Montgomery Township School District

Instructional Technology

Preliminary Budget Presentation 2018-2019

Maintaining Excellence

Elizabeth Nastus, Ed. D.
Interim Asst. Superintendent

Fiona Borland
Director of Instructional Technology

March 27, 2018

Montgomery Township School District

Staff Overview

- Director of Instructional Technology
  - IT Managing Services - Pitt Bull Secure Technologies
  - Assistant Network Administrator (1)
  - District Technicians (2)
    - Technology Assistants (5)
  - Software Coordinator
  - K-12 Technology Teachers
- Responsibilities
  - Instructional Vision, Professional Development, Infrastructure (Internet, Phones, Wifi, Security), Student and Teacher Devices, Classroom Technology, Media Center Technology, Website Compliance, and Policy and Regulation Compliance.

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Strategic Planning Goals

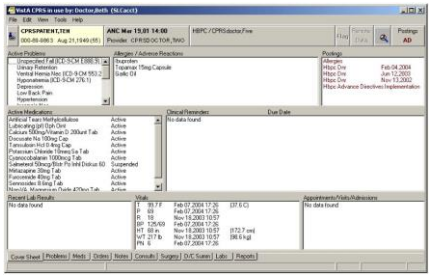
Goal 1: **Student Success** K-12 Technology Curriculum Coding, Applications, and Design Digital CItizenship	**Goal 2:** **School and Work Environment** Professional Development Instructional Learning Tools
Goal 3: **Collaboration and Communication** Website Policy and Regulations Communication Tools	**Goal 4:** **Resources and Operations** Infrastructure Improvements Data Security

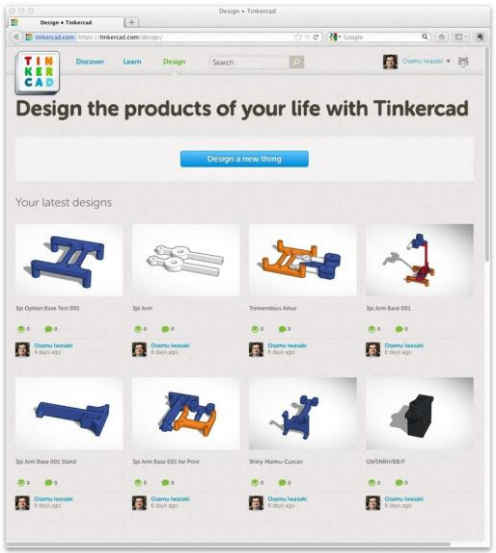
Goals

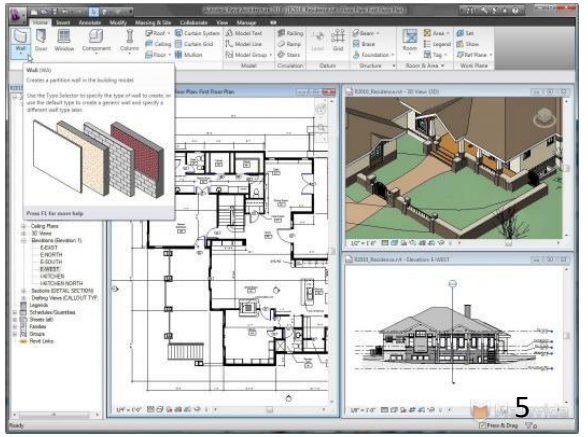
- All students will develop **digital literacy** and technology information skills needed to achieve the NJSLS
- All students will develop an **ethical foundation** for the use of digital tools and online communities.
- **Educational technology** will be **accessible** by students, teachers and administrators and utilized for instructional and administrative purposes in all learning environments, including classrooms, library media centers, and other educational settings.
- The district will establish and maintain a **technology infrastructure** necessary for all students, administrators and staff to safely access digital information on demand and to communicate virtually.

