K-12 BLUEPRINT

The Right Windows Device for Virtual Learning	Commissioned by Intel®	
December 2020	Prepared by Clarity Innovations, Inc.	intel.

The Right Windows Device for Virtual Learning

How device performance impacts teaching, learning, and total cost of ownership

Executive Summary

In light of the increased demands placed on technology due to virtual learning, this study explores the effects of processor speed on productivity and effectiveness of student devices to help provide insight and advice into answering questions around how schools and districts can best support educators and students in meeting instructional goals while providing reliable technology to make virtual learning a connected and engaging experience. While technology implementation models vary both at state and district levels, the goals during this time have remained the same: to use technology and other tools to better engage and connect students and improve learning outcomes.

Using authentic examples of curricular and instructional practices, including applications, tools, and services students and educators regularly use, this study provides specific test results and recommendations for school and district leaders to help them make informed decisions to meet the needs of each student.

By exploring Intel®-powered devices running the most common operating systems and typical software and applications used in K-12 education through realistically modeled scenarios, we discovered compelling data around the effects processor speed has on virtual learning.

7th Grade	**Practicing Mindfulness and SEL with Minecraft: Education Edition*** Learning skills addressed: Social and Emotional Learning, Digital Content Creation, Digital Communication and Collaboration
9th Grade	**Programming Micro:bit* for Data Collection** Learning skills addressed: Computational Thinking, Data Analysis, Digital Content Creation, Digital Communication and Collaboration
11th Grade	**Next Level Yearbook Design with Augmented Reality** Learning skills addressed: Design, Digital Content Creation, Digital Communication and Collaboration

Read the Full Report
Download the full report online at the **K-12 Blueprint** website

Key Findings

1

Devices powered by 10th Generation Intel® Core™ i3 processors are able to complete multiple tasks simultaneously, such as digital content creation while being connected to a video conferencing call and collaboratively using applications faster than devices with Intel® Celeron® processors.

2

Intel® Core™ i3-based devices offer students a more consistent and seamless learning experience when engaging in game-based learning and video conferencing.

3

Intel® Core® i3-based devices provide students faster processing time when engaging in computer programming tasks and collaboratively showcasing their work.
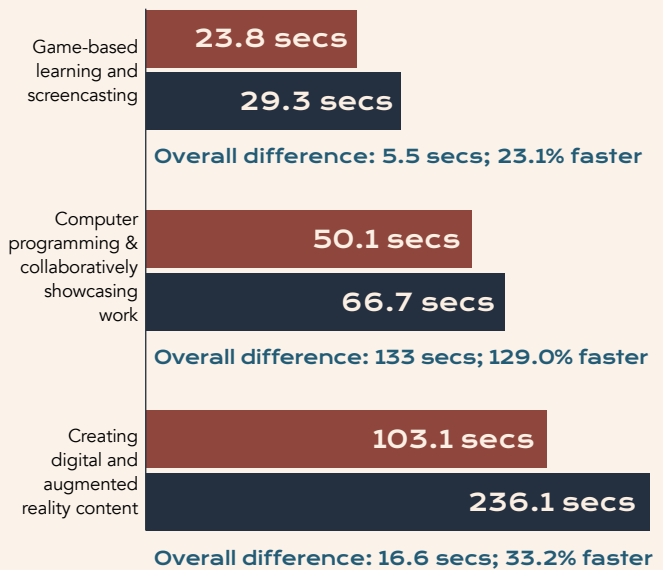
4

Intel® Core™ i3-based devices offer students a smoother and more uninterrupted learning experience when multitasking across programs for digital content and augmented reality (AR) creation.
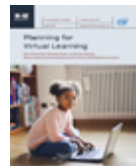
5

Upgrading from an Intel® Celeron®-based device to an Intel® Core™ i3-based device is a cost effective way to enhance functionality when multitasking and to increase learning time.

● **Intel® Core™ i3-based device**

● **Intel® Celeron®-based device**

Game-based learning and screencasting
- **23.8 secs**
- **29.3 secs**

Overall difference: 5.5 secs; 23.1% faster

Computer programming & collaboratively showcasing work
- **50.1 secs**
- **66.7 secs**

Overall difference: 133 secs; 129.0% faster

Creating digital and augmented reality content
- **103.1 secs**
- **236.1 secs**

Overall difference: 16.6 secs; 33.2% faster

Choosing the Right Device for Virtual Learning

Planning for Virtual Learning

The Right Chromebook*
for Virtual Learning

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intel.