

INSTRUCTIONAL TECHNOLOGY

THOMAS LYNCH

ASSISTANT SUPERINTENDENT FOR CURRICULUM AND TECHNOLOGY

FEBRUARY 1, 2023

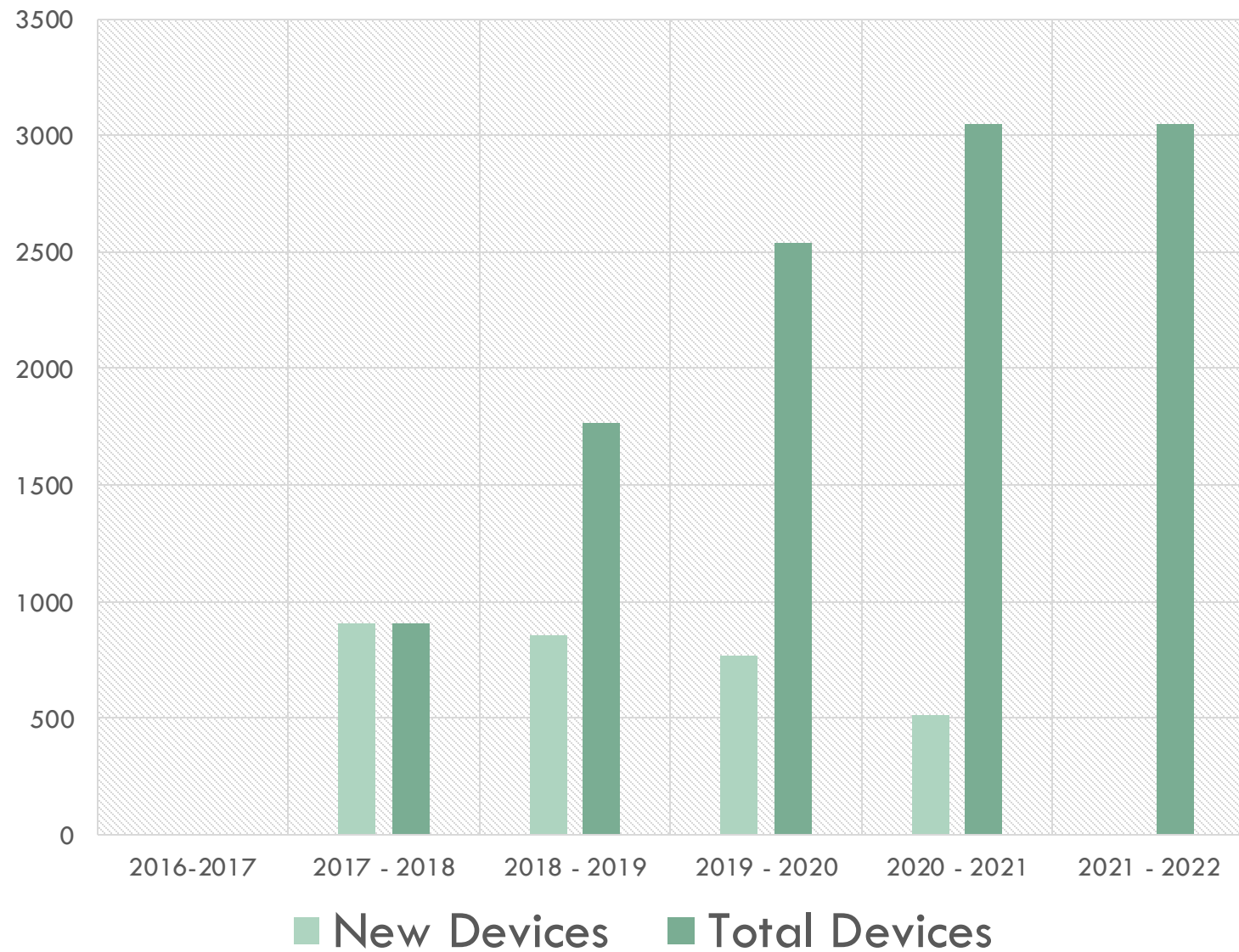


TONIGHT'S PRESENTATION

- Update on Devices
- Update on Infrastructure
- Network Security and Efficiency
- SAMR Model
- Examples across the District of student/teacher use
- Next Steps

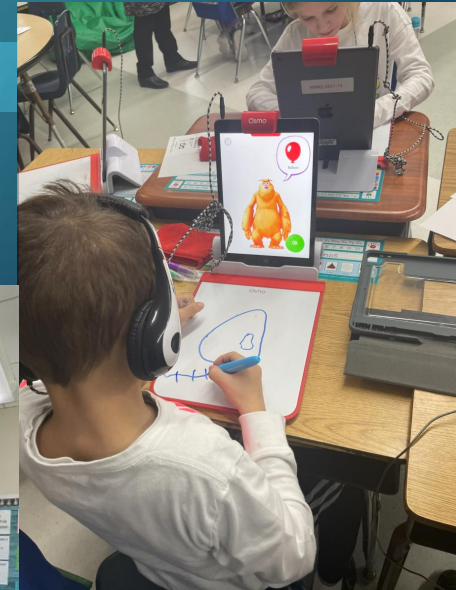
GROWTH OF THE PDL ENVIRONMENT

Number of 1:1 Devices



During the 2016 – 2017 school year there were no 1:1 devices. Since the end of the 2020 – 2021 school year every student has had access to a device.



















