10 easy ways to speed up Windows 10

Make your PC faster without installing an SSD.

by

- Matt Elliott,
- Sarah Jacobsson Purewal

May 31, 2017 3:11 PM PDT

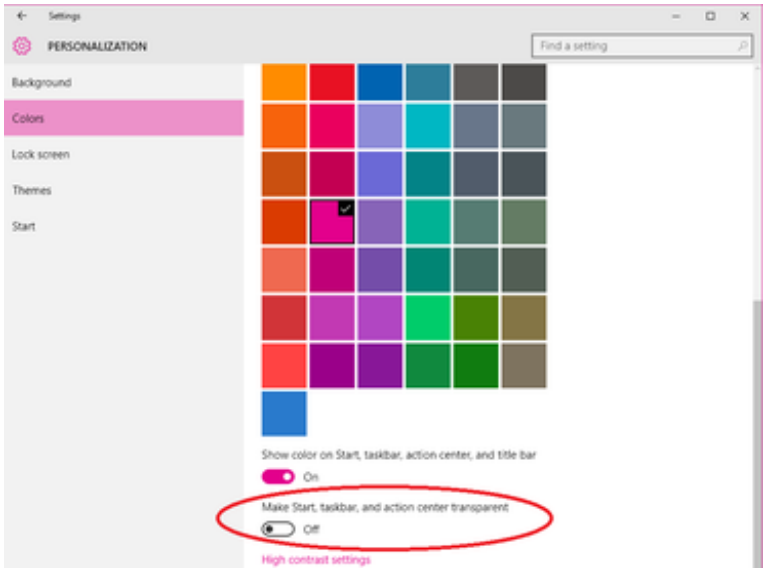
Watch this: 10 quick ways to speed up Windows 10

3:27

If your formerly shiny, new Windows 10 PC has begun to lose some of its luster, there are ways to put a little pep back in its step. Here are some quick, easy ways to improve its performance without swapping out any hardware.

1. Go opaque

Windows 10's new Start menu is sexy and see-through, but that transparency will cost you some (slight) resources. To reclaim those resources, you can disable transparency in the Start menu, taskbar, and action center: Open the **Settings** menu and go to **Personalization > Colors** and toggle off **Make Start, taskbar, and action center transparent**.



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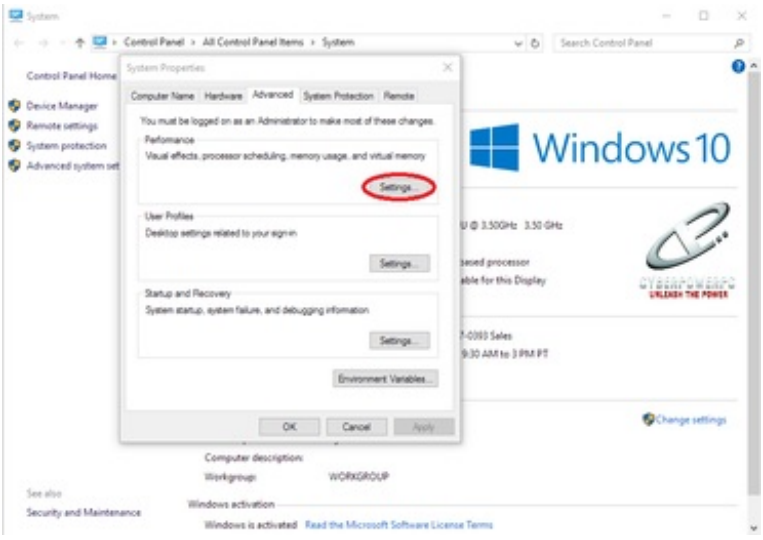
2. No special effects

Making the Start menu, taskbar, and action center transparent is one thing, but Windows 10 still has a lot of other snazzy, built-in special effects. To *really* go bare-bones on the special effects, right-click the **Start** button and click **System**.



