

**Media History in Middle School:
A Two Year Outline for a Magnet Arts School Course**

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Overview

Technological development has been interconnected with social processes during history, as innovations in one area are related to changes in others. For example, changes in communication and media technologies have been prompted by a wide range of scientific, social and industrial developments. Photography reached the masses in this country only when particular chemical processes became possible, and when the Civil War created a social desire for the new kind of documentation photography provided. Television can be seen as a factor in suburban tract development. Through the Machine in the Wilderness seminar with Vagel Keller of CMU, I have gained a deeper grasp of the evolution of technologies throughout American history. During this time, I thought about, and conducted research to begin the creation of a unit for teaching the history of media technologies – in America and beyond -- to middle school students who consider themselves “media majors.” I have spent my time designing a broad outline of approximately a dozen broad categories which could form the basis of either a one-year or two-year curriculum for the “media history” component of the 7th and 8th grade media course. The sequence of media categories is designed to provide a simple, hands-on way for middle school students to begin to grasp media development in context.

What I have created is a broad sketch intended to organize the two-year curriculum. Eventually each of the ten media categories would become a unit of its own. Here I provide a simple outline for most of the units, while fleshing out one unit more fully with suggestions for age- and interest-appropriate home assignments, in-class word, reading materials, class presentations, and visual supplements. Educational materials supporting “media” readings and assignments

are most often designed for college undergraduates, and occasionally for high school students. In particular, I wanted to adapt these materials to the design of “fun” in-class and out-of-class activities/ assignments more appropriate to middle school students. Within the larger curriculum, my goal has been to create a prototype for a unit of lessons formed around short, hands-on activities which bring history alive to middle school students.

As a relatively new teacher with previous experience in media, but little with K-12 teaching, my focus has been on imagining a lively approach appropriate to middle schoolers. I assume that some of my process could be of interest to teachers of magnet media arts classes and to other middle (or even high school) teachers who want to include media in communication, social studies, or art classes and who are as frustrated as I with the lack of appropriate curriculum and support materials.

Rationale

As the Media Arts teacher for the Creative and Performing Arts (CAPA) magnet middle school in Pittsburgh PA, I have for the past two years been developing and teaching a three-year curriculum for twenty-five Multi-media majors in 6th, 7th, and 8th grade. I have wanted to research and create a solid Media Technology History unit which would include the development of pre-camera technologies, photography, cinema, radio, television, journalism, and digital media set in the context of cultural history. I have a Media Studies masters degree which provided me the theoretical context for mid- to late-20th century media and technological change.

The approach to media history that best informs the work in this unit is Brian Winston’s description of the process of media change. In a 1995 article, Winston breaks with “technological determinists” who write the history of technology as a either a series of “Great Man” genius inventors or as a triumphant march of scientific improvement. He calls for (as I understand do most social historians) a more complex, “thicker” history that also takes into account many economic and cultural factors. He says that using the term “revolution,” as in “information” or “electronic revolution,” to describe media change is “quite the wrong word” since all technologies arise from many sources and social forces which have either promoted or suppressed change over centuries. For example, Winston says, “The development of photography involved knowledge of the different effects light has on various substances, a scientific agenda from at least the Middle Ages on.” (1998, 4). Farther back, Plato described something like the *camera obscura*, and Ibn al-Haitham in the Middle East in 1000 A.D. conducted

the first documented experiments with one. However, perhaps since Muslim culture did not encourage pictorial representation, it wasn't until the 1600s that anyone put the *camera obscura* (literally a "dark room") to use. Painters like Vermeer in 1660 Netherlands are thought to have used pinhole projection in a "dark room" to begin to trace realistic scenes.

A media technology cannot be said to have been invented by any one person. Ideas for technologies are suggested long before their 'invention.' "A German thought of the telegraph in the last years of the 18th century, three decades before the first working device. A Frenchman hypothesized the telephone in 1854, more than 20 years before Bell... television was suggested in 1877" (Winston, 5). Many people can work on the same idea at once around the world. "Bell and rival Gray applied for the patent for a speaking electric telephone on the very same February day in 1876." Thomas Edison claimed to have invented projected cinema considerably after the Lumiere Brothers in France were already doing it.

That said, I am faced with a personal observation that middle school students are more motivated by "Great Man" biographies than by complex social histories. As a new teacher, and not a Social Studies teacher, I do not have theoretical backing for this, but it seems a strong effect. I have tried to incorporate some cultural factors into this history, but at the same time, I have been a "technological determinist" and simplified media history into a series of brilliant individuals who brought about amazing changes! One way I have tried to accommodate some of Winston's theories is to talk about humorous "failures" and side steps that happen during. Winston says that four types of new media "new media prototypes" arise: "rejected, accepted, parallel, and spin-offs" (1998, 8). I will incorporate stories of photo sensitive images which faded, "motion picture" freak-show toys before film, and early computer webs used by Defense Department geeks to play games. This way I acknowledge some complexity -- and inject some humor -- into the history of photography, cinema, and the internet. The "great inventors" that come along later, like the Wright Brothers in planes, fly on the backs of many crazy, beautiful predecessors. I will also present strange twists on technology intended for something else. "Videogames, for instance, are an accepted extension of microchip technology which was certainly not developed with that specific purpose in mind" (14). I will still teach personal inventors, because this is middle school, but encourage discussion of how this creates too simple a picture. One important goal is to encourage students to believe that *each* of them can make a valuable contribution to the future of media art and media history.

The Media Arts students at the Arts Magnet school currently have little sense of media history, complex or otherwise. As I have been teaching the Media

Arts major for nearly the past three years, I have become aware that the students need a broader sense of what the Media Arts are, beyond just the past few decades. I want them to link their work in video, for example, to the rich history of the cinema. The time to write this curriculum has given me time to begin to choose and organize the high points of film, photography, graphic design, and computer history which I believe would be useful to the students and increase their pride in their chosen art-form. In addition, I have explored what some writers, historians, and academics mean by the terms “media” and “media history.” Because much of my own experience and study in media has been in television, necessarily of the last fifty years, I have been reading introductory histories of film, photography, design, sound, and animation to broaden my own background in media history.