Coding and Career Readiness

- Kodable
- Lego WeDo 2.0
- 3D Design
- Web Design
- Scratch
- Lego EV3
- Java
- AutoDesk





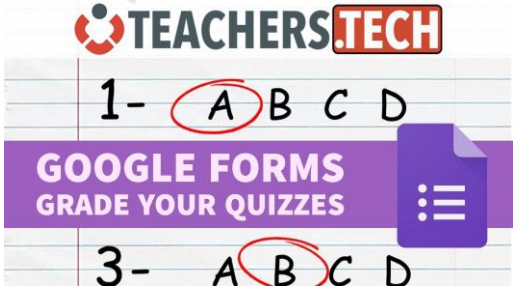


Digital Citizenship

- AUP, Safety Pledge, & Best Practices
- NetSmartKids
- Common Sense Media
- BrainPop
- Google Apps
  - Classroom
  - Drive
  - Email
    - Gaggle

Instructional Technology

- Transforming Student Learning
  - **Interactive** Presentation Platforms
  - Increased use of **multimedia** for students learning and creation.
  - Increase **student efficacy**.
  - Unlimited **access** to resources and experts.
- **Real-Time** Formative Assessment
  - Increase the use of automated formative assessment tools to guide and direct instruction.
- Learning to leverage Google Classroom, or other learning systems, to **engage more students** and to increase **active learning.**



Pear Deck

brightstorm

History of Rome

Learn more about the history of Rome

Feed the dinosaur!

by VIPERTRON

159 scripts
27 sprites
See inside

Instructions

press the green flag to start playing
press right arrow to move right
press left arrow to move left
press SPACE to jump
red apple=1 point
green apple= 2 points
golden apple= 10 points
rotten apple= -2 points

Notes and Credits

This whole game is made by me, VIPERTRON. It's OK to copy/remix this game, so you can edit and play it whenever you want, but just remember this is the original piece. I'll put the date this is shared so people will know this is the original: 1/5/17. Check out some of my other cool games and videos. Search up clawtooth studios, which is the studio I made.

Shared: 5 Jan 2017 Modified: 5 Dec 2017

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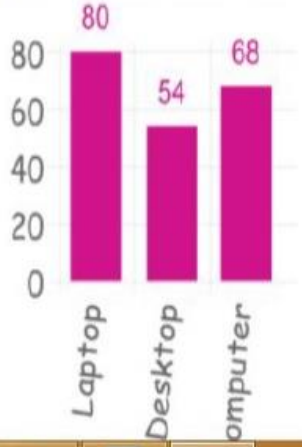
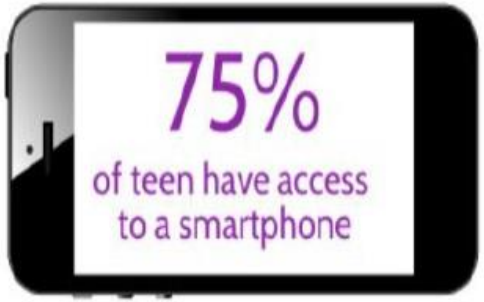
Teens and Screens

How are teens using technology?

Teens have access to many different types of technology

Percentage of teens who have access to a...

