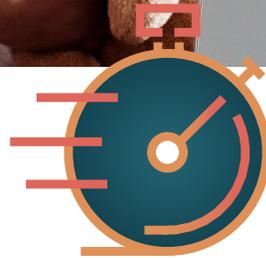


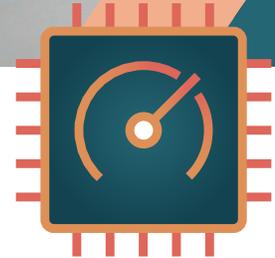
Flexible

Users can choose laptop or tablet mode



8% to 37% better scores

on GeekBench 5 and WebXPRT 3



20% less time

to open applications and files to start the workday

Get more choices and better benchmark scores with the Microsoft Surface Book 3

With a touchscreen, detachable display, and more ports and cameras, Surface Book 3—powered by the 10th Generation Intel Core processor—scored higher on several performance tests than a MacBook Pro with an 8th Generation Intel Core processor

If you're working from home, a laptop that offers strong performance and flexibility can let you spend less time waiting and help you work in a variety of locations. We compared a Microsoft Surface Book 3, powered by a 10th Generation Intel® Core™ processor, and a current MacBook Pro® with an 8th Generation Intel Core processor. Surface Book 3 scored higher on two industry-standard benchmark tests and opened multiple applications and files in less time. As a 2-in-1 device that works in both laptop and tablet modes and includes plenty of ports and an extra rear camera, it also offers users more options. That could make it a great choice as you seek to balance work and life.

When every second counts and you need to be able to work from anywhere

Sure, the commute was a hassle and you pulled the occasional late night, but it was a lot easier to keep work separate from home life when you went to the office every day. In the current work-from-home reality, many of us find our responsibilities as employees and family members swirling together throughout the day, making it a logistical challenge to carve out time and space to devote to work.

Scene 1: Your partner has a dental appointment and you're on your own for the morning. Your second-grader has an urgent question about her math assignment, your toddler bumped her head and needs a cuddle, and your boss is expecting the report you promised would be in her inbox by noon. The last thing you need is to waste extra seconds waiting for your laptop to respond. A speedier system would really come in handy right now.

Scene 2: You and your partner have mapped out the day based on your meeting schedules and deadlines. You head downstairs from the guest room that has become your home office, prepared to watch the kids in the rec room for the next hour. To your surprise, each is happily engaged in her own activity and they barely notice you. As your mind wanders to that email you really need to write, you consider sneaking back upstairs to grab your laptop. That would probably break the spell, though. What if all your work files and applications were on a tablet that you could grab and bring down with you just in case?

Scene 3: You're making dinner when your phone dings. There's an issue with a spreadsheet you sent out earlier, and you need your laptop to fix it. You could bring it into the kitchen, but don't want to chance food spilling onto your keyboard. You turn off the burner. A 2-in-1 device would let you fix the problem without delaying the meal.

We studied a Microsoft Surface Book 3, powered by a 10th Generation Intel Core processor, and a MacBook Pro with an 8th Generation Intel Core processor to see which offered greater speed and flexibility to help those of us in the work-at-home trenches.

We conducted two industry-standard benchmark tests, GeekBench and WebXPRT 3, and measured the time each system needed to open a series of applications and large files. We also considered the effect that the form factor of each device could have on the user experience. (See the [science behind this report](#) for details on the systems we tested and the tests we conducted.)

About the Microsoft Surface Book 3

The Microsoft Surface Book 3 is available with the 10th Generation Intel Core processor, up to 32 GB of RAM, up to an NVIDIA® GeForce® GTX 1660 Ti graphics card, and a touchscreen PixelSense™ display that the user can detach to use the device as a standalone tablet. According to Microsoft, Surface Book 3 “combines speed, graphics, and immersive gaming with the versatility of a laptop, tablet, and portable studio.”¹

Learn more at <https://www.microsoft.com/en-us/p/surface-book-3/8xbw9g3z71f1?activetab=pivot:techspecstab>.

Which system was speedier?

Measuring overall compute performance with GeekBench

Figure 3 shows the scores the two devices achieved on the GeekBench 5.2.3 Pro benchmark test, which measures overall processor performance. The 10th Generation Intel Core processor-powered Microsoft Surface Book 3 outperformed the 8th Generation Intel Core processor-powered MacBook Pro on every sub-test, with scores up to 37.5 percent better. In real life, this could translate to quicker response times and less waiting for users.

