

**Art 461 Lesson Plan
Summer 2007
Dr. Anne Burkhart**

Lesson Title:

The Science of Color

Big Culturally-engaged Idea:

Cultural Significance of Color

Grade level :

5

Lesson Time Frame:

Two 45 – 50 minute lessons

Description:

This lesson involves the science of color and how our eye sees. I will start with a brief description of the human eye, giving all students a handout for them to label the parts and write what they do. I will then talk about what color is – light reflecting off a material and we will do an activity where I will have some colored objects and the students will have to explain what colors are being absorbed and reflected. After I am satisfied that they understand, I will talk about the cultural significance of color, and how the symbolism may vary from culture to culture. We will then talk about ways that art can fool your eye into seeing things that aren't there. I will start with Seurat and the Neo-Impressionists, followed by Magic Eye posters, and finishing with Op Art. We will do an Op Art project where the students will choose a culture that we discussed to come up with their color scheme for their project.

Objectives:

- ⊗ Students will explore a different way of using color by examining works that use color in a way to trick the eye.

Creative Expression and Communication; 5.2

Explore different approaches to creating art (e.g., by artist, style or historical period). Pg. 262

- ⊗ Students will learn about how color can be manipulated to trick the brain by studying how the eye works and the different ways that Artists have tried to fool the eye.

Valuing the Arts/Aesthetic Reflection; 5.1

Pose questions that can be answered by an aesthetic study of artworks. Pg. 268

- ⊗ Students will learn about how color is seen by studying the Human eye.

Physical Science

Describe the Properties of Light and Sound Energy.

- ⊗ Students will learn about the cultural significance of color by studying color symbolism of other cultures.

Historical, Cultural and Social Contexts; 5.3

Compare and contrast the artistic styles observed in artwork from various cultures. Pg. 259

Vocabulary:

Vision Vocabulary

Aqueous Humour: The aqueous humour is a jelly-like substance located in the anterior chamber of the eye.

Binocular Vision: Seeing with two eyes simultaneously gives the viewer the ability to perceive depth. Stereoscopic images depend on the use of binocular vision. (Artlex.com).

Choroid: The choroid layer is located behind the retina and absorbs unused radiation.

Ciliary Muscle: The ciliary muscle is a ring-shaped muscle attached to the iris.

It is important because contraction and relaxation of the ciliary muscle controls the shape of the lens.

Cones: are one of two types of light-sensitive photo-detector cells found in the

"**Jacob's Membrane**" (Layer 9.) of the retina of the human eye.

The other type of photo-detector cells are called rods.

Cornea: The cornea is a strong clear bulge located at the front of the eye (where it replaces the sclera - that forms the outside surface of the rest of the eye).

The front surface of the adult cornea has a radius of approximately 8mm.

The cornea contributes to the image-forming process by refracting light entering the eye.

Fovea: The fovea is a small depression (approx. 1.5 mm in diameter) in the retina.

This is the part of the retina in which high-resolution vision of fine detail is possible.

Hyaloid: The hyaloid diaphragm divides the aqueous humour from the vitreous humour.

Iris: The iris is a diaphragm of variable size whose function is to adjust the size of the pupil to regulate the amount of light admitted into the eye.

The iris is the coloured part of the eye (illustrated in blue above but in nature may be any of many shades of blue, green, brown, hazel, or grey).

Lens: The lens of the eye is a flexible unit that consists of layers of tissue enclosed in a tough capsule. It is suspended from the ciliary muscles by the zonule fibers.

Optic Nerve: The optic nerve is the second cranial nerve and is responsible for vision.

Each nerve contains approx. one million fibres transmitting information from the rod and cone cells of the retina.

Papilla: The papilla is also known as the "blind spot" and is located at the position from which the optic nerve leaves the retina.

Pupil: The pupil is the aperture through which light - and hence the images we "see" and "perceive" - enters the eye. This is formed by the iris. As the size of the iris increases (or decreases) the size of the pupil decreases (or increases) correspondingly.

Retina: The retina may be described as the "screen" on which an image is formed by light that has passed into the eye via the cornea, aqueous humour, pupil, lens, then the hyaloid and finally the vitreous humour before reaching the retina. The retina contains photosensitive elements (called rods and cones) that convert the light they detect into nerve impulses that are then sent onto the brain along the optic nerve.

Rods: One of two types of light-sensitive photo-detector cells found in the "Jacob's Membrane" (Layer 9.) of the retina of the human eye. The other type of photo-detector cells are called cones.

Sclera: The sclera is a tough white sheath around the outside of the eye-ball. This is the part of the eye that is referred to by the colloquial terms "white of the eye".

Visual Axis: A simple definition of the "visual axis" is "a straight line that passes through both the centre of the pupil and the centre of the fovea".

Vitreous Humour: The vitreous humour (also known as the "vitreous body") is a jelly-like substance.

Zonules: The zonules (or "zonule fibers") attach the lens to the ciliary muscles.

Vision Vocabulary from:

The Anatomy of the Eye. http://www.ivy-rose.co.uk/Topics/Anatomy_Eye.htm

Unless otherwise noted.

