Arlington Public Schools Digital Learning Program

Link to APS Digital Learning Website (bit.ly/apsdigitallearning)

APS Digital Learning Team

Arlington Public Schools
Education That Empowers

APS Digital Learning Team

Rashmi Pimprikar
Director
Digital Learning & Library

Robin Peaslee
Elementary DL Specialist
Digital Learning & Library

Erin Gill
Elementary DL Specialist
Digital Learning & Library

Johanna Galvin
Middle School DL Specialist
Digital Learning & Library

Jeff Snyder
High School DL Specialist
Digital Learning & Library

Nicoleta Hoctor
Ottoson Middle School
Digital Learning Lead Teacher

Stacy Kitsis
Arlington High School
Digital Learning Lead Teacher

Abeigel Merson
Hardy Elementary
Digital Learning Lead Teacher

Liz Ferola
Thompson Elementary
Digital Learning Lead Teacher

Eva Kennedy
Peirce Elementary
Digital Learning Lead Teacher

Sue Sussman
Gibbs Middle School
Digital Learning Lead Teacher

Michelle Fraser
Stratton Elementary
Digital Learning Lead Teacher

Kelly Hughes
Dallin Elementary
Digital Learning Lead Teacher

Digital Learning for ALL

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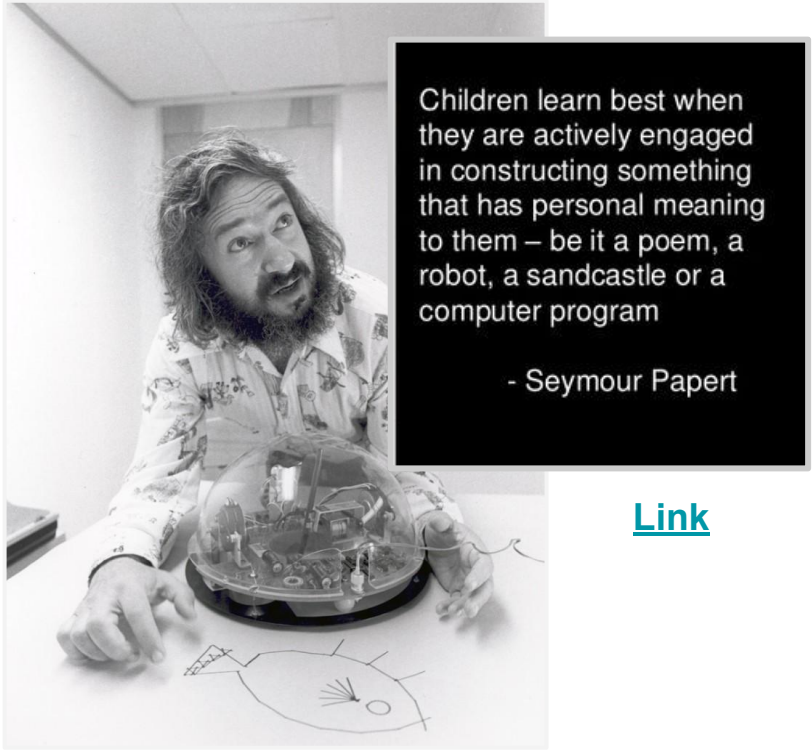


Link

Digital Learning @ a glance

Arlington Public Schools
Education That Empowers

MA DLCS standards Curriculum for K-12

Developing, teaching and iterating interdisciplinary curriculum aligned to K-12 MA DLCS Standards for all students

Supporting 150+ Ed-Tech Applications

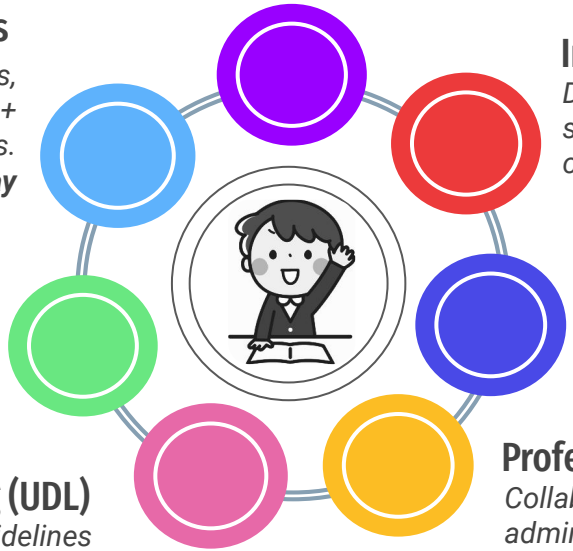
*Procuring, rostering & supporting all students, faculty, admins, & community in usage of 150+ district wide applications, systems, & Platforms. Approx **50+ districtwide requests everyday***