iPads in Kindergarten through 2nd Grade



HP Laptops in Grades 3 - 12

UPDATE ON DEVICES

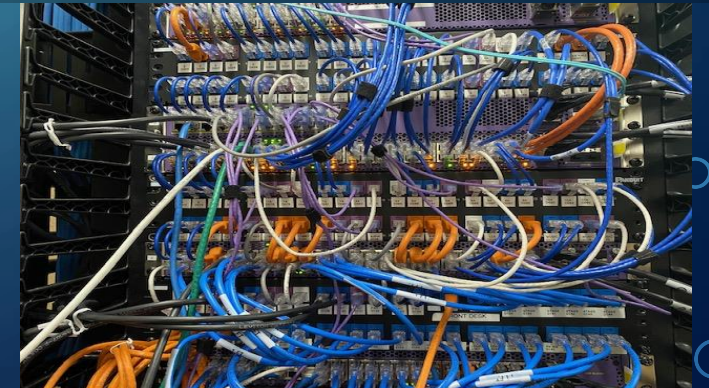
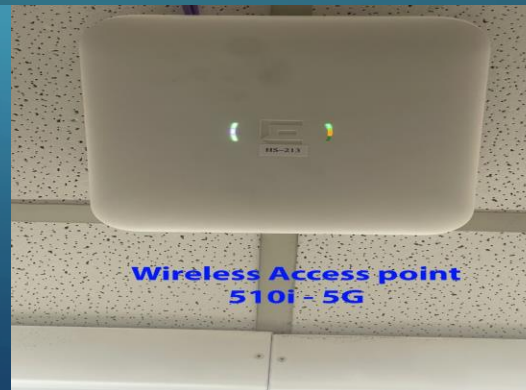
The District Technology Plan outlines the purchase and replacement of devices over five years. The District is at the start of the second five-year cycle and has begun the replacement of laptops and desktops that were originally purchased in 2017 - 2018.

	2017 - 2018	2018 - 2019	2019 - 2020	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024	2024 - 2025	2025 - 2026	2026 - 2027	2027 - 2028	2028 - 2029
6th Grade					Year 5	Year 5	Year 5	Year 3	Year 3	Year 3	Year 3	Year 2
7th Grade		Year 2	Year 2	Year 2	Year 2				Year 4	Year 4	Year 4	Year 4
8th Grade			Year 3	Year 3	Year 3	Year 3	Year 2	Year 2	Year 2	Year 5	Year 5	Year 5
9th Grade				Year 4	Year 4	Year 4	Year 4	Year 3	Year 3	Year 3		
10th Grade		Year 2	Year 2	Year 2	Year 5	Year 5	Year 5	Year 5	Year 4	Year 4	Year 4	Year 2
11th Grade			Year 3	Year 3	Year 3					Year 5	Year 5	Year 5
12th Grade				Year 4	Year 4	Year 4	Year 2	Year 2	Year 2	Year 2		

INFRASTRUCTURE

Infrastructure is the 'backbone' in supporting our instructional technology endeavors across the District. Over the past two school years the following components of Seaford UFSD have been upgraded to the latest standards:

- Network Cabling to Cat 6a
- All Access Points, which provides the WiFi across the district, have been upgraded to allow better connection speed and larger data file transfer
- All wiring closets have been upgraded with new switches
- Our next big addition will be VOIP Phones, connected to the network, in each classroom across the District





KEEPING THE NETWORK SECURE AND EFFICIENT

- Security Scorecard – Monitors the District firewall and sends alerts when an issue is detected
- Extreme Netsight/Wireless Controller – Monitors and manages network switches, routers and access points
- vCenter – Monitors and manages all District servers
- Linewize – Monitors user activity, provides District the ability to block/unblock websites, protects against online threats
- KnowBe4 – Training for all faculty and staff on recognizing the tell-tale signs of phishing emails

COMPUTER TECHNICIANS FROM CUSTOM COMPUTER SPECIALISTS

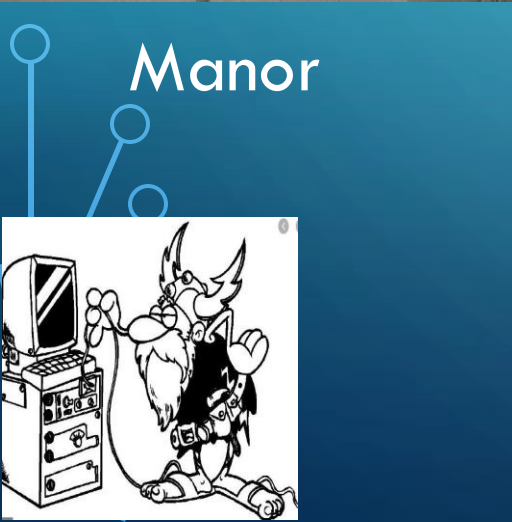
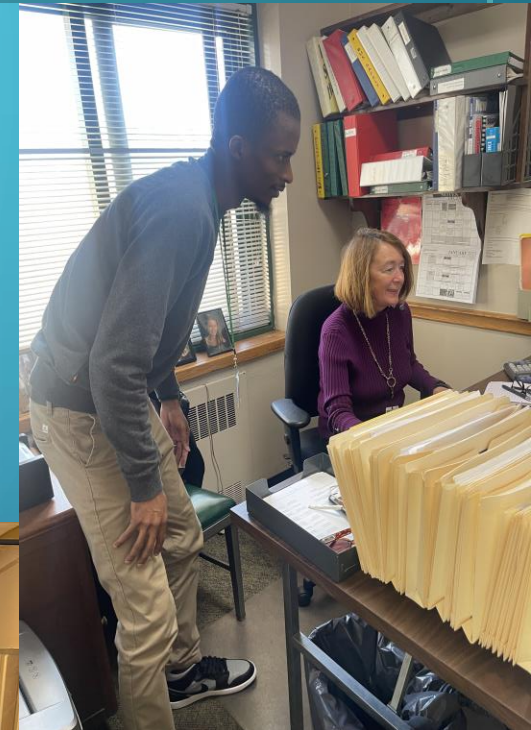


