SMARTlab Curriculum

SMARTLAB CURRICULUM
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FIFTH GRADE SMARTlab SCOPE + SEQUENCE

4 Cs - Creativity/Communication/Collaboration/Critical thinking

UNIT/THEME	NOTES/POSSIBLE PROJECT IDEAS	POSSIBLE TOOLS USED
BASIC OPERATIONS and COMPUTER KNOWLEDGE	*Typing/keyboarding* *BOCK Mastery by 5th grade* • *Keyboard Shortcuts* • *GMail - email communication* • *Escape room? To be developed* *WeWillWrite*	Typing Club Google Workspace Tools
VIDEO PRODUCTION • Digital Storytelling, • Creating + editing video	Animation, green screen, research presentations Solar System reports Career recruitment video	WeVideo , Adobe Express
GRAPHIC DESIGN/DIGITAL IMAGERY • Create and edit digital images • Effective visual communication	Websites (can be done in Adobe or Google Sites) Infographics Poster design - climate change Presentation design + skills Chromebook wallpaper design Hot jobs - Time for Kids - careers	By 5th grade, students can choose their tools: Google Slides, Adobe Express, Canva InkPx (word art generator)
COMPUTER SCIENCE	Coding @ block coding level - how blocks work - mastery by 5th grade	Code.org, Code Combat, Google CS First, Blockly, Ozobot
DIGITAL LITERACY	Intro to AI conversation, Teaching Responsible use of AI AI HackStack DigCit Curriculum | Common Sense Education	Teachable Machine, Common Sense Media Google Be Internet Awesome **Merge EDU** Magic School Student AI
STATION ROTATIONS	*See below for details*	

STATION ROTATIONS | (FKA Learning Launchers)			
STATION		ACTIVITY/PROJECT/NOTES	POSSIBLE TOOLS USED
1	3D Modeling + Design; 3D Printing	Design something from scratch using basic shapes to prepare for 3D printing (Name designs)	TinkerCad Creality 3D Printers MERGE cubes
2	Lego Robotics	*the experience of building the robot is a key component*	LEGO WeDo LEGO Simple and Powered Machines, 9686 building set LEGO Spike
3	Engineering/Bridge Building	Materials provided from K'nex	K'nex
4	Circuitry	CHOICE ACTIVITIES Guided activities from MakeyMakey website (needs revision) - Makey Makey Activities Makey Makey Apps Booklets for SnapCircuits with activities	Makey Makey, SnapCircuits
5	Code breaking/Cybersecurity	Needs to be developed VIPRE_Xerox + ITsavvy Security Awareness Trainin...	Need tools/materials

NOTES: *6 over-arching units; for pacing purposes = approximately 2 units per trimester*

FOURTH GRADE SMARTlab Scope + Sequence

4 Cs - Creativity/Communication/Collaboration/Critical thinking

UNIT/THEME	NOTES/POSSIBLE PROJECT IDEAS	POSSIBLE TOOLS USED
BASIC OPERATIONS and COMPUTER KNOWLEDGE	*Scavenger hunt for computer operations and computer knowledge.* • *Intro to email - understanding what it is, but not sending any emails to anyone* • *Need to identify which workspace tools are introduced at each level* *WeWillWrite*	Typing Club, Google Workspace Tools
VIDEO PRODUCTION • Digital Storytelling, • Creating + editing video	Stop Motion animation (student-generated stories) Should be revised Animated GIFs Illustrating science concepts - Energy Unit (needs revision) Animate from audio - story re-telling Needs development	WeVideo, Stikbot App, Stikbot Green Screen
GRAPHIC DESIGN/DIGITAL IMAGERY • Create and edit digital images • Effective visual communication	Memes Posters Infographic - Adobe Express creative identity graphic (template)	Adobe Express, Canva, Google Slides
COMPUTER SCIENCE	Blockly coding with Ozobot, Block Coding on Chromebook	Code.org, Ozobots
DIGITAL LITERACY	Internet safety (internet safety poster?)	Common Sense Media
STATION ROTATIONS	*See below for details*	

STATION ROTATIONS | (FKA Learning Launchers)			
STATION		ACTIVITY/PROJECT/NOTES	POSSIBLE TOOLS USED
1	Optical illusions	Need optical illusion supplies https://www.exploratorium.edu/subjects/optical-illusions	Imaginarium & Google Slides
2	3D Design/Tinkercad	Tinkercad tutorials/intro level Checklist of required skills with video links (TO BE DEVELOPED)	Tinkercad
3	SnapCircuits/Makey Makey	To be developed - how to incorporate these together	Snap Circuits Kits Makey Makey
4	iPads Ozobot	Ozobot crawlers - Ozoblockly	Ozobot iPad app Ozoblockly
5	Zome Tools - Replacement: Eco Resilient Homes through Hello World as a station	Complex 3D shapes	ZomeTool Task Cards