The students in the Media Arts major, like all of the students in our urban magnet school, had to audition for admission. This generally means that they want to be here and have high levels of parental support. They are in the school from sixth through eighth grade, and will be in my media class nearly every afternoon for all three years. The students ride school busses from all over the city. There has been a good balance of gender, racial, cultural, neighborhood, and income differences in the class, which is one of the joys of teaching at a magnet school.

Students in this school generally have better than average parental support – the audition process alone requires it – and parents wish to remain involved. Another pleasure of this job is being able to create nearly all the curriculum myself – a daunting task for a single course that is sometimes 12 to 15 periods a week! I have been experimenting with various sequences of projects, but have not yet created a consistent framework for parents to look months ahead to know what their children will be doing. Ever since I took over the Media Arts classes three years ago on short notice as a new teacher, I have wanted to provide a one- or two-year syllabus to enlist parents’ advance participation in keeping students on track. Much of the work for the media major must be completed in school (where the equipment is), although certain parts of each project can be done at home, for example, brainstorming, reading, researching, and storyboarding. A long term general curriculum organized around a timeline of media history would give parents another way to connect the goals of the work students are supposed to do at home with the long-term projects we are working towards at school.

Media Arts majors are often very creative and technologically savvy. They enjoy hours at the computer, and messing about with cameras, new gizmos and the latest programs. Some of them may have been attracted to this major because they believe they can avoid traditional reading, writing and studying here. Others are highly talented academically or artistically, and have chosen media as

an opportunity to try many different experiences. Almost all of the students much prefer hands-on projects over perceived “academic” work. (This might be a general middle school trait.) History lessons should be as actively engaging and project-oriented as possible.

In fact, over the two-and-a-half years I have been teaching the media majors, I have begun to include *less* history and information than when I began. My lecture style for college students doesn’t fly at all here. A teacher, writing in the Yale-New Haven Teachers Institute newsletter described a similar phenomenon in *her* arts school in North Carolina. Her students “pose a unique set of teaching challenges,” in part because they feel they should do hands-on projects only.

“Apparently, a majority has come to the conclusion that because they are majoring in the visual arts, they are artists. Not students of art, but artists. I therefore have a constant struggle to keep in balance the process of learning and the product created.... They often fail to recognize the context of the studio lessons... Over time, my classes have become full working studios, with a curriculum dominated by technique and creative problem solving.”
(Lasure, 8)

This fits the strength and weakness of some of my media class as well. In order to incorporate lessons on the historical traditions of her art-form, the teacher “developed a number of lessons (disguised as a studio activity so as not to distress my students!)” She created a “comprehensive and organized unit” on Olmec pottery which provided the framework for making history and art criticism central to a hands-on project. To achieve this same balance, much of my time in creating this curriculum outline has involved looking for and dreaming up engaging hands-on projects which match the history I want the students to experience! It is a work in progress. Many of the ideas I have come up with are not included in the few lessons I describe below. I hope teachers reading this will send along more project ideas for teaching media history.

There is no Pittsburgh district-wide curriculum for a media class that I know of. Most of the materials, lessons, and readings must be invented. However, two years ago the district adopted new middle school Art textbooks from Glencoe which have chapters on photography, graphic design, film and video, and computer animation. I will use these chapters and their support materials occasionally as readings and resources for the students. Although we do not have a complete set of books in the media classroom, there is one complete set in the building and can be shared between Visual Arts and Media Arts classes, or extra copies can be made of some chapters. The Art textbooks are oriented towards traditional art media, and other times refer to media technology we do not

have. The books will be most useful in Unit One when students will pair up to explore one type of “pre-machine” visual storytelling. Each pair will choose one of the many cultures explored in the first 200 pages of the *Understanding Art* textbook.

To some people, including many of my students, “media arts” seems to be defined by technology, even though all arts use various technologies. To separate the media and visual arts majors at our school, I say it is art that involves cameras, computers, or mass reproduction. This definition *is* very technological, but I believe that possession of much of this equipment in the classroom is *not* essential to teaching media history. Although our approach is oriented towards hands-on activities, this curriculum outline could be adapted to teaching media literacy/history through a *textual* approach, looking at photographs, films, and graphics produced at the appropriate times. The decision to include technology-heavy projects could depend on what equipment is available, and how much time is allotted for student work. Media projects take time and money, one way or another.

Our room, like many classrooms across the country, is equipped with four or five traditional student PC computers with Microsoft PowerPoint, Publisher, Paint, Sound Recorder, and Moviemaker available. In addition we have three Video Editing Computers with Adobe Premiere, and Adobe Photoshop Elements on all eight computers. We have several small digital still cameras and three DV-mini camcorders. Students must timeshare all equipment. Truly we have much less than many suburban school districts already have. Nothing we have is out of the reach of many classes. Schools could acquire Photoshop and Premiere Elements with an educational discount for \$120 combined for each computer. Photoshop Elements is essential. Add in one external drive for the room of at least 300 gigs, and all of the projects could be done. All that is needed for claymation, for example, is a digital still camera set on low resolution, and Moviemaker or iMovie (on all computers). For some of the projects described, a “dark room,” enlargers, and water source are required, in order to give students the historical experience of photo printing. We literally use our back closet for a few months of the year. Of course, all of this equipment, old and new, is fragile in the hands of middle school students, and must be repaired or replaced more often than our budget really allows.

Perhaps the oddest aspect of teaching the media major at our school is that both seventh and eighth grade are in the same class, which means the same students take the same course for two years. (There is even talk of combining all three grades into one class.) With only one teacher, it becomes very confusing to differentiate the curriculum for different grades. Since the 8th graders spend part of their first semester getting ready to apply to the arts high school (CAPA) and

the second semester on a special 8th grade project, I look for as many opportunities as possible to bring the 7th and 8th graders together on the same projects the rest of the time. For this reason I have been sketching a two-year curriculum of semi-independent units. For example, the 7th & 8th graders this year might begin with the prehistoric through medieval “Visual Storytelling Before Machines,” while next year the new 7th graders and returning 8th graders would start with the “Sound and Recorded Music” unit beginning in the 1890s. The units must be independent enough that jumping back in time between units will not be too confusing. I plan on using the device of a student-created visual timeline to help organize the time relationships and overlap among the units.

