

Curriculum Units by Fellows of the Yale-New Haven Teachers Institute 2011 Volume II: What History Teaches

## H.O.T. on Artifacts

Curriculum Unit 11.02.02 by Deirdre Prisco

### **Overview**

Teaching thinking skills through the use of artifacts is a fun way to engage students in curiosity and wonder. Many students need to develop higher order thinking skills, and the use of artifacts lends itself beautifully to this process. Artifacts focus instruction on evaluation and analysis. Students share a fascination with everyday objects, past, present and future. "What is it?", "What does it do?" seem like simple questions, but they open the portal to unlimited questioning from a curious student. The analytical skills of observing, hypothesizing, inferring are core skills necessary for building imaginations and inventiveness. In addition these skills help students become better citizens of our global community as decision-makers. Even relationships need to be "figured out" and "assessed". Students need analytical skills when they use their smart phones, log on to a computer, watch YouTube, social network on Facebook, or take a swig from a Monster energy drink. The changing world of technology has made available an enormous amount of information with a few clicks of a mouse, thus making it extremely important for our students to be able to evaluate and sort information. Some of the information on the Internet is not reliable and some even deceptive and dangerous. Therefore, the ability to judge the credibility of an information source or what websites are safe has become an indispensible critical thinking skill that needs to be explicitly taught.

I am a special education inclusion teacher working with a variety of age groups and learning levels at Edgewood Magnet School in New Haven, CT. This means I collaborate, consult and co-teach in the regular education classrooms, modifying and differentiating instruction for students with special needs. Edgewood is primarily a neighborhood school with grades kindergarten through the eighth, with a diverse population. The students have a wide range of ethnicities, economical strata and varying degrees of academic and emotional strengths and weaknesses. The school has an enrollment of about 450 students with approximately 60% African-American, 12% Hispanic and the remaining 29% Caucasian and Asian. This diversity offers enrichment to the classroom, allowing each student to bring their own background knowledge and life experiences to the learning community. In addition, it provides an arts-integrated curriculum, an educational approach that supports multiple intelligence theory and uses arts education as a means to assist students to improve their academic performance and enrich their lives. Arts-integration curricula use art forms--music, visual art, theater, and dance to teach other core subjects, including math, reading, and language arts. This unit aligns with the philosophy of the school. The unit is inquiry based and the activities I plan appeal to a variety of learning styles and provide for differentiation of instruction.

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The importance of high stakes testing has concentrated the curriculum on reading and math. Social studies is not a subject included in the Connecticut Mastery Test, therefore taking a back seat to the rigors of reading and math. However, standardized tests measure students' ability to think critically. This is usually assessed through different strands. For example, The Connecticut Mastery Test tests students on:

- · Forming A General Understanding, which includes making predictions and using content to determine meaning,
- · Developing Interpretation, which includes using evidence to support, drawing conclusions,
- · Making Reader/Text Connections which includes synthesizing relevant information
- · Examining Content and Structure, which includes making judgments and analysis.

This unit demonstrates how test and curriculum standards can be met in the instruction of a content area.

### **Rationale**

A creative and critical thinker is in increasingly high demand: employers are vying for workers who are able to dream big. The Conference Board, Corporate Voices for Working Families, the Partnership for the 21stCentury Skills and the Society for Human Resource Management conducted a survey in April and May of 2006 asking employers their views on the readiness of new entrants to the U.S. workforce. Of the 431 human resource officials polled, nearly three-quarters of respondents (70 percent) rated recently hired high school graduates as deficient in critical thinking. ¹ Educators need to equip students at every level with the basic skills and creativity they will need to succeed in the workplace and the ever-changing world. These core 21st century skills are listed as critical thinking, communication, problem solving, collaboration, and innovation. These are also known in educational research as higher-order thinking (HOT) skills. These 21st century HOT skills all have reasoning as their basis, and the Partnership, consisting of Microsoft, Apple, Dell, Verizon, Ford, and others, have launched a major campaign to infuse them into the school curriculum, as a necessity for success in the 21st century economy. ²

Not only do we need critical thinkers but we also need creative thinkers. Creative thinking fuels innovation, it leads to new goods and services, creates jobs and delivers substantial economic rewards. In addition, critical thinking is important to live in a democratic society. Students need to develop their ability to see unlikely connections, and come up with solutions to complex problems. Students should be encouraged to ask questions and explore alternatives. By thinking for themselves, students will not be resigned to accepting conventional rules. Teachers need to breathe new life into their classes, classes that have become too bogged down with test preparation and data collection rather than places of inspiration and creativity. Classrooms should be humming with active, inquisitive learners.

