

intel.

# CORE TRUTHS

A playbook that  
enlightens customers  
on how the 'latest  
technology' is not  
always what it seems.

A woman with curly hair, wearing a blue and white gaming headset, is sitting at a desk and playing a video game. She is looking intently at the screen. The background is dark, with blue light from the screen illuminating her face and hands. A monitor on the left shows the Intel logo.

intel®

# CORE TRUTHS

Why the latest doesn't  
always mean the latest.

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Intel® Unison™ solution is currently available on Windows-based PCs to pair with Android- or iOS-based phones and tablets. Some premium features only available on eligible designs. All devices must run a supported OS version. See [intel.com/performance-wireless](http://intel.com/performance-wireless) for details.

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There's a long history of selling half-truths to unsuspecting customers.

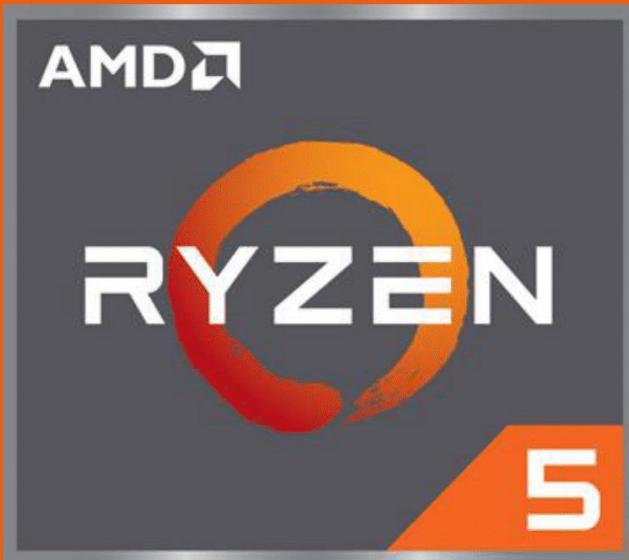
Trust me...





Trust me, it's new

Can I trust  
that this is the  
latest?



No! This is  
the latest!

# CORE TRUTH #1

## Core truth #1

The Ryzen 5 7520U is built  
on dated Zen 2 architecture  
released in 2019!

# Fact:



The number 7 is the only new thing about **some** AMD 7000 Series processors.

The Ryzen 5 7520U is actually built on Zen 2 architecture released WAY BACK in 2019!



The Intel Core i5 1335U is based on our latest architecture, Raptor Lake, released in 2023!

# Industry leaders are also aware of this half-truth



**"It's ... a way for AMD to relabel as  
'new' a handful of *older processors*  
*from years past.*"** January 2023.



**"It also, conveniently **for** AMD, gives people  
less cause to whine when the company puts  
*old cores* in new chips."**

September 2022.



**"No these chips are using  
AMD's Zen 2 cores that  
launched alongside its Ryzen  
3000-series *parts in 2019.*"**  
September 2022.



**"AMD's new naming scheme for  
mobile Ryzen is a doozy... You  
can't tell the players without a  
scorecard"**  
September 2022.



**"...But as a consumer, you're  
still intended to see the  
number 7 and think, "Oh, this  
is new.."**  
September 2022.

# The latest doesn't always mean the latest

Let's compare the latest 13<sup>th</sup> Gen Intel Core i5 vs. AMD Ryzen 5 7000 series in performance using CrossMark.

They are both marketed as the 'LATEST' technologies, but the Core i5 1335U is around 83% better than Ryzen 5 7520U.

Keep this in mind when ordering 'comparable' or 'equivalent' technologies.