The two-year curriculum outline is meant to provide structure, variety, and “academic rigor” to the hands-on Media Arts projects the students engage in during their hours in media class each week. I am familiar with teaching hands-on media courses, but have needed time to develop a viable media history curriculum. Most of the historical material in media studies is written for college or graduate academics – this seminar is giving me the chance to look for more age-appropriate material or think how to adapt what exists. I am grateful for the opportunity to begin these tasks here.

An annotated bibliography is attached with several parts: academic media history for supplemental teacher reading; potential “textbook” material appropriate for middle school students; and supplemental reading for middle school students. A list of historical photographs and films to supplement the lesson plans is under construction. Please email me at smcbride2@pghboe.net for more.

Objectives

During and after engaging in the day-to-day lessons in the curriculum outline, students will be able to:

1. Explain the technological beginnings of each of several media fields, such as photography, film, traditional and computer animation, graphic design, and sound recording.
2. Create media work in the style of the early technology of each field to discover the foundational principles of each field, and draw connections to the way the technology of the field works today (for example, the optics of light in a *camera obscura*).

3. Describe characteristics of the work of several important media artists in each field when the technology was new, and when it became more developed (for example, the photography of Matthew Brady and Dorothea Lange).
4. Classify these media artists and technologies into general historical periods.
5. Identify a few important events and social forces at play during each time period (for example, the Civil War and Matthew Brady, or the Depression and Dorothea Lange).
6. Correlate media art from several media technology fields to a particular time period.
7. Collaborate and complete several short media projects using simple technology like that being studied (for example, create pinhole photos and photograms and process using photo chemicals in a darkroom)
8. Compare and contrast media art from different technologies from a single time period (for example, compare/contrast work of 1930s American photographers with Orson Welles' *War of the Worlds* radio program, Charlie Chaplin's *Modern Times* film, Willard Van Dyke's documentary about a Western Pennsylvania *Valley Town* and Walt Disney's animated *Fantasia*).
9. Draw inferences about the circular impact of these historical forces on the work of the media artist and possible impact of the work of these artists on society of the time (for example, the different relationship to the Depression of Lange and Ansel Adams).
10. Draw connections between the work of these media artists of the past and the media art of the present, including their own work.
11. Express personal responses to the work of these media artists and the technologies they helped mature; also respond orally and in writing to their own and fellow student work.
12. Plan and produce one long media work for most units while incorporating both some techniques and visual storytelling elements from a media artist covered in our history.

13. Explain the connections between their own work produced for this unit and the historical content they have been exploring!
14. Utilize the tremendous museum and gallery resources of the Pittsburgh area to establish a life-long curiosity about photography, film, animation, and graphics exhibits (including a visit to the Museum of Photo Antiquities on the Northside).

Strategies

The two-year curriculum will consist of a number of smaller units, focused around the two principles of human storytelling and of the drive to “record” these stories in various ways. Although we will cover a unit on “The Press” in which students will explore written communications, as Media Arts majors they are primarily concerned with non-language communication – both visual and aural. The course skews strongly towards visual communication, but as sound and music recordings are an essential part of video, film, and animation, it clearly must be included.

The two-year curriculum is divided into three parts. Part I, consisting of four units, introduces the history of visual reproduction and photographic techniques. Part II focuses on animation, moving images, and journalism. Part III contains units on sound recording, graphics, and computer-assisted art.

Two-Year Curriculum Outline:

Part I: Visual Storytelling & Technologies

Unit One:

Visual Storytelling Before Machines

1. Pictographic - 70,000 BC, Blombos (African cave) Ocher (red powder used for cave markings)
2. Illustration with Writing - 3500 BC, Cuneiform

Unit Two:

Early Visual Machines: The Physics of Light!

1. 1000 AD: Ibn al-Haitham experiments with first *camera obscura*
2. 1600: Galileo’s telescope to the stars
3. 1660: Vermeer’s *camera obscura* (“darkened room”) paintings
4. Parallel Developments: Printing Machines
 - i. 868 AD: oldest printed book by Wang Chieh

- ii. 1450 AD: Gutenberg's first European printing press

Unit Three A:

Photography: Chemistry, Mechanics, and the Scoop

1. 1826: Niepce's first landscape photograph that lasts
2. 1839: Daquerre's beautiful metal "positives"
3. The First Home Photos: Daguerrotype salesmen overtake America
4. 1860s: Matthew Brady's Civil War documentary photographs
5. 1870s: Matthew Brady switches to portraits
6. Photography as Painting: Is it Art?
7. 1878: Eadweard Muybridge's "moving" photographs! (see en.wikipedia.org/wiki/Timeline_of_photography_technology)

Unit Four:

Case Study: The 1930s, Photography in Context

1. The Depression: Between Prosperity and War
2. Photographers:
 - a. Dorothea Lange: Social Documentary Photography
 - b. Ansel Adams: America the Beautiful
 - c. The Alfreds -- Eisensteadt and Stieglitz: Cities, Clouds, and The Moment
3. Radio: Orsen Welle's *War of the World*
4. Cinema: Charlie Chaplin's *Modern Times*
5. Documentary: Willard Van Dyke's *Western Pennsylvania Valley Town*
6. Animation: Walt Disney's *Fantasia*

The following units would complete the curriculum outline, but will not be developed here:

Part II: Moving Images, Moving Words

Unit Five:

Animation: Ready, Set, Move!

