



# Versatility for Learning

A 2 in 1 device: A tablet when students want it, a laptop when they need it.

The vision of a learning environment that will best support and prepare students for life outside of the classroom is evolving. Learning in the 21st century is connected, mobile, and on-demand. In education, mobile computing has the potential to raise productivity and improve learning both inside and outside classrooms.<sup>1</sup> Schools worldwide are undergoing an exciting metamorphosis as mobile technology becomes an integral part of everyday teaching and learning.

School administrators and IT managers must decide which learning and teaching platforms provide the best support for a broad range of ages and activities, while being cost-effective, manageable, and secure. Education decision makers are finding that versatile 2 in 1 devices are an excellent solution.

- **Flexibility and mobility** advantages of a tablet
- **Performance and productivity** advantages of a PC

Now, students and teachers can get the best of both worlds in one powerful device, at a price that meets tight budget requirements.

With 2 in 1 devices, students have the freedom to roam and explore, plus the power to perform. The freedom of a tablet may be perfect on a field trip or while collecting data for a science project. When it's time to write a report from that material, the work might be better suited to the full capabilities of a PC.

Using 2 in 1 devices can help prepare students for life in the 21st century, with learning that is connected, mobile, and on-demand.

## TOP 10 REASONS TO USE INTEL® EDUCATION 2 IN 1 DEVICES



#10: Full PC functionality



#5: Language arts



#9: Multitasking and peripheral support



#4: Math and science



#8: Great access to content and software



#3: Digital pens and touch screens for a natural writing experience



#7: Mobility of a tablet



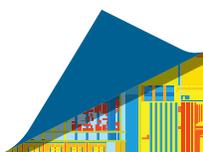
#2: Enhanced teaching environment



#6: Versatility - like two devices for the price of one

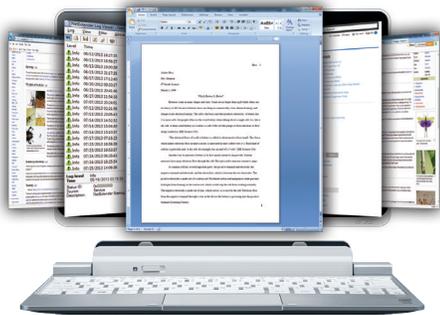


#1: Improved learning experience



## FULL PC FUNCTIONALITY

Students or teachers who need a workhorse to handle demanding jobs—even more than one at a time—can rely on the full PC functionality of a 2 in 1. The physical keyboard and high performance are perfect for tough tasks.



### Multitasking

As full-feature Intel® architecture-based platforms, 2 in 1 devices enable students to work on simultaneous activities by multitasking between applications. This capability is valuable, for example, when working on a science lab: logging data, graphing, analyzing, and transforming that work into a research paper. Online and offline capabilities facilitate access to stored work and applications, whether or not students have connectivity.

### Content Creation

As they collect, analyze, synthesize, and decide how to represent data, students and teachers benefit from integrated keyboard and platform performance, which play a key role for content creation using productivity and media creation tools for images, video, and audio.



Display image created by NASA



### Easy Peripheral Support

Devices such as digital microscopes, temperature probes, and biofeedback monitors connect to 2 in 1 devices by means of USB ports. This capability enables hands-on learning and experiments, as well as learning across curricula in subjects such as reading, writing, music, and math.

## TABLET CAPABILITIES

Interacting with a 2 in 1 educational device as a tablet PC provides the optimal experience in terms of convenience, intuitiveness, and mobility.



### Ultra-Portability

Students can take the device to the field or lab to collect data and can incorporate collected data, photos, or videos into their multimedia presentations.



### Instant-On Capability

Learning can start in a snap, with technology that enables a sleeping 2 in 1 device to wake up and resume educational tasks almost instantly. That contribution to responsiveness makes the learning experience more enjoyable and effective for teachers and students alike.



### Outstanding Battery Life

2 in 1 devices are engineered for battery efficiency, allowing them to run for a long time between charges. Extended battery life helps maximize learning time, so students and teachers can keep going wherever they are, without having to stop and plug the device into a wall outlet.