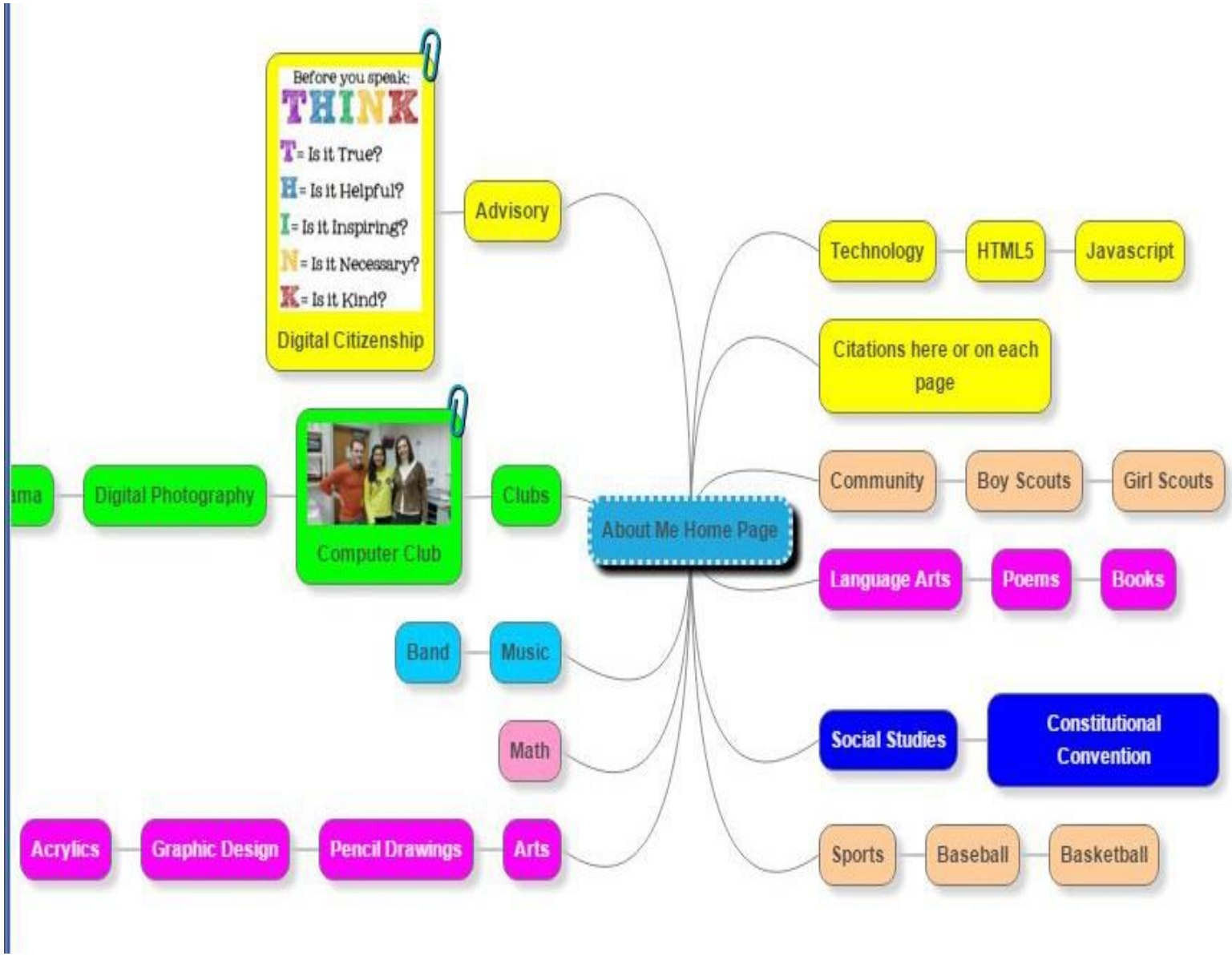




*John's body was was **96.1° F** at 1pm then at 2 pm, it was **91.7° F**. Remember the Island is **80° F**.*

To find what time John died, I need to find the rate at which his body cools so that time is the only variable I'm solving for:	
$91.7 = 80 + (96.1 - 80)\,e^{-r}$	*With the information above we can use Newton's Law of Cooling:* $T(t) = Room\ Temp(Object\ Temp - Room\ Temp)e^{-rate \cdot time}$ ---------- *I plugged in:* **80** *for the room or surrounding temp,* **96.1** *as the object's starting temp,* **91.7** *as the T(t), the temp. after t, time, And 1 (one hour) for t.* ----------
$11.7 = (16.1)\,e^{-r}$	*In order to use ln I need to get "e" by itself:* ---------- *First, I subtracted 80 from both sides,* ---------- *Then, I solved the 96.1 - 80 in the parentheses to get 16.1*
$\frac{11.7}{16.1} = e^{-r}$	*The final step to get "e" by itself is to divide 16.1 from both sides.* ---------- *Now that "e" is by itself...*
$ln\left(\frac{11.7}{16.1}\right) = -r$	*... I can take the ln of both sides and get the -r down to the same level as the rest of the equation instead of having it as an exponent* ---------- *Now, I can plug ln(11.7 / 16.1) into a calculator...*
$r = 0.31923$	*... multiply it by -1 to get rid of the negative on the r side, and get a rate of 0.31923 degrees/hr at which John's body cools.*

Students start with a Mindmup



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2017-2018 Highlights

- MHS CAD Lab
- Expansion of Zone Printing Model to UMS and LMS
- Infrastructure Security Improvements
  - Secure WiFi Networks
  - Data Backup System
    - Virtual Servers and Local Backup Drives
  - Network Monitoring Software
  - Google Admin Panel Audit
- Expand 1:1 Learning Environments to Social Studies

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Historical Comparison: Details

Categories	2016-17 (Actual)	2017-18 (Current)	2018-19 (Proposed)	Change	% Change
Instructional Technology	$822,840	$754,473	$819,949	$65, 476	8.9%
Non-Instructional Technology	$13,004	$83,000	$34,000	-$49,000	-59%
Operations	$176,879	$286,077	$288,302	$2,225	0.07%
Services	$66,898	$97,550	$103,541	$5,991	6.10%
	$1,079,622	$1,221,100	$1,325,977	$104,877	8.50%