Unit Six:

Cinema: America's Great Art

Unit Seven:

Documentaries and the Press

Part III: More Than Just a Pretty Picture

*Unit Eight:
Sound and Music Recording*

*Unit Nine:
Early Computers*

*Unit Ten:
Graphics: From Posters to Computers*

*Unit Eleven:
Advertising and Product Design*

*Unit Twelve:
Gaming and 3-D Design*

Media History Timeline and Documentary

The different units will be tied together by a paper timeline, depicting the events explored, which the students will keep, either together or in pairs, over the course of the year. These can be displayed on classroom walls above the blackboard space; in our old building this space is quite high. In addition, the mid-year project at the end of the first semester will be a Video Documentary in which the students, alone or in pairs, will write a video voiceover script with a “stand-up” in which they choose, research and explain three highlights of the Media Timeline so far.

The goals of the Timeline are to provide review for past units, and to synthesize the time relationships between units and media artists. Students will be allowed creative freedom in the visual form the timeline takes, whether craft or computer created. The Timeline also provides provide content for the creation of a short video Documentary, an important Media Arts skill which both 7th and 8th grade students will need by the midpoint of the year. The Documentary will serve as the Semester final project and part of the midyear exam grade.

In addition, this project will help fulfill the goals set for the Arts majors to provide practice for essential academic skills during their arts time. The timeline and documentary use the social science and communication skills of historical research and writing, and the mathematical skill of creating and reading timeline relationships.

Sequencing

The units are designed to be experienced in order. However, because there are two grades in class together, on the second year, the incoming class will

enter the curriculum halfway through (beginning Part III probably). The Media Timeline will be especially important at that point.

One other exception of the sequential presentation of the units is the Animation History unit (#5), currently designed to begin Part II. Creating animation, especially claymation, is very appropriate to this age group and to our level of available technology (it really just needs some plasticine clay, a digital still camera, and a regular computer). I am contemplating making the animation unit an ongoing one throughout the entire year, which could be run concurrently with Units #1 – 4. This would make animation the backbone of the Media Arts major. Cinema, video, and computer-aided arts would all grow from the framework of animation history. Since the units are designed to be semi-autonomous, this could work, but only if care is taken to situate the historical elements on a timeline in relation to the earlier technologies.

Activities Detailed

Lesson A: 2 or 3 Days

Introducing Part I: Visual Storytelling & Technologies

We will begin with visual storytelling as a ubiquitous art, found everywhere, even in something as ordinary as commercials. To begin the year and let the students get their feet wet in media again, I will present some story commercials from reels available at Pitt, and some school appropriate Superbowl ads, and then ask them to create short video commercials in teams. We will discuss the ways that the students have observed visual storytelling in their lives. The 7th and 8th grade will be mixed as an icebreaker. The usual steps of storyboarding or scriptwriting will be shortened to allow for a quick, fun project.

Lesson One Project: Grab Bag Commercial

Students will create and shoot edited-in-camera commercials for products either from my grab bag, or of their own choosing. The usual rules of school appropriateness, including no sex, drugs, or violence, will be reviewed.

Lesson B: 2 days

Unit One: Visual Storytelling Before Machines

1. Pictographic - 70,000 BC, Blombos (African cave) Ocher (red powder used for cave markings)
2. Illustration with Writing - 3500 BC, Cuneiform

Student Reading/ Resource:

“Elements of Art” and “Principles of Art” Chapters from the 2006 Understanding Art textbook.

We will begin by looking at a series of photographs, all kinds & styles. The students will be asked to identify elements and principles of art from the book. These will be the foundational elements and principles for our analysis of visual design for the year. Students will be asked to memorize them. I will create “flashcards” with the elements and principles on them. We will play a game.

1. Everyone will rate photos and art from the textbook on these scales.
2. Everyone will do a sketch on tracing paper of several photos or designs.
3. Then pull a card and choose a photo from the pile which illustrates that principle or element highly.
4. They will also have to match the sketch to the original.
5. We will compete for prizes. Keeping a running chart on the board.

Lesson C: 2 - 3 days

Continuing Unit One

Student Reading/ Resources:

“Elements of Art” and “Principles of Art” Chapters from the 2006 Understanding Art textbook.

I will also bring in a block print frieze I did in college in the style of Inuit Art.

I will begin with a PowerPoint presentation with a simple example from each these cultures. Then the students will be paired up, one 7th with an 8th. Each pair will choose a different culture from one of these chapters from the textbook.

Cave or Egyptian
Roman or Greek
Native Meso-American
Native North American
Chinese or Japanese
India or Islamic
African or Oceanic
Medieval European

Project: Stencil or Cardboard Print Frieze

The pairs will research this culture online. They must then sketch out a story frieze in the visual style of this culture. They can choose any kind of story – it can be from this culture, from ours, or be fantasy – but it must be in the visual style of their chosen culture. They can choose either to create shapes on a computer Paint program, print them out, cut them out and use them as stencils (this will be demonstrated), or to draw shapes on cardboard, cut them out, and use a roller to apply printing ink. Each pair will have a 12 foot long roll of 12” white paper. They can then add details to the shapes with dipped pen and ink.

They will create their frieze. Other students will suggest interpretations of the story. The pair will then present their research to defend that the frieze is in the visual style of the culture.

Additional Activities:

- Discuss the principles of storytelling: must have a beginning, middle, and end, as well as conflict, puzzles, tension, character change, and resolution.
- Introduce the Elements and Principles of Art from Chapters One and Two in the textbook in order to inform the discussions of the visual styles.
- Pre-write in journal – story ideas about the culture, our culture, you there, etc.
- Quiz One

Materials:

Internet search
Sketch paper
Corrugated cardboard
Long rolls of white paper
Brayer or dauber
 Could create stencils on the computer
Printers Ink
My example

Or

Create shapes on the computer in Paint
Print out and draw over

Lesson D: 2+ days

Unit Two:

Early Visual Machines: The Physics of Light!

Student Reading and Resource:

First two chapters from The Camera from the “Great Inventors” series about the history of the technological development of early cameras.