Middle
School

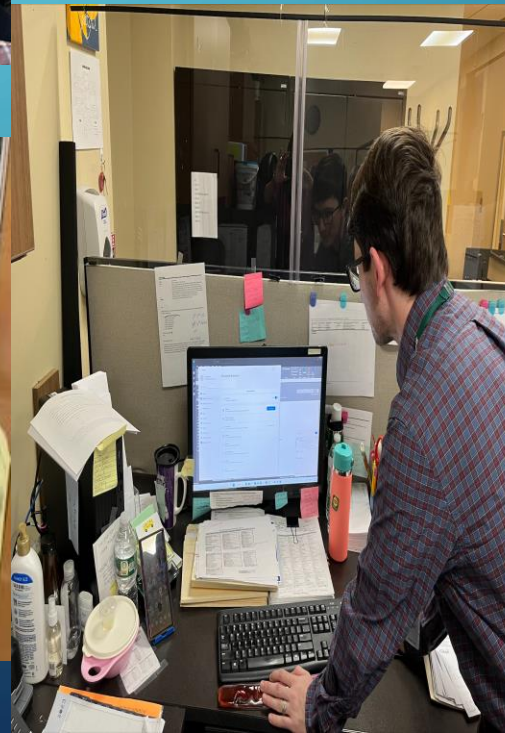
Harbor



High
School

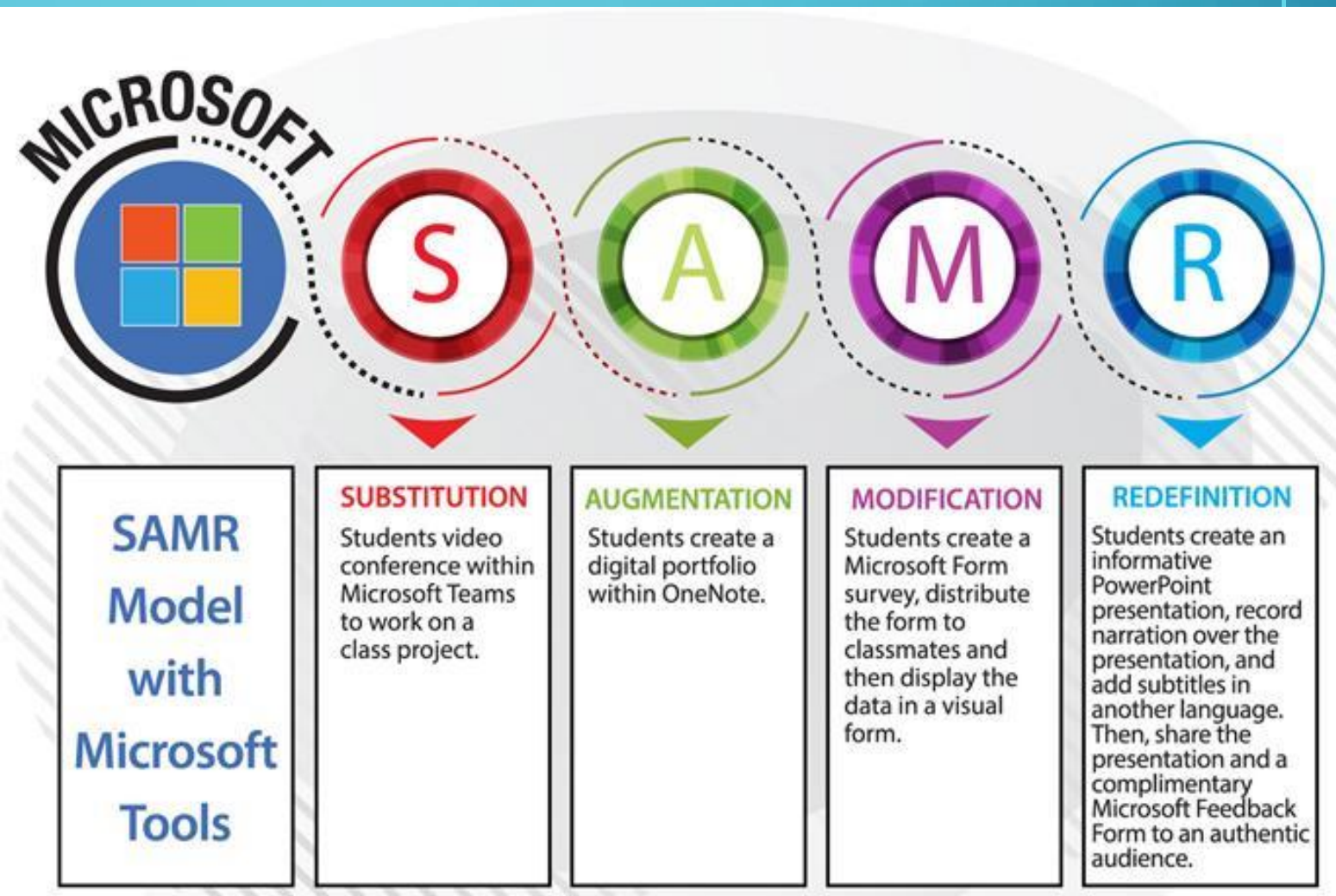
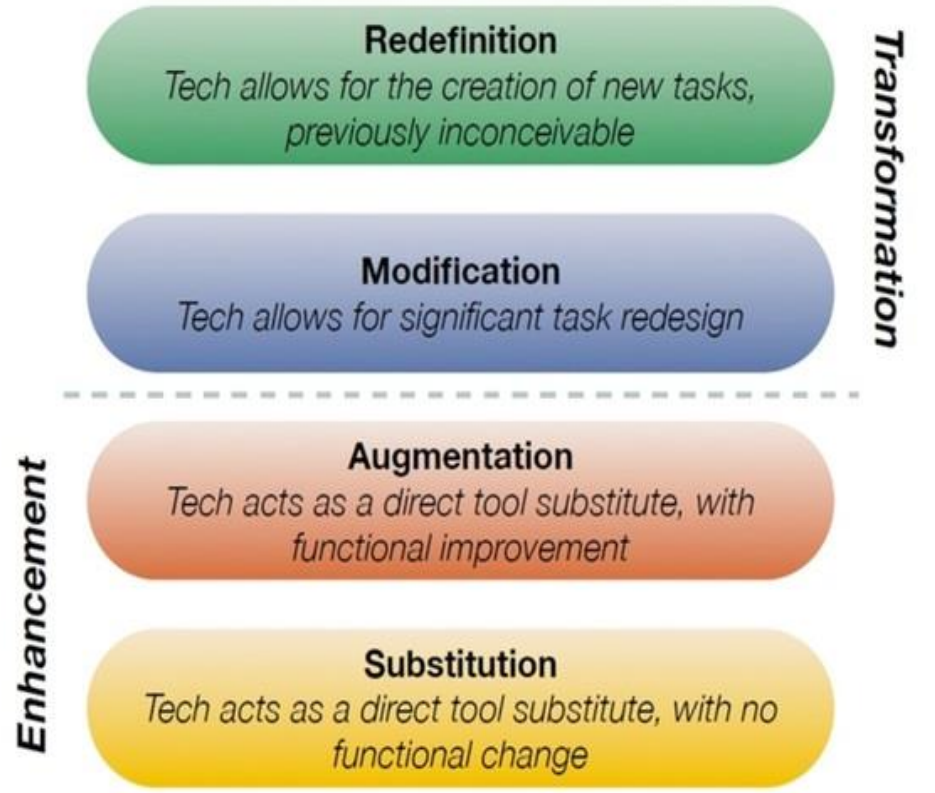


