Materials

Reagents
Tubes of blue, red and yellow food coloring diluted in water

Equipment
96-well plate

AND

200 μl pipettes
200 μl tips

OR

100 & 1000 μl pipettes
100 & 1000 μl tips

Learning to Use Micropipettes: Making Suncatchers[1]

Background

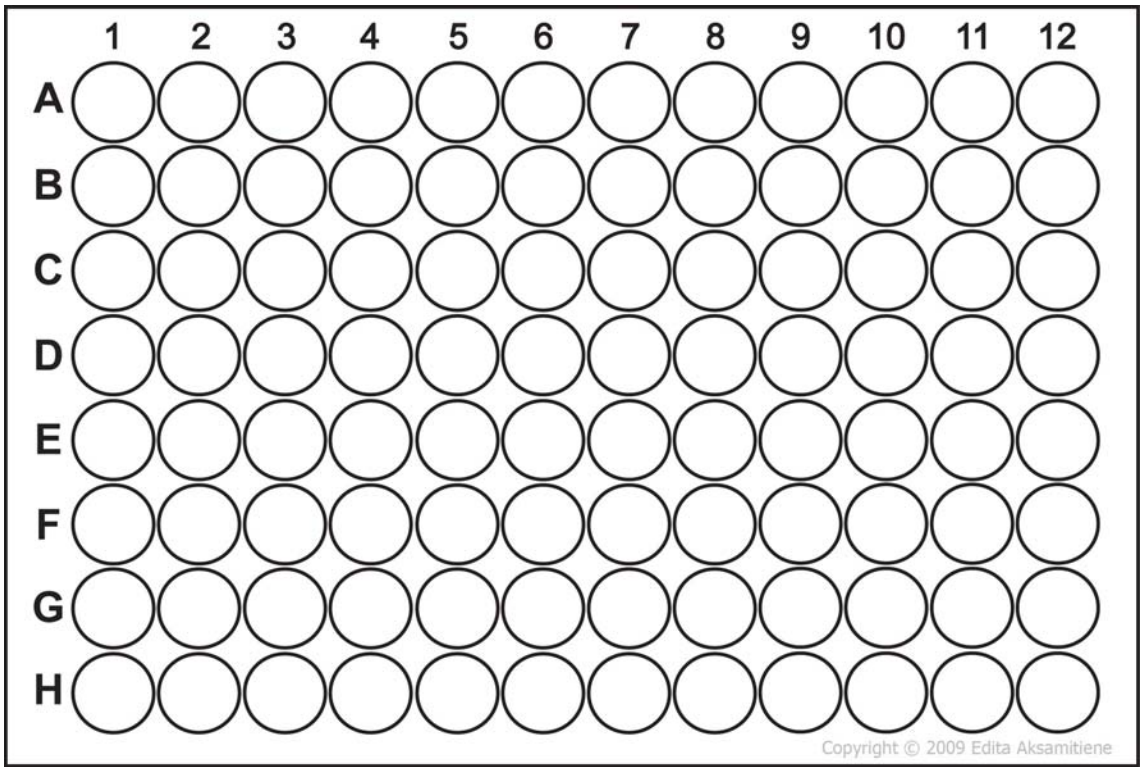
To get more pipetting practice for upcoming labs, we will pipette different colored liquids to form a picture using a 96 well plate and reading a coordinate system. Just like Battleship, 96-well plates have letters and numbers to note the location of individual wells. The first well in the upper left corner is A1, below that is B1 and so on. A scientist can use these coordinates to separate 96 different experiments in this small space.

The purpose of this lab is to get each student ready for the next set of labs. If you work in groups, make sure that every lab partner is practicing micropipetting by allowing each group member to pipette some of the picture coordinates.

Protocol

1. Obtain the coordinate instructions for the picture that you will create.
2. Figure out which colors will be used in your picture choice. The primary colors are provided (red, blue, yellow). Others will need to be made by you (green, purple, brown).
3. If the color has been provided for you, pipette 150 μl of that colored solution into the appropriate well (s).
4. If you have to mix colors to create the color (i.e., Blue + Yellow = Green) use 75 μl of each color for a total volume of 150ul.
5. When finished with your pipetting, determine what picture was created.
6. Using Colored pencils or crayons, color in the 96-well diagram on the next page.

[1] Adapted from BABEC Suncatchers lab



We picked picture #_____

Our picture was a_____

Did everyone in your group participate?_____

Picture 1	Purple	A5	B4	C3	D3	E3	F3	G4	H5
		A6	B5	C4	D4	E4	F4	G5	H6
		A7	B6	C5	D9	E9	F5	G6	H7
		A8	B7	C8	D10	E10	F8	G7	H8
			B8	C9			F9	G8	
			B9	C10			F10	G9	
	Yellow	C6	D5	E5	F6				
		C7	D6	E6	F7				
			D7	E7					
			D8	E8					
	Green	E1	F1	G1	H2				
		E12	F2	G2	H3				
			F11	G3	H4				
			F12	G10	H9				
				G11	H10				
				G12	H11				

Picture 2	Blue	A3	B2	C1	D1	E1	F1	G2	H3
		A4	B3	C2	D2	E2	F2	G3	H4
		A5	B4	C3			F3	G4	H5
	Yellow	A6	B7	C8	D6	E8	F8	G7	H6
		A9	B9	C9	D7	E9	F9	G9	H9
		A 12	B11	C10	D8	E10	F10	G11	H12
					D9				
					D10				
					D11				
					D12				

Picture 3	Brown	A4	B5					
		A8	B7					
	Blue		B2	C1	D1	E2		
			B3	C4	D11	E3		
			B9	C5		E4		
			B10	C7		E5		
				C8		E7		
				C11		E8		
						E9		
						E10		
	Purple	C2	D2	G4				
		C3	D3	G8				
		C9	D4					
		C10	D5					
			D7					
			D8					
			D9					
			D10					
	Yellow	C6	D6	E6	F6	G6		
	Green	F4	G3	H3				
		F5	G5	H4				
		F7	G7	H8				
		F8	G9	H9				
Picture 4	Green	B7	C6	D2	E1	F2	G6	H7
			C7	D3	E2	F3	G7	
				D4	E5	F4		
				D5	E6	F5		
				D6	E7	F6		
				D7	E8	F7		
				D8		F8		
	Red	C11	D10	E9	F10	G11		
				E11				
				E12				

Picture 5	Red	B5	C4	D4	E2	F2			
		B6	C5	D6	E3	F3			
		B7	C6	D7	E4	F4			
		B8	C7	D9	E5	F5			
			C8		E6	F6			
			C9		E7	F7			
					E8	F8			
					E9	F9			
					E10	F10			
					E11	F11			
						F12			
	Yellow		E1						
	Brown		G3	H4					
			G5	H10					
			G9						
			G11						
Picture 6	Green		C9						
	Purple		A6	B7	C4	D4	E4	F4	G6	H6
					C7	D6	E7	F7		
	Orange		A2	B3	C3	D3	E3	F3	G3	H2
			A5	B6	C5	D5	E5	F5	G7	H5
			A7	B8	C6	D7	E6	F6	G8	H7
				B9	C8	D8	E8	F8		
					C10	D9	E9	F9		
						D10	E10			
						D11				