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I want my students to see history as an exciting adventure. Instead of students seeing history as flat information on a page, artifacts push them to think about the past from differing perspectives, examining context and therefore connections to themselves and the world. History comes alive when students are able to touch, see, and think about objects in new and stimulating ways. Historians are like detectives, asking questions to try and solve mysteries about the past. Often this involves imagining themselves in that place and time, creating a context with the evidence they have. The idea of time travel for this unit came from David Macaulay's *Motel of the Mysteries*. It was written as a spoof on the Howard Carter discovery of the tomb of Tutankhamen. It details the discovery by future archeologists of an American motel and the interpretation it as a funerary and temple complex. The publishers' description starts off saying: "It is the year 4022; all of the ancient country of Usa has been buried under many feet of detritus from a catastrophe that occurred back in 1985." The quotation suggests the challenges in trying to decipher artifacts. Macaulay leads the reader to think about how historians assemble a wide variety of data to attempt to understand complex systems and situations. Like "Howard Carson" in *Motel of the Mysteries*, I plan to have the students become time travel archeologists, where they can step out of their own world and use their imagination to "travel" to another place and time investigating artifacts.

# **Objectives**

This unit will encompass an array of activities that will enhance student critical thinking skills through the use of artifacts. Students will understand what an artifact is and its place in past, present and future history. They will understand that any object of everyday life, works of art, and architecture, anything that has been made or used by a human being, is an artifact. Students will make inferences and judgments about different artifacts and come to their own conclusions as to their purposes. They will be able to see an object from a variety of perspectives. By making connections to their position in history, they will see that history is ultimately about them, as people.

The students will use their imaginations to put a story around an artifact. Using different learning styles, they will see that history is a process - not a product - and that our understanding of it is changing as our thoughts on the human experience evolve. The students will be able to build their higher order thinking skills by focusing on the "top end" of Benjamin Bloom's taxonomy and to analyze, evaluate and create. They will be able to see that problem solving is a form of higher order thinking and that most inventions, indeed most human creations of any kind were meant to solve some kind of problem.

# Strategies that Support Critical Thinking

This unit integrates Bloom's levels of cognitive understanding with Howard Gardner's eight domains of intelligence to provide a framework for individualized instruction combining critical and creative thinking. Utilizing these theories in the classroom instruction allows differentiated instruction for learners with special needs as well as gifted students, thereby reinforcing independence and choice in their educational process. Although this unit is designed for fourth and fifth graders, it can be easily adapted to any grade in any social

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studies or writing class. The activities in this unit can be used if the class is studying a specific time period in history or as a way to combine writing in a content area. The curriculum encourages an overall understanding of what it is like to be a historian, faced with the challenges and questions that arise as one puts together a group of clues to imagine the story of an artifact.

Teaching children to become effective thinkers is increasingly recognized as an immediate goal of education. Schools not only provide students with knowledge and information but also they need to teach them how to think. Research indicates that students who have developed and used critical thinking skills learn more effectively.

A study done by Carlo Magno concludes that when students use underlying metacognitive skills and strategies, they increase their ability to learn. <sup>3</sup>

Metacognitive thinking is simply thinking about our thinking. Thinking is made open and accessible where teachers often model their own thinking. The thinking process is usually a private activity, so modeling makes it more visible. "Visible Thinking" from Harvard's Project Zero is a product of numerous years of research focused on thinking and learning. These studies support the importance of "alertness to situations that call for thinking and positive attitudes toward thinking and learning." They state that "children and adults think in shallow ways not for lack of ability to think more deeply but because they simply do not notice the opportunity, or do not care. As a result of their studies, they have concluded that good thinking involves abilities; attitudes and alertness. They have developed a Visible Thinking Approach that makes students thinking visible to themselves, to their classmates, and to their teacher, so they are more engaged. When thinking is visible, students are not involved in rote learning but exploration. Teachers are able to assess students' prior knowledge, reasoning ability, and degrees of understanding. 4

Thinking like a historian requires critical and creative mind. Yale professor John Gaddis describes in his book, *The Landscape of History*, how historians use "thought experiments." By this he means, that historians must use both logic **and** imagination when trying to piece together history. "Historians use the laboratory that's in their mind to reconstruct past processes from surviving structures" <sup>5</sup> Historians may start with an artifact or even memories through a diary with which to try and reconstruct the past. This unit is designed to provide students with such a laboratory, in which they can engage in "thought experiments" using both their critical (logical) mind and their creative (imaginative) mind.