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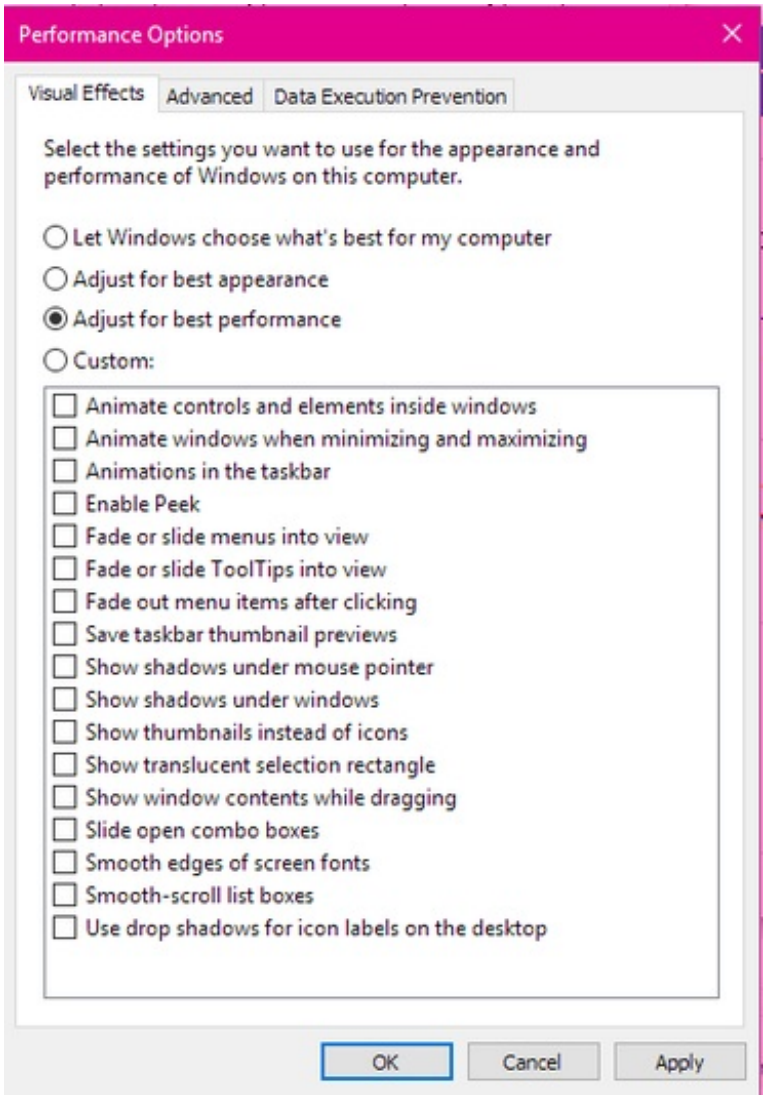
Click **Advanced system settings** to open the System Properties menu. On the **Advanced** tab under **Performance**, click **Settings...**



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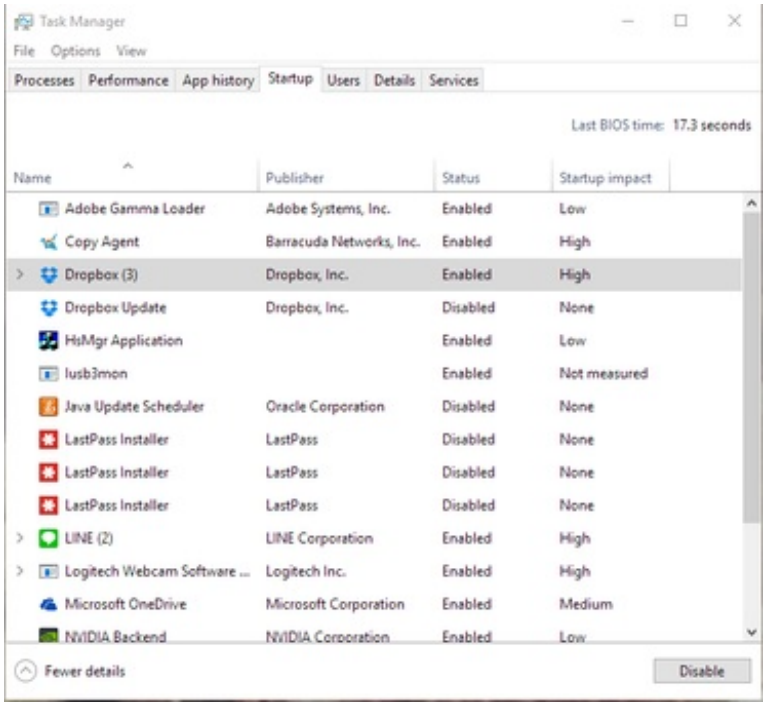
This will open the Performance Options menu. In the **Visual Effects** tab, either choose **Adjust for best performance** to turn off all unnecessary animations and special effects, or choose **Custom:** and deselect the visual effects you think can live without. When you're finished, click **OK** to apply your changes.

3. Disable Startup programs

If your PC is taking a long time to boot up -- and you've enabled Fast Startup and everything -- you may have too many programs starting up when you turn your computer on. To fix this, right-click on the **Start** button and click **Task Manager.** Click the **Startup** tab (click **More details** if you don't see the Startup tab) and peruse the list of programs that start up with your computer. If you see a program that doesn't need to be there, right-click it and click **Disable**. You can also arrange the list of programs by **Startup impact**, if you'd like to see the programs that are taking up the most resources (and time).



