

Color of Me: An Exploration of Color through Picture Books, 2009

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Introduction

Even with the fan on, the kitchen is steamy, the odor of wet wool mixing with the herbal, woody smells wafting from dye pots and the metallic tang hanging above the mordant pot. Basket strainers sit empty in the empty sinks waiting for hot fiber. On the back porch, clean empty drying trays are stacked waiting for their loads of wet wool. The wait while the dye bath sets the color is excruciating. There is more waiting while the fiber cools enough to be handled. After the rinsing, there are more notes to be made and a color sample selected, dried and added to my records. Additional color manipulation will be employed later, in blending colored fibers together before spinning. A range of hues can be created by using hand cards, combs or a drum carder. At the spinning wheel, how the fiber is drafted controls not only the thickness of the thread, but also the color intensity. It is not unusual for me to sample color digitally from a photograph as a basis for color selection in a weaving project. The color photograph and accompanying sampling is then used to select warp and weft yarns. Paint and dye can be used on the finished fabric to further modify both texture and color.

As fiber artist and a gardener, I find the topic of color creation to be a fascinating and sensuous experience at each stage of garment creation, from the selection of dyestuff, through carding and spinning for color, and finally, weaving fabric. Dyeing is part science, part art. It requires accurate record-keeping to yield predictable results, yet at the same time is intensely creative, whether using food dyes or natural or synthetic dyestuffs and mordents, because of the variables in dye, mordant, time, and fiber. Whenever I share my work with students, I find them to be equally fascinated with color and the process of creating color. In previous years, I have used scents and music to provide concrete sensory links to abstract topics. This year, I am using Color.

I teach Media/Information Skills at Irwin Avenue Elementary, which opened in 1974 as an Open School, based on the constructivist philosophy¹ promoted by Jerome Bruner. In Open School, projects are student-led and based on understanding both the structure and the process of core knowledge; students are guided towards constructing their own knowledge and understanding of the world, rather than relying on rote memorization. Learning in Open Education is multi-age, cooperative, experiential and kinesthetic. The Open School curriculum spirals vertically through the grade-levels; students revisit concepts to deepen their knowledge and understanding. Leadership through social activism is another characteristic of Open Education.

In recent years, the socio-economic makeup of Irwin's student population has changed, from very socio-economically diverse to 85% urban poor, whose experience of culture is insular and highly localized. This shift in population highlights the need for Constructivist education using transdisciplinary multi-intelligence approaches² as well as a global perspective expected by The International Baccalaureate Organization (IBO).

Rationale

What I propose to do is use the subject of Color as a theme that is woven through six Kindergarten IBO Primary Years Programme (PYP) units, a connector that will serve as a place to begin a discussion on the topics of culture, art, and science. The selection of this seminar was not random. I was drawn to the appeal of using Color to reach students through multiple intelligences.

MI theory posits that there is not one form of intelligence, but eight: Verbal-Linguistic, Bodily-Kinesthetic, Logical-Mathematic, Visual-Spatial, Musical, Naturalistic, Interpersonal, Intrapersonal, Spiritual, Existential and Moral.³ These intelligences are primary modalities through which humans experience the world, formulate thought and problem-solve, so MI affects both input and output brain processing. Designing instructional activities to engage more than one intelligence reaches more students. Using the topic of Color as a connection from unit to unit, will help me to engage Visual-Spatial, Bodily-Kinesthetic, and Naturalist Intelligences. Visual-Spatial intelligences work well in areas of art or design. Bodily-Kinesthetic learners perform better when taught using movement and Naturalists are keen observers, the scientists of the classroom. Note that Intelligences must be considered within a cultural context; without that understanding, information lacks meaning. Therefore, developing an understanding of human social culture is crucial in the classroom.

There are nine elements of culture that can and should be covered in classes: Customs and Traditions, Languages, Arts and Literature, Government, Religion, Monetary system, Food and Clothing, Music and Dance, Social groups. (Government and Monetary system are sometimes combined.) Discussing an abstract idea such as culture is difficult on the elementary level without providing some concrete, sensory experiences, which is why international food festivals are often used by elementary teachers to teach about cultures. I would like to use the topic of Color as my primary concrete sensory experience, instead of Food or Music (sound). This will be accomplished through the use of picture books, video, study prints, art, regalia and hands-on science activities. Visual knowledge is a powerful non-verbal way of acquiring information. IBO requires that the knowledge be presented with a global perspective, something quite easily accomplished with the items I have selected.

The structure of IBO's PYP revolves around six themes⁴, "Who We Are", "How We Organize Ourselves", "Where We Are in Place and Time", "How the World Works", "How We Express Ourselves" and "Sharing the planet", through which the core curriculum is taught and a global perspective explored. The key is to provide structured opportunities for inquiry and research using what IBO calls "Key Questions" that relate to the form, function, cause, change, connection, perspective, responsibility, or a reflection of the topic. For this project, students would focus on form, function, cause, change and connection questions, which will be explained further in the Strategies section.

I teach grades K-5 in a more or less fixed schedule that includes a period for checking out books, so the actual direct instruction time is 25 minutes once a week, perhaps less if the students are working on a guided activity. Often teaching has to be broken up into two-week lessons, with the first being primarily direct instruction and the second, a lesson that features a quick review and a guided or independent activity. In the K-2 Media classes, supporting independence in reading is facilitated through a study of Literature and Art. In Grades 3-5 classes, the focus is on learning to locate and use information. Media also works closely with grade-level studies in IBO PYP's six units of study. As students progress through the grade levels, they return to the basic focus of inquiry in these six units, but study different subjects by exploring Central Ideas. For example, the unit "How we express ourselves" is "An exploration of the ways in which we discover and express our nature, ideas, feelings, beliefs and values through language and the arts."⁵ They will revisit this unit throughout the six years of the PYP, each time using the central idea to delve deeper forms of expression.

