CODE KIT VOCABULARY DEFINITIONS

CODE KIT CORE

Introduction: Hello World 2
Inputs and Outputs 2
Loops 3
Logic 3
Variables 4
Functions 4
Ultimate Shootout 5
Hot Potato... of Doom! 5
Rockstar Guitar 6
Tug of War 6
Change the World Arcade 7

ELA FOR ELEMENTARY 8

Turning Points 8
Engineering Solutions to Aesop’s Fables 8
Let’s Make a Techno Jungle Together 8
Vocabulary 9

ELA FOR MIDDLE SCHOOL 10

Ancient Mythology 10
Tinker with Storytelling 10
Reinventing Careers 10
Vocabulary 11
**CODE KIT CORE**

**Introduction: Hello World**

Circuit
- Series circuit - there is a single path for electricity to flow from one power source
- Parallel circuit - multiple paths for the electricity to flow from one power source

Power
Needed in every circuit and is the start of all your littleBits creations.

Input
These Bits add control to the circuit, through information provided by you or the environment, and sends signals to the Bits that follow.

Output
The Bits that “Do Something”. The Bits complete an action or task (for example light, buzz, or move).

Wire
Bits that expand the circuit’s reach and change direction. Come can also add a level of complexity and programmability to the circuit.

Magnets
Bits are designed to snap together, end to end, to create a complete circuit. The magnets inside each of the Bits’ connectors ensure that students always attach the Bits the right way.

Software
A set of instructions that tells a computer exactly what to do.

Hardware
Physical parts computer that causes processing of data.

Code
The instructions that people create for computers to follow. Just like people speak different languages, so do programs.

Program
A group of instructions given to a computer to be processed. These instructions are typically used to solve a problem or make long problems for humans shorter and easier.

**Inputs and Outputs**

**Bit**
A contraction of "Binary Digit". A bit is a single unit of information in a computer, typically represented as a 0 or 1.
Block
Any programming language that lets users create programs by manipulating “blocks” or graphical programming elements, rather than writing code using text.

Input
These Bits add control to the circuit, through information provided by you or the environment, and sends signals to the Bits that follow.

Output
The Bits that “Do Something”. The Bits complete an action or task (for example light, buzz, or move).

codeBit
A tiny computer that acts like a brain for your littleBits circuits and allows you to send code from your computer to your codeBit so you can program your own circuits.

Serial mode
Serial communication is a way to send complex information between computers and other devices. Serial communication is made up of a series of 'on' and 'off' signals.

Hertz, tone, frequency, pitch
Hz, or hertz, is used to measure the frequency of a tone. The higher the frequency (and Hz number), the higher the pitch.

Loops

While Loop
A loop that continues to repeat while a condition is true.

For Loop
A loop with a predetermined beginning, end, and increment (step interval).

Animation frame
Individual pictures in a sequence of images.

Variable
A placeholder for a piece of information that can change.

Coordinates, x and y axis
The LED matrix is a colorful display that you can control using the codeBit. Each point on the matrix represents a coordinate that corresponds to the x and y axis.

Logic

Logic
Logic lets you add rules to your code.

IF/DO/ELSE:
• An “if statement” runs a block of code based on whether or not a condition is true.
• “Else statements” are used to do something else when the condition in the “if statement” isn't true.

**AND/OR**
Two or more relations can be logically joined using the logical operators AND and OR.

**Round**
Rounding means replacing a number with an approximate value that has a shorter, simpler, or more explicit representation

**Signal**
The flow of information carried by voltage, current, or magnetic field.

---

**Variables**

**Variable**
A placeholder for a piece of information that can change.

**Set variable to**
Use a variable in a program.

**Tone length**
A variable in Fuse to store a number. You can change the name of the variable and the number to whatever you want.

**Game sprite**
In computer graphics, a sprite is a two-dimensional bitmap that is integrated into a larger scene, most often in a 2D video game.

**Coordinates, x and y axis**
The LED matrix is a colorful display that you can control using the codeBit. Each point on the matrix represents a coordinate that corresponds to the x and y axis.

---

**Functions**

**Functions**
A block of code that can be referenced by name to run the code it contains.

**Sequence**
The order that commands are executed by a computer. Allows us to carry out tasks that have multiple steps.

**Animation frames**
Individual pictures in a sequence of images.

**Wait time variable**
In this activity, this variable defines how long each note will play between the animation frames that you can see tucked away inside the light pink function blocks.
Ultimate Shootout

Loops
Loops check a condition and then run a code block. The loop will continue to check and run until a specified condition is reached.

Variables
A placeholder for a piece of information that can change.

Logic
Logic lets you add rules to your code.

Engineering design
The engineering design process is a series of steps that engineers follow to come up with a solution to a problem.

Remix
In the littleBits Invention Cycle, this is your opportunity to improve your invention. Keep experimenting! Add new Bits, swap parts with other inventions, or take all the pieces apart and put them together in a different way.

Power
Needed in every circuit and is the start of all your littleBits creations.

Input
These Bits add control to the circuit, through information provided by you or the environment, and sends signals to the Bits that follow.

Output
The Bits that “Do Something”. The Bits complete an action or task (for example light, buzz, or move).