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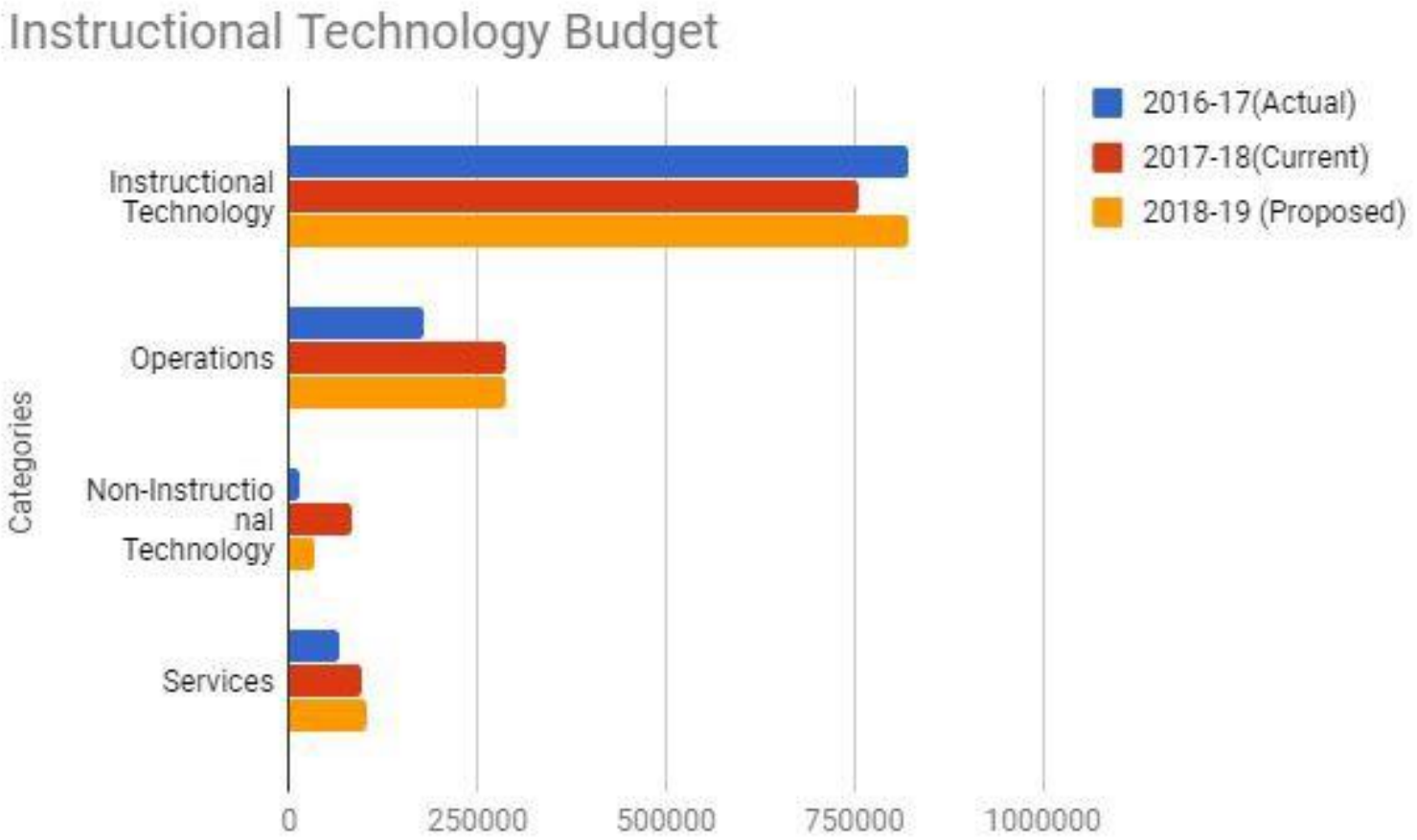
Budget Proposal: Graphs



