER INVOICE

INCENTIVES/REBATES/HOLDBACKS

OPTIONS / EQUIPMENT

CR BOTTOM LINE PRICE

**4** **SAVINGS ON AVERAGE**

**\$1,661**

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Before you sign up for one of those other price services, consider this: Consumer Reports New Car Price Service is 100% unbiased. We have no affiliations with car dealerships or manufacturers. Our only allegiance is to consumers like you. Other services are thinly-veiled sales machines: many are paid by car-makers to help make an easy sale.

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- 2. The "real" price for equipment and options packages**
- 3. The "hidden" unadvertised dealer incentives and holdbacks** — the secret tools dealerships use to make money even when buyers think they're getting a good deal.
- 4. The Consumer Reports Bottom Line Price** — our recommendation for what you should pay for the car.

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0313D

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When you call, please have your credit card ready (Visa, MasterCard, Discover, or American Express). You can access your customized report online or receive it by fax or mail. Ask about receiving a customized report for getting the best deal on your trade-in as well.

# Compare



VERSION	Ford Fusion	Ford Fusion	Ford Fusion	Ford C-Max	Ford Focus	Mitsubishi i-MiEV
<b>TRIM LINE</b>	SE Hybrid	SE	Titanium	Hybrid SE	Electric	SE
<b>PRICE: BASE/TESTED</b> <sup>①</sup>	\$27,200/\$28,290	\$23,700/\$25,585	\$30,200/\$33,180	\$25,200/\$26,685	\$39,200/\$40,990	\$29,990/\$33,630
<b>DRIVETRAIN</b>	2.0-liter 4-cyl. (188 hp) hybrid	1.6-liter 4-cyl. (173 hp) turbo	2.0-liter 4-cyl. (231 hp) turbo	2.0-liter 4-cyl. (188 hp) hybrid	electric (143 hp)	electric (63 hp)
Engine						
Transmission	CVT	6-speed automatic	6-speed automatic	CVT	1-speed direct	1-speed direct
Drive wheels	Front	Front	Front	Front	Front	Rear
<b>TIRES TESTED</b>	Michelin Energy Saver A/S, size P225/50R17 93V	Michelin Energy Saver A/S, size 235/50R17 96H	Goodyear Eagle LS 2, size 235/45R18 94V	Michelin Energy Saver A/S, size P225/50R17 93V	Michelin Energy Saver A/S, size P225/50R17 93V	Dunlop Enasave 01 A/S, size 145/65R15 72H (front), 175/60R15 81H (rear)
Model & size						
<b>RATINGS</b>						
<b>PERFORMANCE</b>						
Acceleration	⊖	⊖	⊖	⊖	○	●
0 to 60 mph, sec.	8.3	8.9	7.4	8.4	10.2	14.7
45 to 65 mph, sec.	5.4	5.9	4.5	5.1	5.4	9.1
Quarter-mile, sec.	16.5	16.8	15.8	16.6	18.0	20.2
Transmission	⊖	⊖	⊖	⊖	⊖	⊖
Routine handling	⊖	⊖	⊖	⊖	⊖	⊖
Emergency handling	○	○	⊖	⊖	⊖	⊖
Avoid. maneuver, speed, mph	52.0	52.5	53.5	53.0	52.5	52.0
Braking	⊖	⊖	⊖	⊖	⊖	⊖
From 60 mph, dry/wet, ft.	140/153	129/145	130/141	138/150	140/154	132/146
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/cargo area	○	○	○	⊖	●	⊖
<b>PREDICTED RELIABILITY</b>	New	New	New	New	NA	NA
<b>FUEL</b>						
Overall mpg/Overall MPGe	39	25	22	37	107	111
City/highway mpg/City/Highway MPGe	35/41	16/37	14/33	35/38	108/107	104/116
Type	regular	regular	regular	regular	electric	electric
Capacity, gal./kWh	13.5	16.5	16.5	13.5	20	16
Cruising range, mi.	520	415	365	495	76	62
Annual cost, 12K mi. at \$3.50/gal.	\$1,085	\$1,675	\$1,895	\$1,145	\$415 at 11¢/kWh	\$400 at 11¢/kWh
<b>SAFETY</b>						
<b>CRASH TESTS</b>						
IIHS frontal offset	Good	Good	Good	NA	Good	NA
IIHS side	Good	Good	Good	NA	Good	NA
IIHS rear	Good	Good	Good	Good	Good	NA
IIHS roof strength	Good	Good	Good	NA	Good	NA
NHTSA front, driver/pass.	NA/NA	NA/NA	NA/NA	NA/NA	NA/NA	⊖/⊖
NHTSA side, driver/rear	NA/NA	NA/NA	NA/NA	NA/NA	NA/NA	⊖/⊖
NHTSA rollover 2WD/4WD	NA/NA	NA/NA	NA/NA	NA/NA	NA/NA	⊖/NA
<b>AIR BAGS</b>						
Side, front/rear	std./no	std./no	std./no	std./no	std./no	std./no
Head protection	standard	standard	standard	standard	standard	standard
<b>SPECIFICATIONS</b>						
<b>DIMENSIONS AND WEIGHT</b>						
Length/width/height, in.	192/73/58	192/73/58	192/73/58	174/72/64	173/72/58	145/62/64
Wheelbase, in.	112	112	112	104	104	100
Turning circle, ft.	40	38	37	41	41	33
Ground clearance, in.	4.5	5.0	5.0	4.5	4.5	5.0
Curb weight, lb. (% front/rear)	3,640 (58/42)	3,415 (59/41)	3,615 (59/41)	3,165 (59/41)	3,625 (49/51)	2,610 (46/54)
Maximum load, lb.	850	850	850	825	825	660
Luggage, suitcases+duffels/cargo volume, cu. ft.	2+3	3+2	3+1	28.0	1+1	1+1
Towing capacity, lb.	NR	1,000	2,000	NR	NR	NR
<b>INTERIOR ROOM</b>						
Front shoulder room, in.	57.5	57.5	57.5	55.5	55.5	52.5
Front leg room, in.	42.0	42.0	42.0	42.0	41.5	39.5
Front head room, in. <sup>②</sup>	5.0	5.0	2.5	7.0	4.0	5.0
Rear-row shoulder room, in.	54.5	54.5	54.5	53.0	50.5	50.0
Rear-row leg room, in.	29.0	29.0	29.0	28.5	25.5	25.0
Rear-row head room, in. <sup>②</sup>	3.0	3.0	2.5	5.0	3.0	4.5