Manor

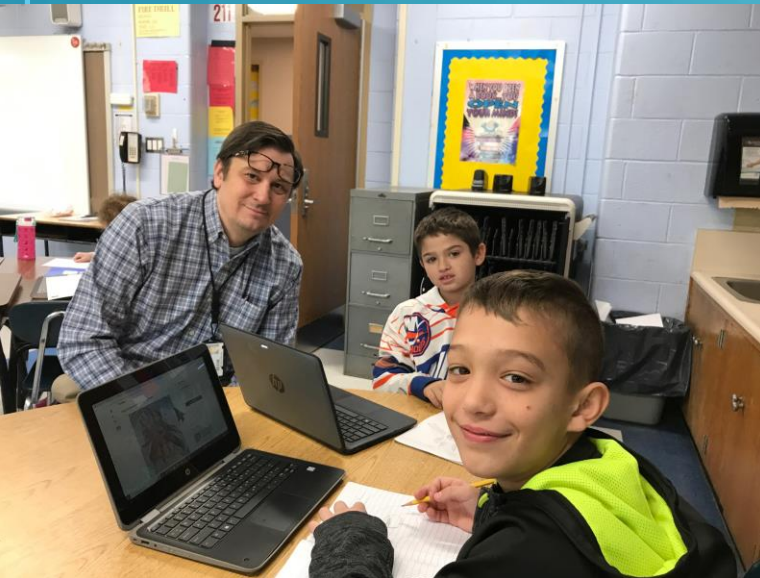
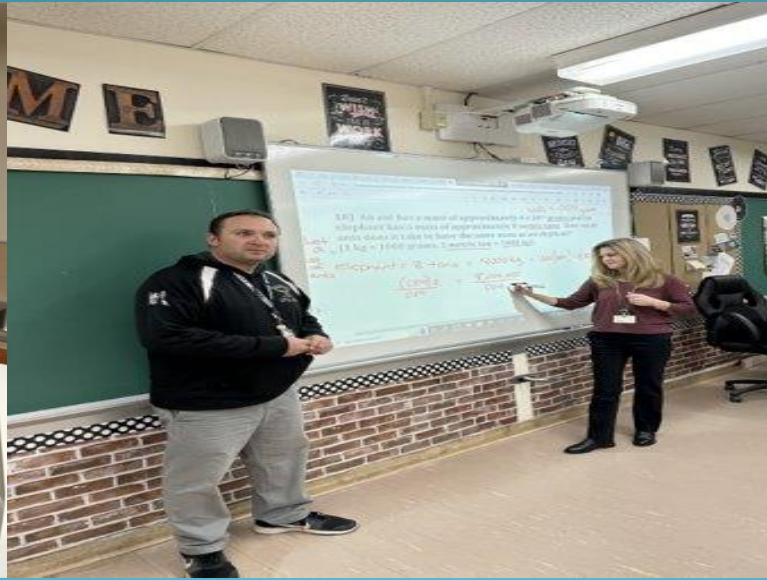
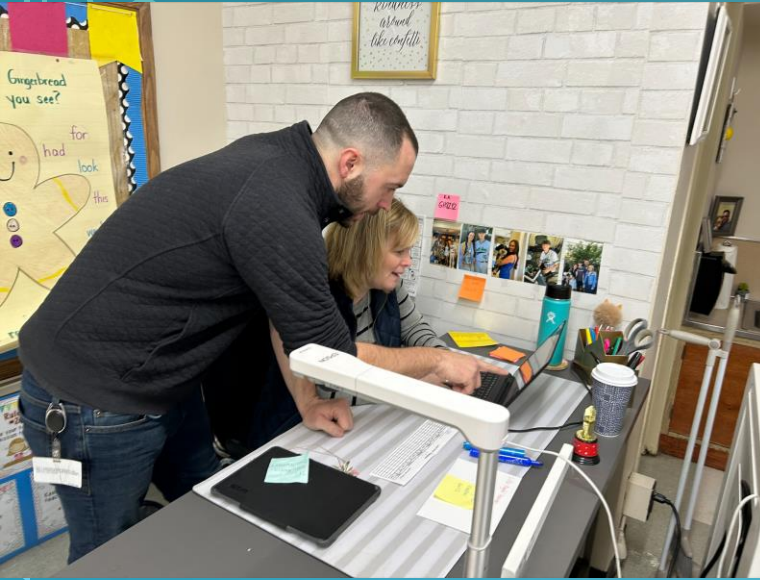


Network
Engineer

THE SAMR MODEL



DISTRICT COMPUTER MENTORS



Each building in the District has a Computer Mentor who is tasked with supporting teachers and students with instructional technology. Some of the tasks that they perform routinely include:

- Supporting new teachers in all phases of technology use
- Assisting teachers/staff in troubleshooting and training
- Sharing best practices in the use of instructional technology
- Supporting District initiatives in technology
- Assisting students in their use of software

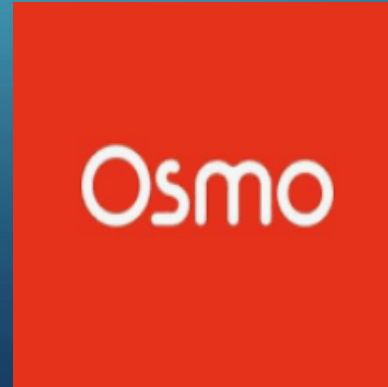
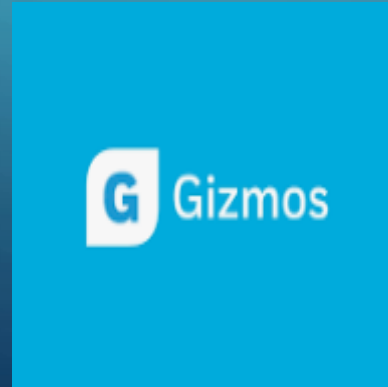
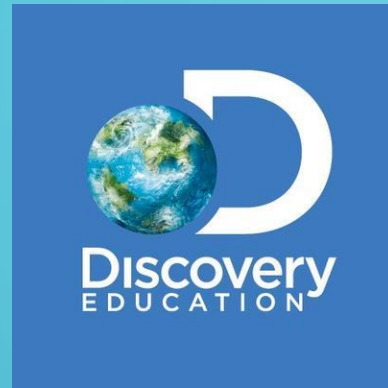
NASSAU BOCES MODEL SCHOOL DAYS

The Nassau BOCES Model Schools program works with schools to provide targeted professional development that is tailored to the specific needs of each district. This includes on-site staff development, in-class coaching, and online courses.

The professional development aligns with the New York State Computer Science and Digital Fluency Standards, which ensures that your teachers are staying up-to-date with the most current curriculum expectations.



A SAMPLE OF PROGRAMS AND APPS USED ACROSS THE DISTRICT



PROD.