1. *1000 AD: Ibn al-Haitham experiments with first camera obscura*
 - a. Present the optics of a camera obscura on the board
 - b. Powerpoint presentation comparing these early Vision machines to the crazy early flying machines (will also be used as a metaphor for early cinema)
 - c. Present Parallel Developments: Printing Machines
 - i. 868 AD: oldest printed book by Wang Chieh
 - ii. 1450 AD: Gutenberg’s first European printing press

2. *1600: Galileo’s telescope to the stars*
 - a. Bring in telescope and microscope and other crystals if possible
 - b. Students create light paintings in room

3. *1660: Vermeer’s camera obscura (“darkened room”) paintings*
 - a. *Class Project: Create camera obscura in dark closet with one window in back of classroom*
 - i. Create complete pinhole cover for window!
 - ii. Show outdoor scene upside down and backwards projected on wall
 - b. *Student Project: Create pinhole cameras*
 - i. Ask students to bring in round box or \$1 for cheese curls box (must ask two weeks before).
 1. Round cheese curl boxes or oatmeal boxes are good
 2. Must have tight fitting lid.
 - ii. Paint boxes black inside
 - iii. Students can cut “tin” from side of soda can and help punch pinhole
 - iv. Cut hole, tape “tin” into cardboard round boxes with tape over pinhole
 - v. If possible, teacher should do photoes with pinhole cameras overnight to determine proper exposures for each
 - vi. Put in pre-cut photo paper
 - vii. Go outside, lift tape, expose for 2 minutes
 - viii. Teacher processes the paper for them, and present them the next day
 - c. *Quiz Two*

Materials:

Telescope, microscope
Crystals to create spectrum rainbows
Black construction paper
Black tape to help cover windows/ pinholes
Cut “tin” from side of soda can with pinholes punched
Cheese curl or oatmeal round boxes with tight lids
Black paint
Pre-cut photo paper
Three photo trays and water source
Developer, stop bath, fixer

Lesson E: 3 - 4 days

Introducing Unit Three:

Photography: Chemistry, Mechanics, and the Scoop

Student resources:

Lathrop, The Basic Book of Photography, 1980: a middle school textbook introducing camera and darkroom in language and concepts accessible to middle school

Top That! Kids Staff, Essential Photography, designed for younger children
Pobst, The Camera, history of camera technologies for middle school.

1. *1826: Niepce's first landscape photograph that lasts; chemical development and fixing*
 - a. Present in PowerPoint and discuss failures to make photos permanent in early 1800s
 - b. Present examples of the first photographs and history of this period in Powerpoint to class
 - c. *Student project: Fade construction paper in sun*
 - i. Concepts: Photosensitive materials
 - ii. Discuss silver tarnish, rust, sun fading
 - iii. Students put objects on bright construction paper and set in the sun for a day to create fading patterns
 - d. *Student project: Create lasting photograms in darkroom*
 - i. Present and discuss the three chemicals of the developing process
 - ii. Present history of successes and failures in chemistry
 - iii. Students bring in objects to create photograms

1. Photograms are created on regular photo paper with the shadows of objects set on the paper as it is exposed to light. It is then developed in photo chemicals.
 - iv. Students go 8 at a time into darkroom to create photograms
2. *1839: Daquerre's beautiful metal "positives"*
 3. *The First Home Photos: Daguerrotype salesmen overtake America*
 - a. PowerPoint of Daguerrotype examples and sales
 - b. Concepts: Exposure length, shutter speed, blurring
 - i. Illustrate principle that early photographs took a lot of light: anyone who did not stand still became blurred
 - ii. Show examples of creating photographs that take long exposures on different materials, for example contemporary "photos" created on grass by Heather Ackroyd and Dan Harvey (ArtsAdmin)
 - c. *Student project: Use digital camera preset to manual setting for long exposure*
 - i. Dress students in old fashioned costumes
 - ii. Stand still except for head or arms which move
 - iii. Can make head or arm "disappear"
 - d. *Field Trip: to Museum of Photo Antiquities, Northside Pittsburgh*
 - i. This informal museum has many examples of early photos and camera prototypes as well as a lively presentation: set up an appointment.

Lesson F: 3 - 4 days

Continuing Unit Three:

Photography: Chemistry, Mechanics, and the Scoop

4. 1860s: Matthew Brady's Civil War documentary photographs
 - a. Present examples of this important work, the first of its kind, with the story of Brady's exploits while becoming a first war photographer.
 - b. *Student Project: Enlarging from organic material*
 - i. Find organic material to squeeze between two glass slides and enlarge
 - ii. Concepts: enlarging, projection, lenses
 - iii. Students will print their own photos and develop the paper

5. 1870s: Matthew Brady switches to portraits
 - a. Photography as Painting: Is it Art?
 - i. Show PowerPoint of “dreamy”
 - b. Presentation of SLR technology: Introduction to F-stops and Shutter Speeds
 - c. Student Project: Take simple photo with manual film camera.
 - i. Each student will have the opportunity to take photos with our few film cameras
 - ii. I will process the film myself, or have it processed professionally
 - iii. They will then enlarge, print, and develop the prints the next day

6. 1878: Eadweard Muybridge’s “moving” photographs! (see en.wikipedia.org/wiki/Timeline_of_photography_technology)
 - a. Possible student project: take series of motion photos with digital camera = pixilation
 - i. Pixilation is using human in “stop motion” animation, moving people a little bit at a time in improbable ways then running the photos at 10 per second to “animate”
 - b. Compare to animation projects that are perhaps going on at the same time
 - c. Quiz Three

Lesson G: 6 Days off and on

Unit Four:

Case Study: The 1930s, Photography in Context

1. The Depression: Between Prosperity and War
2. Photographers:
 - a. Dorothea Lange: Social Documentary Photography
 - b. Ansel Adams: America the Beautiful
 - c. The Alfreds -- Eisensteadt and Stieglitz: Cities, Clouds, and The Moment
3. Radio: Orsen Welle’s *War of the World*
4. Cinema: Charlie Chaplin’s *Modern Times*
5. Documentary: Willard Van Dyke’s *Western Pennsylvania Valley Town*
6. Animation: Walt Disney’s *Fantasia*

In this lesson, the material will be presented in class with parts of all the other media being played. Writing exercises will be included.