NOTES:

6 over-arching units; for pacing purposes = approximately 2 units per trimester
Consider Swift playgrounds on iPad as future coding/compsci activity or for early finishers

THIRD GRADE SMARTlab Scope + Sequence

4 Cs - Creativity/Communication/Collaboration/Critical thinking

UNIT/THEME	NOTES/POSSIBLE PROJECT IDEAS	POSSIBLE TOOLS USED
BASIC OPERATIONS and COMPUTER KNOWLEDGE	*Scavenger hunt for features* *WeWillWrite* *Google Sheets - create a table, pixel art*	Google Apps Gimkit PearDeck Flashcard Factory
VIDEO PRODUCTION • Digital Storytelling, • Creating + editing video	Film history Intro to WeVideo (using stock footage), *Animationish (to be eliminated/replaced by Stickman)* *TO BE DEVELOPED* Trapped in a Snowglobe (GIF)	WeVideo, [redacted] Stickman for iPad ($10/license)
GRAPHIC DESIGN/DIGITAL IMAGERY • Create and edit digital images • Effective visual communication	LEGO minifig Worst Slides Ever Weather Reports - Poster layouts (STEM Challenge) How the body works - Kids Health	Canva Google Slides
COMPUTER SCIENCE	Blockly coding with Ozobot Battleship - coordinates	Code.org, ozobot
DIGITAL LITERACY	Internet safety Digital Wellness	Common Sense Media Gimkit, Pear Deck
STEM CHALLENGES	Magnets (how do they work?)	TCI workbook Lesson 4 and 5, Magnet Kits, Electromagnets
STATION ROTATIONS	*See below for details*	

STATION ROTATIONS | (FKA Learning Launchers)			
STATION		ACTIVITY/PROJECT/NOTES	POSSIBLE TOOLS USED
1	Code.org	Hour of Code Coding with dance party and dance party 2	Code.org
2	LEGO minifig	Create a lego minifigure of themselves (potential revision - shorts videos)	Google Slides
3	Ozobot 50 cm race	Ozobot classroom - Code For the Gold - 50 cm Race	Ozobot
4	KNEX Simple Machines	K'nex Simple machine kits	K'nex
5	Kids Health	Nutrition challenge? Virtual shopping trip TO BE DEVELOPED Staying Healthy Challenge?	Google Slides

NOTES:

6 over-arching units; for pacing purposes = approximately 2 units per trimester

SECOND GRADE SMARTlab Scope + Sequence

UNIT/THEME	NOTES/POSSIBLE PROJECT IDEAS	POSSIBLE TOOLS USED
BASIC OPERATIONS and COMPUTER KNOWLEDGE	Computer operations and keyboarding Google Classroom: How to attach a file to an assignment	Learning.com, Typing Club Google Apps
GRAPHIC DESIGN/DIGITAL IMAGERY • Create and edit digital images • Effective visual communication	Pixel Art About Me posters - to be developed Worst Slides ever- needs revision	Adobe Express Google Sheets Google Slides
COMPUTER SCIENCE	Coding and robotics - Sphero Indi - Teacher Manual Ozobots - line drawing	Sphero Indi Ozobots
DIGITAL LITERACY	Internet Safety, book read alouds	Common sense media
STEM CHALLENGES	*See below*	

STEM Challenges | (FKA Learning Launchers)			
Concept		ACTIVITY/PROJECT/NOTES	POSSIBLE TOOLS USED
1	Sequencing and patterns	Code Breaking - to be developed Resources | Carmen Sandiego	Google apps
2	Computational Thinking	Coding Robots, coding games	Sphero Indy, Ozobots, and Code.org
3	Engineering design	K'nex Catapult challenge (video), Marble Run	K'nex, Marble Run
4	Circuitry	Snap circuits simple circuits, magic wands	Snap circuits, makers kits
5	Science	Merge Cube - Lessons TBD Hello World CS?	Merge Edu, VR headsets

NOTES:
2nd grade seems heavy on computer usage. Are there any activities available that are more hands-on?

