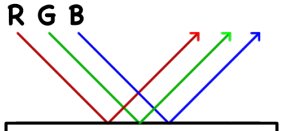
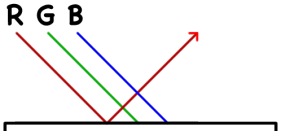
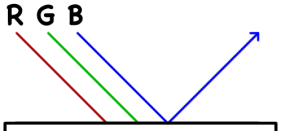
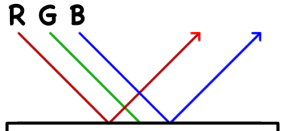
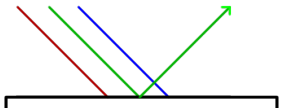
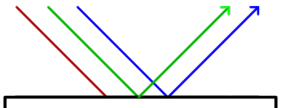
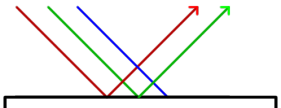
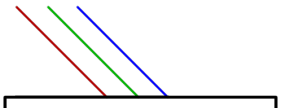
Color Lab Name:_____

Part I – THEORY

White Light R G B  Pigment Absorbs: _____ Pigment Color: _____	White Light R G B  Pigment Absorbs: _____ Pigment Color: _____	White Light R G B  Pigment Absorbs: Red + Green Pigment Color: Blue	White Light R G B  Pigment Absorbs: Green Pigment Color: Magenta
White Light R G B  Pigment Absorbs: _____ Pigment Color: _____	White Light R G B  Pigment Absorbs: _____ Pigment Color: _____	White Light R G B  Pigment Absorbs: _____ Pigment Color: _____	White Light R G B  Pigment Absorbs: _____ Pigment Color: _____

According to the table above, which of the pigments ABSORB ONLY ONE color?

_____, _____, and _____

These are the PRIMARY pigment colors. You can mix them to make any other color:

Magenta Pigment Absorbs _____	+	Cyan Pigment Absorbs _____	=	Absorbs _____ + _____ Appears _____
Magenta Pigment Absorbs _____	+	Yellow Pigment Absorbs _____	=	Absorbs _____ + _____ Appears _____
Yellow Pigment Absorbs _____	+	Cyan Pigment Absorbs _____	=	Absorbs _____ + _____ Appears _____

Color Lab Name:_____

Part II - COLORED PIGMENTS (COLOR SUBTRACTION) **http://simbucket.com/painting/**

It's your time to order uniforms for the school's football teams. There is one difficulty: the company which you will order from prefers to receive the order in terms of the three primary colors of pigment which will be applied to different parts of the uniform.

Use the "BASIC" Tab. Circle the primary pigment colors which must be used create the indicated color appearance:

Team #1: Chicago Titans

Uniform Part	Desired Appearance	Required Pigment Colors
Helmet	Blue	C M Y
Shirt	Yellow	C M Y
Pants	Blue	C M Y
Shoes	Black	C M Y

Team #2: Washington Knights

Uniform Part	Desired Appearance	Required Pigment Colors
Helmet	Red	C M Y
Shirt	Blue	C M Y
Pants	White	C M Y
Shoes	Yellow	C M Y

Team #3: St. Louis Fliers

Uniform Part	Desired Appearance	Required Pigment Colors
Helmet	Green	C M Y
Shirt	Green	C M Y
Pants	Yellow	C M Y
Shoes	Black	C M Y

1. Indicate the result of mixing the following primary color of pigments in equal amounts:

Cyan + Magenta ----> ☐

Cyan + Yellow ----> ☐

Magenta + Yellow ----> ☐

Cyan + Magenta + Yellow ----> ☐

2. What primary pigment colors must be imparted to an object to give it the appearance of white?

☐

3. What primary pigment colors must be imparted to an object to give it the appearance of black?

☐

4. A primary pigment color serves to selectively absorb a specific primary color of light. Whatever light is not absorbed is reflected by that pigment. Use your understanding of color addition and subtraction to indicate which primary colors of light are absorbed by each primary pigment.

Cyan pigment absorbs which primary light color?

☐

Magenta pigment absorbs which primary light color?

☐

Yellow pigment absorbs which primary light color?

☐

Switch to the “ADVANCED” tab. How much of each pigment would you need to make the following colors?

	Cyan Pigment	Magenta Pigment	Yellow Pigment
Red			
Blue			
Green			
Cyan			
Magenta			
Yellow			

	Cyan Pigment	Magenta Pigment	Yellow Pigment
White			
Grey			
Black	100%	100%	100%
Orange			
Purple			
Brown			