Unit Project: Then each student (or pair) must choose to produce either a series of black and white AND digital social documentary, nature photos, or “of the moment” photos in the style of Lange, Adams, or one of the Alfreds. They are to pretend to be a 1930s photographer suddenly transplanted into today. They should be able to explain what influenced them and how it interprets their understanding of the 1930s and of today.

Part I: Units 1 – 4 end with a Unit Test. As previously explained, Unit 5 may be going on concurrently, or we will go on to Unit 5: Animation at this point. I will over the summer continue to flesh out the points of history and student exercises for Units 5 – 7. Units 8 – 12 are designed for the second year of this two year curriculum and would be detailed next summer. Please send reactions or suggestions: smcbride2@pghboe.net.

Annotated Bibliography/Resources

Supplemental Teacher Reading on Media Change, Media History, and Photography:

- Baughman, James L., The Republic of Mass Culture: Journalism, Filmmaking, and Broadcasting in America since 1941, 3rd Ed., Johns Hopkins University Press. 2005.
How television as a “new media” impacted radio, newspapers, & the film industry. A social history accounting for the many factors in media change.
- Briggs, Asa and Burke, Peter, A Social History of the Media: From Gutenberg to the Internet, Polity Press. 2002. *This is a readable general history of “the media” which spends more than half the book on “communication processes,” including railroads and the mail system, before 1900. Their perspective includes an “oral/print” culture divide. This book is useful as it provides limited social context for communication changes without getting bogged down in either the technology or the social history. There is a useful twelve-page timeline in the back from 5000 BC.*
- Charmello, Cheree. “Mass Media Madness,” Pittsburgh Teachers Institute, Chatham College. Accessed: June 15, 2007. Copyright: 2006.
<http://www.chatham.edu/PTI/2005%20Units/Pittsburgh's%20Mass%20Media/Charmello%20unit.pdf>

A curriculum unit created for PTI in 2006 which teaches media history in middle school, but without the emphasis on actual technology. Useful concepts and a media history timeline are included.

Ewald, Wendy and A. Lightfoot. I Wanna Take Me a Picture: Teaching Photography and Writing to Children. Beacon Press. 2002.

Gitelman, L. and Pingree, G, Eds. New Media, 1740-1915, MIT Press. 2003.
Takes away the term “new media” from the internet to illustrate how new media, from the zogrscope to the telephone, were developed and accepted years ago.

Godfrey, Donald G., Ed. Methods of Historical Analysis in Electronic Media. New Jersey: Lawrence Erlbaum Publishers. 2006.
Theoretical guide to different approaches to electronic media history.

Gorman, Lyn and McLean, David. Media and Society in the Twentieth Century: A Historical Introduction. Blackwell Publishing. 2003. *Scholarly but readable periodization of media history including chapters on The Press, The Rise of Advertising, Propaganda in Peace and War and. Globalization.*

Grimm, Tom et al. The Basic Book of Photography. 5th ed. Penguin Group. 2003.
If you really want to get into darkroom photography (while everyone else turns to digital), this will get you going.

Lasure, Elizabeth. “The Ceramic History of the Olmec Culture,” On Common Ground: Strengthening Teaching through School-University Partnership. Yale-New Haven Teachers Institute. 11. Winter 2007. *This short article provides context for some problems of including history while teaching the arts or in arts-related schools.*

Pittsburgh Teachers Institute, “Pittsburgh’s Mass Media” part of PTI Curriculum Units Online. Accessed June 15, 2007. Copyright: 2006.
<http://www.chatham.edu/PTI/2005%20Units/Pittsburgh's%20Mass%20Media/abstracts.htm#backtotop>
Several curriculum units created for PTI on the subject of local media.

Umphlett, Wiley, The Visual Focus of American Media Culture in the Twentieth Century: The Modern Era 1893-1945. Fairleigh Dickinson University Press. 2004.
Discusses the pitfalls of the American culture increasingly focused on the visual and “the mediated attractions of an urban lifestyle.”

Wikipedia, "Timeline of Photographic History," "Mass Media." Accessed: June 20, 2007. Continuously modified.

http://en.wikipedia.org/wiki/Timeline_of_photography_technology

http://en.wikipedia.org/wiki/Mass_media

These two timelines provide links to basic information on most of the history described here, and provide ideas for expansion. Also suitable as student resource.

Winston, Brian. Media Technology and Society: A History: From the Telegraph to the Internet. London and New York: Routledge. 1998. *This is a rewrite of an earlier book in which he complicates the usual simpler explanations for media changes by including technological, economic, and social factors. His theoretical terms include "supervening social necessity"-- those factors which accelerate the development or adoption of new media, and "suppression of radical potential" – factors which "slow the rate of diffusion" of media or technologies which might undermine social stability.*

Winston, Brian. 'How are Media Born and Developed?' in J. Downing, A. Mohammadi & A. Sreberny-Mohammadi (eds.), Questioning the Media: A Critical Introduction, 2nd edn, London: Sage, pp. 54-74. 1995. *This is a simpler version of the argument in his books, in which he divides media historians into "technological determinists," "economic determinists," and "cultural determinists." He gives examples of each type of media history storytelling.*

Winston, Brian. Photography, Cinematography and Television. BFI Publishing. 1996. *More of Winston's social and theoretical history of media, concentrating on visual reproduction.*

Potential Classroom Material Appropriate For Middle School Students On Photography And Related Media Arts:

Ali, Dominic., Media Madness, Kids Can Press, 2005. ISBN 155337-175-5. *Comic book style slim book about different kinds of media. Could be a fun introduction to the whole topic.*

Arts Admin/ Toynbee Studios, "Heather Ackroyd and Dan Harvey," Website accessed: June 20, 2007. Copyright 2007.
<http://www.artsadmin.co.uk/projects/artist.php?id=40>

Information about a pair of artists who have created “photographs” on grass since 1990. Useful when discussing the concept of photo sensitivity.