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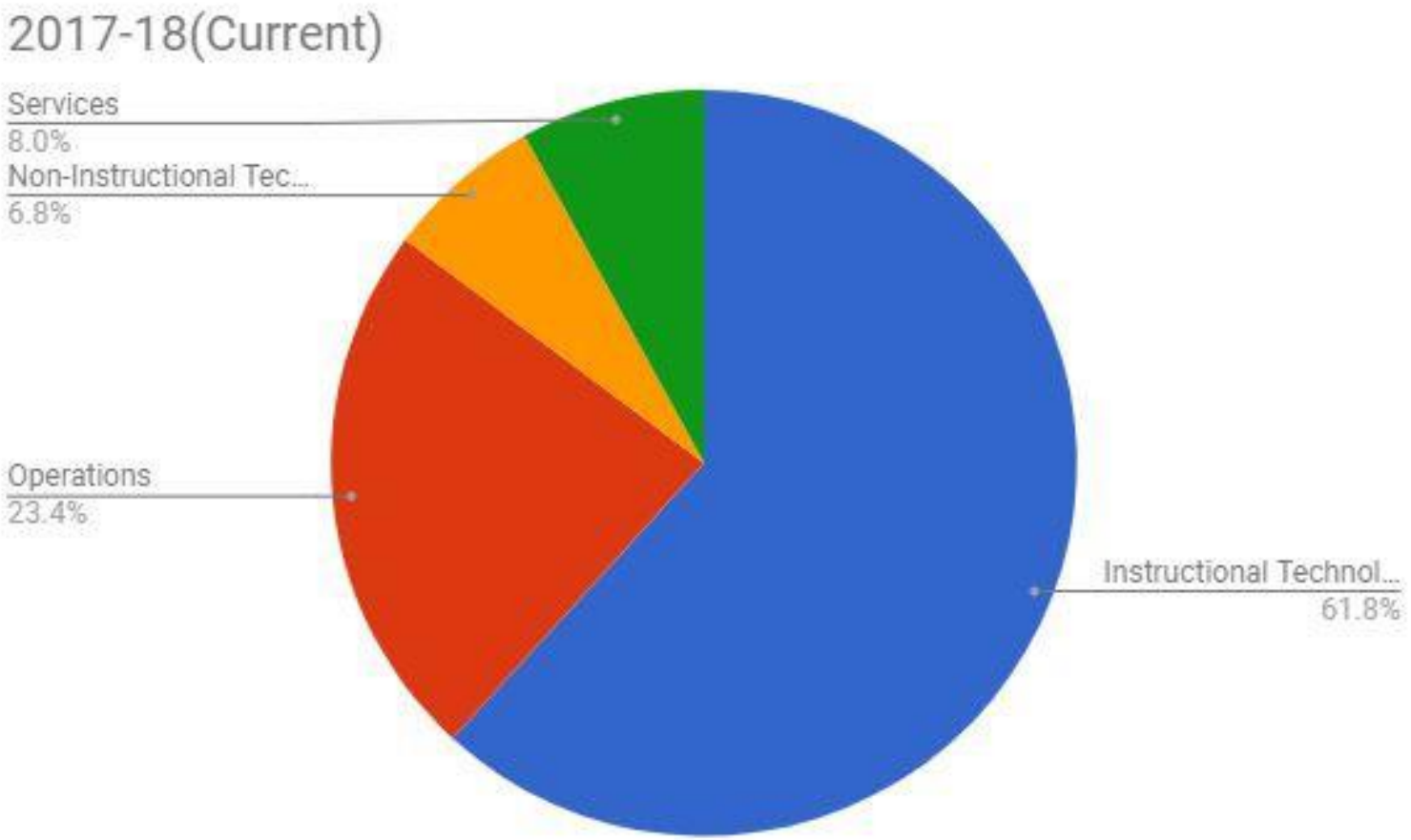