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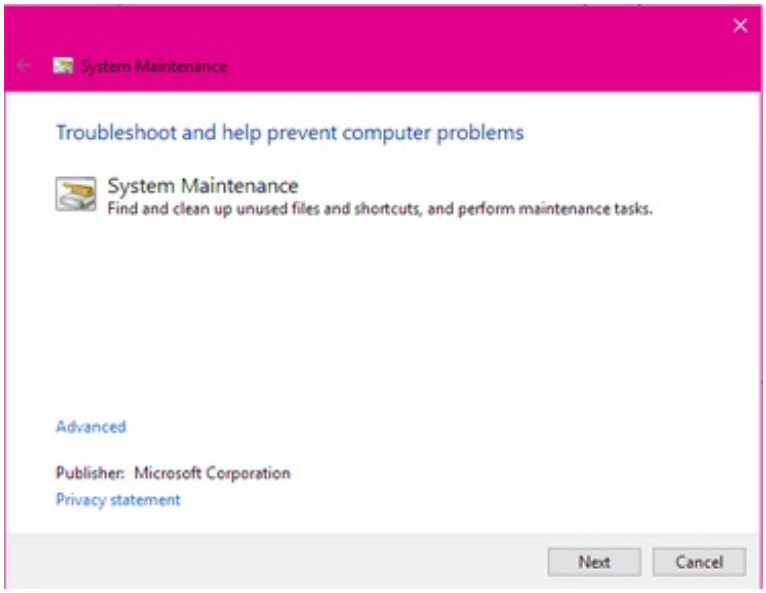
4. Find (and fix) the problem

Windows 10 has a built-in performance troubleshooter that can help you find and fix any problems that might be affecting your PC's speed. To open the troubleshooter, right-click on the **Start** button and click **Control Panel**. Under **Security and Maintenance** at the top, click **Troubleshoot common computer problems**. Next, under **System and Security**, click **Run maintenance tasks**.



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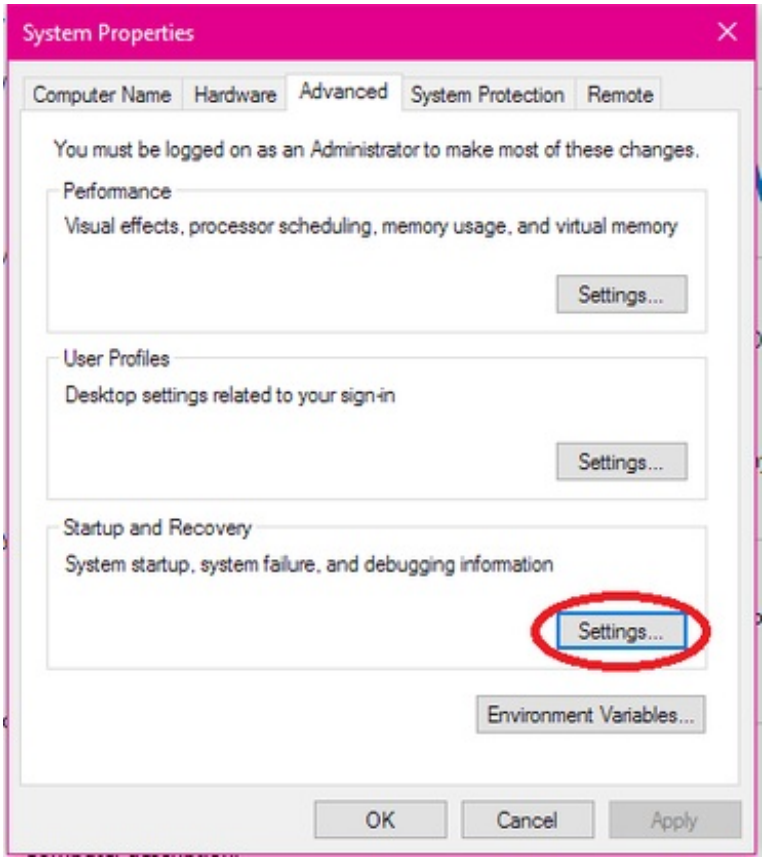
5. Reduce the Boot Menu Time-out

When your computer starts up, the boot menu is displayed for a certain amount of time before the operating system loads. This gives you time to do things like start Windows in Safe Mode. You can shave a few seconds off your startup time by changing the boot menu

time-out, which is set to 30 seconds by default.