Art Vocabulary

After-Image: An optical phenomenon in which the eye's nerves continue to convey an image after an initial image has departed. Typically, the afterimage appears as a likeness of the initial image, except that each of its colors is the complement to those in the initial image.

Color: Produced by light of various wavelengths, and when light strikes an object and reflects back to the eyes.

Neo-Impressionism: A movement in painting which was an outgrowth of and reaction to Impressionism. It was originated by Georges-Pierre Seurat (French, 1859-1891), who employed a technique called pointillism (also called divisionism, or confettiism), based on the scientific juxtaposition of touches or dots of pure color. His most famous painting is *A Sunday on La Grande Jatte, 1884*, 1884-1886, oil paint on canvas, in the collection of the Art Institute of Chicago). The brain blends the colors automatically in the involuntary process of optical mixing. Other neo-impressionists include Camille Pissaro (French, 1830-1903), Paul Signac (French, 1863-1935), Theodoor van Rysselberghe (Belgian, 1862-1926), and Henry Edmond Cross (French, 1856-1910).

Optical Art: A twentieth century art movement and style in which artists sought to create an impression of movement on the picture surface by means of optical illusion. It is derived from, and is also known as Optical Art and Perceptual Abstraction. In the 1960s art world, some critics faulted Op Art's persistent involvement with optical illusion at a time when "the flatness of the picture plane" was the mantra on either side of the Color Field - Minimalist aisle. Clement

Greenberg saw flatness as painting's essence. Donald Judd saw it as an escape route into three dimensions.

Optical Mixing: The process by which the eyes blend bits of pure color placed next to each other.

Pointillism, a style of painting that when viewed from a distance, the points of color appear to blend together to make other colors and to form shapes and outlines

Prism: A transparent solid of this form, typically of glass and usually with triangular ends, used for separating white light passed through it into a spectrum, or for reflecting light beams. And, ground-glass objects such as those used as components of crystal chandeliers.

Art Vocabulary from:

<http://Artlex.com>

Materials and Supplies:

- 3 11"x 11" white paper
- 3 18" rulers
- 3 Pencils
- Markers
- Computer
- Handouts
- 3 Black construction squares
- 3 White pieces of paper

PowerPoint

Materials Management:

The tables will be covered in newsprint to protect them from the markers, before class started. The paper, markers, pencils and rulers will be placed in its designated area on the table on the right side of the room. At the beginning of class, I will pass out the pencils – before discussion begins. When we get to the studio project, the designated student will pass out the rulers and the paper and I will place the two marker tubs in the center of the table for them to share. When class is over, the students will pick up their homework from the display area when they put their project up on the board and they will put their supplies back in their boxes and put them on my desk.

Procedures and Motivational Activities:

Tables are covered and materials are in their respective places. The students come in and sit in their assigned seats and wait for the teacher to begin

Teacher has the computer set up with the screen down and PowerPoint ready to go

Discussion and Mini-Projects:

Good morning

Today we are going to look at the eye, color and how we see color may be influenced by our culture. We are also going to be looking at some artists that have tried to use their art to fool the eye or to make you see something that is not really there.

Can anyone remind the class of what **color** is from science earlier this year?

Light of different wavelengths that are reflected off of an object

So what exactly does that mean?

Well, if you look up at the screen, you'll see a picture of a sun, and an apple. The sun releases all colors in its light. We can't see the colors unless we look through a **prism** or see a rainbow. But everything absorbs that "invisible color" when light shines on it. It absorbs all colors, and the wavelength that is most present on the object – or the color that it is – is then reflected or bounced back, and gives off the color. So the apple absorbs all the colors from the sun, then that wavelength is reflected back to our eye and our brain interprets that as being red.

I am going to hand you each an object, and I will give you some time to think about it, but I want you to tell me and the rest of the class what colors are being absorbed and what color is being reflected and what that means.

Pass out objects and allow 5 minutes to complete

Each student will present the information to their fellow classmates for participation points

So, what you guys are telling me, is that if I look at a painting that is all green – it is really just reflecting a wavelength and my brain turns it green?

So color must be partially determined by our own interpretations and our background knowledge or experiences?

Do you think that this means that people from different cultures may see colors differently?

No, you can't see colors differently, they are what they are.

Ok, remember that, because we are going to come back to that

Pass out the Handout with the eye

If you look at this handout, you'll notice some blank spaces on the diagram. As we are talking about the eye, you will need to fill in the label and match the name with the definition on the back.

Go over the definitions on the worksheet and the diagram

Ok, now that we know how the eye works, and the different parts of the eye and what they do, and we've learned how we see color, now we can look at how our **culture** and other aspects of our life can affect how we see and react to color.

Does anyone know what **symbolism** is?

Something that represents something else

Something that makes you feel something when you look at it

How are symbolism and color linked together?

Colors can make you feel different things and mean different things

So, what would you feel if you saw something that was red?

Angry

In Love

Passionate

So, if red can make you feel so many different things, how is that symbolic?

It depends on the context

Right! The context of the color, can you remind the rest of the class what that means?

How it is used

Good! How the color is used in the picture. In this image (Image two) of roses?

Passion

Ok, what about in this one (Image three)?