Lathrop, Irvin and LaCour. The Basic Book of Photography. American Technical Society. 1980

Old but great textbook of simple photography projects (from photograms to dodge-and-burn enlargements) written in middle school language. This is an old textbook found at our school but not available even online anymore. It might be available at a library.

Berger. Sound, Heat, & Light. 1989. Scholastic, Inc. ISBN: 999421635X

Long poem for kids introducing these scientific principles in light way.

Bidner, Jenni. The Kid’s Guide to Digital Photography: How to Shoot, Save, Play With & Print Your Digital Photos. Sterling Publishing. 2004.

For grades 5-8 – can help teachers and students with ideas on what to do with those proliferating digital cameras

Mattern, Joanne. George Eastman and the Story of Photographic Film.

“Uncharted...” Series. Mitchell Lane Publishers. 2004.

Gives history of the person – a good way to approach history with middle schoolers in my experience – with some science and culture. Also includes a timeline. Grades 4 – 8.

Friedman, Debra. Picture This: Fun Photography and Crafts. Kids Can Press. 2003.

Oriented towards grades 3-5.

Gifford, Clive. Eyewitness: Media and Communication, Eyewitness Book Series, Dorling Kindersley Books. 2000. ISBN: 078946294X

“Sciency” approach to media and communication technology with many illustrations.

Gaines, Thom. Digital Photo Madness. Sterling Publishing. 2006.

Aimed towards age 12 and up. Introduces tips and basic functions.

Pobst, Sandra. The Camera. World Almanac Library. Part of the Great Inventions Series, Gareth Stevens Publishing. 2005.

Incomplete cite so far. History of early media technologies written for middle school students. A bit dry, but great if supplemented with projects and extra material.

See also these other books in the "Great Inventions Series." These are hardback books with both a science and history bent, designed for libraries. They are usually available used online as well.

Otfinoski, Steven. Television. Part of Great Inventions Series. Benchmark Books. 2006.

Teitelbaum, Michael. Radio and Television. Part of Great Inventions Series. Gareth Stevens Publishing. 2005.

Worth, Richard. Telegraph and Telephone. Part of Great Inventions Series. Word Almanac Library. Gareth Stevens Publishing. 2006.

Top That! Kids Staff, Essential Photography. I-Quest Series. Top That! Publishing. 2004.
Inexpensive book for children (currently \$3 from Barnes & Noble).

Understanding Art, Textbook, Glencoe, 2006.

This new textbook series has been adopted by the Pittsburgh school district and is available to all art teachers. In each book, several sections have "art" related projects which could also be called "media," such as "Photography," "Graphic Design," "Documenting," "Film and Moving Images." Each chapter has simple media history in middle school language.

Related Media Resources for Children and Adults:

Drake, Jim. What is a Computer? Des Plaines, IL: Heinemann Library, 1999.
Basic introduction of computer technology for children. Part of a 1999 series.

Laybourne & Canemaker. The Animation Book: A Complete Guide to Animated Filmmaking, from Flip-Books to Sound Cartoons. Crown Publishing. 1998.
A sourcebook for adults for different kinds of animation, teachers can find material explaining how to do claymation, pixilation, etc.

Selfridge, Benjamin & Peter. A Kid's Guide to Creating Web Pages for Home and School. Zephyr Press. 2004.
Includes an intro to HTML, and a support website for reference.

Snow, Panky. Radio Announcers, Bridgestone Capstone-Press.com, 2002.
For younger children. There are other media career books like this one.

White, Ron et al. How Computers Work. Pearson Education. 2005
Although oriented towards adults, many of the colorful diagrams could help explain the internal mysteries of how computer technology works to technophilic children. Lots of interesting illustrations. This series also has How Digital Photography Works and How the Internet Works.

Zannos, Susan. Guglielmo Marconi and Radio Waves. Scientific Advance
“Uncharted...” Series. Mitchell Lane Publishers. 2004.
Bit dry but full of facts with related media history timeline.

Please send along your suggestions for other middle school appropriate texts!
Smcbride2@pghboe.net

Appendix A: Content Standards

Appendix B: Elements of a Middle School Media Arts Course

Appendix C: Media History Timeline

Appendix A: Content Standards

Communications

1. All students use effective research and information management skills, including locating primary and secondary sources of information with traditional and emerging library technologies.
2. All students read and use a variety of methods to make sense of various kinds of complex texts.
3. All students respond orally and in writing to information and ideas gained by reading narrative and informational texts and use the information and ideas to make decisions and solve problems.
4. All students write for a variety of purposes, including to narrate, inform and persuade, in all subject areas.
5. All students analyze and make critical judgments about all forms of communication, separating fact from opinion, recognizing propaganda, stereotypes and statements of bias, recognizing inconsistencies and judging the validity of evidence.
6. All students exchange information orally, including understanding and giving spoken instructions, asking and answering questions appropriately, and promoting effective group communications.
7. All students listen to and understand complex oral messages and identify their purpose, structure and use.
8. All students compose and make oral presentations for each academic area of study that are designed to persuade, inform or describe.
9. All students communicate appropriately in business, work and other applied situations.

Citizenship

1. All students demonstrate an understanding of major events, cultures, groups and individuals in the historical development of Pennsylvania, the United States and other nations, and describe the patterns of historical development.
3. All students describe the development and operations of economic, political, legal and governmental systems in the United States, assess their own relationships to those systems, and compare them to those in other nations.
4. All students examine and evaluate problems facing citizens in their communities, state, nation and world by incorporating concepts and methods of inquiry of the various social sciences.

5. All students develop and defend a position on current issues, confronting the United States and other nations, conducting research, analyzing alternatives, organizing evidence and arguments, and making oral presentations.
7. All students demonstrate their skills of communicating, negotiating and cooperating with others.
8. All students demonstrate that they can work effectively with others.
9. All students demonstrate an understanding of the history and nature of prejudice and relate their knowledge to current issues facing communities, the United States and other nations.

