| Unplugged Programming Activities | JK | K | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Listens to/reads directions | I | 1 | R | D | D | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Follows directions in sequence | 1 | 1 | R | D | D | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Write directions in sequence | N/A | N/A | 1 | R-D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Counts steps | I | 1 | R | D | D | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Locates coordinates on a floor grid | 1 | 1 | R | D | D | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Locates objects placed on indoor and outdoor hunts | N/A | N/A | 1 | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU |
| Follows directions which include left, right, forward, backward, turn, rotate, repeat, if/then | 1 | 1 | R | D | D | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Initializes (resets) | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Understands the following terms: left, right, forward, backward, rotate, turn, sequence, program, command, debug, if/then, initialize (reset), iteration | 1 | 1 | R | D | D | IU | IU | IU | IU | IU | IU | IU | IU | IU |


| ScratchJr | JK | K | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Identifies the areas of the ScratchJr interface (blocks drawers, scripts area, stage, save button) | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Adds a character from in-app character library | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Deletes a character | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Creates a character | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Identifies which character is being programmed | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Uses the character paint editor | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Uses the camera to create a character | N/A | N/A | I-R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Uses the grid overlay to determine character placement | N/A | N/A | I-R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Writes a script | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Writes parallel scripts | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Deletes a script | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Copies a script | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Initializes (resets) and script | N/A | 1 |  |  | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Uses the Undo button | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Names a project | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Saves a project | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Deletes a project | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |


| Unplugged Programming Activities | JK | K | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Uses the Green Flag block | N/A | I | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Uses Start on Tap block | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Uses Start on Bump Block | N/A | N/A | I-R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Understand the difference between using the Green Flag in a script and the Green Flag at the top of the interface | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Uses the Motion Blocks | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Uses the Looks Blocks | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Uses End block | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Changes numbers in blocks (variables) | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Uses the Repeat block (loops) | N/A | I | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Uses Repeat Forever block | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Uses Speed block (variables) | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Uses the Say block | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Uses the Record block | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Uses the Wait block (variables) | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Adds a background from the library | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Deletes a background | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Creates a background | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Uses background paint editor | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Uses the camera to create a background | N/A | 1 | I-R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Initializes scripts to reset original state using Go Home, Show, and Reset Size blocks | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Uses full screen mode | N/A | 1 | R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Adds Pages | N/A | 1 | I-R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Uses the Go to Page block | N/A | 1 | I-R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Uses Send and Recieve blocks (if, then) | N/A | 1 | I-R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Uses the Stop block | N/A | 1 | I-R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Inserts text on a Page | N/A | 1 | I-R | D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Uses reverse engineering to identify script | N/A | 1 | 1 | R-D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
| Debugs a script | N/A | N/A | 1 | R-D | IU | IU | IU | IU | IU | IU | IU | IU | IU | IU |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |


| JK | K | 1 | 2 | 3 | 4 | 5 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Understands the following terms: experiment, character, stage, left, right, forward, backward, rotate, turn, sequence, program, script,
command, sequence, repeat (loop), parallelism,
debug, if/then (conditional), variable, initialize
(reset), iteration

| Scratch 2.0 | JK | K | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Decribes the function of a computer |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lists examples of computers driven tools we interact with |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Creates Scratch account (with parental permission) |  |  |  |  | I | R | D | D | D | IU |  |  |  |  |
| Identifies the areas of the Scratch interface (blocks palette, scripts area, stage, sprite list) |  |  |  |  | I | R | D | D | D | IU |  |  |  |  |
|  |  |  |  |  | I | R | D | D | D | IU |  |  |  |  |
| Adds a sprite from sprite library |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Deletes a sprite |  |  |  |  | I | R | D | D | D | IU |  |  |  |  |
| Creates a sprite |  |  |  |  | I | R | D | D | D | IU |  |  |  |  |
| Names sprites |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Identifies which sprite is being programmed |  |  |  |  | I | R | D | D | D | IU |  |  |  |  |
| Understands the difference between costumes and sprites |  |  |  |  | I | R | D | D | D | IU |  |  |  |  |
| Names costumes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Uses the sprite edting tools |  |  |  |  | I | R | D | D | D | IU |  |  |  |  |
| Uses camera to create a sprite |  |  |  |  | I | R | D | D | D | IU |  |  |  |  |
| Imports a sprite |  |  |  |  | I | R | D | D | D | IU |  |  |  |  |
|  |  |  |  |  | I | R | D | D | D | IU |  |  |  |  |
| Moves sprite to Backpack |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Adds a backdrop from backdrop library |  |  |  |  | I | R | D | D | D | IU |  |  |  |  |
| Deletes a backdrop |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Creates a backdrop |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Names backdrops |  |  |  |  |  |  |  |  |  |  |  |  |  |  |


| Unplugged Programming Activities | JK | K | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Identifies which backdrop is being programmed |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Understands the difference between costumes and backdrops |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Uses the backdrop edting tools |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Uses camera to create a backdrop |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Imports a backdrop |  |  |  |  | I | R | D | D | D | IU |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
|  |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Writes a script |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Can explain the concept of the coordinate plane on which the stage is built |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Uses $\mathrm{x}, \mathrm{y}$ coordinates to position sprites |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Writes comments in a script |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Writes parallel scripts |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Deletes a script |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Copies a script |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Movies script to Backpack |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Uses the Undo button |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Titles a project |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Writes instuctions for a project |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Writes Notes and Credits for a project |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Adds project tags |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Shares projects |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Creates a Studio |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Adds a project to a assigned Studio |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Remixes projects |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Comments on projects |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
|  |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Uses Motion blocks to control sprite movement |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Uses Looks blocks to control sprite appearance |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Uses Sound blocks to create and control sounds and MIDI functions |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |


| Unplugged Programming Activities | JK | K | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Uses Pen blocks to control drawing output |  |  |  |  | I | R | D | D | D | IU |  |  |  |  |
| Uses Events blocks to control events and initiate scripts |  |  |  |  | I | R | D | D | D | IU |  |  |  |  |
| Uses Control blocks to control scripts, create loops, and check conditions |  |  |  |  | 1 | R | D | D | D | IU |  |  |  |  |
| Uses Data blocks to create and control variables, strings, lists |  |  |  |  |  | I | R | D | D | D | IU |  |  |  |
| Uses Sensing blocks to check conditionals and values |  |  |  |  |  | I | R | D | D | D | IU |  |  |  |
| Uses Operators blocks to set conditions and values, and perform math functions and control string handling |  |  |  |  |  |  | I | R | D | D | D | IU |  |  |
| Uses More Blocks to create custom blocks and add extensions such as Pico Board and WeDo |  |  |  |  |  |  | I | R | D | D | D | IU |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| What other programming language will be taught in upper school? |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Understands and can explain the following keywords, concept, practices: experiment, iterate, sprite, costume, backdrop, program, script, command, sequence, repeat (loops), events, broadcast, testing, debugging, parallelism, remix, bitmap, vector, animate, backpack, abstracting, modularizing, (if, then)conditonals, operators, data, lists, sensing, coordinate plane, initializing, iteration, Boolean expressions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Many of the skills used in the collaboration strand are also used in the computational thinking and practice strand. Writing code is, by nature, a skills that is done with and for others and requires discussion, evaluation, and planning with others. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