Each unit is 6 weeks long; however, Special Area teachers will see classes only 4-6 times, depending on the length of the term, holidays or other scheduled events. This is important to note, as all Special Area teachers have a curriculum to teach and state standards to follow. In addition to our own curriculum, we are required to cover core content. The amount of time in which to make an impact is limited. The best approach for the Kindergarten curriculum, I believe, would be to teach using picture books. Picture books focus instruction, instantly convey a sense of culture, activate visual thinking and help to make abstract ideas concrete.⁶ Picture books are also a powerful way to foster cultural identity as well as expose students to unfamiliar cultures⁷, and provide a pathway to deep and meaningful conversation. I will weave Color topics related to Science, Art and Social Studies as appropriate throughout the Kindergarten year. Teaching with an emphasis on Color will allow me to connect these disciplines as well as the units.

What I propose is essentially 6-10 lessons presented between September 2009 and June 2010 that present some facet of color in terms of science, art, literature or culture using information and activities inspired by or gleaned from the Color seminar. In addition to the lessons, there will be topical book displays, posters or prints and realia

related to the unit on display in the Library Media Center. In the IBO unit Media lessons presented below, I describe specific ideas that I plan to tie to the study of color.

Strategies for Media/Information Skills Classes

Ideal teaching activities would begin with a real-world or simulated problem, or a question that needs to be answered (Problem-based Inquiry). I will be giving Multiple Intelligence assignments, providing alternative ways of answering the key questions. The primary method of instruction will be direct, using "interactive" read-aloud stories to allow students to actively learn by talking as well as listening. Informal Questioning will be used as both formative assessment and ice-breaker. Thinking-Aloud, using "I wonder..." statements is another strategy that will be used to start discussion. I plan to have students pose their own questions for the Questions & Answers (Inquiry) board as well as asking some of my own. Observation activities such as a gallery walks and picture walks, silent periods during which students are allowed to closely examine art prints or picture book art, followed by a think-pair-share discussion will be used. Cooperative Learning during the science and art activities will feature small groups of students working together to learn. I will be integrating technology to enhance the learning experience when possible, through the use of multimedia and the interactive white board. And finally, active learning also includes discussion, writing and reflecting; in a Kindergarten class this would either be dictated by students or written and illustrated on story paper.

Student Activity Unit 1 | Essential Question: How are we alike and different? (Two classes)

Background:

The study of color, including names of colors is introduced using multi-cultural picture-books. Picture books are an excellent tool for promoting deep and meaningful discussion on a variety of subjects, including race and stereotypes⁸ and using picture books to introduce the subject creates an environment in which meaningful conversation about skin color can be held. For this unit, I selected *All the Colors of the Earth* by Sheila Hamanaka, *Skin Again* by Bell Hooks, *Tan to Tamarind: Poems About the Color Brown* by Malathi Michelle Iyengar and Jamel Akib and *black is brown is tan* by Arnold Adoff and Emily Arnold McCully. Another wonderful book I discovered after this lesson was presented is *Am I a Color Too?* by Heidi Cole and Nancy Vogl, which features a biracial child musing on the idea of color. I opened with *Skin Again*, a book that celebrates the diversity of skin color and followed with Katz' *Colors of Us*, the story of a little girl, who with the help of her mother, describes all the variation in skin color found in her

neighborhood. Selections from *Tan to Tamarind* will be read as well as Arnold Adoff's re-released classic *black is brown is tan*. If there is time, Sheila Hamanaka's *Colors of the Earth* will also be featured.

Children are naturally curious about their own skin as well as their classmates. The color of skin has been a divisive issue for years; throughout human history, men and women have suffered from discrimination because of something beyond their control, the color of their skin.

According to Brent Berlin and Paul Kay, there are six stages of linguistic color cognition: 1) words for black and white, 2) the word for red, 3) the term for yellow or green, 4) the word for green or yellow, 5) the word for blue, and 6) the word for brown.⁹ Note that the word for brown develops last. To label skin merely as black, white, prevents meaningful discussion about the subject of race, identity or even skin pigmentation, because of the cultural connotations of colors, especially the terms for "black" and "white."¹⁰ Two years ago, a student caught in an fight over race, defended his actions by saying; "I am not black! I am paper-bag brown!" As staff members tried to suppress their laughter, we had to agree with the student; using common terms, such as "black", "red", "yellow" or "white" are neither accurate nor conducive to deep conversation on the subject, and yet, since the 1700s skin color, with all it's positive and negative associations has been a discriminating factor in racial theories.¹¹

Ironically, melanocytes in the bottom layer of epidermis create the pigments in skin, pheomelanin and eumelanin in all human skin, regardless of ethnic origin. These pigments along with the hemoglobin in our blood provide those yellow, black, brown and red colors and because of that, we are alike and at the same time, uniquely different. Skin color is manifests as a blend from both genetic parents, because of incomplete dominance of the allele. In human populations, skin colors generally appear in lighter to darker concentrations that range from the poles to the equator.¹² I will be using red, yellow, black and white paint in a subtractive color mixing exercise, to allow students to observe how the pigment paint mix to form new colors. Subtractive color mixing refers to the way in which pigments, dyes and paints absorb light. Two primary colors of paints, such as red and yellow, mixed together form a distinct secondary color. As more and more paint colors are mixed together, less light is reflected to the eye, and the mixed color becomes darker, approaching brown or black. That concept, that color is created by how much light is absorbed and how much is reflected, is the thread that I will pick up in the next unit.

Objective

Students will develop and articulate ideas about themselves and others. Students will experiment with subtractive color mixing using paint to observe how color changes.