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



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# Cuddly Sherpa Throw



60 in x 70 in  
152 cm x 177 cm  
**100% Polyester**

Care Instructions:  
Wash before first use. Machine wash  
separately in cold water on gentle cycle.  
Use non-chlorine bleach when needed.  
Do not wring or twist. Tumble dry at a low

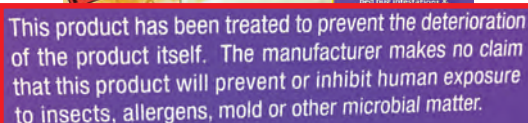
Don't hump

Care Instructions:  
Wash before first use. Machine wash  
separately in cold water on gentle cycle.  
Use non-chlorine bleach when needed.  
Do not wring or twist. Tumble dry at a low

The packaging for this Cuddly Sherpa Throw shows a flock of cuddly sheep. Might their wool be used in the product? Nah. "I can only assume," a reader wrote, "that those are not baby lambs but are in fact baby polyesters."

[illegible]

The ingredients list for Banquet Reduced Fat Pepperoni Stuffed Breadsticks with Marinara Dipping Sauce runs for more than 250 words. A reader's favorites: "textured vegetable protein product\*" with the asterisk clarifying that this is "not found in regular pepperoni." We're partial to the cheese list: "restricted melt cheese," "substitute mozzarella cheese," and "mozzarella type cheese powder."



After seeing the boasts and buying this mattress protector, an allergic reader was surprised by fine print revealing that the product was treated to protect ... itself.