The unit will begin with building background knowledge on what constitutes an artifact and what it has to do with history. Throughout the unit students will be exposed to a variety of artifacts, familiar and unfamiliar. The resulting discussion will introduce them to the idea of asking questions about historical artifacts and creating the story about them, essentially being a historian. This unit will take the students from the micro- exploring an object as an artifact—to the macro- the culture or world the artifact is a part of.

### **Unit Introduction**

To launch this unit I will explain to the students that they will be time travelers moving from the present to the past and into the future while making discoveries. I will have the students design their own time travel goggles. These goggles can be used as reminders that they will be looking at artifacts through a different set

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of lenses.

I will start the unit by giving students a "mystery" object, something they probably have never seen. This object will jumpstart a discussion with simple questions like "What do you think this is?" What do you notice about the object?" "Why do you think that? Another example of how to introduce artifacts is with "What's the relic game?" The teacher shows the image of an object and lists three phony and one genuine use of the object. The class tries to determine what the actual use of the object is. These techniques will demonstrate how difficult it is to explain history when you have just a small piece of information taken out of context. It is very hard to understand something that you have had no experience with.

Next, I plan to use David Macaulay's book, *Motel of the Mysteries* as a way to give students further insight into the concept of making inferences from artifacts. This book shows that archeologists make inferences based upon what they observe. This does not mean that they are always correct. Macaulay's amusing, but serious book will help students understand about "reading between the lines" and get them thinking more outside the box while they laugh at the crazy interpretations revealed in the book. Although the book contains some sophisticated language and concepts, I will guide them through it. We will view samples from "The Treasures "in the *Motel of the Mysteries*, which are hysterical. These will make the students not only laugh out loud but also make them think in a different way.

I will then present the students with another example of how a future archeologist might interpret our culture with the viewing of the video clip "Future History: Plastic Bottles". Through these examples the students will see that history is filled with interesting and thought provoking interpretations. Maybe some of the students have seen the movie *Wall-E* and can make the connections between the movie and these examples from the book and the video clip. This should lead to an interesting class discussion.

Another activity I plan to use as an introduction to historical artifacts is to view clips from television shows such as "History Detectives," "American Pickers", and "Antiques Road Show". These shows are fundamentally about artifacts from the past and the stories that surround them. Every family has some item in their house that connects their family to the broader events of history; the picture of Uncle Joe serving in the Vietnam War, a ticket stub dated 1984 to a Run-DMC concert or a 1959 pink dial Princess phone buried in a box in the basement. Every artifact has to have a story attached to it even if it's just a piece of old junk.

For an introductory assignment students will be assigned to bring in something from home, an artifact to share with the class. Students will be asked to create a narrative around the artifact showing what importance is has in the student's history, - in effect, an "artifact biography". Students will think about the history of the artifact itself with an assignment to imagine interviewing the artifact. Who, what, where, when and how questions can be developed for the imaginary interview. Now the students should have an overview of what will prepare them for working with their own artifacts as time travel archeologists.

# **Unit Project**

I decided to select four artifacts that offered a wide range of questioning for this unit, where the students would enjoy time traveling between the past and the future. Students love their gadgets and pop cultural artifacts. Bringing them into the classroom as a way of teaching thinking skills should instantly grab their

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attention. Students will become time travel archeologists reporting on:

Cell phone: I wanted to pick an object related to technology. Hundreds of years ago, people would not have believed you if you had told them that you used a hand gadget that took pictures, talked with friends, played music, responded to voice commands or told you where to eat in a strange city. Texting and twittering would have been unheard of. It would have been seen like some magician's illusionary trick. What a long way communication devices have come.

**Water Bottle:** I picked this ordinary everyday object because it is as ubiquitous as ants as at a Fourth of July picnic. I doubt the students give this item much thought as they bring them to their soccer games or toss them in the trash at the mall. Do they know that portable water is not a new concept?

**Fast Food Restaurants:** I picked a business associated with our culture that has very identifiable artifacts, similar to the buried motel in David Macaulay's book. Who doesn't recognize the red cardboard box with golden arches overflowing with pencil straight perfect golden French fries? Fast food restaurants are a phenomenon that people a hundred years ago could not have imagined--driving in your car to a window and getting food handed to you in a bag to be eaten in the car. However when you dig deeper, a form of fast food has been around for centuries.

**Edgewood School:** I selected our school building for a number of reasons. I wanted the students to see how a building can be seen as an artifact and also because Edgewood School is celebrating its 100 year anniversary this year.

Of course there are numerous artifacts that teachers may choose. The concepts and strategies presented in this unit are applicable to any artifact. Other possible artifacts may include fashion items, shoes, clothes, jewelry, house furnishings, and appliances.