Lesson 1 Procedure:

1. Students will stroll (gallery walk) through a selection of reproduction prints from the *Picturing America* collection by American artists, provided by the National Endowment for the Humanities, and be allowed an opportunity to discuss what they observe before story time begins.
2. Teacher will display the book illustrations without commentary or reading the text, through Sandra Pinkney's book (picture walk), *Shades of black: a celebration of our children* before reading it aloud.
3. Teacher will read aloud, *Colors of us* by Karen Katz.
4. Students will discuss what they noticed about the characters in both books; how they are similar to or different from themselves.
5. Teacher will model and review behavior expectations during art activities.
6. Students will experiment with mixing red, white, yellow and black paint.

Closure:

Students will discuss what they observed about mixing paint colors.

Lesson 2 Procedure:

1. Students will review, through group discussion, what they learned in the previous week's lesson.
2. Teacher will frontload information on skin pigmentation.
3. Teacher will silently picture walk through Sandra Pinkney's book, *I am Latino: the beauty in me*.
4. Teacher will read selections from *Tan to tamarind: poems about the color brown : poems*.
5. Students will mix their own paints to create a self portrait.

Closure:

Students will discuss what they learned.

Student Activity Unit 2 | Essential Question: How to we use our senses? (Three classes)

Background:

The second unit, "How the World Works", explores how we use our senses. In past years, I concentrated on the sense of smell, but this year the focus will be light and color, or more correctly, the sense of sight. We begin by playing with light and shadow. Students will naturally begin formulating questions and making predictions. Using the vocabulary of Institute for Dynamic Educational Advancement (IDEA)¹³ and light, we will explore how color is made, moved or lost. "Made" refers to light in its various forms. "Lost" refers to absorption of light by matter, such as the subtractive color mixing exercise in the first unit. "Moved", refers to separation of light, in this case by the use of mirrors and prisms. In this unit, I will begin by showing *Magic School Bus Makes a Rainbow*. Using a model of an eye, I will review how humans perceive color through the stimulation of the rods and cones in our eyes by light. Rod cells help us interpret light and shapes, while three types of cones are receptive to red, green and blue light waves.

We will explore some of the many basic color concept books such as *Freight Train* by Donald Crews (color names) and *Color Dance* by Ann Jonas or *Mouse Paint* by Ellen Stoll Walsh (color mixing). We will conduct an additive color mixing exercise¹⁴, using flashlights and color filter paddles to learn the difference between mixing color using light and paint. Students will discover that white light is made of many colors of light using prisms to break light into the visible light spectrum. Lastly, we will return to the eye and vision. I will present a lesson on complementary color and vision using *Hello, Red Fox*. *Hello, Red Fox* uses a vision effect resulting from "tired" cone cells in the eye called complementary afterimage. Negative or complementary afterimage refers to the appearance of complementary colors in our vision after the cone cells in our eyes become over stimulated by staring at a region of color. When our eyes rest on a blank space following this overstimulation, a negative or complementary afterimage is perceived. If there is time and interest, then I will finish the unit with *Do You Remember the Color Blue? and other questions kids ask about blindness*, *Black Book of Colors* (Braille) and *Colorful Illusions*. I will use a still clip featuring a color wheel from *Joseph's Amazing Technicolor Dreamcoat* as a segue to the next unit on heroes and holidays.

Objective:

Students will develop and use a vocabulary associated with the sense of sight and the properties of light. Students will create a color wheel.

Procedure:

1. Teacher will select 3 students and instruct them to use 3 colored lights to create first shadows, then, white light.
2. Students will formulate questions. Teacher will record questions on chart paper or interactive white board.

3. Teacher will frontload information using *Magic School Bus Makes a Rainbow* and Eye Model.

4. Teacher will review additive color mixing.

Closure:

Students will review answers to their questions on the question & answer (Inquiry) board.

Procedure:

1. Teacher will review previous lesson, divide students into 4-6 teams and give instructions for lab work.
2. Students will experiment with prisms and flashlights to break up light.
3. Students will experiment with mirrors, prisms and flashlights to combine light.

Closure:

Students will add what they learned to the Inquiry board. Teacher will briefly review visible light spectrum (ROYGBIV)

Procedure:

1. Students will review Inquiry board.
2. Teacher will read *Hello, Red Fox*.
3. Teacher will introduce color wheel and the concept of color complements.
4. Students will work in groups to gather magazine clippings of a single color.
5. Students will regroup and work together to create a color wheel on the floor, using magazine clippings mounted on construction paper.

Closure:

Class will review Inquiry board. If appropriate, teacher will read from *Do You Remember the Color Blue*

Student Activity Unit 3 | Essential Question: How do we express ourselves? (Four Classes)

Background:

The third unit, “How We Express Ourselves”, is an exploration into nursery rhymes, in the grade-level classrooms. In the Media Center, I have previously used concept books such as Alphabet books or Number books in addition to multicultural nursery rhymes to connect with the classroom unit. Instead, I am introducing concept books on color such

as, *Kente colors*, *Spicy Hot Colors* and *Red Is a Dragon: A Book of Colors*, as well as cultural color books such as the *Colors of the World* series, which include (Australia, China, France, Germany, Ghana, India, Israel, Japan, Kenya, Mexico, The Navajo, and Russia). The latter series provides cultural vignettes related to particular colors, while the other titles are rhyme books with short color associations. This would be an opportunity to look at the use of color in a cultural context by discussing regalia and clothing, and ask the question Michael Taussig posed; “What is the color of sacred?”