APS Student Data Privacy Database

Procuring, administering, updating and maintaining district wide SDP ed-tech application contracts and database to protect student data privacy

Universal Design for Learning (UDL)

Collaborating with faculty to integrate UDL guidelines and PBL frameworks



Interdisciplinary Robotics/STEAM

Developing, iterating and co-teaching the standards aligned Interdisciplinary curriculum units/projects

District wide 1:1 Initiatives

Collaborating with IT to support all students, faculty, administrators, & community in adoption of districtwide 1:1 initiative

Professional Learning

Collaborating with district leadership, faculty, and administrators to provide purposeful professional learning experiences that combine Ed-Tech & UDL guidelines

Standards & Frameworks

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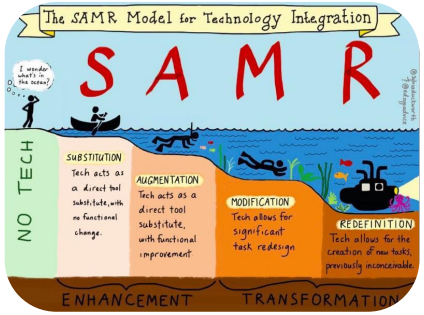

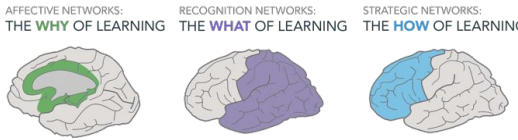

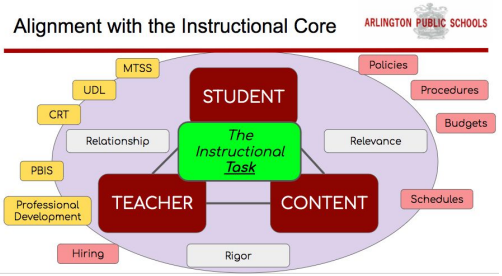

MA DLCS Standards

Vision

Digital literacy and computer science knowledge, reasoning, and skills are essential both to prepare students for personal and civic efficacy in the twenty-first century and to prepare and inspire a much larger and more diverse number of students to pursue the innovative and creative careers of the future. The abilities to effectively use and create technology to solve complex problems are the new and essential literacy skills of the twenty-first century.

Learning Progression

Grade Spans	Strands			
	Computing and Society [CAS]	Digital Tools and Collaboration [DTC]	Computing Systems [CS]	Computational Thinking [CT]
K-2	a. Safety and Security b. Ethics and Laws c. Interpersonal and Societal Impact	a. Digital Tools b. Collaboration and Communication c. Research	a. Computing Devices b. Human and Computer Partnerships c. Networks d. Services	a. Abstraction b. Algorithms c. Data d. Programming and Development e. Modeling and Simulation
3-5				
6-8				
9-12				

Practices

Connecting, Creating, Abstracting, Analyzing, Communicating, Collaborating, Research

APS DLCS Curriculum MAP

Arlington Public Schools
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Main_APS_K-12_DLCS StandardsCurriculumAligmentMap_DLLWebsite

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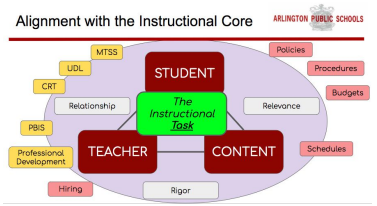
Share

