ATTACHMENT NO. X-C: Long Term Technology Plan and Purchase

Suggested Motion: Move to approve the Long Term Technology Plan and Purchase Option 2

Recommended Action: Approve the motion.

It is recommended that the Board approve Option #2 presented in the Technology Plan. This will allow for students at the high school to be 1:1 in 9th through 12th grades. Current devices at the high school and at 8th grade will be distributed to the K-4 elementary schools. The total cost is \$181,900. This money would come from the \$190,000 stimulus package. The North Boone School District will now be 1:1 in grades 3-12. Professional development opportunities are scheduled for staff beginning at the conclusion of this school year and also at the beginning of next school year. The professional development will provide teachers with training for moving teaching and learning online. This will be key if extended school closures continue and the district will be using e-Learning.

Instructional Technology Purchases

Board of Education April 2020



What problem are we trying to solve?

 As part of our continuous improvement and curricular processes, we are realizing a push in education to support student learning through more digital resources. In order to differentiate instruction for our students, we need to use online platforms that require additional student devices.



Why are we trying to solve this problem?

- By 2030, emerging technologies, such as Artificial Intelligence and Virtual Reality, are going to transform the workplace.
- For students to be successful in the future, we need to give them opportunities to complete project-based work using new technologies.
- Students need to master the variety of ways they can use technology to accomplish complex tasks or search for answers.



Who is our target audience?

19-20 School Year	20-21 School Year	21-22 School Year	22-23 School Year
5th-8th grade students	9th-12th grade students	3rd-4th grade students	K-2nd grade students
9th-12th grade teachers			



<u>Devices</u>

- For the 19-20 school year, we purchased Chromebooks for our 5th 8th grade students and laptops for our 9th-12th grade teachers.
 - The cost was \$157,000.



<u>Digital Resources - Core Curriculum</u>

Math	Science	English Language Arts	Social Studies
K-5: Into Math 6-12: Go Math, Desmos	K-5: Inspire Science 6-8: iScience	5-8: Currently reviewing resources 9-12: My Perspectives	5-8: Currently reviewing resources

<u>Digital Resources - Supplemental for grades K-4</u>

Math	Science	English Language Arts	Social Studies
Study	Island, Education Cit	y, Tumble Books, Bro	ain Pop
MathSeeds Prodigy Reflex	Mystery Science	Reading Eggs Starfall Reading A-Z	

<u>Digital Resources - Supplemental for grades 5-6</u>

Math	Science	English Language Arts	Social Studies		
Schoology, Brain Pop					
IXL	Mystery Science Study.com	Quill Newsela Reading Counts	Newsela Study.com		

<u>Digital Resources - Supplemental for grades 7-8</u>

Math	Science	English Language Arts	Social Studies
Schoology, Google Classroom, Albert, Kami, Brain Pop			
		Quill	



<u>Digital Resources - Supplemental for grades 9-12</u>

Math	Science	English Language Arts	Social Studies	
Schoology, Google Classroom, Mastery Manager, Albert, Khan Academy				



What is our proposed solution?

To provide a Chromebook to every high school student for use at school and at home.

We have two options to consider for obtaining the devices.



What is our proposed solution?

Option 1

	2020-2021	2021-2022	2022-2023	2023-2024
New Devices	Grades 5, 9, 12	Grades 3, 4, 5, 9	Grades 5, 9	Grades 5, 9
Leased Devices	Grades 10, 11	Grades 11, 12	Grade 12	
Repurposed Devices	Grades 3, 4	Grades K, 1, 2		
Proposed costs	\$157,000	\$172,182	\$81,878	\$65,270



What is our proposed solution?

Option 2

	2020-2021	2021-2022	2022-2023	2023-2024
New Devices	Grades 5, 9, 10, 11,12	Grades 4, 5, 9	Grades 5, 9	Grades 5, 9
Repurposed Devices	Grades 3, 4	Grades 1, 2	Grades K, 1	Grade K
Proposed Cost	\$181,900	\$104,325	\$68,212	\$69.550



How is this proposed solution aligned to the Strategic Plan?

- This proposed solution aligns to Curriculum.
 - 100% of students will be engaged in and successfully complete a
 PreK-12 standards aligned curriculum.

This solution supports Curriculum because we will be able to use student devices to implement core curricular resources and to differentiate for our struggling and exceeding students.

Professional Development

Professional Development

- SAMR Training: Repeat for new grade levels and staff each year
 - High School Summer offering: Session 1 on May 27th and 28th
 - Repeat on August Institute Day for summer non-attendees
 - Tentative October Institute Day: Session 2

We will open up training to all staff depending on building needs



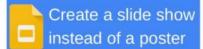
What is the SAMR Model?

Redefining the Classroom with GOOGLE Apps

@Edtechpeck

Substitute

Collect student data by using forms instead of paper and pencil



Make a digital illustration

Collect and organize data

Augment

Use comment features to critique writing samples

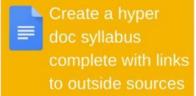
Create a
presentation with
multimedia
elements

Use Google Forms to create a quiz.

Create charts to illustrate data

Modify

Use multimedia to serve as backdrop for new design



Collect and link
student recordings
and data for use in
e-portfolios

Redefine

Use Forms to create a choose your path student adventure

Create a e-book with the use of Google Slides

Create a comic strip, mind map, or other illustration to summarize story



How will we measure progress?

- Usage
 - IT will measure usage of devices and programs.

- High School Implementation Expectations
 - Use of Google Classroom as a Learning Management System
 - Online assessment administration in order to track student data on curriculum-based assessments



How will we repair broken devices?

Repairs

- Currently all repairs are done in-house
- Technology charges parents 50% of the repair
- Typically parent pay between \$12-\$15 for a broken screen

Prevention

- District has a policy on technology usage
- Grades 5-8 have procedures in place and these will be modified to meet the 9-12th grades
- Preventative measures are taken by tech and the teachers to teach students appropriate usage (videos, behavior programs, etc.)
- District offers sleeves and protective cases for parents to purchase at a discount price.



What are our insurance options?

District funded

- 4 year with case included \$58,686
 - Covers accidental damage, liquid submersion, fire/flood, vandalism, natural disasters, power surge, mechanical failure or manufacturer defect
- 4 year cost for the district is \$64,505
 - Covers accidental damage, liquid submersion, fire/flood, vandalism, natural disasters, power surge, mechanical failure or manufacturer defect

Parent Funded

- \$19 a year
 - Covers accidental damage, liquid submersion, fire/flood, vandalism, natural disasters, power surge due to lightning
- \$27 a year
 - Covers accidental damage, liquid submersion, theft/burglary, fire/flood, vandalism, natural disasters, power surge

Is our infrastructure ready to expand?

• If the district gets the internet/wan upgrade, the current networking infrastructure will be updated in the summer 2021. This would be covered by erate discount at 70%.

• The current plan is to upgrade our Firewall, Switches, and continue to keep our wireless access points up to date based on the current e-rate refresh schedules.

Tech feels that the infrastructure is ready for a fall roll out at the HS.



Do we have enough technology staff?

 Currently the technology department is comfortable with their staffing and their ability to support the devices in the district.

- We surveyed other districts to find out their staffing patterns
 - Technician to device ratio ranged from 500:1 to 1500:1
 - All use the library help desk as a hub for devices



Thank You