Since color vision development in humans occurs in infancy, color is one of our first visual cues. From an anthropological standpoint, color has powerful cultural connotations. I could borrow a turn of phrase from Taussig, and say that color can exist without light, but it is light that gives color texture, brilliance and depth¹⁵, in the same way that culture gives color context or meaning. Human understanding of color associations come from a number of sources: our own visceral and physiological reactions, the physical environment around us, our personal experience. These associations become embedded in the symbolic language of our minds¹⁶, and can even alter behavior.¹⁷ In the religion of my childhood, the seasons were measured, not by Earth's seasons, but by the colors of the liturgical garments and the altar cloths, whose colors were drawn from associations with the liturgy itself. In the Pagan world, color associations can be based on liturgy, ritual and myth as well as the physical season of the Earth. For instance, Native Americans give color associations for the four Directions, but these vary from tribe to tribe.¹⁸ According to the Cherokee, red means success and black is symbolic of death¹⁹, while in Asia, red is a sign of purity, happiness and prosperity and white is the color of death. As a child attending my first Holy Communion, and later as a bride I wore a Western-style white dress, the color of deep mourning which in Asian cultures is only worn when a parent dies, during the brief Christian ceremonies. Moments after each ceremony, my mother assisted me in removing the offending white dress, so I could assume properly colored clothing for marking the events, both times adorning my hair with colorful flowers. My Chinese wedding suit was red silk, heavily embroidered and couched in gold wire. Like many Asian brides who have adopted Western style weddings, I was aware of the irony of wearing two ill-luck colors, the white which symbolizes death in the Eastern world and red which symbolizes evil in the Western world²⁰. Around the world both celebrations and solemn occasions are marked by colors held to be "traditional" by each culture. When we learn about other cultural associations with colors, we become better able to articulate our own feelings and ideas about colors.

Objective:

Students will demonstrate familiarity with a variety of types of books, by identifying concept books. Students will identify religious and secular symbols associated with famous people, holidays, and special days of diverse cultures. Students will relate cultural similarities and differences to personal life experiences through discussion of holiday colors.

Lesson 1 Procedure:

1. Teacher will review video clip of *Joseph's Amazing Technicolor Dreamcoat* and explain that this unit is about heroes, holidays and the colors that symbolize those holidays. Alternatively, a slide show featuring different holiday still photos could be shown. Teacher will review color concepts taught in last unit.
2. Students will be given colored cards and asked to list an association with the color, emotional or concrete.
3. Teacher will explain that colors affect everyone differently, but that some events, such as holidays have color associations. Color associations vary from person to person, but sometimes are shared by a culture.
4. Students will be asked to define holiday.
5. Students will formulate questions about holidays.

Closure:

Students will be given a familiar holiday, one that will not be studied during class, and asked to make a color association.

Lessons 2-4 Procedures: (3 or more lessons)

1. Teacher will frontload information on a specific holiday, through the use of both concept books and topical non-fiction. Holidays chosen will be based on which ones are not being covered by the homeroom teachers. These may include; Chinese New Year/China, St. Patrick's Day/Ireland, Children's Day/Japan, Halloween/ United States. Hanukkah/Israel, Las Posadas/Mexico, Pow-Wow/Native America, and/or Kwanza/United States.
2. At the end of each lesson, students will select an image or color based on the readings to represent that holiday and post it on the interactive white board.
3. At the end of the unit, the teacher will show a slide show generated by the students' selection of color for each holiday.

Closure:

Students will create a book that reflects their understanding of the holidays.

Student Activity Unit 4 | Essential Question: What are the responsibilities of members of a community? (3-5 classes)

Background:

“How we organize ourselves” scheduled for February 2010, has as its focus, community helpers and jobs. I will focus on Artists, their contributions to society, as the link to this unit. It would be quite easy to focus primarily on just the wonderful children's book illustrators; there are many whose work is quite well known to children and adults alike-- Maurice Sendak, Eric Carle, Tomie de Paola, Faith Ringold, Thomas Locker-- just to name a few. However, I wanted to focus on artists whose work is less known to our students, so I chose Leonardo Da Vinci, Georgia O'Keefe or Josef Albers to appeal the Naturalist and Logical-Mathematical intelligences. Alternative choices for study may include Walter Anderson or Thomas Moran, both of whom would appeal to Naturalists. My other choices would be African-American artists: Romare Bearden, Clementine Hunter, or Lois Mailou Jones, whose works are vibrant depictions of everyday life, both observation and commentary of the time periods in which they lived. Films and books under consideration for this unit include: *Discovering Natural Colors*, *Harold and the purple crayon*. *I ain't gonna paint no more, ish*, *Dot and Get red! : an adventure in color*. I may use additional posters from the *Picturing America* collection.

Objective:

Students will explore goods and services provided in communities.

Lesson 1 Procedure:

1. Teacher will begin the unit with *Harold and the Purple Crayon*. Teacher will also read *Pig Pig gets a Job* by David McPhail. Students are already familiar with the work of three other illustrators.
2. Teacher will show video clip of David McPhail discussing his work.
3. Students will generate questions through discussion about work. (KWL Chart)

Lesson 2-3 Procedures: (repeated 2-3 times, biographical subject dependent upon which artists are being presented in Art classes)

1. Teacher will read *I Ain't Gonna Paint No More!* by Karen Beaumont, *Get red!: an adventure in color* by Tony Porto or *Ish* and *Dot* by Peter H. Reynolds. All four books are about creativity.
2. Teacher will ask students what the connection is between the last lesson and this one. Students will offer predictions.
Teacher will read *An Eye for Color* by Natasha Wing about the life and work of Josef Albers or *Through Georgia's Eyes* on the life of Georgia O'Keefe.
3. Students will be allowed to paint a subject of their choice

Lesson 4 Procedure: (dependent upon which artists are being presented in Art classes)

1. Teacher will review students' questions and observations.

2. Teacher will read *Neo Leo* by Gene Barretta on the work of Leonardo Da Vinci.
3. Students will make "Hot Dog" booklet²¹, a simple fold-and-cut 4-page book, from brown paper so they will have a design journal like Leo.

Closure:

Students will share with other tables, their design books. Teacher will review the artists and their contributions to our world.

