Tools Available (not limited to)

- Beebot
  - Story building
  - Coordinates
  - Sounds
- Sphero Indi
  - Understanding color codes
  - Maze building
- Ozobots
- Dash
  - Fashion show
  - Vacation itinerary
  - Maze building
  - Challenge cards
- Spike Essential
  - STEM & Science lessons
- Root Robot
- Spike Prime
  - Hopper design & engineering
  - Other lessons
  - FIRST Lego League challenge courses from previous years
- Green screen & Padcasters
  - Augmented animals
  - Green screen designs with Canva
  - Newscast/TicToks
- 3D Design/Printing
  - Design with shapes
  - Key chains
  - Household solutions
  - 3Doodlers creation and challenges
  - Flexi designs
  - Image imports using SVG
  - Cookiecutter designs
- Cricut Design
  - Coloring book
  - Design with shapes
  - Paper circuits
  - Card making
  - Stickers
- Sewing
  - Stocking with embellishments and/or Cricut heat-transfer
  - Sandwich bag
  - Pendants
  - Pull string bag
  - Bowl holder
- Glowforge
  - Design in Canva and engrave on something
  - Wood disk ornaments
  - Cutting boards
  - Clipboards
- Google Search App
  - Animal augmented reality
- CoSpaces
  - Connect with merge
- Lego
  - Challenge cards
  - Partner activity
- MakeDo
  - Build a haunted house
  - Build a robot
- Makey Makey
  - Interactive exhibits
  - Inventions
- Low Tech Ideas
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SIX BRICK LEGO BOOKLET

Grade Level	Project	Standards

K	***Manipulative engineering***
	- Building letters using the pieces (example)
	- Building a bridge that hold a Beebot that goes across
	- Usings tools such as; Keva Planks, Legos, Brain Flakes
	  - Personalized Learning via choice
	
	Literacy Connection:
	- Letter sounds
	- Read alouds:
	  - Chicka Chicka Boom Boom
	  - L, M, N, O Peas
	  - Once Upon an Alphabet
	
	Helpful Links: Brainflakes Task cards
		K-1.CT.4 Identify a problem or task and discuss ways to break it into multiple smaller steps
		
		K-1.CT.10 Collaboratively create a plan that outlines the steps needed to complete a task.

K	***Design/Novel Engineering*** - recycled material, empathetic engineers to build a solution - Ideas include; using recycled cardboard, and other discarded items - personalized materials based on students - Marble ramp that connects with cardboard to move marble to final destination (team building) - Novel Engineering ***Literacy Connection:*** ***Helpful Links:***	
K	***Coding/Computational Thinking*** Indies/Beebots: - Tie in with story - Tie in with math (foam dice) - program beebot to go to answer - Story sequencing Research project about how a Bee moves and beebot to do the Waggle Dash Beebot Curriculum Resources ***Literacy Connection*** ***Helpful Links:***	K-1.CT.8 Identify a task consisting of steps that are repeated and recognize which steps are repeated.

K - additional Ideas	Research project with augmented reality - Pebble Go - research - Google AR to talk about the animal	

Grade Level	Project	Standards
1	***Manipulative engineering*** - Building letters using the pieces (example) - Building a bridge that hold a Beebot that goes across - Usings tools such as; Keva Planks, Legos, Brain Flakes - Personalized Learning via choice - Enhancement for Grade 1: Do not give the letter pages that give them support, more advanced build a word ***Literacy Connection:*** - Letter sounds, beginning to build words - Read alouds: ***Helpful Links:***	K-1.CT.4 Identify a problem or task and discuss ways to break it into multiple smaller steps K-1.CT.10 Collaboratively create a plan that outlines the steps needed to complete a task.
1	***Design/Novel Engineering*** - recycled material, empathetic engineers to build a solution - Ideas include; using recycled cardboard, and other discarded items - personalized materials based on students - Marble ramp that connects with cardboard to move marble to final destination (team building) - Enhancement for Grade 1:more choices for materials - ***Literacy Connection:*** -connect/identify conflict of character with design and product ***Helpful Links:***	
1	***Coding/Computational Thinking*** Indies/Beebots: - Tie in with story - Tie in with math (foam dice) - program beebot to go to answer - Story sequencing Research project about how a Bee moves and beebot to do the Waggle Dash - Enhancement for Grade 1:introduce measure, remove mats - figuring out how much the beebot moves, making shapes, square, triangles, letters Beebot Curriculum Resources	K-1.CT.8 Identify a task consisting of steps that are repeated and recognize which steps are repeated.