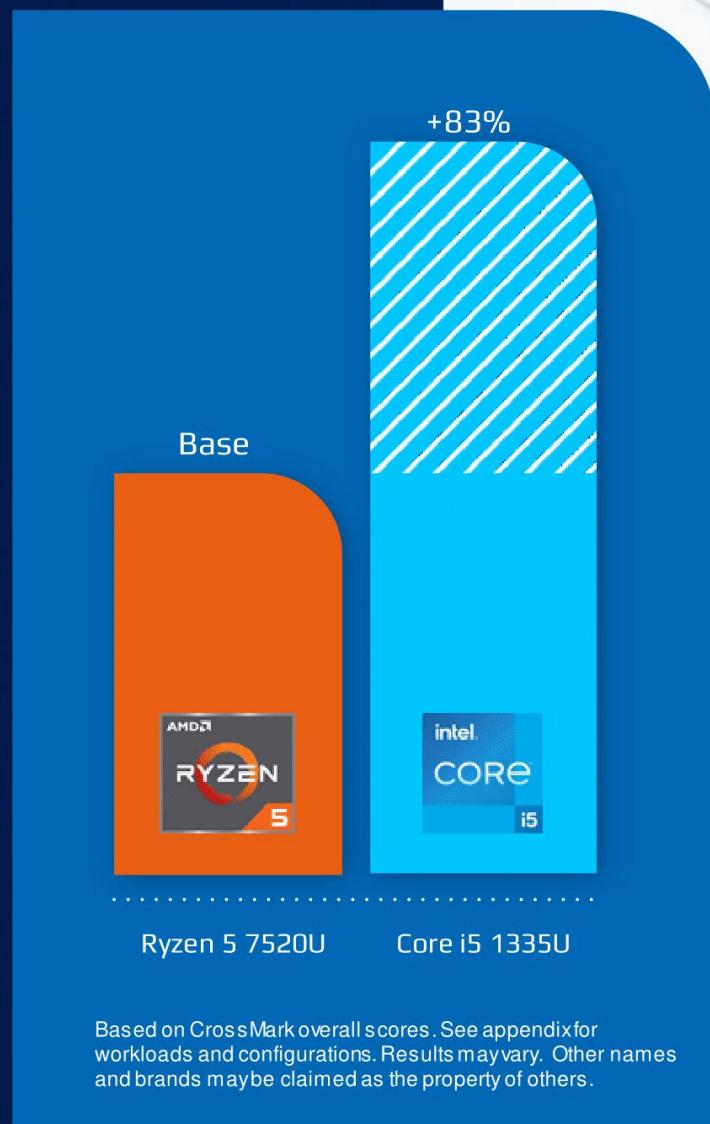


Based on CrossMark overall scores. See appendix for workloads and configurations. Results may vary. Other names and brands maybe claimed as the property of others.

# Latest doesn't mean better

While searching for comparable laptops online, John notices that 13th Gen are the latest so this is what he will compare with. In his research he also sees the latest AMD 7000 series, so he considers AMD's latest gen too.

In this situation, latest doesn't always mean better performance or product experience.



# Be careful what you wish for

In a commercial buying scenario, it's common for procurement teams to compare 'equivalent' options when filling out tender specs. For example, you might word the spec to include 'latest gen Intel Core i5 or equivalent'.

The Intel Core i5 and AMD 7000 Series are both 'latest' technologies but Core i5 1335U is up to 83% better in performance than Ryzen 5 7520U!

In this example, the Ryzen 5 7520U would be far from equivalent!



# CORE TRUTH #2

## Core Truth #2

AMD's old  
architecture is  
hidden in plain sight!

# Hidden in plain sight



"As a consumer, you're still intended to see the number 7 and think, "Oh, this is new." ArsTechnica, September 2022, Screenshot Source: <https://arstechnica.com/gadgets/2022/09/amd-is-making-laptop-cpu-model-numbers-simultaneously-less-and-more-confusing/>

Ryzen™ 5  
7640U ➤

7

## Portfolio Model Year

- 7 ➔ 2023
- 8 ➔ 2024
- 9 ➔ 2025

6

## Market Segment

- x1xx ➔ Athlon™ Silver
- x2xx ➔ Athlon™ Gold
- x3xx ➔ Ryzen™ 3
- x4xx ➔ Ryzen™ 3
- x5xx ➔ Ryzen™ 5
- x6xx ➔ Ryzen™ 5
- x7xx ➔ Ryzen™ 7

4

## Architecture

- 1 ➔ Zen 1 | Zen +
- 2 ➔ Zen 2
- 3 ➔ Zen 3 | Zen 3+
- 4 ➔ Zen 4
- 5 ➔ Zen 5
- etc.

0

## Feature Isolation\*

- 0 ➔ Lower model within segment
- 5 ➔ Upper model within segment

U

## Form Factor/TDP

- HX ➔ 55W+  
Max Performance
- HS ➔ ~35W+  
Thin Gaming/Creator
- U ➔ 15-28W  
Premium Ultrathin
- C ➔ 15-28W  
Chromebook