"An Eddie Bauer polo shirt bargain," a reader wrote. "But upon closer inspection ...."



Maybe the newer product "now tastes Even Better!" but its nutrition doesn't look that way. Calories per serving rose from 100 to 120; sugars from 2 grams to 7; sodium from 110 milligrams to 190. Fiber fell from 5 grams to 3; potassium from 280 milligrams to 125. Any good news? The new version has a little less fat.



It's fine for BNY Mellon to plant a tree when customers choose to "go completely paperless," but the unused space in this document led a reader to another conclusion: "They need to plant an entire FOREST after this mailing!"



The Consumer Reports New Car Price Report includes access to the Build & Buy Service. Purchasers have saved over \$100 million vs MSRP using this program\*.



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# Canada Extra

Information from CONSUMER REPORTS® for Canadian readers

## In this special section

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Autos	32D
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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.)

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Paul Reynolds, *Canada Extra editor*



**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.

## Laptops

Report and Ratings, page 50

Here are the brands of laptops from our testing with the phone numbers and websites where you can reach the manufacturers for information about models and prices.

BRAND	PHONE	WEBSITE
Acer	800-565-2237	<a href="http://acer.ca">acer.ca</a>
Apple	800-692-7753	<a href="http://apple.com/ca">apple.com/ca</a>
Asus	888-678-3698	<a href="http://ca.asus.com">ca.asus.com</a>
Dell	800-999-3355	<a href="http://dell.ca">dell.ca</a>

BRAND	PHONE	WEBSITE
Lenovo	866-968-4465	<a href="http://lenovo.com/ca/en">lenovo.com/ca/en</a>
Samsung	800-726-7864	<a href="http://samsung.com/ca">samsung.com/ca</a>
Sony	888-289-7669	<a href="http://store.sony.ca">store.sony.ca</a>
Toshiba	800-867-4422	<a href="http://toshiba.ca">toshiba.ca</a>
Vizio	905-944-8944	<a href="http://store.vizio.com/en-ca">store.vizio.com/en-ca</a>



# TVs

Report and Ratings, pages 16-27

Fifty-nine of the tested televisions are available, including 41 of the recommended models.

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

## A 60-INCH AND LARGER All have 1080p resolution.

✓	1	Panasonic Viera TC-P65VT50	plasma	\$4,300	81
✓	3	Samsung PN60E550	plasma	1,800	78
✓	4	Panasonic Viera TC-P60GT50	plasma	2,800	77
✓	6	Samsung PN64E550	plasma	2,400	71
✓	7	LG 60PM6700	plasma	1,600	70
✓	9	LG 60PA6500	plasma	1,130	67
✓	11	Samsung UN60ES6100	LED [2]	2,000	65

## B 55- TO 59-INCH All have 1080p resolution.

✓	1	Panasonic Viera TC-P55VT50	plasma	3,000	79
✓	2	Panasonic Viera TC-P55ST50	plasma	1,800	78
✓	4	Samsung UN55ES8000	LED [2]	3,000	74
✓	5	LG 55LM9600	LED [2]	2,800	74
✓	6	LG 55LM6400	LED [2]	1,600	74
✓	7	Sony Bravia XBR-55HX950	LED [2]	3,600	74
✓	9	Sony Bravia KDL-55HX850	LED [2]	2,800	72
✓	10	Samsung UN55ES6500	LED [2]	1,700	72
✓	11	LG 55LM6700	LED [2]	1,900	71
✓	14	Samsung UN55EH6000	LED [2]	1,350	66
✓	15	Sony Bravia KDL-55EX640	LED [2]	1,500	66
	18	Toshiba 55L7200U	LED [2]	1,455	64

## C 46- TO 51-INCH All have 1080p resolution.

✓	2	Panasonic Viera TC-P50ST50	plasma	1,400	76
✓	4	Samsung PN51E550	plasma	1,250	74
✓	5	LG 47LM8600	LED [2]	2,300	74
✓	8	Samsung UN46ES6500	LED [2]	1,450	72
✓	9	Panasonic Viera TC-L47ET5	LED [2]	1,100	72
✓	12	Sony Bravia KDL-46HX750	LED [2]	1,550	69
✓	14	LG 50PA6500	plasma	750	69
✓	15	Samsung UN46EH5300	LED [2]	1,050	68