SEAFORD STUDENTS AND TEACHERS IN ACTION

DIRECTOR:

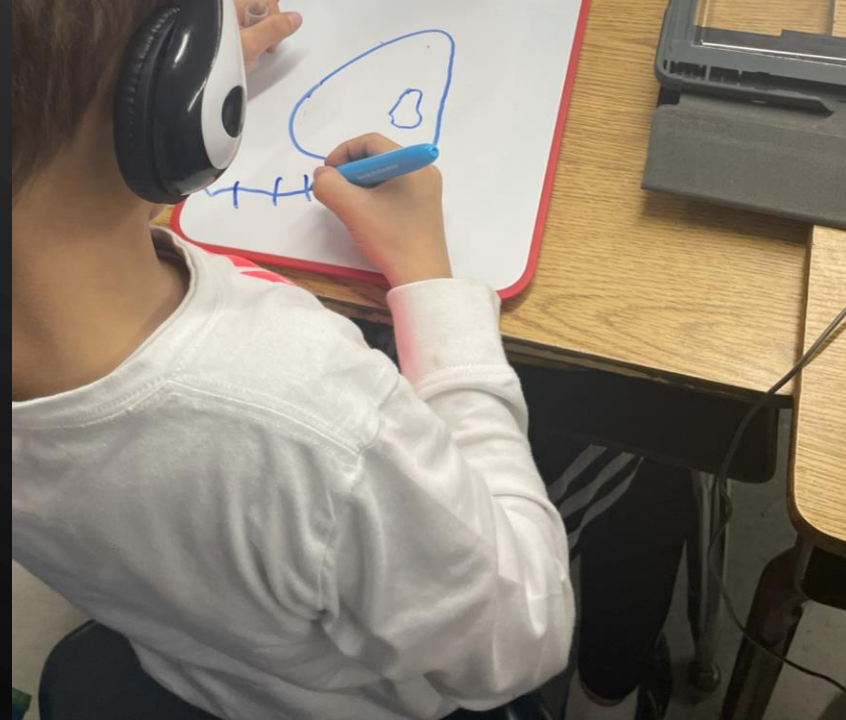
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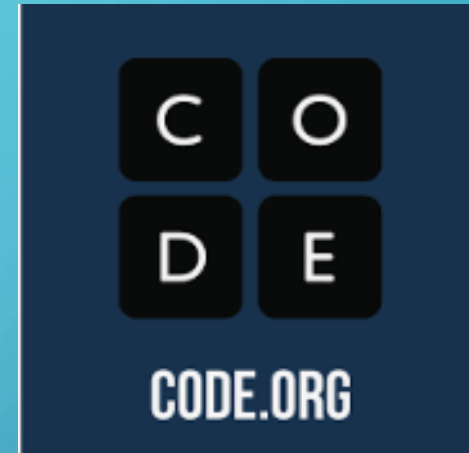
STUDENTS AT HARBOR AND MANOR USING OSMO





HARBOR – SEVERE WEATHER PRESENTATION WITH MS. MASSA

HARBOR AND MANOR – CODE.ORG



The progression of courses from Kindergarten to Fifth Grade build upon each other to ensure the continued growth of students' computer science knowledge and programming concepts.



Ms. Baldassarre 2nd Grade make book recommendations via QR Codes



Ms. Ficarelli's 3rd Grade working on a math skills game, Prodigy



SPHEROS AND BEEBOTS IN LIFT



MIDDLE SCHOOL STUDENTS USING TEAMS



Unit 4 - The Great War

Posts Files Notes

e team



Michael Milano 1/25, 2:39 PM



UPCOMING SCHEDULE

Thurs 1/26 - Quick 5 Question "Pop" Quiz -

HINT: U-Boats/S/Mexico/Hot Dogs/Wilson

Fri 1/27 - NEW EUROPE AFTER WAR - MAP ACTIVITY & Wilson's Fight with Senate

[See more](#)



Michael Milano 1/26, 11:58 AM

<https://quizizz.com/join?gc=29505083>



Quizizz: You've been invited to a Quizizz activity

Click the link to join now.

quizizz.com

[Reply](#)