	A	B	C	D
1	**Grades 3-5**			
2	**Standard**	**Library**	**Digital Learning**	**Math**
3	"How to Use This Spreadsheet: This resource is collaboratively developed by digital learning and Library team in Arlington MA. It is designed as a visual map of how the DLCS are assessed by Library Teachers, Digital Learning Teachers, a the grade bands by visiting different spreadsheets at the bottom (k-2, 3-5, 6-8, 9-12). Navigate the thematic strands of the DLCS within each of these sheets. Feel free to download and use this resource in			
4	**Computing and Society**			
5	3-5.CAS.a.1 Describe how to use proper ergonomics (e.g., body position, lighting, positioning of equipment, taking breaks) when using devices.	When performing research, show students how to use left & right mouse buttons or track pads to manipulate computer. Show them proper alignment of body with device. Resources: http://www.drmarkwellness.com/primary-student.html	When students are practicing their keyboarding skills, KWT is a essential resources for the students to get started with the proper techniques when using devices. KWT video	
6	3-5.CAS.a.2 Describe the threats to safe and efficient use of devices (e.g., SPAM, spyware, phishing, viruses) associated with various forms of technology use (e.g., downloading and executing software programs, following hyperlinks, opening files).		Using the Brainpop resource, students will become knowledge regarding the threats of everyday safety and the internet. students need to be aware of.Internet Safety Lesson	
7	3-5.CAS.a.3 Identify appropriate and inappropriate uses of technology when posting to social media, sending e-mail or texts, and browsing the Internet.		Discuss lessons of Digital Literacy with students. CSM has many lessons regarding these topics. CMS curriculum	
8	3-5.CAS.a.4 Explain the proper use and operation of security technologies (e.g., passwords, virus protection software, spam filters, popup blockers, cookies).	When using APS databases, tell students why they are password protected when accessing from home.	Discuss with students the importance of strong passwords. Create a lesson regarding downloading and making purchases online and the consequences that may happen if you are not protected. CMS Password Lesson	
9	3-5.CAS.a.5 Describe ways to employ safe practices and avoid the potential risks/dangers associated with various forms of online communications, downloads,			

K-2 | 3-5 | 6-8 | 9-12



Professional Learning

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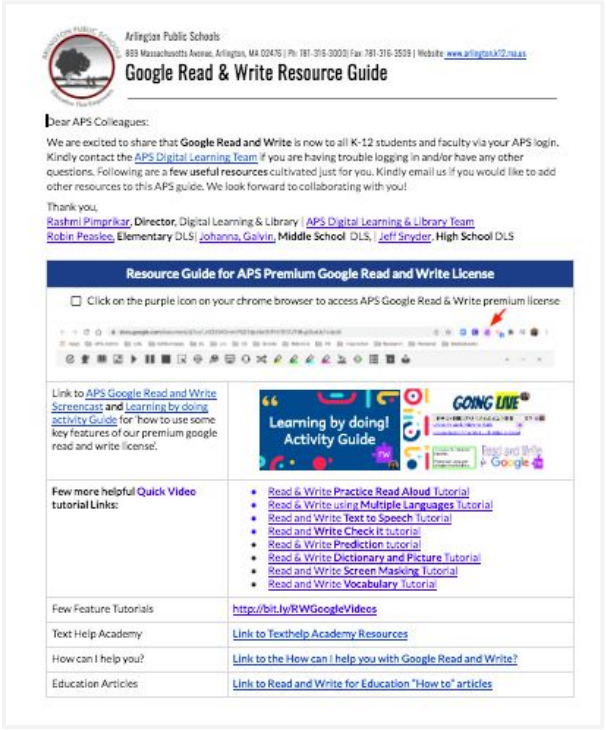


Arlington Public Schools
869 Massachusetts Avenue, Arlington, MA 02476 | Ph: 781-316-3003| Fax: 781-316-3539 | Website: www.arlingtonk12.net

Google Read & Write Resource Guide

Dear APS Colleagues:

We are excited to share that **Google Read and Write** is now to all K-12 students and faculty via your APS login. Kindly contact the APS Digital Learning Team if you are having trouble logging in and/or have any other questions. Following are a few **useful resources** cultivated just for you. Kindly email us if you would like to add other resources to this APS guide. We look forward to collaborating with you!