Violence

Why?

Because it is red, and it looks like they are in a graveyard

What about this one (image four), it's a graveyard, what does it make you think of?

Sad

Why does this one make you feel sad but the other one make you feel like you are witnessing violence?

Because the red make you think of blood, which is violent, but the other one looks like an old cemetery and it's an old photo.

So the mood is different? Does the color affect the mood?

Is red the only color that can affect the mood and therefore the meaning of art?

What are some other color meanings that you can think of?

Blue= sad, calm, relief

Pink= girly, love, innocent

White= pure, innocent

Purple= royal

Gold= rich, royal

Green= Rich, money, health, growth, nature

Orange= energy,

Yellow= sunshine, happy, energetic

Black= death, darkness, scary

Great! Do you think that green means the same in all the different cultures across the world?

Native Americans associated colors with the directions; North, South, East, and West. Blue represented the North which meant cold, defeat and trouble. White was the South representing warmth, peace and happiness. Red was the East, the color of the Sacred Fire, blood, and success. West was black the color meaning problems and of death. Other colors also had special meanings, for example, Brown was good but yellow meant trouble and strife.

In Asia, the colors are typically seen to be represented like this:

Red: Happiness, marriage, prosperity, Pink Marriage. Yellow: Against evil, for the dead, geomantic blessings, Green: Eternity, family, harmony, health, peace, posterity. Blue: Self-cultivation, wealth, Purple: Wealth. White: Children, helpful people, marriage, mourning, peace, purity, travel. Gold: Strength, wealth, Gray: Helpful people, travel. Black: Career, evil influences, knowledge, mourning, penance, self-cultivation.

In Egypt, The color green was the color of vegetation and new life. Red was the color of life and of victory, but red was also a symbol of anger and fire. The color white suggested omnipotence and purity. Due to its lack of color white was also the color of simple and sacred things. Black was a symbol of death and of the night and also of resurrection. Unexpectedly perhaps, it could

also be symbolic of fertility and even life! The color yellow was seen in the sun and gold and shared the qualities of being imperishable, eternal and indestructible. "Egyptian blue" was symbolic of the sky and of water, life and re-birth.

So you can tell that color is felt to have different meanings in different cultures. So the way that an artist uses color can change the meaning of a piece of art?

What if an artist was not so much interested in what meaning they were trying to communicate but rather the physiology of the eye and how we perceive?

Can anyone think of some kind of picture that you look at, and the longer you look at it, the clearer the image becomes?

Magic Eye™

Right, when you look at Magic Eye™ posters or books, you have to look at them for a long time without blinking before the image pops out at you. How many of you have seen a Magic Eye™ picture before?

How many can see the Image in some Magic Eye™ pictures that you've seen?

Magic Eye™ pictures are what is called a **Stereogram**. I want everyone to close one eye, and remember what you see. Now, close the other eye and open the eye that you had closed – do you see the exact same thing, or is there something off?

You see the same place, but the part of the place is different – when you look through your left eye, you see the left field of vision, through your right eye, you see the right field, but they overlap in the middle so it doesn't look like two different images, that is called, **Binocular Vision**.

A Stereogram uses this fact to create a 3-D image out of 2-D patterns. When you stare at the image, your eyes begin to see the two different images, with the overlap in between, we'll do an example

Pass out color Magic Eye™ (Image six) Sheet and give directions, allow 3 minutes to see the image

How many people see the image?

Ok, so Magic Eye™ is a type of art that fools your eyes, what about another one?

Georges Seurat and the **Neo-Impressionists**, or Scientific Impressionists, were very concerned with how the eye worked and different ways of seeing. Seurat's more famous piece *A Summer Sunday on the Island of the Grande Jatte 1884* (Image seven) consisted of many tiny dots of color put over a patch of color. The dots of color mix together in your eye and gives you the impression that you are looking at a different color (Image eight). This is done in a style that is commonly referred to as **Pointillism**, a style of painting that when viewed from a distance, the points of color appear to blend together to make other colors and to form shapes and outlines.

There's one additional type of art I want to look at before we move on to our project, it's called **Optical Art**, or Op Art. This type of art uses Optical illusion to make you think there is movement on the surface when there isn't. Can you notice anything, when looking at these three images (images nine, ten and eleven)?

They all have black and white – do you think there is a reason for that?

Black and White are highly contrasted, or rather, they make each other pop, and this contrast messes with our senses a little bit.

Pass out Black piece of construction paper and white computer paper

Put the Black square in the middle of the white paper and look at it for 30 seconds without blinking if you can, when I say go, take the black piece of paper off and still look at the white paper, tell me what you see. Ok, start!

Take the black paper off, what is there?

That is called the **After-image**, where it kind of burns that image into your eye, here is another one to look at (image twelve). Look at the + in the middle of the bigger + for 20 seconds, then look at the white square beside it, what do you see?

What colors are they?

What kind of colors are those?

From looking at all of these artworks that we've looked at, what stands out more, the image or the style they were done in?

Why do you think that?

Are the images important?

So, they are important, just not as important as the style?