Student Activity Unit 5 | Essential Question: Who are Native peoples and what is their relationship with the earth and its resources? (5 classes)

Background:

“Where we are in place and time” beginning in April of 2010 is a study of the lives of Native peoples and their relationships with the earth and its resources. We will look at the tribal regalia or significance of color in tribal art motifs in the fifth unit. Unlike scientific development of European art painting, the tribal approach to the use of color is more intuitive, based on local available colorants and may have symbolic meaning.²² Michael Taussig noted; “Color thus facilitates the merging of the observer with the observed.”²³ I wonder if color be the magic that “unites both the viewer and the participant to the body, the landscape and to times long past”²⁴ and become a bridge to understanding a different culture? Students are instantly drawn to Pow-Wow portraits, quick to notice the difference between Traditional, Fancy, Shawl and Jingle dancers, particularly fascinated by the painted faces. Unlike modern soldiers for whom face paint serves primarily as a protective coloration,²⁵ Native American face painting is a sacred act.^{26 27} I will be using these prints as the anticipatory set to draw students into a discussion of the differences in the tribes being studied in their classrooms.

Emphasis will be placed on studying the differences in art, clothing, housing, transportation, and environmental influences of each tribe. I will be presenting the Mohawk pourquoi tale *Owl's Eyes* paired with a clay project, *Baby Rattlesnake* (Ute) paired with a paper-plate project, *Raven* (Pacific Northwest) paired with a totem pole project²⁸ and Navajo Coyote trickster tales with a Sand painting activity. I will be using Nancy Bo Flood's books and natural pigments.

Objective: Students will explore how families express their cultures through celebrations, rituals, and traditions. Students will identify how natural and human resources are used within the community.

Lesson 1-5 Procedures: repeated for (Southeast, Southwest, Great Basin, Northeast, Northwest tribes)

1. Students will "gallery walk" through a selection of study prints and Pow-Wow photos or slide show on interactive white board.
2. Teacher will ask students to discuss what they observed and one question, similar to the peer review activity, 3-stars-and-a wish. "I saw" statements, "I wonder" and "I wish" questions will be added to Inquiry board.
3. Teacher will picture walk or read a topical non-fiction book, such as *Great Plains Indians: daily life in the 1700s* by Mary Englar.
4. Teacher will read a Creation story from a Native American tribe such as *The Lost Children* (Siksika Indian) by Paul Goble and will pose questions focused on art details in the book.
5. Students will discuss what they learned and what they would like to learn.
6. Teacher will introduce related art project. (dependent on what is taught in Art class)

Closure: Students will gallery walk a display of their own art creations.

Student Activity Unit 6 | Essential Question: How people and animals adapt to the specific types of weather

Background:

In May 2010, the unit “How we share the planet” will be presented in the grade-level classroom. Animal color adaptations would be covered in the last unit color in nature, color changes in both animals and plants. Protective coloration in animals is a physical adaptation to meet a basic need, usually food, shelter or reproduction. For plants, color change is usually due to chemical changes (photosynthesis) or as an aid to reproduction. In the Library Media Center, the lesson will follow the one presented in the classroom using picture books that reinforce the lesson taught in the classroom.

Objective:

Students will observe and describe the similarities and differences among animals including changes.

Procedure:

1. Teacher will read *Color of his own* by Leo Lionni, a fictional story about a chameleon.
2. Students will discuss details of change in skin color and will be asked to review other examples of animal color change and reasons for color change. Students will pose questions they might have on the subject.
3. Teacher will read *Cold, colder, coldest: animals that adapt to cold weather* and *Hot, hotter, hottest : animals that adapt to great heat* by Michael Dahl

Closure:

Students will review their Inquiry board and take chart paper back to classroom.

IV. End Notes

¹ M.K. Smith, "Jerome S. Bruner and the process of education," *Encyclopedia of Informal Education*, 2002, <http://www.infed.org/thinkers/bruner.htm>, (accessed 6 Oct 09).

² Mark K. Smith, "Howard Gardner and multiple intelligences", *Encyclopedia of Informal Education*, 2008, <http://www.infed.org/thinkers/gardner.htm>, (accessed 6 Oct 09).

³ Mark K. Smith, "Howard Gardner and multiple intelligences, *Encyclopedia of Informal Education*, 2008, <http://www.infed.org/thinkers/gardner.htm>, (accessed 6 Oct 09).

⁴ "Primary Years Programme: Curriculum Framework," *International Baccalaureate Organization*. 2009, <http://www.ibo.org/pyp/curriculum/>, (accessed 13 May 09).

⁵ "Primary Years Programme: Curriculum Framework," *International Baccalaureate Organization*. 2009, <http://www.ibo.org/pyp/curriculum/>, (accessed 13 May 09).

⁶ Keith Schoch, *Teaching with Picture Books*, 2009, <http://www.squidoo.com/teachingwithpicturebooks#module16222932>, (accessed 4 Oct 09).

⁷ Jennifer A. Magaha O'Looney, "Using Visual Knowing Through Picture Books to Develop Cultural Identity", *George Mason University*, <http://mason.gmu.edu/~jmagaha/portfolio/knowningproject.html>, (accessed 6 Oct 09).

⁸ "Assessing Children's Literature," *Anti-Defamation League*, 2009. <http://www.adl.org/education/assessing.asp>, (accessed 3 October 2009).

⁹ Steven Connor, *The Book of Skin* (Ithaca, NY: Cornell University Press, 2004), p. 147.

¹⁰ Steven Connor, *The Book of Skin* (Ithaca, NY: Cornell University Press, 2004), p. 149.

¹¹ Steven Connor, *The Book of Skin* (Ithaca, NY: Cornell University Press, 2004), p. 147.

¹² Gregory S. Barsh, "What Controls Variation in Human Skin Color?", *Public Library of Science Biology*, 2003 October; 1(1): e27, <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC212702/> (accessed 12 Nov 09).

¹³ "Webexhibits: What is color," *Institute for Dynamic Educational Advancement*, 2009, <http://www.webexhibits.org/causesofcolor/>, (accessed 12 Oct 09).