Thank you,
Rashmi Pimprikar, **Director**, Digital Learning & Library | APS Digital Learning & Library Team
Robin Peaslee, **Elementary** DLS| Johanna Galvin, **Middle School** DLS, | Jeff Snyder, **High School** DLS

Resource Guide for APS Premium Google Read and Write License

☐ Click on the purple icon on your chrome browser to access APS Google Read & Write premium license

Link to APS Google Read and Write Screencast and Learning by doing activity Guide for 'how to use some key features of our premium google read and write license'.	Learning by doing! Activity Guide — GOING LIVE
Few more helpful Quick Video tutorial Links:	• Read & Write Practice Read Aloud Tutorial • Read & Write using Multiple Languages Tutorial • Read and Write Text to Speech Tutorial • Read and Write Check it tutorial • Read & Write Prediction tutorial • Read & Write Dictionary and Picture Tutorial • Read and Write Screen Masking Tutorial • Read and Write Vocabulary Tutorial
Few Feature Tutorials	http://bit.ly/RWGoogleVideos
Text Help Academy	Link to Texthelp Academy Resources
How can I help you?	Link to the How can I help you with Google Read and Write?
Education Articles	Link to Read and Write for Education "How to" articles

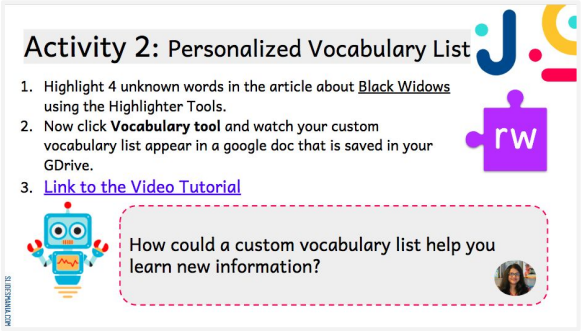
Learning by doing!
Activity Guide

- Talk and Type
- Read Aloud and Spellcheck
- Word Predictor
- Practice Reading Aloud
- Dictionary
- Search the Web
- Simplify Page and Answer Mask
- Highlighters
- Audio Maker
- Personalized Vocabulary
- Voice Notes
- Screenshot Reader

Arlington Public Schools
Digital Learning for ALL

Making Teaching & Learning more accessible for ALL with Google Read & Write

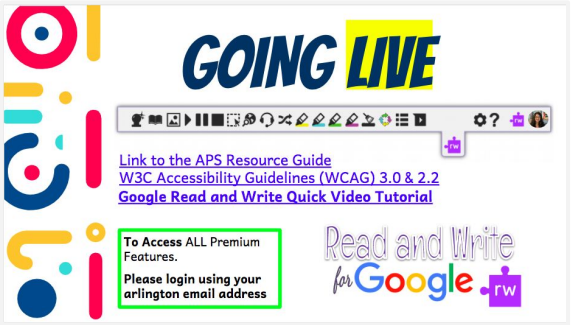
Rashmi Pimprikar & APS Digital Learning Team
Director of Digital learning | Arlington Public Schools
Program Director, Lesley Graduate School of Education



Activity 2: Personalized Vocabulary List

1. Highlight 4 unknown words in the article about Black Widows using the Highlighter Tools.
2. Now click **Vocabulary tool** and watch your custom vocabulary list appear in a google doc that is saved in your GDrive.
3. Link to the Video Tutorial

How could a custom vocabulary list help you learn new information?



GOING LIVE

Link to the APS Resource Guide
W3C Accessibility Guidelines (WCAG) 3.0 & 2.2
Google Read and Write Quick Video Tutorial

To Access ALL Premium Features.
Please login using your arlington email address

Read and Write for Google

DLCS (Robotics & STEAM) Integration

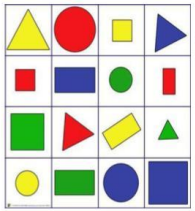
Arlington Public Schools
Education That Empowers

Bee Bot Shapes and Color Challenge

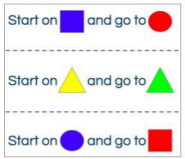
WHAT: Using robots with kids is a great way to teach literacy and infuse your classroom with STEM learning activities. Bee-Bot is an exciting little robot designed for use by young children. This colorful, easy-to-operate, and friendly little robot is a perfect tool for teaching bi-directional programming, counting, sequencing, estimation and iterative problem-solving.

CHALLENGE: Program your beebot to navigate the challenges listed below.

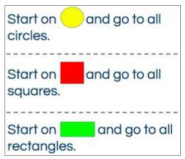
INSTRUCTIONS: The Bee-Bot robot is programmed by pressing the desired buttons and then pressing go. Be sure to press clear (or X) between each program! You can press multiple instructions before pressing go.