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## TOUCH AND DIGITAL PEN

Unlike early styli that forced users' hands into unnatural positions, today's active styli or digitized pens allow students to draw, write, highlight, annotate, and rest their hands on the screen for a natural writing experience. The pens—coupled with sensitive touch screens—are easy to use and feel natural in the hands of students of all ages. Key benefits of these digitized pens include the following:

- **Creativity.** Pens foster more room for an interactive, creative, and engaging learning experience for students, facilitating nonlinear thinking at all age levels.
- **Usability.** Digitized pens even reinforce handwriting lessons for younger students, allowing them to hold the pen in a natural way.
- **Flexibility.** Pens enable students to choose the best tool for the task at hand—whether it's a pen, their fingers, or the keyboard. The pen is a creativity tool. The keyboard is a productivity tool. Sometimes you need one, and sometimes you need both.
- **Efficiency.** Pens allow students in higher math and science classes to write out complex formulas, for example, and to make diagrams more easily and quickly.

In a recent article,<sup>2</sup> Dr. Benjamin Lieberman notes that as infants, we know instinctively to reach out with our bodies to explore the new and exciting world around us. Our first fumbling attempts allow us to learn the advantages and limitations of our “built-in” tools—our hands and fingers. Soon, however, we learn that to have a more effective hold on our world, we need other tools that provide greater precision than our fingers, such as pens for drawing and writing.

This concept also applies to the digital world, and although smartphones and other devices have helped us learn to communicate through fingertip typing, doing so is far from ideal, especially for education purposes. There are three different ways to interact with a modern touch screen:

- **Fingertips** are convenient and intuitive, but imprecise.
- **Passive styli** are a low-cost option, although their lack of pressure sensitivity makes them less precise than active styli.
- **Active styli** use capacitive sensing to provide pressure sensitivity, facilitating high accuracy and a natural handwriting experience.

## BENEFITS FOR LEARNERS AND TEACHERS

Using 2 in 1 devices, students' creativity and imagination can be ignited by learning experiences based on touch screens and digital pens, while retaining the productivity advantages of a full keyboard. Students can also capture video and audio while taking notes, as well as collaborate through shared class work and peer review.

Teachers can interact with students working on more than one activity simultaneously, as well as multitask with applications that enable educational tasks such as lab work and research projects. Teachers can also annotate files, mark up student work on the fly, or make sketches to clarify concepts for their students.



### A Universe of Software and Content

Students and teachers can access a wide range of free, compatible software applications and digital content for education.

- **Language arts.** Emerging readers can trace letters while hearing them pronounced. Higher-level students can make notes in the margins of literary works. All grade levels can take notes, highlight and annotate assignments, and create story and concept maps.
- **Math and science.** Students can annotate content with the digital pen, complete equations, create graphs and diagrams, record observations in class or in the field, illustrate concepts, create models, and follow hot-links to deeper content.

### Conclusion

The 2 in 1 form factor offers affordable versatility for learning and gives students the power to learn where and how they choose. Providing interactivity through the use of a digital pen, touch screen, or keyboard, this form factor accommodates the full range of complex repertoires that students and teachers expect. Combining a tablet's creativity and a laptop's performance, the 2 in 1 form factor may be the ultimate learning and teaching platform.

To learn more, visit [educate.intel.com](http://educate.intel.com)



<sup>1</sup> McKinsey Global Institute, "Disruptive technologies: Advances that will transform life, business, and the global economy," 2013. [http://www.mckinsey.com/insights/business\\_technology/disruptive\\_technologies](http://www.mckinsey.com/insights/business_technology/disruptive_technologies).

<sup>2</sup> Benjamin A. Lieberman, Intel® Software Network "Pointing the Way: Designing a Stylus-driven Device in a Mobile World." <http://software.intel.com/en-us/articles/pointing-the-way-designing-a-stylus-driven-device-in-a-mobile-world>.

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