¹⁴ Stacy Griffith, *Primary Colors: Additive and Subtractive*, Indiana University School of Education, 09 Dec 2002, <http://www.eduref.org/Virtual/Lessons/Science/Physics/PHS0207.html>, (accessed 7 Oct 09).

¹⁵ Michael Taussig, *What color is the Sacred?* (Chicago: University of Chicago Press, 2009) p.58.

¹⁶ T. A. Kenner, *Symbols and their hidden meanings* (New York, NY: Thunder's Mouth Press, 2006) . p 11.

¹⁷ Marie Byrne, "Similarities of Color Meanings Among Diverse Cultures", *Culture & Communications*, Bibliotheque World Wide Society, 2003, <http://www.bwvsociety.org/feature/color.htm>, (accessed 13 Oct 09).

¹⁸ Judy Decker, "Symbolism of Color: Using Color for Meaning", *Incred@ble Art Department*. Princeton Online, <http://www.princetonol.com/groups/iad/lessons/middle/color2.htm>, (accessed 6 Oct 09).

¹⁹ *Sacred Colors*, Cherokees of California, 2009, <http://www.powersource.com/cocinc/ceremony/colors.htm> (accessed 12 Nov 09).

²⁰ "Pigments through the Ages: Symbolism of the Color Red in Antiquity", *Institute for Dynamic Educational Advancement*, 2009. <http://www.webexhibits.org/pigments/indiv/color/reds2.html> (accessed 13 Nov 09).

²¹ Susan Kapuscinski Gaylord, *Hot Dog Booklet*, Making Books with Children, 2009, <http://www.makingbooks.com/hotdog.shtml> (accessed 13 Nov 09).

²² "Color Vision & Art: What is African Art", *Institute for Dynamic Educational Advancement*, 2006, <http://www.webexhibits.org/colorart/african3.html>, (accessed 24 Sept 09).

²³ Michael Taussig, *What color is the Sacred?* (Chicago: University of Chicago Press, 2009), p.91.

²⁴ Michael Taussig, *What color is the Sacred?* (Chicago: University of Chicago Press, 2009), p.102.

²⁵ *Warrior*, U.S. Army Soldier Systems Center (May-Jun 2003), <http://www.natick.army.mil/about/pao/pubs/warrior/03/mayjune/index.htm>

²⁶ Trouble with Face Painting, *Blue Corn Comics*, 2008, <http://www.bluecorncomics.com/facepnt.htm>, (accessed 13 Nov 09).

²⁷ *Cultural Face Painting*, Face Painting Fun, 2009, <http://www.face-painting-fun.com/cultural-face-painting.html>, (accessed 15 Nov 09).

²⁸ Ginny Dixon, "African/Indian Masks." <http://www.hsv.k12.al.us/schools/art/dixon/multicultural.htm#African/Indian%20Masks> (accessed 21 Oct 09).

V. Standards

Listed below are national standards in Social Studies, Science, Visual Arts, and Information In Kindergarten, these broad ideas can be used to teach about how families are alike and different around the world, the properties of light and color, animal adaptations, as well as provide opportunities for guided inquiry.

National Council for Social Studies

Strand I. Culture

Strand IV. Individual Development and Identity.

The National Science Education Standards for Physical Science, Properties of objects and materials and Light.(Light, heat, electricity, and magnetism)

The National Standards for Art Education

Content Standard 1.Understanding and applying media, techniques and processes,

Content Standard 6. Making Connections between Visual Arts and other Disciplines.

American Association of School Librarians Standards for 21st Century Learners

1.1.6 Read, view, and listen for information presented in any format (e.g., textual, visual, media, digital) in order to make inferences and gather meaning.

2.3.2 Consider diverse and global perspectives in drawing conclusions.

3.3.4 Create products that apply to authentic, real-world contexts.

4.4.5 Develop personal criteria for gauging how effectively own ideas are expressed.

VI. Resources

A. Materials

Brushes

Clay

Color paper samples 3"x3"

Colored Sand

Flashlights

Light filter paddles

Markers
Paper plates
Poster board
Prisms
Scissors
Water color sets
White glue
Yarn

B. Bibliography for Students

Abbink, Emily, and Janice Lee Porter. *Colors of the Navajo*. Colors of the world. Minneapolis: Carolrhoda Books. 1998.

Adil, Janeen R. *The Northeast Indians: daily life in the 1500s*. Mankato, Minn: Capstone Press. 2006.

Alexander, Sally Hobart. *Do you remember the color blue?: and other questions kids ask about blindness*. New York: Viking. 2000.

All the Colors of the Earth. Weston Woods. Discovery Education.
<http://streaming.discoveryeducation.com>. 1998.

Barretta, Gene. *Neo Leo: the ageless ideas of Leonardo da Vinci*. New York: H. Holt. 2009.

Bloom, George Arthur. *Magic school bus makes a rainbow : a book about color*. New York : Scholastic, c1997.

Bullard, Lisa. *A+ books : eat your colors*.(Series) Mankato, MN : Capstone Press. 2005-2007.

Byers, Helen. *Colors of France*. Colors of the world. Minneapolis: Carolrhoda Books. 2002.

Chocolate, Deborah M. *Kente colors* New York : Walker. 1996.

Carle, Eric. *Hello, Red Fox*. New York: Simon & Schuster Books for Young Readers. 1998.

Cole. Joanna. *Magic School Bus Makes A Rainbow*. NY, NY: Scholastic.1997.

Cottin, Menena and Rosana Faría ; translated by Elisa Amado. *Black book of colors*. [Braille] Berkeley [Calif.] : Greenwood Books/House of Anansi Press. 2008.

Crews, Donald. *Freight train*. New York: Greenwillow Books. 1978.

Dahl, Michael, and Brian Jensen. *Cold, colder, coldest: animals that adapt to cold weather*. Minneapolis, Minn: Picture Window Books. 2006.