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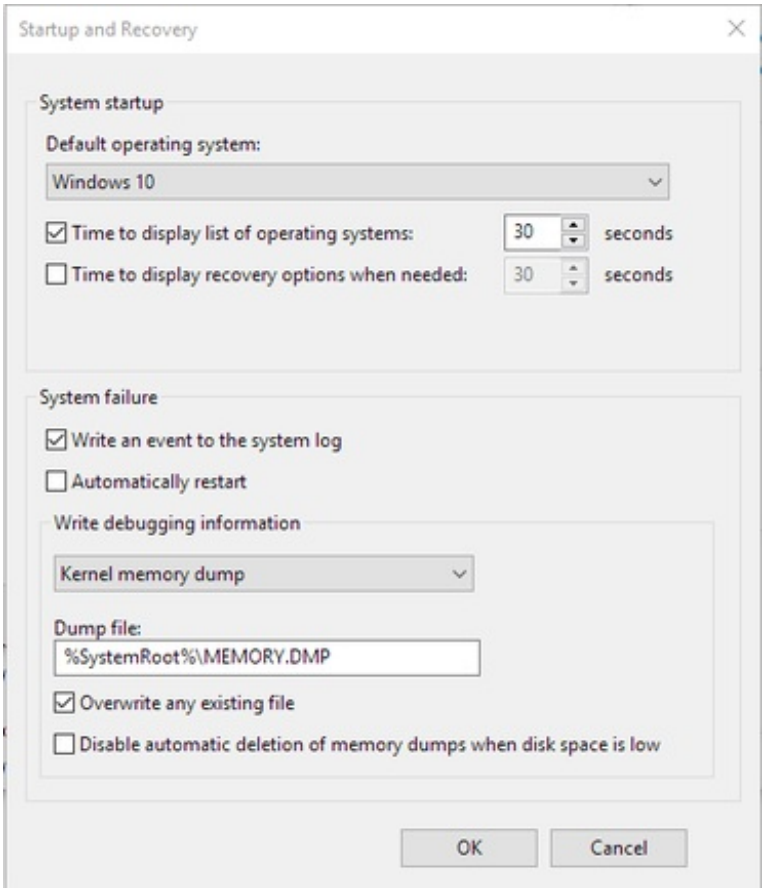
To do this, right-click on the **Start** button and click **Control Panel**. Go to **System > Advanced system settings**, and, under **Startup and Recovery**, click **Settings**.



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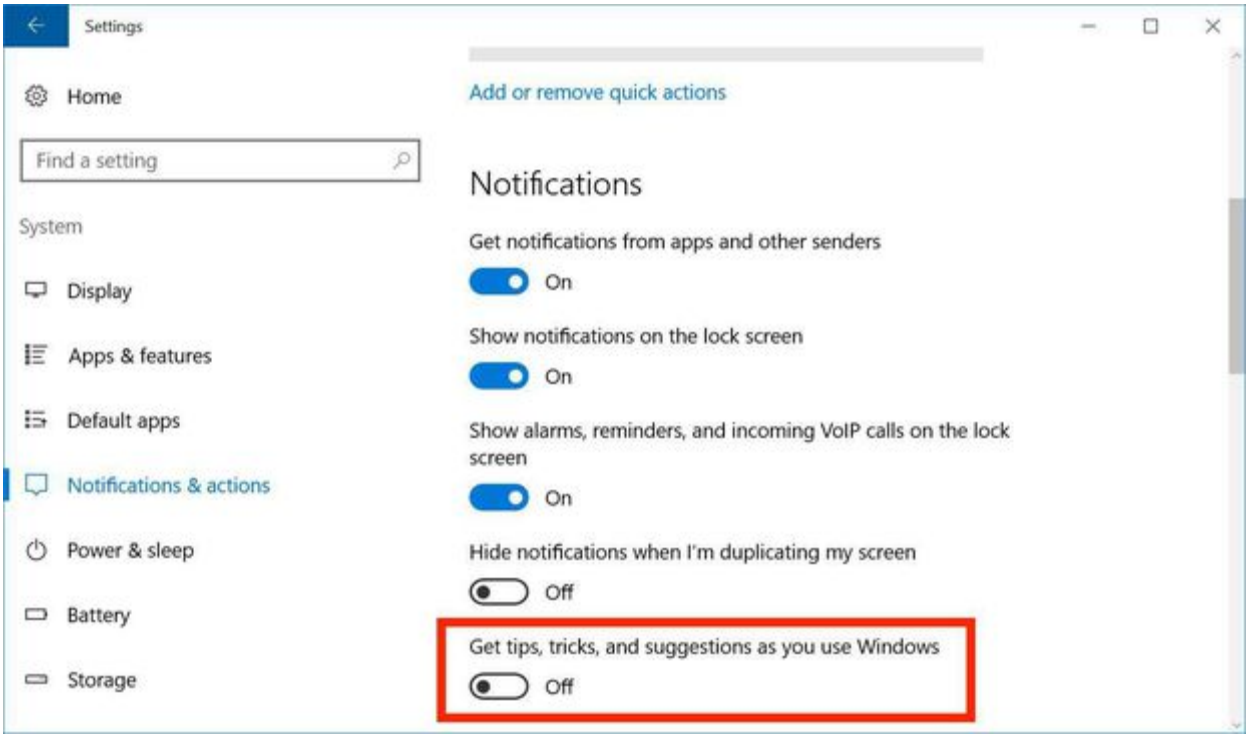
Next to **Time to display list of operating systems:**, change the value from **30 seconds** to **10** seconds and click **OK**.