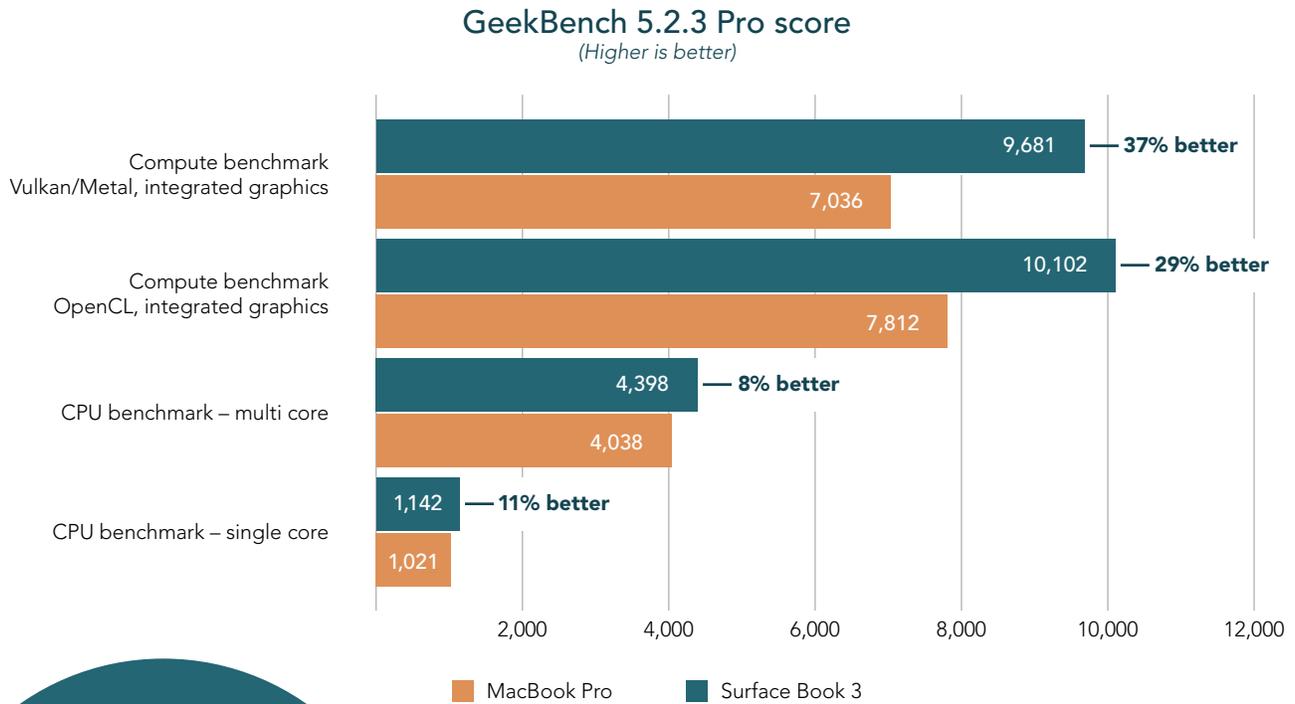


Figure 1: GeekBench 5.2.3 Pro score. Higher is better. Source: Principled Technologies.

GeekBench measures the performance of your CPU and integrated GPU. Because Surface Book 3 scored from 8% to 37% higher on GeekBench 5 tests, it may feel more responsive than a similarly configured MacBook Pro.



Measuring web-browsing performance with WebXPRT 3

Figure 4 shows the scores the two devices achieved on the WebXPRT 3 benchmark test, which measures how quickly a browser/device combination carries out web-browsing tasks. In our tests, we used the default browser for each system. Microsoft Edge on the 10th Generation Intel Core processor-powered Microsoft Surface Book 3 outperformed Safari on the 8th Generation Intel Core processor-powered MacBook Pro by 24.8 percent. That speed advantage could come in handy, for example, when doing a last-minute search for a citation.

Surface Book 3 scored 24% higher on WebXPRT, which could translate to less waiting when performing tasks such as searches.

WebXPRT 3 score (Higher is better)

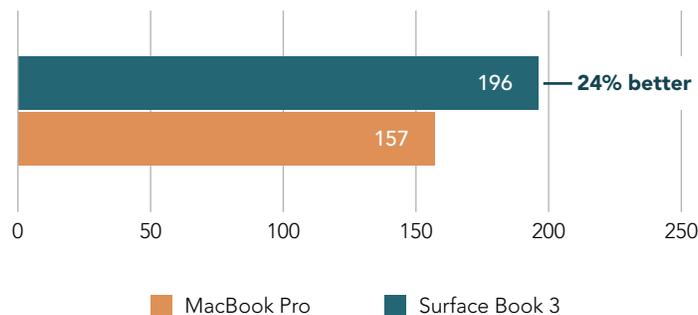


Figure 2: WebXPRT 3 score. Higher is better. Source: Principled Technologies.