FIRST GRADE SMARTlab Scope + Sequence

UNIT/THEME	NOTES/POSSIBLE PROJECT IDEAS	POSSIBLE TOOLS USED
BASIC OPERATIONS and COMPUTER KNOWLEDGE	Computer operations and keyboarding Logging in to Chromebook, Learning.com lessons	Learning.com, Typing Club
GRAPHIC DESIGN/DIGITAL IMAGERY • Create and edit digital images • Effective visual communication	Unplugged activities continue and then transition to digital manipulation Google Sheets Leprechaun graphing	ABCya Paint, unplugged activities from Twinkl
COMPUTER SCIENCE	Coding and robots Indi Lesson Teacher Manual	Indi cars, code.org, Code and Go Pads and Cards
DIGITAL LITERACY	If You Give a Mouse an iPhone Internet Safety - Yappy Professor Garfield	Common sense media
STEM CHALLENGES	*See below*	

STEM Challenges | (FKA Learning Launchers)			
Concept		ACTIVITY/PROJECT/NOTES	POSSIBLE TOOLS USED
1	Sequencing and patterns	Build patterns, letters, numbers	Shape blocks, straws & connectors, Geometric tools
2	Computational Thinking	Coding Robots, coding games, unplugged coding	Sphero Indi, Code.org, Let's Go Code! Mats and cards
3	Engineering design	Challenge cards	City Building kits, Simple Machines kits
4	Circuitry	Snap Circuits - What is a circuit?	Snap circuits
5	Biology	Biodiversity, animal behaviors - to be developed	Makers Space

KINDERGARTEN SMARTlab Scope + Sequence

UNIT/THEME	NOTES/POSSIBLE PROJECT IDEAS	POSSIBLE TOOLS USED
BASIC OPERATIONS and COMPUTER KNOWLEDGE	Keyboarding and computer operations	Learning.com Typing Club
GRAPHIC DESIGN/DIGITAL IMAGERY • Create and edit digital images • Effective visual communication	Unplugged activities are given to introduce graphic design vocabulary	unplugged activities from Twinkl
COMPUTER SCIENCE	Coding and robots - to be developed Lego Mazes with a marble (sequencing and patterns)	Indi cars, code.org, Legos
DIGITAL LITERACY	read alouds, - to be developed Internet Safety Examples: The Pop Up Gremlins, Troll Stinks, #Goldilocks, Chicken Clicking, Goodnight iPad, The Technology Tail: A Digital Footprint Story, Diary of Elle, But It's Just A Game, The Fabulous Friend Machine, Nerdy Birdy Tweets	Common sense media Typing Club
STEM CHALLENGES	*See below*	

STEM Challenges | (FKA Learning Launchers)			
Concept		ACTIVITY/PROJECT/NOTES	POSSIBLE TOOLS USED
1	Sequencing and patterns	Build patterns, letters, numbers	Pattern Blocks
2	Computational Thinking	Coding Robots, coding games, unplugged coding	Code.org, Let's Go Code! mats and cards
3	Engineering design	Challenge cards	City Building kits, Simple Machines kits, K'nex
4	Biology	Biodiversity, animal behaviors- to be revised	Makerspace

4.24.24 - SMARTlab curriculum planning - ½ Day Institute

1:45 pm - 3:15 pm

Julie, Terry, and Jen @ Central SMARTlab

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* Our previous work on curriculum can be found here *

NOTES/Things to consider/questions:

- Although there may be many needs in the department, how do we prioritize?
- How might we structure a curriculum scope + sequence so as to be aligned across the district, while still giving autonomy to teachers and the ability to personalize and differentiate as needed? *(Think about: if a new teacher came into this role, how would we communicate what our curricular plan/structure is for him/her?)*

CURRICULUM STRUCTURE PROPOSAL:

1. Grade bands (where standards coverage would be listed, overarching goals + objectives):
    a. K-2
    b. 3-5
2. Then by grade level: K 1 2 3 4 5
3. Then by time - Trimester? - w/suggested timeline

CURRICULUM TO DO:

Accommodations for sped and EL populations:

- ☐ Choice boards
- ☐ Alternative activities (such as project bins, etc)
- ☐ iPad station
- ☐ Strategies for kids coming in last 5 minutes of class

Book list for SMARTlab:

- ☐ If You Give a Mouse an iPhone
- ☐ The Technology Tail
- ☐ But I Read It On The Internet!

See highlighted items above for units/lessons in need of further research + development

AI Ideas and Resources:

Curriculum Catalog - Code.org