Filtering Away Activity

Purpose:

To observe and explain the result of viewing several colored objects in the presence of a variety of colored filters.

Data:

In each cell of the table, indicate the color appearance of the six circles when viewed through the various filters. Choices are restricted to **W** (white), **R** (red), **G** (green), **B** (blue), **C** (cyan), **M** (magenta), **Y** (yellow), and **0** (black). Tap the **Toggle Background Color** to insure the proper answer (sometimes the color blends with the background).

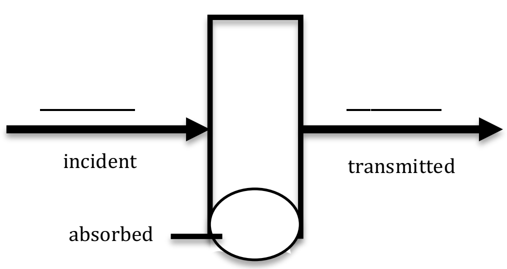
Filter Color	Red Circle	Green Circle	Blue Circle	Cyan Circle	Magenta Circle	Yellow Circle
Red	1A	1B	1C	1D	1E	1F
Green	2A	2B	2C	2D	2E	2F
Blue	3A	3B	3C	3D	3E	3F
Cyan	4A	4B	4C	4D	4E	4F
Magenta	5A	5B	5C	5D	51	5F
Yellow	6A	6B	6C	6D	6E	6F

Application: Do the first five cases as indicated. *Invent* five cases of your own to complete the table. Use only R, G, and B for light. Use only C, M, Y for filters. Use R, G, B, C, M, Y, W, or Black for appearance. The Trials are marked in the table.

Case	**Trial**	**Light/Circle Color**	**Filter Color**	**Color Appearance**	**Color Equation** **Incident - Absorbed = Transmitted**
A	5D	Cyan (G+B)	Magenta		(G + B) - __________ = __________
B	6D	Cyan (G+B)	Yellow		(G + B) - __________ = __________
C	4F	Yellow (R+G)	Cyan		(R + G) - __________ = __________
D	5F	Yellow (R+G)	Magenta		__________ - __________ = __________
E	4A	Red (R)	Cyan		__________ - __________ = __________
F					__________ - __________ = __________
G					__________ - __________ = __________
H					__________ - __________ = __________
I					__________ - __________ = __________
J					__________ - __________ = __________

For two cases from **Rows F - J**, complete the incident-absorbed-transmitted diagram by indicating the missing colors in the blanks.

Case: ______



Case: ______