Challenge 1



Challenge 2

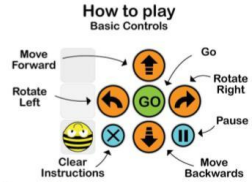


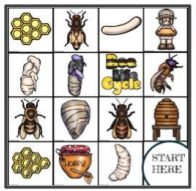
Bee Bot Life Cycle Challenge

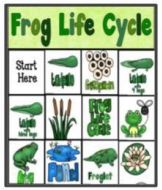
WHAT: Using robots with kids is a great way to teach literacy and infuse your classroom with STEM learning activities. Bee-Bot is an exciting little robot designed for use by young children. This colorful, easy-to-operate, and friendly little robot is a perfect tool for teaching bi-directional programming, counting, sequencing, estimation and iterative problem-solving.

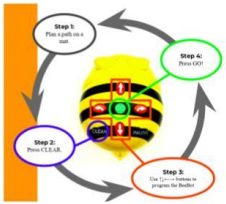
CHALLENGE: Program your beebot to navigate The Frog and Bee Life Cycle

INSTRUCTIONS: The Bee-Bot robot is programmed by pressing the desired buttons and then pressing go. Be sure to press clear (or X) between each program! You can press multiple instructions before pressing go.







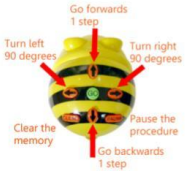


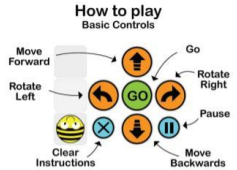
Bee Bot Hungry Caterpillar Challenges

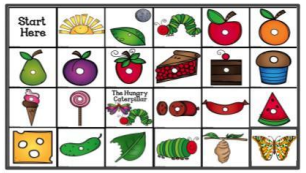
WHAT: Using robots with kids is a great way to teach literacy and infuse your classroom with STEM learning activities. Bee-Bot is an exciting little robot designed for use by young children. This colorful, easy-to-operate, and friendly little robot is a perfect tool for teaching bi-directional programming, counting, sequencing, estimation and iterative problem-solving.

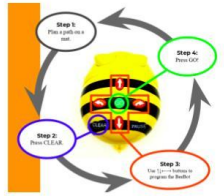
CHALLENGE: Program your beebot to navigate the Hungry Caterpillars path as indicated in the book

INSTRUCTIONS: The Bee-Bot robot is programmed by pressing the desired buttons and then pressing go. Be sure to press clear (or X) between each program! You can press multiple instructions before pressing go.









DLCS (Robotics & STEAM) Integration

Arlington Public Schools
Education That Empowers

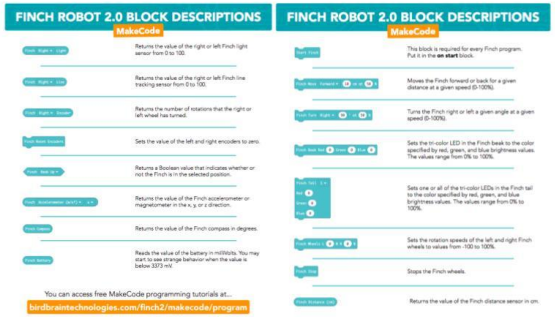
Finch Drawing The Shapes Challenge

WHAT: Using robots with learners is a great way of teaching interdisciplinary problem solving, digital literacy and infuse your classroom with STEAM learning. Finch is an exciting robot designed for use across K-8. This programmable, easy-to-operate, robot is a great tool for engaging students in creative challenges, iterative problem solving, computational thinking, sequencing, and algorithmic [illegible]gn.

CHALLENGE: Program your Finch to draw the shapes below

INSTRUCTIONS:

- Start by sketching a picture of the shape. Then determine the number of sides, angle measures, and side length. Using this information, code Finch to move and turn to draw the shape. Then, once Finch is done drawing the shape, calculate the perimeter and area of each shape.
- Moving & Turning, Controlling Wheels, Using Multiple Finches
  - Write a program to draw shapes. Start by drawing a square, then try to draw an equilateral triangle (a triangle with 3 equal sides).
  - Consider how much you need to turn the Finch to draw other regular polygons, such as a hexagon or octagon. Remember that you can use a loop to repeat actions!
  - Once you have succeeded at regular polygons, move on to shapes where the sides are not all equal – for example, a rectangle or a trapezoid. Add circles by controlling the wheels directly, as shown in the Controlling Wheels module.
  - Extension: Draw two identical shapes with two robots at the same time.