# CORE TRUTH #3

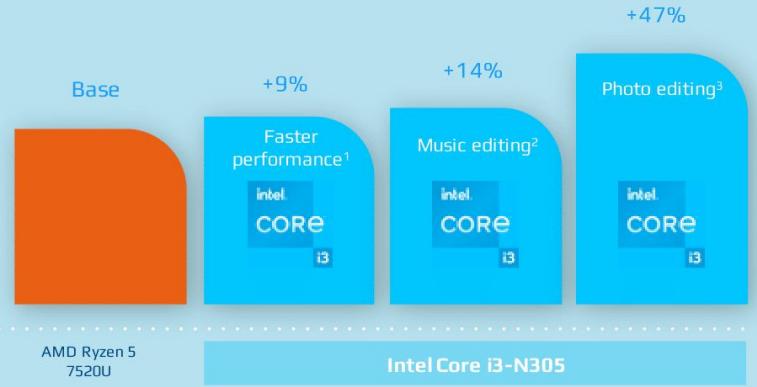
## Core Truth #3

The future of education  
and learning *depends*  
on the latest technology

# How should you evaluate the future of education?

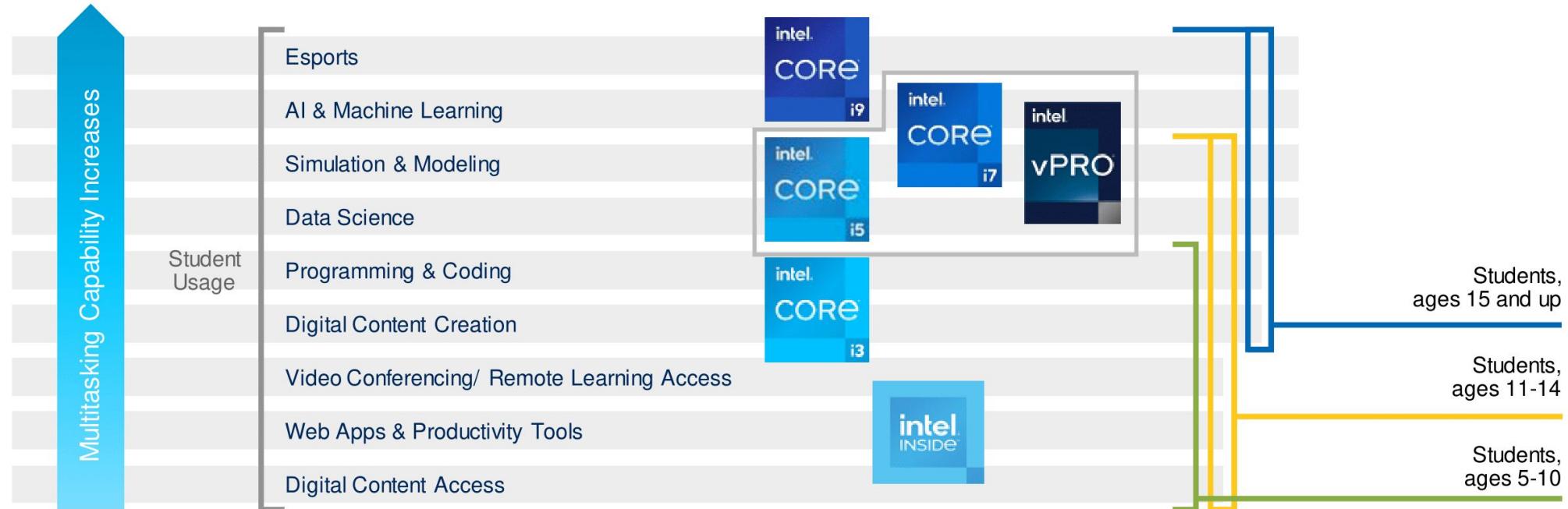
There are many considerations when researching and purchasing for schools.

But the most important is that the students are getting the best performance from the latest technology.



- <sup>1</sup> Performance Based on CrossMark Overall Scores  
<sup>2</sup> Based on time to convert MP3 music file to MIDI with Ableton  
<sup>3</sup> Based on time to apply lens correction filter in Adobe Photoshop  
See Appendix for workloads and configurations. Results may vary

# Intel Powers a Wide Range of Choices to Meet Students' Needs



Fundamentals of a Technology Platform for Anywhere Learning



Connectivity



Manageability



Security



Graphics Performance



Audio/Video Performance



Computing Performance

Note: Intel® Core i9 processor is not available on machines running Chrome OS

# CORE TRUTH #4

Not all cores give  
you the best overall  
performance.

# Consumer Notebook Performance Leadership



Performance Based on Crossmark Overall Scores

See appendix for workloads and configurations. Results may vary. Other names and brands maybe claimed as the property of others.

# Beyond performance

Co-engineered designs featuring Intel 13<sup>th</sup> gen cores deliver an experience far beyond performance alone.



## 1 Built with you in mind

We've partnered with your favorite brands to co-engineer a new standard of the best thin & light laptops available today.