Pixel
A px (pixel) is the smallest portion of an image or display that a computer is capable of printing or displaying.

Hot Potato... of Doom!

Variable
A placeholder for a piece of information that can change.

Loops
Loops check a condition and then run a code block. The loop will continue to check and run until a specified condition is reached.

Invention Cycle
The Invention Cycle is a roadmap for your invention journey. Each phase is full of activities and questions that help you explore your ideas and develop your invention.

Remix
In the littleBits Invention Cycle, this is your opportunity to improve your invention. Keep
experimenting! Add new Bits, swap parts with other inventions, or take all the pieces apart and put them together in a different way.

**Rockstar Guitar**

**Input**
These Bits add control to the circuit, through information provided by you or the environment, and sends signals to the Bits that follow.

**Output**
The Bits that “Do Something”. The Bits complete an action or task (for example light, buzz, or move).

**Block**
Any programming language that lets users create programs by manipulating “blocks” or graphical programming elements, rather than writing code using text.

**Loops**
Loops check a condition and then run a code block. The loop will continue to check and run until a specified condition is reached.

**Prototype**
Create your prototype during the “Create” portion of the Invention Cycle. You can build it from the instructions or make something from your imagination.

**Iteration**
The “Remix” portion of the Invention Cycle is your opportunity to iterate and improve your invention. Add new Bits, swap parts with other inventions, or take all the pieces apart and put them together in a different way.

---

**Tug of War**

**Functions**
A block of code that can be referenced by name to run the code it contains.

**Variable**
A placeholder for a piece of information that can change.

**Loops**
Loops check a condition and then run a code block. The loop will continue to check and run until a specified condition is reached.

**Debug**
Use the [Debugging Checklist](#) to debug your connection, circuit, and code.
Change the World Arcade

Loops
Loops check a condition and then run a code block. The loop will continue to check and run until a specified condition is reached.

Variable
A placeholder for a piece of information that can change.

Logic
Logic lets you add rules to your code.

Input
These Bits add control to the circuit, through information provided by you or the environment, and sends signals to the Bits that follow.

Output
The Bits that “Do Something”. The Bits complete an action or task (for example light, buzz, or move).

Playtesting
The “Play” portion of the Invention Cycle. Playing with what you’ve created is fun, but also an important part of inventing. Playing is like a test run. It’s a chance to see how well your invention works and look for ways you can make it better.

Iteration
The “Remix” portion of the Invention Cycle is your opportunity to iterate and improve your invention. Add new Bits, swap parts with other inventions, or take all the pieces apart and put them together in a different way.
ELA FOR ELEMENTARY

Turning Points

Turning point
A pivotal moment at the peak of the story arc that pits the protagonist against an opposing force in order to resolve the main conflict once and for all.

Scene
Every story has scenes. You could have one scene if your story is very short, but most stories will have multiple scenes.

Tension
The rising action is the increasing intensity of the conflict, creating a build-up of tension.

Narrative Arc
Narrative arc is a term that describes a story's full progression.

Engineering Solutions to Aesop’s Fables

Engineering
The branch of science and technology concerned with the design, building, and use of engines, machines, and structures.

Brainstorm, Solution
The “Create” portion of the invention cycle. Brainstorm, design, and build a solution to a problem.

Feedback
The “Play” and “Remix” portion of the invention cycle. Collect feedback from classmates on your project. Use feedback to enhance your project.

Moral
A moral is a message that is conveyed or a lesson to be learned from a story or event.

Let’s Make a Techno Jungle Together

Creative
Open challenges get you to flex your creative muscles. These challenges start with an open-ended problem. Your mission is to explore ways you could use littleBits to create an invention that solves that problem.

Narrative Arc
Narrative arc is a term that describes a story's full progression.

Interactivity
The process of two people or things working together and influencing each other.
Character
A character is a person, animal, being, creature, or thing in a story. Writers use characters to perform the actions and speak dialogue, moving the story along a narrative arc.

Vocabitlary

Strategies
In this activity, you will try different methods of learning and practicing new words. Your solution to learn the new words will be your strategy.

Visual
Visual representations of new words help us store these words in our memory more easily.
ELA FOR MIDDLE SCHOOL

Ancient Mythology

Wield
If you wield a tool, you handle it effectively.

Symbol
A mark or character used as a conventional representation of an object, function, or process.

Scepter
A ceremonial staff. With its jewels and ornamentation, a scepter is a symbol of power.

Cornucopia
A symbol of plenty consisting of a goat's horn overflowing with flowers, fruit, and corn.

Trident
A three-pronged spear.

Tinker with Storytelling

Essential, quality
Essential qualities make people unique. Quality is an aspect of someone's character or personality.

Essence
The intrinsic nature or indispensable quality of something, especially something abstract, that determines its character.

Compassionate
Feeling or showing sympathy and concern for others.

Characteristic
A feature or quality belonging typically to a person, place, or thing and serving to identify it.

Trait
A distinguishing quality or characteristic, typically one belonging to a person.

Reinventing Careers

Career
An occupation undertaken for a period of a person's life and with opportunities for progress.
Vocabulary

Strategies
In this activity, you will try different methods of learning and practicing new words. Your solution to learn the new words will be your strategy.

Visual
Visual representations of new words help us store these words in our memory more easily.