January 27, 2023



Assignments 1/27, 7:40 AM

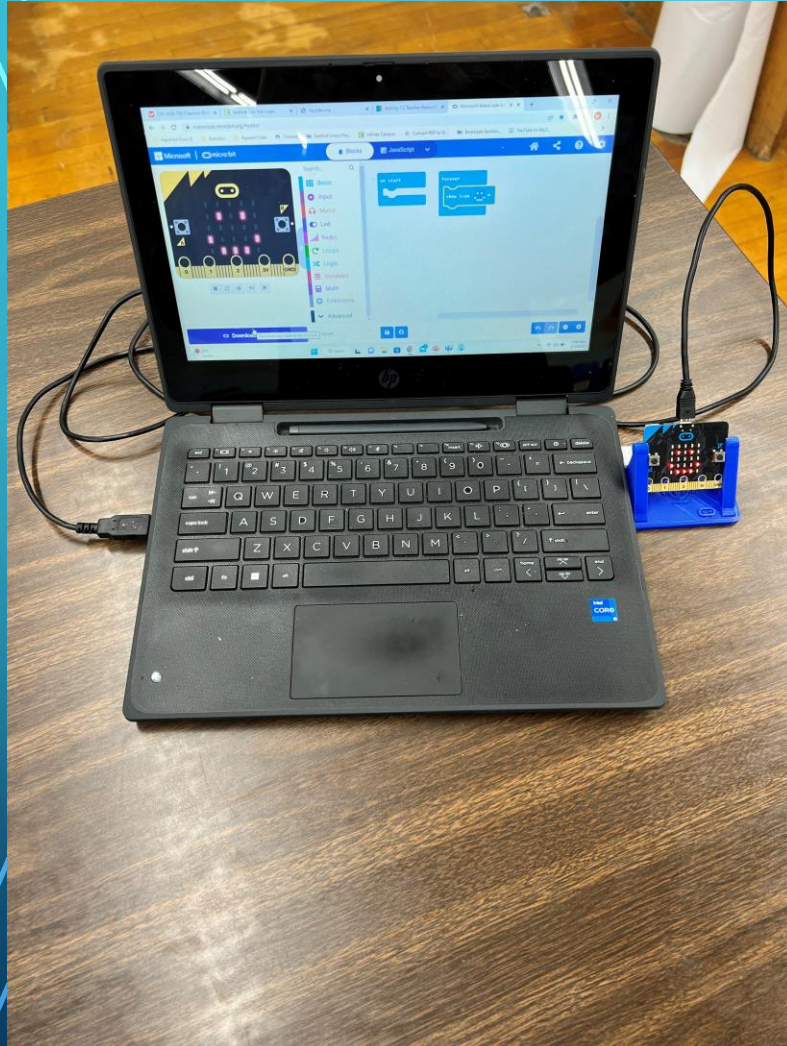
WW1 Review Sheet

Due Feb 1

[View assignment](#)

[Reply](#)

PLTW: COMPUTER SCIENCE FOR INNOVATORS AND MAKERS



Students use their devices and a Micro:bit to learn about programming, blending hardware design and software development.



MARKERBOT 3-D PRINTING



USING ONENOTE IN MATHEMATICS CLASSES

A more complicated scenario arises when a square root expression is equal to a linear expression. The next exercise will illustrate both the graphical and algebraic issues involved.

Exercise #3: Consider the system of equations shown below.

$$y = \sqrt{x+3} \text{ and } y = x+1$$

(a) Solve this system graphically using the grid to the right.

$$Pd: (1, 2)$$

(b) Solve this system algebraically for only the x -values using substitution below.

$$(\sqrt{x+3})^2 = (x+1)^2$$

$$x+3 = (x+1)(x+1)$$

$$x+3 = x^2 + 2x + 1$$

(c) Why does your answer from part (a) contradict what you found in part (b)?

$$0 = x^2 + x - 2$$

$$(x+2)(x-1) = 0$$

$$x = -2 \quad | \quad x = 1$$

The graph only has 1 solution, but algebraically we found 2. Oftentimes, roots are introduced by various algebraic techniques that for one reason or another are not valid solutions of the equations. These roots are known as extraneous and can always be found by checking within the original equation.

Exercise #4: Find the solution set of each of the following equations. Be sure to check your work and reject any extraneous roots.