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

## C 46- TO 51-INCH continued

✓	16	Samsung PN51E530	plasma	\$ 900	68
✓	18	LG 50PA5500	plasma	550	67
✓	19	LG 47LS5700	LED [2]	1,000	66
✓	20	Panasonic Viera TC-P50U50	plasma	800	66
✓	22	Samsung UN46EH5000	LED [2]	850	65
	30	Toshiba 50L2200U	LED [2]	800	57

## D 40- TO 43-INCH All have 1080p resolution except D4, which has 720p.

✓	2	Samsung UN40ES6580	LED [2]	1,450	72
✓	4	Samsung PN43E450	plasma	500	68
✓	5	Samsung UN40EH6000	LED [2]	750	67
✓	8	LG 42C5570	LCD	600	66
✓	10	Sony Bravia KDL-40EX640	LED [2]	1,000	65
	11	LG 42LM5800	LED [2]	900	64
	13	LG 42LS3400	LED [2]	600	63
	16	Sony Bravia KDL-42EX440	LED [2]	700	61
	22	Insignia NS-42E470A13	LED [2]	500	57
	25	Dynex DX-40L261A12	LCD	300	56

## E 37- TO 39-INCH Has 1080p resolution.

	9	Haier LE39F2280	LED [2]	430	45
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## F 32-INCH All have 720p resolution.

	4	Sony Bravia KDL-32EX340	LED [2]	450	64
	6	Philips 32PFL4907	LED [2]	370	61
	13	Panasonic Viera TC-L32C5	LCD	330	57
	16	Dynex DX-32L100A13	LCD	230	52
	24	Haier LE32F2220	LED [2]	300	46
	25	Coby LEDTV3226	LED [2]	390	43

## G 26-INCH AND SMALLER All have 720p resolution.

✓	1	Samsung UN26EH4000	LED [2]	300	64
✓	2	LG 26LS3500	LED [2]	300	63

[2] LCD TV with LED backlighting.

# Vacuums

Report and Ratings, pages 42-45

Thirty-three of the tested vacuums are available, including 13 of the recommended models.

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

## A BAGGED UPRIGHTS These tend to be best for carpets.

✓	2	Miele 7580 Marin	\$650	72
✓	5	Kenmore Intuition 30612	300	71
✓	8	Hoover Platinum Bagged UH30010COM [2] [3]	400	70
✓	13	Eureka Boss Smart Vac 4870MZ	230	67
	17	Panasonic MC-UG471 [2]	150	63
	19	Riccar Supralite RSL4	570	59
	20	Riccar Brilliance Premium	950	59

## B BAGLESS UPRIGHTS These trade a bag for a bin but can be messier to empty.

✓	4	Kenmore Intuition 30613	300	66
✓	5	Eureka AirSpeed AS1000AE	130	66
✓	6	Hoover Platinum Bagless UH70015	400	65
✓	9	Bissell CleanView Helix Deluxe 71V9C	130	64
✓	10	Shark Navigator Lift Away NV352	180	63
	12	Shark Navigator Professional Lift Away NV356E [3]	200	62
	13	Hoover WindTunnel Pet Rewind UH70210	190	61
	17	Panasonic MC-UL915	230	59
	19	Shark Navigator NV22L	150	58
	21	Electrolux Nimble EL8602[ ]	330	57
	25	Eureka Whirlwind+ Pet Lover 3276BVZ [2]	150	56

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

## B BAGLESS UPRIGHTS continued

	27	Bissell Healthy Home 16N5C	\$ 250	56
	31	Hoover WindTunnel Pet Cyclonic UH70085	250	52
	33	Bissell Lift-Off Multi-Cyclonic Pet 89Q9C	200	52
	34	Electrolux Versatility EL8505	350	52
	41	Dyson DC24 Ball Multi Floor	500	44