Studio Project

Ok, Nolan, can you get the markers and rulers and give everyone a box of markers and a ruler then sit down, while I pass out the paper. We are going to make our own Op Art using color symbolism from other cultures. When I am done talking, I will put the color schemes from the different cultures that we talked about on the board. Everyone look up here at my image *Show teacher example*. What we are going to do is take your ruler, and make lines going across your

whole paper that are the same width wide and the same width apart. The easiest way to do that is to take your ruler and make little tick marks along the edges that are equally spaced like this *Make tick marks*. Draw your lines in whichever direction you want and then write your name in bubble letters in the middle. Choose your culture and choose two colors whose meaning you think describes you. Make sure you remember your culture and the color meaning! Color in each line with alternating colors. Don't color in the lines inside of your name yet. When you are finished, color in the lines in your name opposite of what they would be if your name didn't get in the way – like this.

Allow 1 hour to complete

When you are finished, write down your culture and the meanings for the colors you chose on the back in pencil, as well as the reason you chose these colors, along with your name, and put them on the display board to show off. If you finish early, you can start on your homework, which is on a worksheet near the display board. Pick one up when you turn in your project. Put your markers and rulers back in the boxes and put them on my desk.

Discussion of Work

Looking at the work that is up on the board, is there any that pops out to you?

What about that one that gets your attention?

Did you like learning about Op Art?

Additional Activity:

When students finish early, they will be required to do their sketchbook project, which will be written on the dry erase board before they come to class. The assignment will be for them to make a different kind of op art in any style that they learned today and to find an example of Op Art that we did not talk about in class using the internet. This assignment, if not done in class, will be done for homework.

Assessment:

The students will participate in a formative assessment involving answering questions that I pose to them during the lesson – each student will be marked when they answer a question correctly on the participation sheet (see app. A).

The students work will be graded on a rubric at completion based on their work quality, work ethic, and following instructions (see app. A).

The students will be graded informally on their understanding of color symbolism by their writing on the back of their Op Art project describing why they chose the colors they did.

Bibliography:

ArtLex Art Dictionary. 6 July 2007. 14 July 2007 <<http://artlex.com>>.

Bretell, Richard R. "The Artist's Response: Representation, Vision, and 'Reality'; the Art of Seeing." Modern Art 1851-1929. Oxford/New York: Oxford, 1999. 83-103.

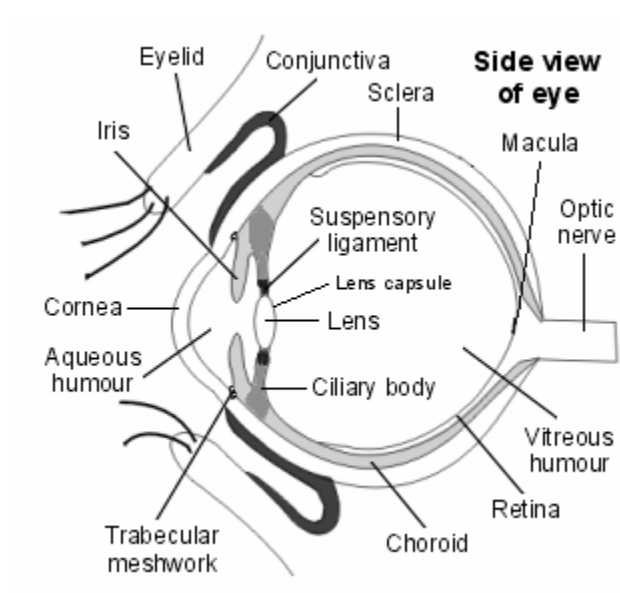
"How colors affect us." Color Matters. 2007. 18 July 2007
<<http://www.colormatters.com/index.html>>.

Magic Eye. 14 July 2007 <<http://www.magiceye.com/enter.html>>.

"The Anatomy of the Eye." Ivy Rose Holistic: Health and the Human Body. 2007. 14 July 2007
<http://www.ivy-rose.co.uk/Topics/Anatomy_Eye.htm>.

Images and Other Objects Reference Sheet:

Image One: The Human Eye: from The Anatomy of the Eye



I will use this image as a handout with the names blocked off for the students to fill in as we talk about each of the terms.

Image Two: Roses <http://londonflorists.co.uk>, Unknown Size and Artist



I used this image to illustrate how red can represent passion while talking about symbolism

Image Three: The Slayer, Unknown artist and size



I used this image to represent violence during the discussion on the symbolism of Red.

Image four



Warlord: Graveyard, Medium: Watercolor, Size: 7.5x10

I used this to show that an image can be of the same subject matter, but give you different feelings.