	Literacy Connection -letter/symbol formation ***Helpful Links:***	
1 Additional Items		

Grade Level	Project	Standards

2	***Computational thinking***
	- Size, concept of time and money
	  - Showing size of animals, climates of countries
	- Research and presentation skills; animals, planets, famous people, what is presently being studied in their classes
	  - Introduction to research process, research vs. Googling
	- How to projects, direction projects, patterns
	  - Back to back Lego activity
	
	Literacy Connection
	- reading/following directions, notetaking
	
	Helpful Links:
		2-3.CT.1 Create a model of an object or computational process in order to identify patterns and essential elements of the object or process

2	***Design/Novel Engineering*** - Recycled material, empathetic engineers to build a solution - Ideas include; using recycled cardboard, and other discarded items - personalized materials based on students - Marble ramp that connects with cardboard to move marble to final destination (team building) - Enhancement for Grade 1:more choices for materials - Coloring books with cricut design space - Worked on using a mouse - Insert text images, resize ***Literacy Connection*** ***Helpful Links:***	

2	***Coding:***
	- Introduce Dash
	  - Path App
	  - Story telling
	- Lego Essentials
	- Indies challenge cards to identify missing pieces of the code to finish
	- Beebots; make pathways with Keva Planks to get through the maze
	- Beebots; code to get to different places on a map
	
	Literacy Connection
	
	Helpful Links:
		2-3.CT.6 Create two or more algorithms for the same task.
		
		2-3.CT.8 Identify steps within a task that should only be carried out under certain precise conditions.
		
		2-3.CT.9 Identify and debug errors within an algorithm or program that includes sequencing or repetition.

2 Additional	Food Truck City.pdf	

Grade Level	Project	Standards

3	***Computational thinking***
	- Size, concept of time and money
	  - Showing size of animals, climates of countries
	- Research and presentation skills; animals, planets, famous people, what is presently being studied in their classes
	  - Introduction to research process, research vs. Googling
	- How to projects, direction projects, patterns
	  - Back to back Lego activity
	- Lifesaver/gummy worm activity - Saving Sammy
	  - Human body systems, floor models - into puzzles. Lung models with paper bags and straws
	
	Literacy Connection
	
	Helpful Links:
		2-3.CT.1 Create a model of an object or computational process in order to identify patterns and essential elements of the object or process

3	***Design/Novel Engineering*** - Recycled material, empathetic engineers to build a solution - Ideas include; using recycled cardboard, and other discarded items - personalized materials based on students - Marble ramp that connects with cardboard to move marble to final destination (team building) - Enhancement for Grade 1:more choices for materials - Coloring books with cricut design space - Worked on using a mouse - Insert text images, resize - Golf Course build - ***Literacy Connection*** ***Helpful Links:***	

3	***Coding:***
	- Intro to Ozobots, coding and color coding Ozobot intro. lessons
	- Introduce Dash
	  - Path App
	  - Story telling
	- Lego Essentials
	- Indies challenge cards to identify missing pieces of the code to finish
	- Beebots; make pathways with Keva Planks to get through the maze
		2-3.CT.6 Create two or more algorithms for the same task.
		
		2-3.CT.8 Identify steps within a task that should only be carried out under certain precise conditions.
		
		2-3.CT.9 Identify and

	- Beebots; code to get to different places on a map ***Literacy Connection*** ***Helpful Links:***	debug errors within an algorithm or program that includes sequencing or repetition.