Finch Drawing The Shapes Challenge

INSTRUCTIONS:

- Start by sketching a picture of the shape. Then determine the number of sides, angle measures, and side length. Using this information, code Finch to move and turn to draw the shape. Then, once Finch is done drawing the shape, calculate the perimeter and area of each shape.

Shape Name	Sketch	Number of Sides & Angles	Angle Measure	Side Length	Perimeter	Area
Triangle						
Square						
Pentagon						
Hexagon						
Octagon						

Finch Challenge Reflection Journal

Challenge Title:	
Who did you work with to complete this challenge? What are some ways in which you worked together to solve the challenge?	
What were you trying to get the Finch to do?	
What did the Finch do when you ran your program?	
Did you make any mistakes? If so, how did you fix them?	
Did you have multiple solutions? Please explain how you chose the solution you decided to implement	
What did you like the most about this challenge? Why?	

If you took any pictures or video of your program, add them to this slide below.

DLCS (Robotics & STEAM) Integration

Arlington Public Schools
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Interactive Research Poster using Scratch & Makey Makey

MAKEY MAKEY is a simple circuit designed for quick connections between a computer and a variety of conductive objects. Learners can experiment with various configurations to create a complete and physically interactive circuit

CHALLENGE: Design an Interactive Research Poster on a topic of your choice that is aligned with content standards

CAN YOU

- → Research a topic that you would like to create an interactive poster for
- → Design a poster about your research topic
- → Storyboard what you want to say about your poster
- → Design a scratch program that complements your poster
- → Choose, draw, or upload backgrounds and sprites
- → Program backgrounds and sprites
- → Use makey makey blocks to create physical interactivity
- → Test your interactive map and add more elements as needed

Screencast Link
bit.ly/rpinteractiveposter

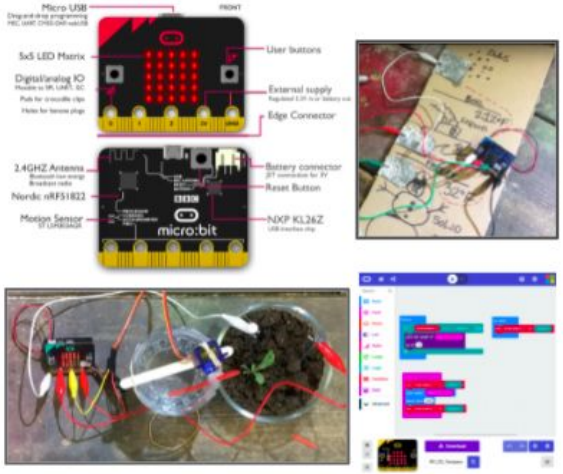
CC Attribution: ISTE CS PLN (Rashmi Pimprikar)

micro:bit Plant Watering System

WHAT: micro:bit is a pocket-size programmable computer with integrated sensors and LEDs.

CHALLENGE: Design a Micro Bit plant watering system that senses changing temperature by using MakeCode

INSTRUCTIONS: bit.ly/rpplantwatersystem



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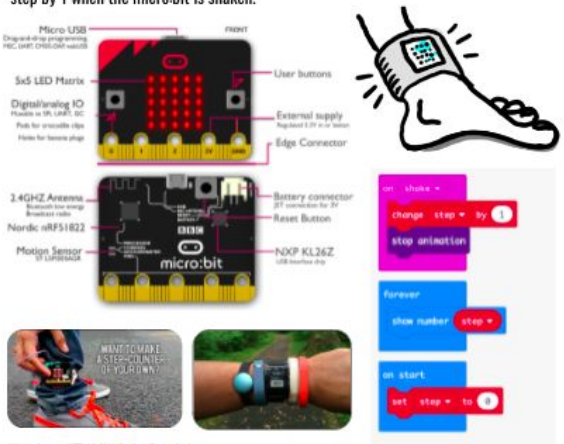
micro:bit Step Counter

WHAT: micro:bit is a pocket-size programmable computer with integrated sensors and LEDs.