Dahl, Michael, and Brian Jensen. *Hot, hotter, hottest: animals that adapt to great heat*. Minneapolis, Minn: Picture Window Books. 2006.

Discovering Natural Colors. Aims Multimedia. Discovery Education. <http://streaming.discoveryeducation.com>. 1994.

Ehlert, Lois. *Color zoo*. New York : HarperCollins. c1989.

Englar, Mary. *The Southwest Indians: daily life in the 1500s*. Mankato, Minn: Capstone Press. 2006.

Gates, Frieda, and Yoshi Miyake. *Owl eyes*. New York: Lothrop, Lee & Shepard Books. 1994.

Gibson, Karen Bush. *The Great Basin Indians: daily life in the 1700s*. Mankato, Minn: Capstone Press. 2006.

Goble, Paul. *The lost children: the boys who were neglected*. New York: Bradbury Press. 1993.

Grossman, Laurie, and Helen Byers. *Colors of Israel*. Colors of the world. Minneapolis: Carolrhoda Books. 2002.

Hamanaka, Sheila. *All the colors of the earth*. New York : Morrow Junior Books. c1994.

"Hap Palmer Favorites: Learning Basic Skills." Educational Activities. Discovery Education. <http://streaming.discoveryeducation.com>. 2005.

Heller, Ruth. *Color, Color, Color*. New York : Putnam & Grosset. 1995.

Hoffman, Mary, and Karin Littlewood. *Color of Home*. New York: Phyllis Fogelman Books. 2002.

Johnson, Crockett.. *Harold's purple crayon treasury: five adventures with the purple crayon*. New York: Barnes & Noble. 1990

Jonas, Ann.. *Color dance*. New York: Greenwillow Books. 1989
"Interpreting Rock Art of the Anasazi." 2009. *National Geographic Society*.
<http://www.nationalgeographic.com/xpeditions/lessons/12/gk2/rockart.html> (accessed 21 Oct 2009).

Iyengar, Malathi Michelle, and Jamel Akib. *Tan to tamarind: poems about the color brown : poems*. San Francisco, Calif: Children's Book Press. 2009.

Jenkins, Steve. *Living color*. Boston : Houghton Mifflin. 2007

Jones, Christianne C. *Know your colors*.(Series) Minneapolis, MN : Picture Window Books. 2007.

Johnson, Crockett. *Harold and the purple crayon*. [New York] : Harper & Row. c1955.

Judge, Lita. *Yellowstone Moran: painting the American West*. New York, N.Y.: Viking. 2009.

Katz, Karen. *Colors of Us*. New York: Henry Holt and Co.1999.

Knudsen, Shannon, and Janice Lee Porter. *Colors of China*. Colors of the world. Minneapolis: Carolrhoda Books. 2002.

Knudsen, Shannon, and Jeni Reeves. *Colors of Russia*. Colors of the world. Minneapolis: Carolrhoda Books. 2002.

Lionni, Leo. *Color of his own*. New York : Dragonfly Books/Knopf, 1997, c1975.

Littlefield, Holly, and Andrea Shine.. *Colors of Germany*. Colors of the world. Minneapolis, MN: Carolrhoda Books. 1997

Littlefield, Holly, and Barbara Knutson. *Colors of Ghana*. Colors of the world. Minneapolis, MN: Carolrhoda Books. 1999.

Littlefield, Holly, and Helen Byers. *Colors of Japan*. Colors of the world. Minneapolis: Carolrhoda Books. 1997.

Littlefield, Holly, and Janice Lee Porter. *Colors of India*. Minneapolis, MN.: Carolrhoda Books. 2000.

Lloyd Webber, Andrew, Tim Rice, David Mallet, Steven Pimlott, Donny Osmond, Maria Friedman, Richard Attenborough, Robert Torti, and Joan Collins. *Joseph and the amazing technicolor dreamcoat*. Universal City, CA: Universal. 2000.

Martin, Bill, and Eric Carle. *Brown Bear, Brown Bear, What Do You See?* New York: H. Holt. 1992.

McDermott, Gerald. *Coyote A Trickster Tale from the American Southwest*. Paw Prints. 2009.

McDermott, Gerald. *Raven: a trickster tale from the Pacific Northwest*. San Diego: Harcourt Brace Jovanovich. 1993.

McPhail, David. *Pig Pig gets a job*. New York: Dutton Children's Books. 1990.

Monroe, Judy. *The Northwest Indians: daily life in the 1700s*. Mankato, Minn: Capstone Press. 2006.

Nankivell-Aston, Sally, and Dorothy Jackson. *Science Experiments with Color*. New York: Franklin Watts. 2000.

Olawsky, Lynn Ainsworth, and Janice Lee Porter. *Colors of Mexico*. Colors of the world. Minneapolis: Carolrhoda Books. 1997.

Pinkney, Sandra L. and Myles C. Pinkney. *I am Latino: the Beauty in Me*. New York: Little, Brown. 2007.

Pinkney, Sandra L., and Myles C. Pinkney. *Shades of black: A Celebration of Our Children*. New York: Scholastic, 2000.

Porto, Tony. *Get red! : an adventure in color*. Boston : Little, Brown. c2002.

Rodríguez, Rachel, and Julie Paschkis. *Through Georgia's eyes*. New York: H. Holt and Co. 2006.

Science Facts and Fun: What's in a Rainbow?. United Learning. Discovery Education. <http://streaming.discoveryeducation.com>. 1995.

Seuss, Steve Johnson, and Lou Fancher. *My Many Colored Days*. New York: Knopf. 1996.

Shahan, Sherry. *Spicy hot colors : colores picantes*. Little Rock, Ark. : August House. 2004.

Slusher-Haas, Kathy Jo. *The Southeast Indians: daily life in the 1500s*. Mankato, Minn: Capstone Press. 2006.