Measuring time to open work applications

Opening multiple applications one after another can tax any system. Figure 5 shows how long it took the two devices to open three work applications (Microsoft Outlook, Slack, and a web browser open to multiple tabs) and two large files—a Microsoft Excel workbook and a PDF. The 10th Generation Intel Core processor-powered Microsoft Surface Book 3 needed 20.5 percent less time to open these items than the 8th Generation Intel Core processor-powered MacBook Pro did—a savings of 5 seconds.

Surface Book 3 opened applications and files in 20% less time, which could let you start your workday sooner.

Time to open work applications and files (Seconds – lower is better)

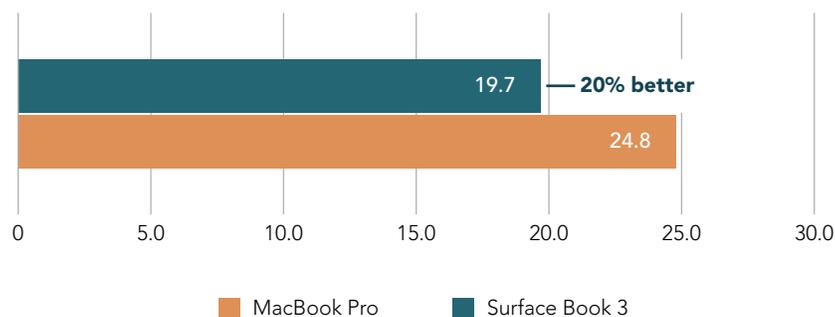


Figure 3: Time in seconds to open Outlook, Slack, a web browser with multiple tabs, a large Excel file, and a large PDF. Lower is better. Source: Principled Technologies.

More is more: A 1-in-1 device vs. a 2-in-1 device (with touchscreen)

In contrast to the MacBook Pro, a laptop that you can use only with its integrated keyboard, the Surface Book 3 2-in-1 device gives users a tablet option. Occupying the space between a smartphone and a laptop, a tablet can be a convenient alternative when you need fully functional applications but having your computer open isn't practical. Surface Book 3 also offers a touchscreen display. The MacBook Pro display does not have touch capacity.



About the 10th generation Intel Core i5 processor family

The Microsoft Surface Book 3 device we tested was powered by an Intel Core i5-1035G7 processor, part of the 10th Generation Intel Core i5 processor family. According to Intel, these processors deliver "remarkable performance upgrades for improved productivity and stunning entertainment, including up to 5.3 GHz, Intel Wi-Fi 6 (Gig+), Thunderbolt 3 technology, 4K HDR, intelligent system organization, and more."²

Learn more at <https://www.intel.com/content/www/us/en/products/docs/processors/core/10th-gen-processors.html>.

More is more: The importance of ports

We photographed the two test devices back to back. The device with more ports is the Microsoft Surface Book 3, which offers a third USB port, full-size SDXC card reader, and two Surface Connect ports for docking. The MacBook Pro has an additional limitation in that one of its Thunderbolt 3 ports must also serve as the device's power input. When the devices are plugged in, the MacBook Pro drops to one available USB port, while the Surface Book 3 keeps all three available. The SDXC card reader and traditional USB-A ports allow users of Surface Book 3 to directly connect a larger variety of peripherals, especially ones that are older than current generation.



Figure 4: Left: Apple MacBook Pro. Right: Microsoft Surface Book 3. Source: Principled Technologies.



Figure 5: Left: Microsoft Surface Book 3. Right: Apple MacBook Pro. Source: Principled Technologies.

More is more: A rear camera

Both devices we evaluated have front-facing cameras, which see a lot of use when most—if not all—meetings take place online. However, Surface Book 3 also has an 8.0MP rear-facing auto-focus camera with 1080p video. This gives users the option to use the device in tablet mode as a camera. When those children who make working from home difficult at times are being particularly cute, you can document the moment for posterity with a photo or video.



Conclusion

The right device can help reduce the stress of working from home. Powered by a 10th Generation Intel Core processor, Surface Book 3 scored from 8 percent to 37 percent higher on GeekBench 5 and WebXPRT 3 and opened a series of applications and files in less time than a MacBook Pro powered by an 8th Generation Intel Core processor. Unlike the MacBook Pro, the 2-in-1 Microsoft Surface Book 3 also offers a tablet mode for extra flexibility. These two differences make the Microsoft Surface Book 3 a great choice for working from home.

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- 1 "Microsoft Surface Book 3," accessed October 8, 2020, <https://www.microsoft.com/en-us/p/surface-book-3/8xbw9g3z71f1?activetab=pivot:techspecstab>.
 - 2 "The Power of 10," accessed October 8, 2020, <https://www.intel.com/content/www/us/en/products/docs/processors/core/10th-gen-processors.html>.

Read the science behind this report at <http://facts.pt/3IWlQxk> ►



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