Grade Level	Project	Standards
4	***Coding*** Then personalized as to what they use; code.org, codemonkey, Spike Primes, Indies, Ozobots, Spike Essential, Scratch - Ozobots Ozobot lesson library - Spike Prime - Hopper lesson - Dash Fashion Show ***Literacy Connection*** ***Helpful Links:***	4-6.CT.7 Identify pieces of information that might change as a program or process runs. 4-6.CT.9 Explain each step of an algorithm or program that includes repetition and conditionals for the purposes of debugging.
4	***Design Process*** ● Creating coding lessons for younger kids using Beebots, create images in Canva for the Beebot map ● Animal adaptations; create an animal and build model of where they would live ● Green Screen - research president, change background with picture of president ● Cricut design with stickers ● 3-D Doodlers - leading into TinkerCAD ○ Snowflakes in TinderCAD ● Make-do's ***Literacy Connection*** ***Helpful Links:***	4-6.CT.7 Identify pieces of information that might change as a program or process runs.
4	***Circuitry*** - in collaboration with classroom teacher and STEM teachers as to when ● Paper Circuits Copy of Paper Circuits Lesson _ Heart 2023 ● Snap Circuits ● Makey Makey Makey Makey Apps ; Makey Makey Conductivity lesson Is it Conductive? lesson ***Literacy Connection*** ***Helpful Links:***	4-6.CT.1 Develop a computational model of a system that shows changes in output when there are changes in inputs.

Grade Level	Project	Standards
5	***Coding*** Then personalized as to what they use; code.org, codemonkey, Spike Primes, Indies, Ozobots, Spike Essential, Scratch - Ozobots - Spike Prime - Hopper lesson - Dash Fashion Show Enhance from previous grade ***Literacy Connection*** ***Helpful Links:***	4-6.CT.7 Identify pieces of information that might change as a program or process runs. 4-6.CT.9 Explain each step of an algorithm or program that includes repetition and conditionals for the purposes of debugging.
5	***Design Process*** ● Creating coding lessons for younger kids using Beebots, create images in Canva for the Beebot map ● Animal adaptations; create an animal and build model of where they would live ● Green Screen - research president, change background with picture of president ● Cricut design with stickers ● 3-D Doodlers - leading into TinkerCAD ○ Snowflakes in TinderCAD ● Make-do's Enhance from previous grade ***Literacy Connection*** ***Helpful Links:***	4-6.CT.7 Identify pieces of information that might change as a program or process runs.
5	***Circuitry*** - in collaboration with classroom teacher and STEM teachers as to when ● Paper Circuits Copy of Paper Circuits Lesson _ Heart 2023 ● Snap Circuits ● Makey Makey Enhance from previous grade ***Literacy Connection*** ***Helpful Links:***	4-6.CT.1 Develop a computational model of a system that shows changes in output when there are changes in inputs.

Grade Level	Project	Standards
6	***Coding*** Then personalized as to what they use; code.org, codemonkey, Spike Primes, Indies, Ozobots, Spike Essential, Scratch - Ozobots - Spike Prime - Hopper lesson - Dash Fashion Show Enhance from previous grade ***Literacy Connection*** ***Helpful Links:***	4-6.CT.7 Identify pieces of information that might change as a program or process runs. 4-6.CT.9 Explain each step of an algorithm or program that includes repetition and conditionals for the purposes of debugging.
6	***Design Process*** ● Creating coding lessons for younger kids using Beebots, create images in Canva for the Beebot map ● Animal adaptations; create an animal and build model of where they would live ● Green Screen - research president, change background with picture of president ● Cricut design with stickers ● 3-D Doodlers - leading into TinkerCAD ○ Snowflakes in TinderCAD ● Make-do's Enhance from previous grade ***Literacy Connection*** ***Helpful Links:***	4-6.CT.7 Identify pieces of information that might change as a program or process runs.
6	***Circuitry*** - in collaboration with classroom teacher and STEM teachers as to when ● Paper Circuits Copy of Paper Circuits Lesson _ Heart 2023 ● Snap Circuits ● Makey Makey Enhance from previous grade ***Literacy Connection*** ***Helpful Links:***	4-6.CT.1 Develop a computational model of a system that shows changes in output when there are changes in inputs.