Name(s)_____ Period _____ Date _____

Activity Guide - Processing Information

Level #2: How Many Colors?

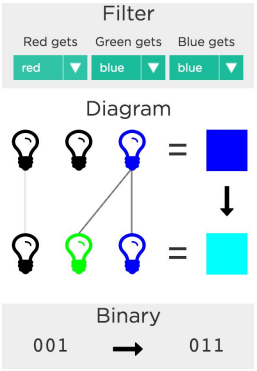
Write down all the different colors the tool can make and the patterns used to make them.

Level #3: Filtering Colors

Example:

Starting Color ↓ Ending Color	Bit Combination	Which bit needs to change?	Which bit could it GET?	Which filter should be used?
Blue ↓ Cyan	001 ——— 011	2nd bit	3rd bit	Red Gets Red **Green** Gets **Blue** Blue Gets Blue

What it looks like in the widget →



With a partner, fill out the chart below. You can use the pixelation tool if it helps you.

Starting Color ↓ Ending Color	Bit Combination	Which bit needs to change?	Which bit could it GET?	Which filter should be used?
Red ↓ Magenta	——— 101			Red Gets Green Gets Blue Gets
Blue ↓ Black	———			Red Gets Green Gets Blue Gets
↓	011 ——— 111			Red Gets Green Gets Blue Gets

Level #4: Change the image!

What bits need to change to make the starting image look like the ending image? Use the space below to help you formulate an answer as you use the pixelation tool.

Starting Color ↓ Ending Color	Bit Combination	Which bit needs to change?	Which bits should it GET?	Which filter(s) should be used?
↓	———			Red Gets Green Gets Blue Gets

Level #5: More Complex Filters

Follow the same steps as before to create these more complex color filters.

Starting Color ↓ Ending Color	Bit Combination	Which bits needs to change?	Which bits could it GET?	Which filter should be used?
Red ↓ White	100 ——— 111	2nd bit 3rd bit	1st bit 1st bit	Red Gets Green Gets Blue Gets
Blue ↓ Green	———			Red Gets Green Gets Blue Gets
↓	011 ——— 000			Red Gets Green Gets Blue Gets
↓	101 ——— 011			Red Gets Green Gets Blue Gets

Level #6: Change the image!

What bits need to change to make the starting image look like the ending image? Use the space below to help you formulate an answer as you use the pixelation tool.

Starting Color ↓ Ending Color	Bit Combination	Which bits needs to change?	Which bits could it GET?	Which filter(s) should be used?
↓	———			Red Gets Green Gets Blue Gets

Level #7: Unfiltering!

Bit filters can be used to undo filtering as well, so use a filter to get the image back to normal. Use the space below to write down your process as well as the filter that will fix the image.

Starting Color ↓ Ending Color	Bit Combination	Which bits needs to change?	Which bits could it GET?	Which filter(s) should be used?
↓	———			Red Gets Green Gets Blue Gets

Level #8: Free play

Create your own image using the binary pen capabilities. You'll notice there are more filter options than just "Get". Play with the filters and create a cool filtered image of your picture. You don't have to write anything here.