Science and Technology

1. All students demonstrate basic computer literacy, including word processing, software applications, and the ability to access the global information infrastructure, using current technology.

Appendix B: Elements of a Middle School Media Arts Course

Some of the experiences these students could have during their two years structured by this curriculum outline:

3-Part Structure – beginning, middle, end
 Storytelling and Scriptwriting Elements
 Elements and Principles of Visual Art and Design
 Storyboarding
 Scriptwriting
 Radio Scriptwriting
 Proposal Writing
 Programming a Show
 Pinhole Photography
 3-D Maya
 Game Design (Gamelinker)
 Programming/ (Alice)
 Story creation (Alice)
 Photographic Design
 Ad Design (Photoshop)
 Product Design
 Cell Animation Handdrawn
 Claymation
 Computer Drawing
 Computer Drawn Animation (Paint)
 Black and White Photography, Chemical
 Documentary Video
 Documentary Photography
 Live Action Video – story
 Video Commercials
 Newsletter
 Photojournalism
 TV News Report

Video Poem, Experimental Video
Digital Camera
Printmaking
Music Creation (Garageband program)
Sound Effects Editing
Voiceover Script/ Voices for Animation
Analog Sound Recording
Live Multi-Camera Show
Live Multi-Microphone Recording
Internet Video
Comedy Video
Memory Video Documentary
PowerPoint Documentary
Slide Show
Lighting
 3-point lighting in the field
 Studio Lighting of an object – no shadows!
 Computer 3-D graphics lighting
 Stage and auditorium lights and effects
Art Installations

Appendix C: Media History Timeline

Although I discovered this resource late in the process, I incorporated the timelines from Cheree Charmello's middle school unit Mass Media Madness created for the Pittsburgh Teachers Institute in 2005.

Charmello's five essential historical stages (changes through time) of communications are:

1. Oral - 35,000 BC, Language begins
2. Pictographic - 70,000 BC, Blombos (African cave) Ocher (red powder used for cave markings)
3. Written - 3500 BC, Cuneiform
4. Printed - 868 AD, oldest printed book by Wang Chieh
5. Electronic - 1844 A.D., Morse telegraph

Media History Timeline:

Many of these are to be expanded upon in a teacher's Power Point presentation.

Adapted from C. Charmello, "Media Madness," PTI 2006.

- o Pictographic - 70,000 BC, Blombos (African cave) Ocher (red powder used for cave markings)
- o Illustration with Writing - 3500 BC, Cuneiform
- o 59 BC - Ancient Rome circulated handwritten news sheets that were posted in public places by the government.
- o 1000 AD: Ibn al-Haitham experiments with first *camera obscura*
- o 868 AD: oldest printed book by Wang Chieh
- o 1450-First printing press made in Europe.
- o 1600: Galileo's telescope to the stars
- o 1600's – Printed newspapers arose all over Europe.
- o 1690 - The first newspaper in the American colonies, "Publick Occurrences Both Forreign and Domestick," was published.

- o 1704 - John Campbell started the first regularly published colonial newspaper, "The Boston News-Letter."
- o 1776 – The Virginia Gazette printed the text of the Declaration of Independence on July 26th.
- o 1765 - Stamp Act was used to suppress newspapers
- o 1783 - The Pennsylvania Evening Post and Daily Advertiser, the first daily newspaper in the United States, began publication in Philadelphia.
- o 1837 - Invention of the telegraph by Samuel Morse.
- o 1822- American Dr. William Church invented the first typesetting machine.
- o 1826: Niepce's first landscape photograph that lasts
- o 1839: Daquerre's beautiful metal "positives"
- o 1850s: Daguerrotype salesmen overtake America
- o 1860s: Matthew Brady's Civil War documentary photographs
- o 1870s: Matthew Brady switches to portraits
- o 1878: Eadweard Muybridge's "moving" photographs! (see o 1895 - Marconi developed the radio transmitter and receiver.
- o 1897 - The regular use of photographs in newspapers began.
- o 1915 - Supreme Court upheld state rights of movie censorship.
- o 1920 - KDKA aired the world's first scheduled radio broadcast from Pittsburgh.
- o 1922 - AT&T began charging fees in return for the airing of commercials.
- o 1927 - Herbert Hoover, Secretary of Commerce, made this speech over the first long-distance television broadcast on April 7th.
- o 1929 - In London, John Logie Baird opened the world's first television studio, but the images were very poor. (Nearly all Americans own radios. Newspapers begin to decline.)
- o 1934 – Federal Communications Commission (FCC) formed.
- o 1936 - First television broadcast available in London
- o 1938 - The first regular broadcast of daily news began on radio, with the *World Today* program on CBS for 15 minutes every evening.
- o 1939 – The first television broadcast took place at RCA pavilion at the World's Fair in New York.
- o 1933-1945 (WWII) - President Franklin Delano Roosevelt addressed the public via radio instead of via news reporters.
- o 1930s: WPA and Depression era photographers: Dorothea Lange, Ansel Adams, The Alfreds -- Eisensteadt and Stieglitz
- o 1940 - Paramount put the first TV station on the air.
- o 1955 – "June 7 premier on CBS of *The \$64,000 Question*, the "biggest jackpot program in radio-TV history," produced by Louis Cowan for the advertising firm Norman, Craig & Kummel, sponsored by Charles Revson to promote Living Lipstick over rival Hazel Bishop that had proven the success of TV advertising by raising its sales from \$50,000 in 1950 to \$4,500,000 in 1952."
- o 1969 – "July 20 Apollo 11 transmitted live TV pictures from the surface of the moon, with the help of the Dish in Australia, and the lunar camera developed by Westinghouse."
- o 1970 - PBS network established.
- o 1974 - Sony introduced Betamax home VCR.
- o 1980 - Cable News Network (CNN) was created by Ted Turner and broadcast news 24 hours/7 days a week!
- o 1980's – IBM, Xerox and Apple Computers enabled "Desk Top Publishing."
- o 1990's - Development of the internet allowed for immediate transfer of information.