On the Subject of Colorblind Support

To see is to believe, but your vision may be faulty.

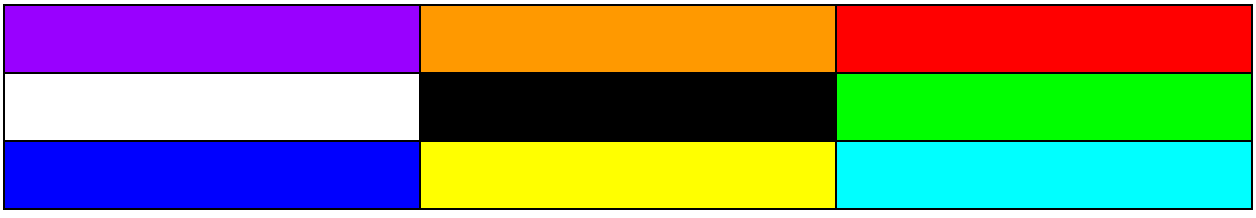
- When the play button is pressed, a sequence of eight words will cycle on the screen, of which their outlines and insides will be different colors. There will also be audio played that dictates a color.
- A number top right will show the current position in the sequence, and pressing the play button again will stop cycling.
- The status light and background of the screen will also flash colors, although it will not be found in the tables below.

Word Shown

Red	Orange	Yellow
Green	Blue	Purple
Cyan	Black	White

Word Outline

Word Filling



Word Said

Black	White	Yellow
Green	Red	Purple
Blue	Orange	Cyan

- Do the following for each flash:
  - Convert the position of each property in the tables above, plus its position in the sequence modulo nine, per flash from base nine to binary. The positions start top left from zero and increase by one in reading order.
  - Take the mode of the bits in each binary string, extended to four bits.
    - If there is no mode then use 1.
  - You will be comparing the bits of all four properties based on the operators given by the flashes given by the background and status light in the table on the next page.
  - Compare the word shown and the color outlined with each other, as well as the color filling and the word said.
- Compare the resulting bits of each flash with each other based on the position of said flash with the corresponding index of the table on the next page (with 1 being the top and increasing downwards). These are your final bits.
- Split your bits into groups of threes and a single group of two.
- If any flash has three matching properties, from the tables above, on them then append a 1. Otherwise append a 0.
- Convert each group into a base 10 number, and do the following:
  - If the second digit is numerically between the first and third digit, hold the display when the first digit is shown top right and release it when the third digit is shown.
    - Do not pass over the third digit or a strike will be incurred.
  - Then press the display when the second digit is shown top right.
  - Otherwise, hold the display when the first digit is shown top right, wait for when the second digit has shown exactly once top right, then release when it shows the third digit.

Status Light Color	Background Color	Logical Operator	Explanation
Yellow	Black	$\wedge$	Returns 1 if both inputs are 1.
Orange	Orange	$\vee$	Returns 1 if either input is 1.
Red	Yellow	$\oplus$	Returns 1 if exactly one input is 1.
Black	Cyan	$\rightarrow$	Returns 1 as long as both are not true: The first bit is 1 and the second bit is 0.
White	Blue	$\leftrightarrow$	Returns 1 if both inputs match each other.
Cyan	Green	$\uparrow$	Returns 1 if both inputs are not 1.
Purple	Red	$\downarrow$	Returns 1 if both inputs are 0.
Blue	White	$\leftarrow$	Returns 1 as long as both are not true: The first bit is 0 and the second bit is 1.
Green	Purple	A	Returns 1 if the first bit is 1.
			If a condition is not met, it returns 0

Appendix D:

- The mode of a set of numbers is the number that appears most frequently that is not tied with any other number.
- To modulo is to take the remainder of a number after dividing it.
- To convert higher bases to lower bases do the following:
    - Divide the current input number by the number of the base you want to convert.
    - The quotient is the new current input number.
    - Put the new remainder to the left of the current final number, the first time doing this should be a single digit instead of putting it to the left of 0.
    - Repeat the steps until the current input number equals 0.

- To convert from lower bases to higher bases, do the following:
    - Multiply each digit from right to left by the base number to the power of the position of the digits with the rightmost being 0 and increasing by one going left.
    - The sum of the products is the number in the current base.