## C BAGGED CANISTERS These tend to do better with tools than uprights and are more stable on stairs.

✓	1	Kenmore Intuition 23110	650	72
✓	4	Kenmore Progressive 23206	400	70
✓	5	Kenmore Progressive 23204	350	68
	7	Electrolux UltraOne EL7070A	900	67
	8	Electrolux UltraSilencer DeepClean EL7060[ ]	550	65
✓	9	Panasonic MC-CG902	250	65
	14	Electrolux JetMaxx Green EL4040[ ]	450	61
	17	Electrolux UltraSilencer EL6986A	350	55
	21	Sebo Air Belt C3.1 [2]	1,090	51

## D BAGLESS CANISTER This trades a bag for a bin but can be messier to empty.

	5	Hoover Elite Cyclonic S3825	300	51
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[2] Lacks brush on/off. [3] Comes with a mini canister.

## 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 [www.ConsumerReports.org](http://www.ConsumerReports.org). Once there, click on the "Canada Extra" link on the opening screen. There you can see which reports have Canadian information available.

ConsumerReports.org

Cars Appliances Electronics Home & Garden Babies & Kids

canada extra

LISTED BY CATEGORY

Canada Extra turns 10

Cars

- Truck fleets
- Budget cars
- Compact pickups
- Convertibles
- Crew-cab pickup trucks
- Family sedans
- Hatchbacks
- Large sedans
- Luxury coupes
- Luxury sedans
- Luxury SUVs
- Mercedes-Benz B200
- Midsize SUVs

CONSUMER REPORTS CANADIAN RATINGS

Video

- Camcorders
- Conventional tube TVs
- DVD recorders

FREE HIGHLIGHTS

Cars & transportation

We list government, industry, and manufacturer auto information and resources.

Better Business Bureaus

These non-profit organizations handle complaints, settle disputes, and more.

Government consumer offices

Here, federal and provincial offices that can help with a range of consumer concerns.

Government safety offices

These offices handle consumer issues including product safety and bankruptcy.

# Autos

Report and Ratings, pages 52-60

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
ENTRY-LEVEL MIDSIZED SEDAN								
Ford Fusion (1.6T)	\$25,399	3.2	9.4	4.0	19.3	14.5	6.3	9.4
HIGH-END MIDSIZED SEDANS								
Ford Fusion Hybrid	29,999-35,499	3.5	8.8	4.1	18.8	6.7	5.7	6.1
Ford Fusion (2.0T)	28,799-33,999	3.1	7.8	3.3	18.1	16.5	7.1	10.6
WAGON								
Ford C-MAX	27,199-36,999	3.5	8.9	3.7	19.0	6.7	6.2	6.4
LIMITED-RANGE ELECTRIC CARS								
Ford Focus Electric	39,199	4.5	10.8	3.7	20.6	2.2	2.2	2.2
Mitsubishi i-MiEV	32,998	5.1	15.7	6.0	23.2	2.3	2.0	2.1

## Contact info

How to reach manufacturers in Canada.

### Bissell

800-263-2535  
bissell.ca

### Coby

855-542-8917  
cobyusa.com

### Dynex

800-305-2204  
bestbuy.ca

### Dyson

877-397-6622  
dyson.com

### Electrolux

800-282-2886  
electrolux.ca

### Eureka

800-282-2886  
eurekavac.ca

### Haier

877-337-3639  
haieramerica.com

### Hoover

888-898-6055  
hoovercanada.com

### Insignia

800-305-2204  
bestbuy.ca

### Kenmore

Contact local Sears  
sears.ca

### LG

888-542-2623  
lg.com/ca

### Miele

800-565-6432  
miele.ca

### Panasonic

866-330-0014 (TVs)  
800-561-5505 (vacuums)  
panasonic.ca

### Philips

866-771-4018  
philips.ca

### Riccar

800-661-1467  
riccar.com

### Samsung

800-726-7864  
samsung.ca

### Sebo

800-661-8687  
sebocanada.ca

### Shark

800-798-7398

### Sony

877-899-7669  
store.sony.ca

### Toshiba

800-268-3404  
toshiba.ca