6. No tipping

In an effort to be helpful, Windows 10 will sometimes give you tips on how to get the most out of the OS. It scans your computer in order to do this, a process that can have a slight impact on performance. To turn off these tips, go to **Start > Settings > System > Notifications & actions** and toggle off **Get tips, tricks and suggestions as you use Windows**.



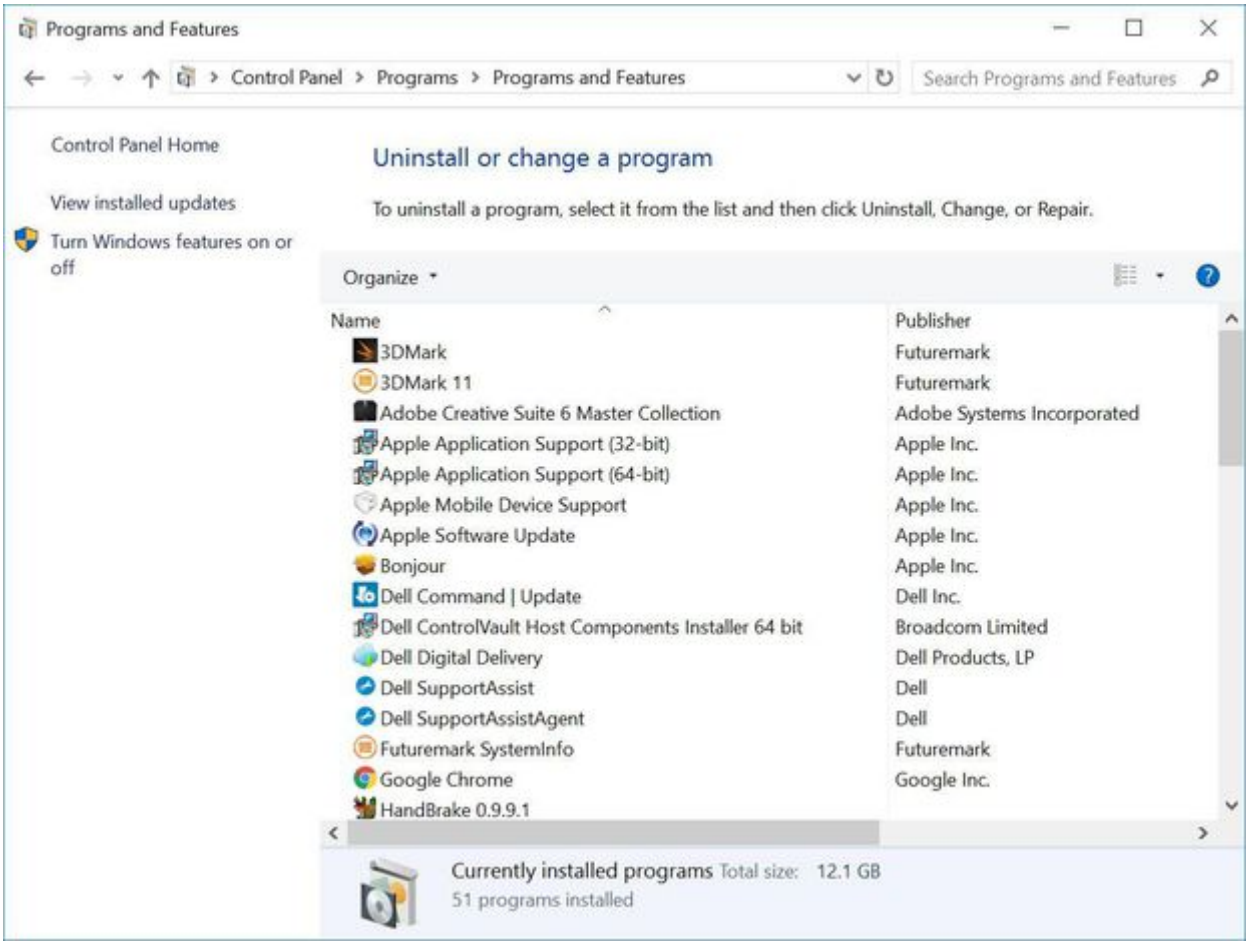
Matt Elliott

7. Run Disk Cleanup

This one's a win-win. It'll improve performance and free up space on your hard drive. Disk Cleanup has been around forever, but this trusted Windows utility can still help clean out the temporary files, installers and other junk littering your hard drive. To run it, just search for Disk Cleanup, run it and click the button labeled **Clean up system files**.