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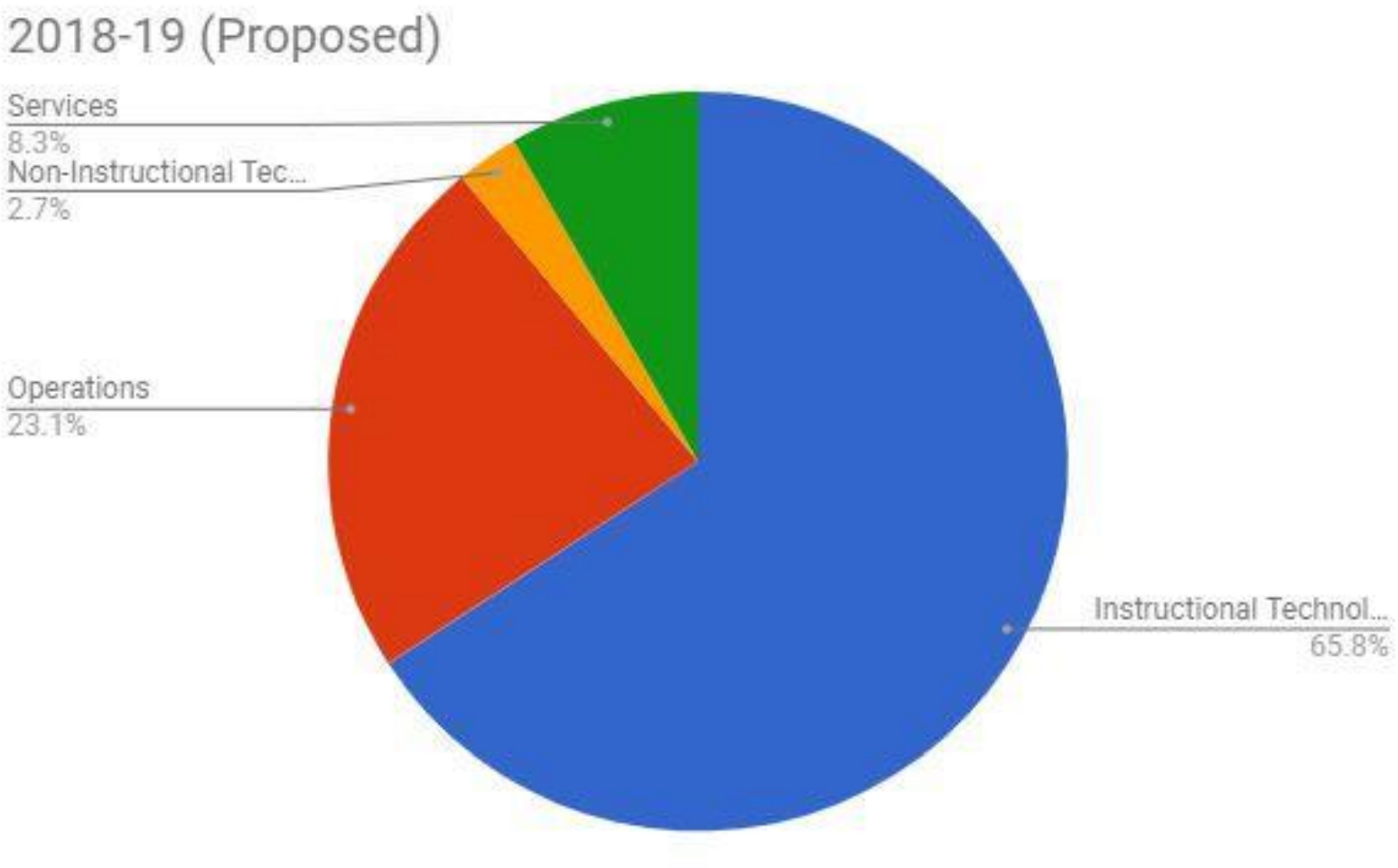

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Scheduled Equipment Refresh

- MHS Teacher and Administrator Laptops
- K-8 Teacher Chromebooks
- Classroom Device Storage and Charging Carts
- UMS Broadcast Journalism Macs
- 5-12 Pupil Service Devices
- VES Computer Lab
- OHES Media Center Cart

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Proposed Additions

SMART Learning Suite	$3,100
Expand STEAM at MHS and Create LMS Makerspace	$6,000
4 Digital Display & 3 Brightlink Projectors in OHES	$12,600
K-8 WiFi Refresh	$90,000
IDF Cabinet Security Restructuring	$30,000
Secondary Location Backup	$20,000
Used Utility Van $14,000	$14,000
Smart Deploy Software $11,200	$11,200
ADA Monitoring Software $7,000	$7,000
Microsoft Windows Licensing $8,275	$8,275
Cloud Data Storage $2,500	$2,500

Questions?

Reference Slides

K-12 Technology Curriculum

- Computer Applications Grade 1 & 2
- Computer Applications Grade 3 & 4
- Integrated Grade 6 Computer Applications
- UMS Electives:
  - Digital Music
  - Coding and Web Design
  - Computer Applications Grade 7 - Digital Literacy
  - Robotics
- MHS Electives
  - Intro to Computer Languages
  - Intro to Java
  - AP Computer Science
  - Website Design

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Current Instructional Model

- **MHS BYOD**
  - 50 Tech Tubs (Sets of 5), Career Labs
- **UMS & LMS**
  - 1:1 Learning Environment in LA and SS
  - 1:2 in Science
  - Classroom Clusters of 8 devices in Math & WL
  - Robust MC Technology
  - Elective Carts & Labs
- **VES**
  - Classroom Clusters and Family Carts
  - Computer Lab and Media Center Cart
- **OHES**
  - K-1 iPads
  - Grade 2 Chromebooks
  - Labs and Media Center Carts