(a) $(\sqrt{2x-3})^2 = (x-3)^2$

$$2x-3 = x^2 - 6x + 9$$

$$-x^2 + 8x - 12 = 0$$

$$0 = x^2 - 8x + 12$$

$$0 = (x-6)(x-2)$$

$$x-6=0 \quad | \quad x-2=0$$

$$x=6 \quad | \quad x=2$$

Reject $x=6$

x	3
x^2	9
$2x$	6
-3	-3
\hline	19

(b) $2x = \sqrt{x+6} - 2$

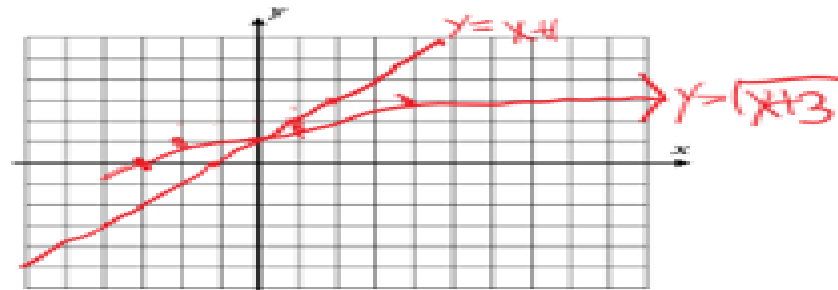
Check

$$\sqrt{2-6-3} = 6-3$$

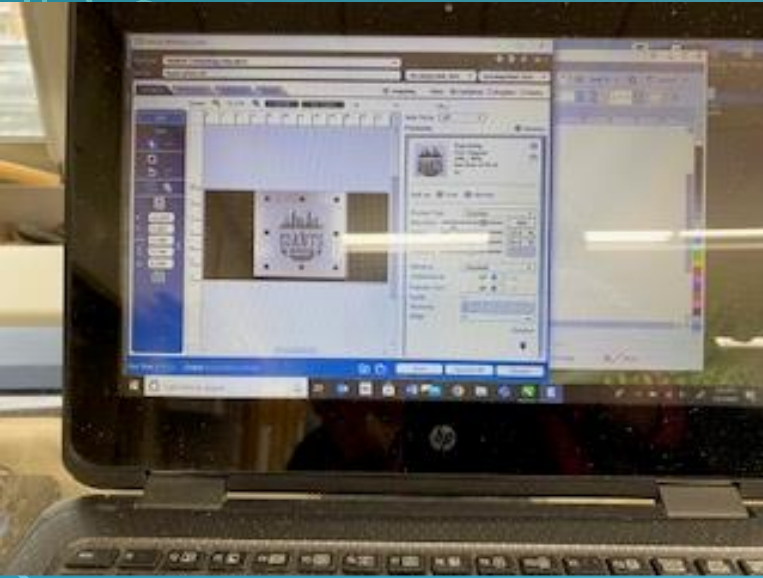
$$3 = 3 \checkmark$$

$$\sqrt{2-7-3} = 2-3$$

$$1 = -1 \times$$



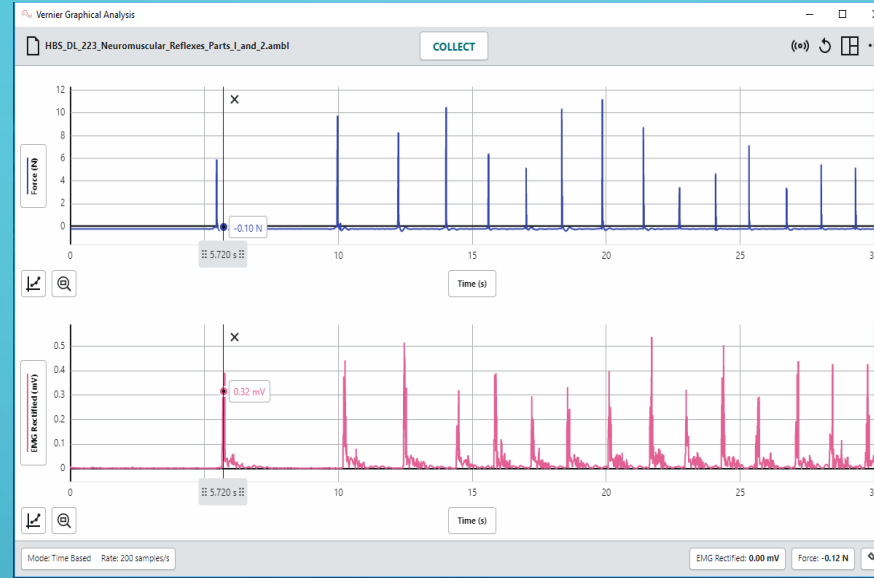
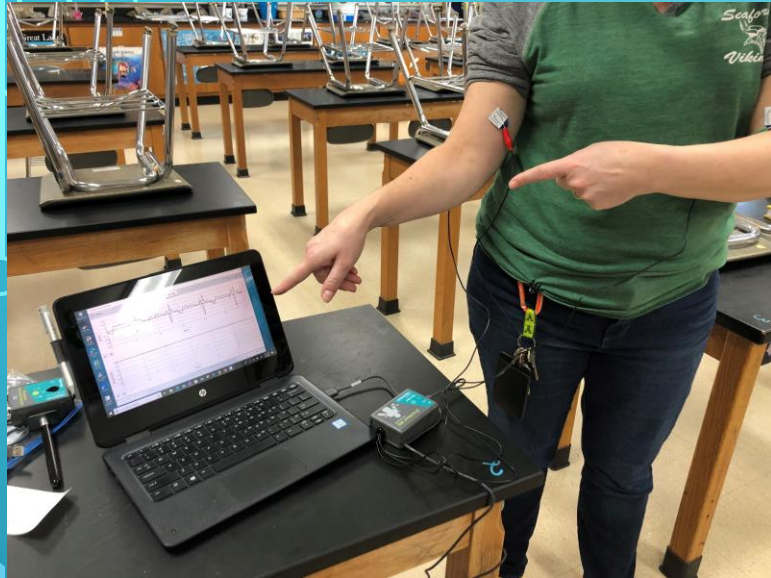
FUSION EDGE LASER ENGRAVER USED IN WOODWORKING II



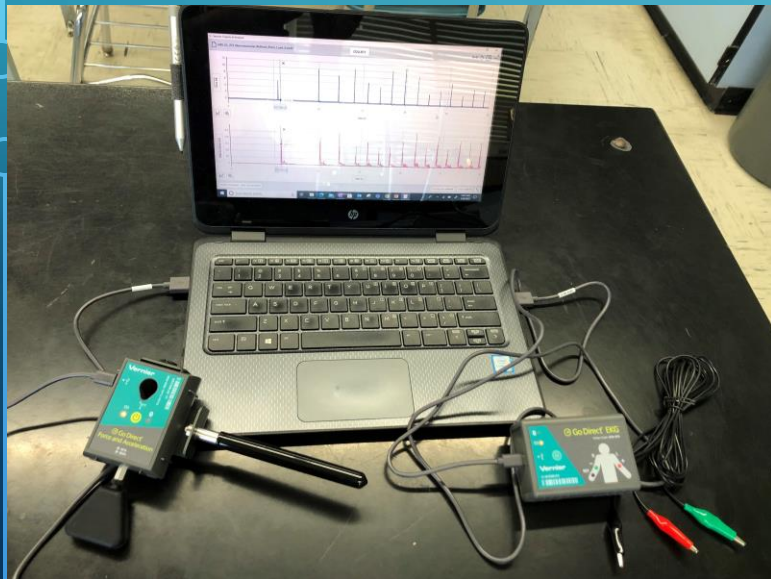
CNC ROUTER IN WOODWORKING I AND II



PLTW HUMAN BODY SYSTEMS



Measuring EKG, Heart Rate and Reflexes using Vernier Probes



WHERE WE GO NEXT?

- Continue replacement cycle of laptops and desktops across the district
- Continue utilizing Model School Days to improve our instruction and knowledge base
- Look for new avenues to expand our use of technology
 - Introduction of PLTW Cybersecurity
 - Redesign our Library Media Centers
 - Continue to add technological manipulatives at the elementary level
 - Reimagine the technology spaces at Seaford Middle School to include innovative uses of technology



QUESTIONS?