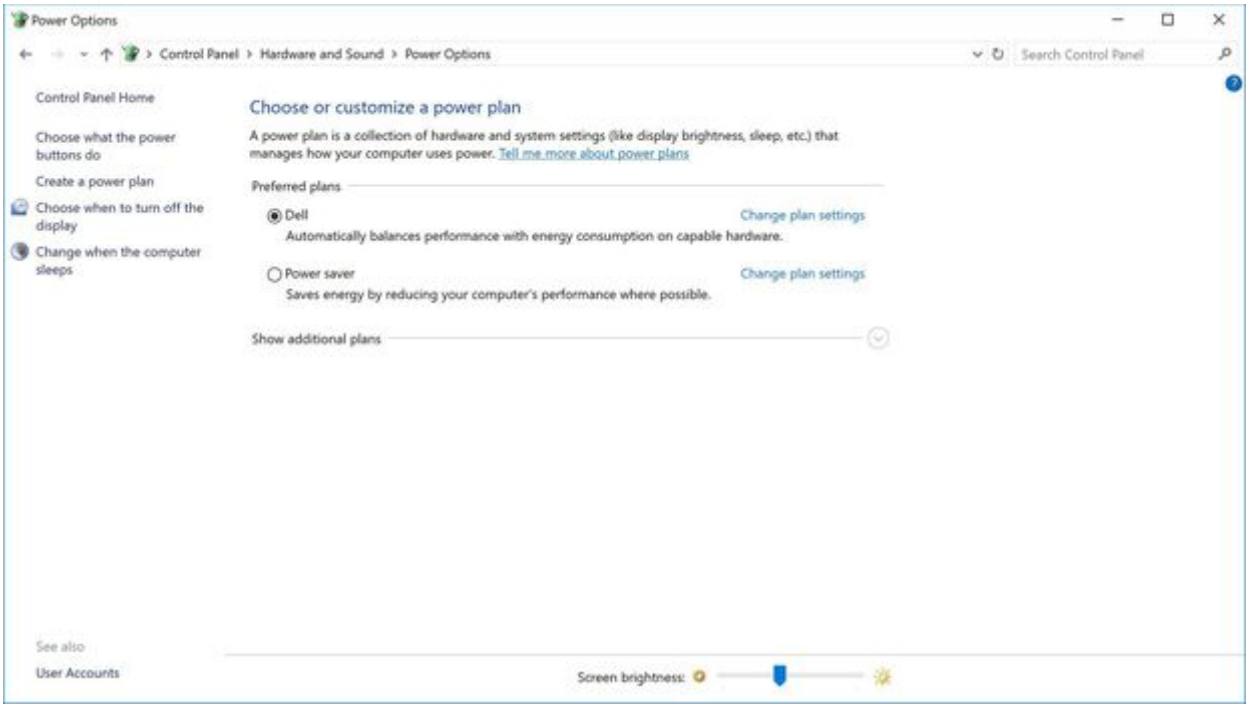
8. Eradicate bloatware

If your PC came with preinstalled apps you don't want or need, get rid of them. Same goes for any apps you installed that you later found to be of little or no use. **Right-click** the **Start** menu, choose **Control Panel** and under the **Programs** header, click **Uninstall a program**. Peruse the list from time to time and select the programs you no longer need and click **Uninstall** at the top of the list.



9. Power plan

Make sure you aren't using a Power saver plan if you don't need to. Even desktops will sometimes feature a power-saver option, which doesn't do you any good unless you are trying to conserve battery life. Open the **Control Panel** and go to **Hardware and Sound > Power Options** to see which power plan you are currently using. For better performance, make sure you are using a **High Performance** or **Balanced** plan (or a plan from the PC manufacturer that says it's balanced).



10. Restart your PC

Is speeding up your computer as simple as...restarting it? Maybe. Restarting your PC clears out its memory and stops any processes that might be taking up resources. Also, shutting down your computer is not the same as restarting it -- shutdown is affected by Windows 10's Fast Startup, which saves a snapshot of your PC and its processes in a hiberfile for faster boot-up. Restart is *not* affected by Fast Startup, so if you have Fast Startup enabled, restarting your PC is the only way to fully clear the memory and shutdown processes.

Editors' note: *This story was originally published on April 12, 2016, and has since been updated with more tips.*

Next Article: Life in space: Growing food, brewing beer and making stuff
Sci-Tech

Life in space: Growing food, brewing beer and making stuff

From CNET Magazine: We have a lot to learn before we can send humans to Mars. These experiments on the ISS will help us get there.

by

- Erin Carson

July 6, 2018 5:00 AM PDT
NASA Johnson

Forty-six years after the last flight to the moon, humans are a decade or so away from putting a boot down on Mars.

Like early explorations of Asia and the New World centuries ago, expeditions to Mars will

last years. Depending on Mars' position relative to Earth's orbit, it will most likely take about nine months just to get there. But arriving will be only the beginning. Those pioneering astronauts will have to spend another 500 days on the red planet until its orbit aligns with Earth's, then travel nine months again to return home. So what do we have to do to keep them well-supplied and healthy?

In a word, everything.

NASA researchers and various companies are working on ways to grow nutritious leafy greens, make spare parts on the fly (literally), brew drinks -- even develop tech that repairs itself -- to help astronauts go years without outside help.

Some experiments are further along than others, but all play important roles in accomplishing necessary tasks made tricky by low gravity.