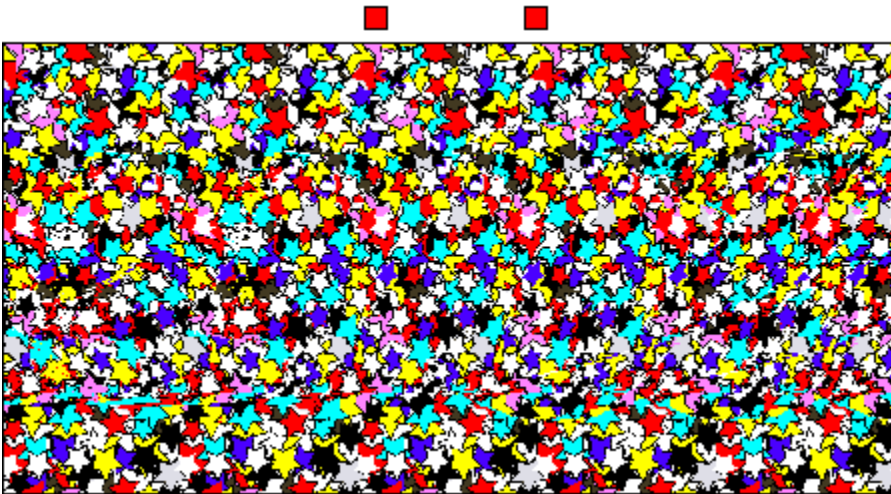
Image Five



Rory Macbeth, Magic Eye painting, 2002. Unknown size

I used this as an example of a magic eye image in my PowerPoint presentation.

Image Six



Unknown Artist, Size and Media

I used this to give to the students to see if they can see the magic eye image.

Image Seven



Georges Seurat, *A Summer Sunday on the Island of Grande Jatte*, 1884-86, Oil on canvas. 207.5 x 308 cm

I use this image as an example of Pointillism and of Neo-Impressionism.

Image eight



Detail of *A Summer Sunday on the Island of Grande Jatte*

I used this to show exactly what the image was made of, and how it would look if you looked up close.

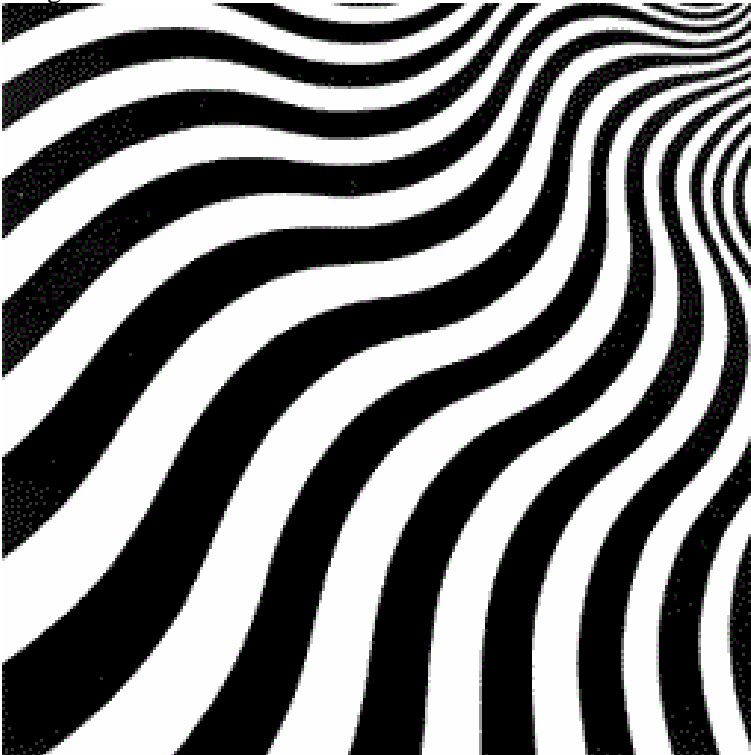
Image Nine



Blue Black, Victor Vasarely

I use this image as an example of Op Art.