CHALLENGE: Design a Micro Bit step counter or a pedometer. Each shake event increments a counter variable. The step count is displayed on the LEDs.

INSTRUCTIONS: Assuming you attach the micro:bit to your foot or ankle, it will get shaken when you take a step. We can use the on shake event to detect a step (it should notice a step most of the time). Let's add the code to increment step by 1 when the micro:bit is shaken.



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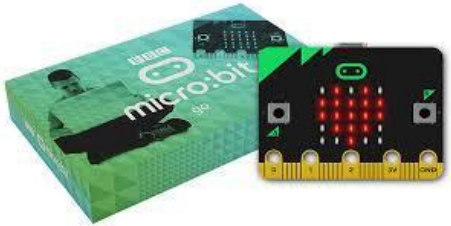
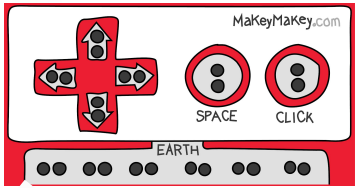
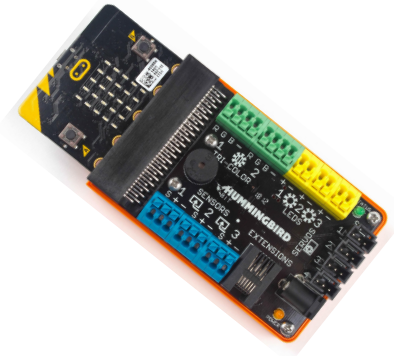
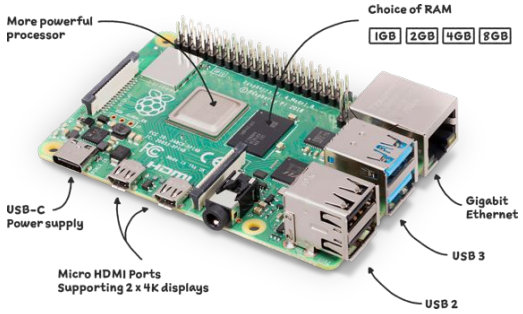
District DL+STEAM+Robotics Kits

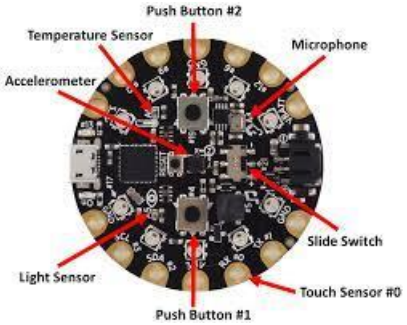
Arlington Public Schools
Education That Empowers











Few Elementary DL Highlights

Arlington Public Schools
Education That Empowers

- Developing and co-teaching curriculum to integrate **Interdisciplinary** DLCS Standards across Grades 4 & 5 (Link)
- Co-Teaching interdisciplinary problem-solving with BeeBots units across grades K-2
- Providing EdTech/UDL classroom support by modeling, co-teaching and through professional learning sessions across all elementary schools

Few Middle School DL Highlights

Arlington Public Schools
Education That Empowers

- Developing and co-teaching curriculum to integrate **Interdisciplinary** DLCS Standards across Grades 6 - 8 (Link)
- Providing EdTech/UDL classroom support by modeling, co-teaching and through professional learning sessions across all Elementary schools
- Implementation of New 1:1 Chromebook Lightspeed Classroom management

Few High School DL Highlights

Arlington Public Schools
Education That Empowers

- Developing, supporting, and co-teaching curriculum to integrate **Interdisciplinary** DLCS standards across Grades 9 - 12
- Facilitating Professional Learning for Ed-Tech Tools & new AHS Building Technologies such as Viewboards, audio visual systems etc…
- Providing EdTech/UDL classroom support by modeling, co-teaching and through professional learning sessions at AHS

Thank You

Arlington Public Schools
Education That Empowers

Seeking your support for achieving a 2 Schools : 1 Digital Learning Faculty ratio for our eight, PreK - 5 Schools

Thank you & Questions

Arlington Public Schools
Education That Empowers

APS Digital Learning Team

Rashmi Pimprikar
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