We asked ourselves, how good will life on Mars be if you can't enjoy a cold beer?
Ricardo Marques, Budweiser

"The day we actually set foot on Mars will be an amazing day. But there's going to be a lot of mundane stuff that leads up to that," says NASA test director Ralph Fritsche.

Here are a few of the more interesting space experiments that will help humans survive, and even thrive, on Mars.

Eat your greens

We've come a long way since 1962, when John Glenn, the first American to orbit the Earth, dined on applesauce squeezed from a tube.

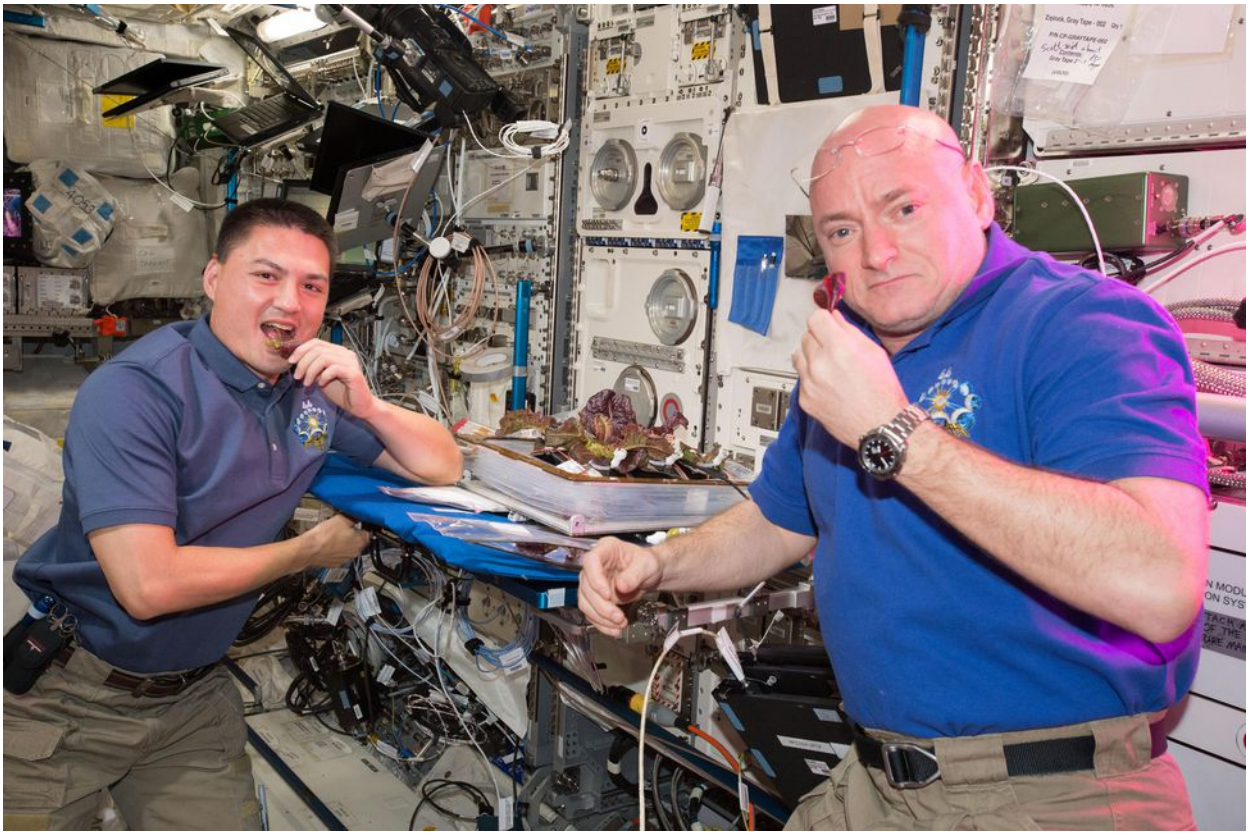
Back then, scientists didn't know if humans could swallow food in space, let alone digest it.

Snacking on baby food was never so risky.

But after decades of serving chow in microgravity, researchers' new task is providing fresh foods in space. It's why NASA built the Vegetable Production System, better known as Veggie. On the International Space Station since 2014, the growth chamber uses LED lighting and water reservoirs beneath bags of soil, baked clay, controlled-release fertilizer and seeds.

The goal, says NASA, is "to provide the crew with a palatable, nutritious and safe source of fresh food and a tool to support relaxation and recreation."

Well, that gives "grow your own" new meaning.



Astronauts Scott Kelly (right) and Kjell Lindgren try out the first crops harvested on the ISS. The crew took their first bites on Aug. 10, 2015.

NASA Johnson

So far, Veggie has been used to grow red romaine lettuce, cabbage, mustard greens and zinnias. The original crop of lettuce was frozen and sent back to Earth to test for harmful microbes. Thankfully, space salad is safe to eat.