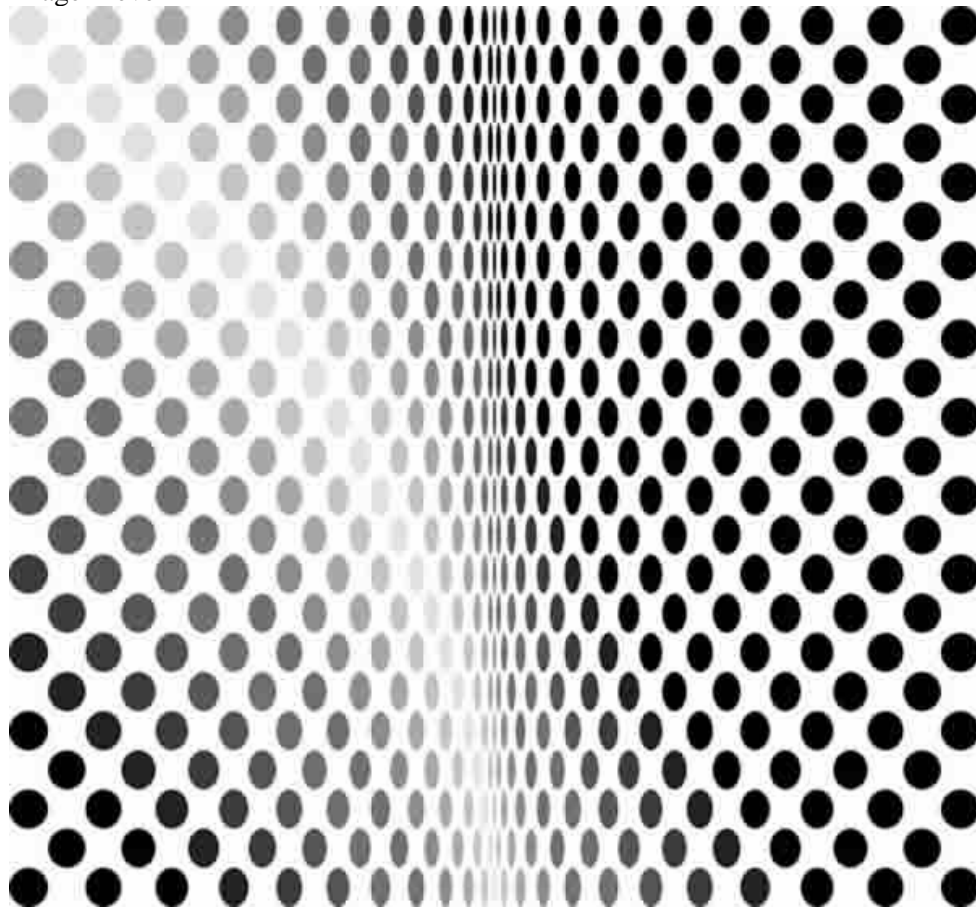
Image Ten



Bridget Riley (British, 1931-?), *Intake*.

I use this as an example of Op Art.

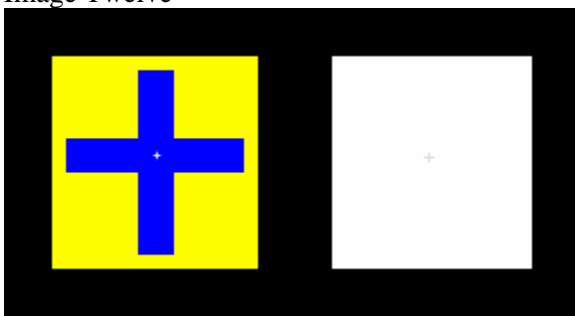
Image Eleven



Bridget Riley, *Cataract*.

I used this as an example of Op art.

Image Twelve



Unknown artist, size and media

I used this to show what an afterimage is

Appendix A

Rubric: Op Art

Student Name: _____

Total Points: ____/30

Overall quality of work:

10 9 8 7 6 5 4 3 2 1 0

Comments:

Work Ethic:

10 9 8 7 6 5 4 3 2 1 0

Comments:

Followed All Instructions:

5 4 3 2 1 0

Comments:

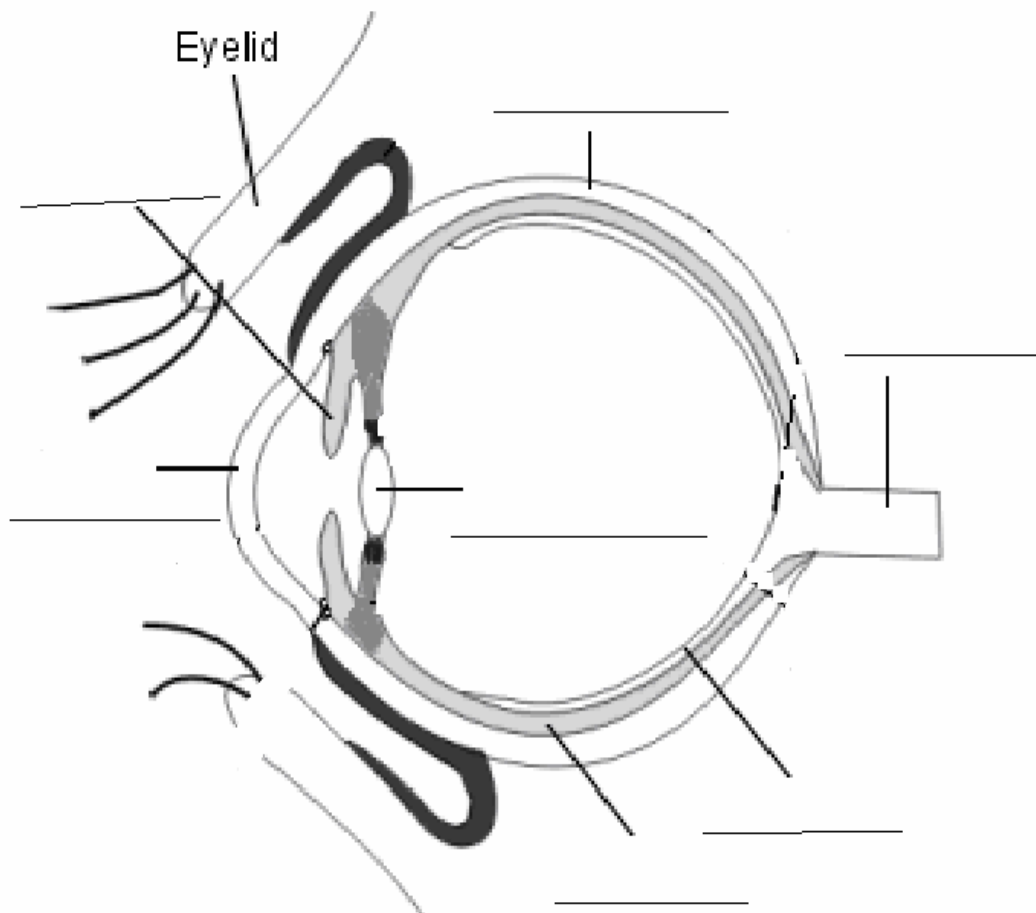
Clean-up:

5 4 3 2 1 0

Comments:

**Appendix B
Worksheet**

Student Name: _____



_____ : located behind the retina and absorbs unused radiation.

_____ : A strong clear bulge located at the front of the eye (where it replaces the sclera - that forms the outside surface of the rest of the eye). The front surface of the adult cornea has a radius of approximately 8mm. The cornea contributes to the image-forming process by refracting light entering the eye.

_____ : is a small depression (approx. 1.5 mm in diameter) in the retina.

This is the part of the retina in which high-resolution vision of fine detail is possible.

_____ : a tough white sheath around the outside of the eye-ball.

This is the part of the eye that is referred to by the colloquial terms "white of the eye".

_____ : a diaphragm of variable size whose function is to adjust the size of the pupil to regulate the amount of light admitted into the eye.

The iris is the coloured part of the eye (illustrated in blue above but in nature may be any of many shades of blue, green, brown, hazel, or grey)

_____ : a flexible unit that consists of layers of tissue enclosed in a tough capsule. It is suspended from the ciliary muscles by the zonule fibers

_____ : the second cranial nerve and is responsible for vision.

Each nerve contains approx. one million fibres transmitting information from the rod and cone cells of the retina.

_____ : Known as the "blind spot" and is located at the position from which the optic nerve leaves the retina.

_____ : the aperture through which light - and hence the images we "see" and "perceive" - enters the eye. This is formed by the iris. As the size of the iris increases (or decreases) the size of the pupil decreases (or increases) correspondingly.

_____ : described as the "screen" on which an image is formed by light that has passed into the eye via the cornea, aqueous humour, pupil, lens, then the hyaloid and finally the vitreous humour before reaching the retina. Contains photosensitive elements (called [rods](#) and [cones](#)) that convert the light they detect into nerve impulses that are then sent onto the brain along the optic nerve.

SketchBook Assignment July 17, 2007

Name:

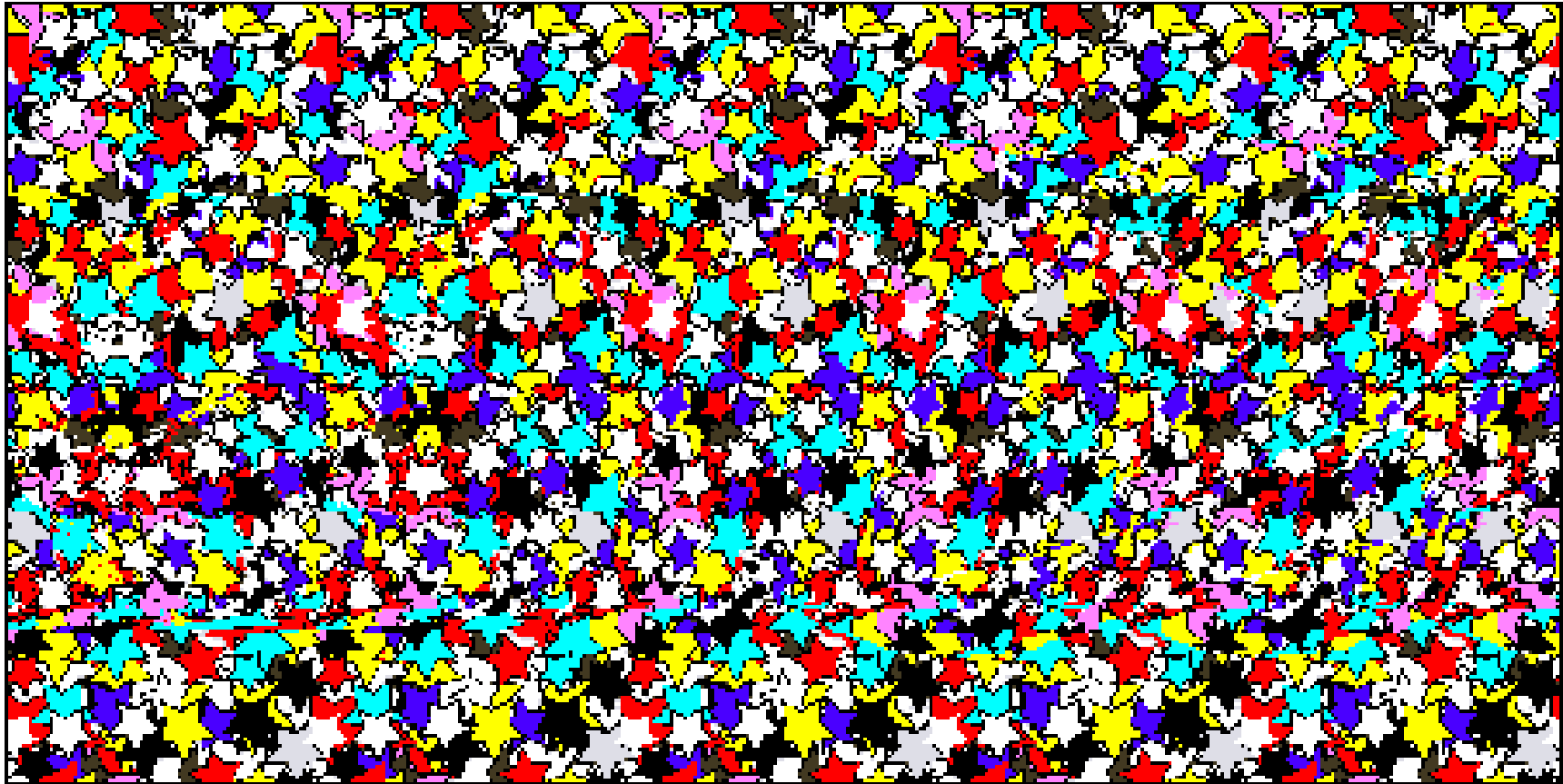
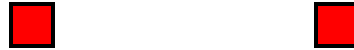
Go on the internet and find another example of an artist that tries to fool your eye. Draw an Op Art image in the space below that is different from your project. You can use any kind of style you want – just try to use some technique we talked about (Pointillism, High Contrast, image hidden in pattern, etc). Put in your sketchbook folder to be collected at the end of the quarter.