Walsh, Ellen Stoll. *Mouse paint*. San Diego: Harcourt Brace Jovanovich. 1989.

Wing, Natasha, and Julia Breckenreid. *An eye for color: the story of Josef Albers*. New York: Henry Holt and Co. 2009.

Whitehead, Kathy, and Shane Evans. *Art from her heart: folk artist Clementine Hunter*. New York, NY: G.P. Putnam's Sons. 2008.

C. Professional Bibliography

"Aboriginal Hand Prints." *Children's Museum & Theatre of Maine*. 2009.
<http://www.kitetails.org/for-families/activities-for-home/aboriginal-hand-prints.html>.
Internet; accessed 21 October 2009.

"Assessing Children's Literature." *Anti-Defamation League*. 2009.
<http://www.adl.org/education/assessing.asp>. (accessed 3 October 2009).

Barsh, Gregory S. "What Controls Variation in Human Skin Color?" *Public Library of Science Biology*. 2003 October; 1(1): e27.
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC212702/>. (accessed 12 Nov 09).

Byrne, Marie. "Similarities of Color Meanings Among Diverse Cultures." *Culture & Communications*. Bibliothque World Wide Society. 2003.
<http://www.bwwsociety.org/feature/color.htm>. (accessed 13 Oct 09).

"Color Vision & Art: What is African Art." *Institute for Dynamic Educational Advancement*. 2006. <http://www.webexhibits.org/colorart/african3.html>. (accessed 24 Sept 09).

Connor, Steven. *The Book of Skin*. Ithaca, NY: Cornell University Press, 2004.

"Cultural Face Painting." *Face Painting Fun*. 2009. <http://www.face-painting-fun.com/cultural-face-painting.html>. (accessed 15 Nov 09).

Decker, Judy. "Symbolism of Color: Using Color for Meaning", *Incred@ble Art Department. Princeton Online*.
<http://www.princetonol.com/groups/iad/lessons/middle/color2.htm>. (accessed 6 Oct 09).

Dixon, Ginny. "African/Indian Masks." *Huntsville City Schools*.
<http://www.hsv.k12.al.us/schools/art/dixon/multicultural.htm#African/Indian%20Masks>. (accessed 21 Oct 09).

Douma, Michael, curator. "Cause of Color." 2008.
<http://www.webexhibits.org/causeofcolor> (accessed 24 Sept 09).

Edwards, Betty. *Color: A Course in Mastering the Art of Mixing Colors*. New York: Jeremy P. Tarcher/Penguin. 2004.

Eiseman, Leatrice. *Color: Messages and Meanings : a Pantone Color Resource. A Pantone color resource*. Gloucester, Mass: Hand Books Press. 2006.

Fontana, David. *Secret Language of Symbols: A Visual Key to Symbols and Their Meanings*. San Francisco: Chronicle Books. 1993.

Gage, John. *Color and Culture: Practice and Meaning from Antiquity to Abstraction*. Boston: Little, Brown and Company. 1993

Gage, John. *Color and Meaning: Art, Science, and Symbolism*. Berkeley: University of California Press. 1999.

Gaylord, Susan Kapuscinski. "Hot Dog Booklet." *Making Books with Children*. 2009.
<http://www.makingbooks.com/hotdog.shtml>. (accessed 13 Nov 09).

Griffith, Stacy. "Primary Colors: Additive and Subtractive." *Indiana University School of Education*. 09 Dec 2002.
<http://www.eduref.org/Virtual/Lessons/Science/Physics/PHS0207.html>. (accessed 7 Oct 09).

O'Looney, Jennifer A. Magaha. "Using Visual Knowing Through Picture Books to Develop Cultural Identity." *George Mason University*.
<http://mason.gmu.edu/~jmagaha/portfolio/knowingproject.html>. (accessed 6 Oct 09).

"Pigments through the Ages: Symbolism of the Color Red in Antiquity." *Institute for Dynamic Educational Advancement*. 2009.
<http://www.webexhibits.org/pigments/indiv/color/reds2.html>. (accessed 13 Nov 09).

“Primary Years Programme: Curriculum Framework.” *International Baccalaureate Organization*. 2009. <http://www.ibo.org/pyp/curriculum/>. (accessed 13 May 09).

"Sacred Colors." *Cherokees of California*. 2009.
<http://www.powersource.com/cocinc/ceremony/colors.htm>. (accessed 12 Nov 09).

Schoch, Keith. *Teaching with Picture Books*. 2009.
<http://www.squidoo.com/teachingwithpicturebooks#module16222932>. (accessed 4 Oct 09).

Smith, M.K. "Jerome S. Bruner and the process of education." *Encyclopedia of Informal Education*. 2002, <http://www.infed.org/thinkers/bruner.htm>. (accessed 6 Oct 09).

Smith, Mark K. "Howard Gardner and multiple intelligences." *Encyclopedia of Informal Education*. 2008. <http://www.infed.org/thinkers/gardner.htm>. (accessed 6 Oct 09).

Taussig, Michael. *What color is the Sacred?* Chicago: University of Chicago Press, 2009.

"Trouble with Face Painting." *Blue Corn Comics*. 2008.
<http://www.bluecorncomics.com/facepnt.htm>. (accessed 13 Nov 09).

Warrior. U.S. Army Soldier Systems Center. (May-Jun 2003).
<http://www.natick.army.mil/about/pao/pubs/warrior/03/mayjune/index.htm>.

“Webexhibits: What is color” *Institute for Dynamic Educational Advancement*. 2009.
<http://www.webexhibits.org/causesofcolor/>. (accessed 12 Oct 09).

Kenner, T. A., *Symbols and their Hidden Meanings: The Mysterious Significance and Forgotten Origins of Signs and Symbols in the Modern World*. London: Carlton Books, 2006.

Winholtz, Wallie. *Photon*. Sandy, Utah: Loose in the Lab, 2001.

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