"When [astronauts] come back, a lot of times they'll say, 'I thought I'd be missing a pizza or a cheeseburger, and the first thing I wanted was a salad," says Gioia Massa, a NASA project scientist who led the Veggie science team. Massa says NASA plans to grow tomatoes in the fall.

There's also the nutritional aspect. Many vitamins and minerals, including C, B-6, thiamin and folic acid, degrade over time. As tantalizing as dehydrated salmon might sound (mmmm, dehydrated salmon!), it just won't pack the same nutritional punch that fresh food can. Space-grown vegetation could fill in some nourishment gaps.

As the worm turns

Believe it or not, worms could offer the clues to help things and people regenerate. Planarian flatworms, specifically. That's because these flatworms can be cut into pieces, and each piece will grow into a whole new worm.

Four years ago, Tufts University sent flatworm segments to space to see what would happen. The results of the flatworm experiments were a little freaky: One of the middle sections of the flatworms grew an extra head.

Researchers still aren't quite sure why, but they're hopeful new insight into planarian flatworm regeneration could one day help fight spinal cord injuries, degenerative brain diseases and heart failure. They also hope such understanding could lead to technology that automatically detects damage and fixes itself -- a huge plus when you're 140 million miles from the nearest repair shop.

Built in space

It costs about $10,000 to launch a pound of payload into orbit, according to NASA. We'll need to pack light.

Or we can just build what we need when we need it.

"Let's skip launch," says Matt Napoli, a vice president of Made In Space, whose tagline, "Dream on Earth. Build among the stars," pretty much sums up its mission.

"Let's skip that whole process and build things where they're needed, whether it's in space, on the moon or Mars."

A part that was 3D printed floats in microgravity.

Made In Space

Architects of the Death Star would probably agree.

For the past two years, the company's Additive Manufacturing Facility (AMF) has provided 3D printing on the International Space Station. Manufacturing is controlled from the ground.

NASA and commercial customers use the AMF as a service for making parts, tools, assemblies and medical materials.

But first, the Mountain View, California, company had to get a 3D printer to work in space. Its engineers realized, for example, that the heat melting the feedstock material would gather at the extruder in microgravity instead of dissipating into the air as it does on Earth. They had to find a way to diffuse the heat. Made In Space also had to figure out if microgravity would prevent printed layers from sticking together, and whether fumes from the melted materials would be safe to breathe in the ISS's atmosphere.

So far, they've printed everything from wrenches to finger splints (in case an astronaut floats into a wall and jams a finger). They even printed a part for their first 3D printer.

Production has been on the small scale, but Made In Space sees "a future where life and work in space are commonplace." That eventually means large-scale construction projects.

Amazon founder Jeff Bezos also wants to move industry off Earth so we're producing stuff up there instead of down here. "We need to protect [Earth] and the only way to really protect it is to eventually ... move heavy industry off Earth," Bezos, who also founded the Blue Origin spaceflight company, told the BBC last year.

Hey, someone has to keep an eye on our big blue marble when everyone else focuses on the red planet.

Drink up

Imagine stepping off a spaceship after months in space. You'd be forgiven for wanting to crack open a cold one.

Travel is exhausting.

Budweiser is way ahead of you. Parent company Anheuser-Busch wants to corner the Mars beer market.

"We asked ourselves, 'How good will life on Mars be if you can't enjoy a cold beer?'" says Ricardo Marques, Budweiser's vice president of marketing. Last year, the company announced its goal to be the first beer on Mars.

"While socializing on Mars might be in the near-distant future, Budweiser is taking steps now to better understand how its ingredients react in microgravity environments so that when we get to Mars, Budweiser will be there," Anheuser-Busch said in a November press release.

Unfortunately, it won't be as easy as whipping out hops, barley, yeast, and some plastic buckets upon arrival. (Otherwise, Matt Damon probably would've tried.)

In partnership with Space Tango, of Lexington, Kentucky -- maker of special 10-centimeter cubes (3.9 inches) called CubeLabs that run experiments in microgravity -- Budweiser has already conducted two monthlong tests with barley, a core ingredient in beer making.

The first experiment was designed to show how barley seeds react to microgravity. The second aimed to find out if barley would grow at the same rate in space as on Earth, and whether it developed any genetic mutations. Detailed research results are still pending.

Many of the things we learn in space will be applicable here, says Gentry Barnett, a program manager at Space Tango.

"If we find the stress of microgravity can affect the height or the water tolerance or the heat tolerance of a plant, then that makes it very beneficial to all the crop production here on Earth," she says.

Future experiments will look at making carbonation work in space, too, says Gary Hanning, director of global barley research at Anheuser-Busch. (Gross detail: Carbonation gives astronauts "wet burps.")

Barnett says they might eventually test malting the barley.

Cheers to that.

Budweiser and Space Tango grew barley in microgravity.

Space Tango

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Mark Mann

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