Artist/work:

Op Art Instructions

- Take your ruler, and make lines going across your whole paper that are the same width wide and the same width apart.
 - The easiest way to do that is to take your ruler and make little tick marks along the edges that are equally spaced like this *Make tick marks*. Draw your lines in whichever direction you want
- Write your name/hidden message in bubble letters in the middle.
- Choose your culture and choose two colors whose meaning you think describes you.
 - Make sure you remember your culture and the color meaning!
- Color in each line with alternating colors. Don't color in the lines inside of your name yet.
- When you are finished, color in the lines in your name opposite of what they would be if your name didn't get in the way
- Your name/message should pop out!
- When you're finished write down your culture and the meanings for the colors you chose on the back in pencil, along with your name
- Put them on the display board to show off.
- If you finish early, you can start on your homework, which is on a worksheet near the display board. Pick one up when you turn in your project.
- Put your markers and rulers back in the boxes and put them on my desk.

Magic Eye™



Instructions: Hold the center of the printed image *right up to your nose*. It should be blurry. Focus as though you are looking *through* the image into the distance. *Very slowly* move the image away from your face until the *two squares* above the image turn into *three squares*. If you see four squares, move the image farther away from your face until you see three squares. If you see one or two squares, start over! When you clearly see three squares, hold the page still, and the hidden image will magically appear. Once you perceive the hidden image and depth, you can look around the entire 3D image. The longer you look, the clearer the illusion becomes. The farther away you hold the page, the deeper it becomes. Good Luck!

Lesson Reflection:

While planning this lesson, I thought that I was going to go way over on the time, I thought that the discussion was way too long and that I would only have around 20-30 minutes for the project, but when I was teaching, I finished the discussion in under an hour – which I guess is good for a real-world classroom because that doesn't mean you have to interrupt the flow of the discussion, but I thought it would go much longer. I also thought that 30 minutes for the project was going to be way too much time, but when I did the teacher example, I found that it took me 30 minutes to do half of the project. I was initially going to have the students do an 18" x 22" piece of paper, but from doing my example, I changed it to being a square, because I thought that it would be easier than a rectangle, and to be 11" x 11" so that it was much smaller. It still took nearly an hour for the students to complete it, so it was good that my lesson went faster than I anticipated.

One thing that happened that I didn't anticipate was during the discussion. When I was trying to get the students to say that color is not necessarily viewed by other cultures the same as they are in America, Tracy said something about the stereotypical aspects of color which I didn't even think of when planning! I wish I would have been more prepared to explore that route because I think it would have been interesting. One thing that I wish I would have done was remember my materials for my activities. I think the activities I designed were really good for the material we were learning and I wish I would have been able to do them. It was a good thing, in a way, that I forgot, because I would have gone over in time, but the activities would have broken up the discussion – since people can't pay attention for long periods of time – while reinforcing the materials I was teaching. One thing that I didn't anticipate was the difference in style between genders. Tracy and Jackie traced the outlines of each line and carefully colored inside the lines. Nolan colored very quickly and sporadically. He was almost completely done by the time Tracy, the second one to start the second half of the project, was done with the first half. He went back and filled in the white spots, but he was still done way before they were. I should have seen this coming

from my work with Kids on Campus, but I didn't. I was just glad that I had a pretty involved additional activity.

If I taught this lesson again, I would try a little harder to come up with better definitions of the terms for the eye, but as they are definitions, I don't know how much I can change them. I tried to clear up some of the vocabulary by explaining them in layman's terms, but it wasn't always easy. I think I would also let them choose between markers and crayons. I thought markers would work the best because they cover large areas at a time and are bold, but Tracy was complaining about her arm hurting, and the markers started to die for some people.