## 2 Hardware-based security

Intel 13th Gen Core offers the ideal protection against any malware – within the computer hardware itself. Intel CPUs can detect malware better than AMD chips.

## 3 Performance hybrid architecture

With an increase in core count, Intel's performance hybrid architecture will optimize your gaming, content creation, and productivity. It's time to unleash the power of next-level performance!

## 4 Intel Evo

Intel Evo laptops with 13th Gen Intel Core will deliver better battery life and Intel Unison's seamless multi-device platform experience.



## 5 Intel vPro

vPro with Intel 13th gen delivers the most comprehensive security, necessary hardware for companies in need of a PC refresh, and increased productivity for all employees.



# Appendix

# Benchmarks and Workloads

- **CrossMark:** This easy-to-run native cross-platform benchmark from the BAPCo consortium measures the overall system performance and system responsiveness using models of real-world applications.
- **Applying a lens correction filter in Adobe Photoshop:** This test entails correcting an image for the distortion caused by the shape of the camera lens.
- **Converting and exporting music files in Ableton Live:** This workload documents converting the melody track of an .mp3 file to MIDI and capturing the time, in seconds, of the process.

# Configuration details

Measured as of May 2023

Processor: 12th Gen Intel® Core™ i5-1235U, 2 P-Cores / 4 Threads, 8 E-Cores / 8 Threads, up to 4.4 GHz, Memory: 16 GB DDR4 SDRAM, Storage: 256 GB, OS: Windows 11 22H2 (OS Build 22621.1555) measured on a HP 17t-cn200

Processor: 12th Gen Intel® Core™ i7-1255U, 2 P-Cores / 4 Threads, 8 E-Cores / 8 Threads, up to 4.7 GHz, Memory: 16 GB DDR4 SDRAM, Storage: 256 GB, OS: Windows 11 22H2 (OS Build 22621.1555) measured on HP 17t-cn200

Processor: AMD Ryzen 7 7730U, 8 Cores / 16 Threads, up to 4.5 GHz, Memory 16 GB DDR4 SDRAM, Storage: 256 GB, OS: Windows 11 22H2 (OS Build 22621.1555) measured on a HP 17z-cp300

Measured by February 2023

Processor: AMD Ryzen 5 7520U 4C/8T, up to 4.3GHz, Memory: 2X4GB LPDDR5, Storage: Western Digital 256GB SSD, OS: Windows 11 Home (Build 22H2 22621.1105), Graphics: AMD Radeon Graphics (Driver: 31.0.12024.1002) measured on Acer Aspire A315-24P

Processor: Intel® Core™ i3-N305 8C/8T, Processor: Intel Core i3-N305, 8 cores/8 threads up to 3.8 GHz, PL1=15 W, memory: 4 x 2 GB LPDDR5, storage: 256 GB SSD, browser: Google Chrome v109, Microsoft Office 365, OS: Windows 11 Home 22H2 v22621.1105 as measured on an Acer Aspire laptop (model A314-36P) to 4.1GHz, Memory: 1x8 GB DDR4, Storage: 256 GB SSD, PC BIOS version: AMI F.01 OS: Windows 11 version: 21H2 2200.739; Intel® Iris® Xe graphics, GFX driver version: 30.0.101.1298, measured on a Lenovo IdeaPad 3 81X8

Measured as of June 2023

Processor: 13th Gen Intel® Core™ i5-1335U, 2 P-Cores / 4 Threads, 8 E-Cores / 8 Threads, up to 4.6 GHz, Memory: 8 GB LPDDR5 RAM, Storage: 512 GB, OS: Windows 11 22H2 (OS Build 22621.1702) measured on a Lenovo Yoga 7i

Processor: 13th Gen Intel® Core™ i7-1355U, 2 P-Cores / 4 Threads, 8 E-Cores / 8 Threads, up to 5.0 GHz, Memory: 16 GB LPDDR5 RAM, Storage: 512 GB, OS: Windows 11 22H2 (OS Build 22621.1702) measured on a Lenovo Yoga 7i

Processor: AMD Ryzen 7 7735U, 6 Cores / 12 Threads, up to 4.55 GHz, Memory 16 GB LPDDR5 RAM, Storage: 512 GB, OS: Windows 11 22H2 (OS Build 22621.1702) measured on a Lenovo Yoga 7

Processor: AMD Ryzen 7 7840U, 6 Cores / 12 Threads, Memory: 16 GB DDR5 RAM, Storage: 512 GB, OS: Windows 11 Pro 22H2 (OS Build 22621.1635) measured on a HP Elitebook 845