Students will be divided into four groups and assigned to one of these artifacts. Group work allows for differential instruction and choice. Working as a team promotes collaboration- a lifelong skill. Ultimately, I want the students to create a history of each item. I want them to have some idea of where the concept or idea behind the artifact came to be. This would require utilizing the questioning techniques of Bloom's taxonomy. The student will be accessing the top tier of critical thinking by **analyzing** the artifacts' past, **evaluating** its present use and c **reating** or constructing a future for the artifact.

Cooperative work groups encourage students to be both question-askers and question answerers. The teacher can act as a facilitator and have students respond to one another rather than to the teacher who they might think is looking for a specific answer.

In this context, the teacher can use 'visible thinking' techniques and take the time to assist students in clarifying ideas through exploratory talk. The students themselves can generate different questions to be used in their discussions It is best practice to allow students to question each other about their learning; this has the potential to generate higher level thinking. As facilitator, the teacher can encourage a range of responses to one question with responses such as "Could you tell us a little more about that idea?" Does anyone have a different opinion?" Also wait time is important as students think over their ideas. By responding with "Can anyone add to that?" or "That's an interesting view."

I plan to utilize a strategy called the Q matrix. (See Appendix B) This design allows for the development of

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questions that target different thinking levels. This will provide a framework that will allow for open-ended interpretation and promote inquiry among the students. This strategy is based on Bloom's Taxonomy moving from using basic question combinations to complex combinations. : What is...? (analysis) What did...? (recall, comprehension) What will...? (synthesis, evaluation) What might...? (analysis, synthesis, prediction) Students will generate questions and the different ways they can explore their artifact, thinking of ways they can "test" their questions to gather evidence. Using online and library resources, students will research their questions. The matrix will serve as a way to organize their ideas for this project as well as open-ended hypothesizing. This model encourages curiosity and seeking answers to their own questions.

After students have gathered the information to form a context around each artifact, they will be given a selection of tasks that they will choose from to complete. The tasks are designed on multiple intelligence theory, where students can access their particular learning style. Each member of the group will be responsible for participating in the unit project by being a time traveler to one period of time and presenting their adventures and discoveries in the form of one of the choices from the project ideas list.

- 1. Past how it was developed and why
- 2. Present- how the artifact is used now
- 3. Future what they think the artifact will be like in the future.

# **Examples of Project Ideas**

Create a timeline of your artifact	Create a journal of your time travel trip	Create a PowerPoint of your trip	Create a time travel game around your artifact	Create a video of your discoveries
Create a book explaining your artifact either in the past or future	Create a skit or role play of you as the time travel archeologist and your findings	Create a talk show as you as the guest explaining your findings as the time travelers	Create a debate among different archeologists with differing interpretations of an artifact	Create an exhibit that displays your findings with diagrams and

Students will present their projects to the class. As a culminating activity, the students will complete an individual project where they can either:

1. Create their own time capsules with chosen artifacts that represent them and their place in history.

or

2. They can imagine that an archeologist discovers their bedroom 100 or even 1000 years in the future exactly as it were today. What would the archeologists' analysis look like? What would it say about them and the culture of the time? Students will include a writing piece explaining the different choices and their importance.

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3. It is my intention that at the conclusion of this unit, the students will have grown in historical thinking. The students will have a new-found interest in how everyday objects serve as windows to examining their lives, their culture, and connectedness to history. Artifacts provide a fascinating story of people and lives. Teaching history through artifacts provides opportunities for students to be engaged in critical and creative thinking. In addition, I want the students to be able to transfer this knowledge and ability to think critically in everyday life. Ultimately I hope that the students will become better decision makers through thoughtful questioning. That they do not have to always accept the norm or conventional ways; that questioning and looking at different perspectives will help them with the challenges that they may face in life.

## **Classroom Activities:**

### Sample Lesson #1: Exploring Architecture as an Artifact

Objectives: Students will be able to:

- 1. Distinguish the features of the 1911 Edgewood School and the present school they occupy
- 2. Compare and contrast the older and newer additions in terms of :
- · Shape
- · Building materials
- · Designs
- 3. Ask questions about the building's architecture and formulate hypotheses explaining the different features of the school then and now.

#### **Activities:**

Explain to students that they will be time travelers going from present into the past as well as the future while exploring their own school building. Edgewood school was originally built in 1911 and then renovated in 1999.

- 1. Have students take a walk around the outside of the building taking notes in their time travelers' notebooks on what they observe about the old building and the newer additions. Allow students to share their observations and create a Venn diagram noting their findings. Follow-up their ideas with further questions deepening their thinking about why.
- 2. Have students take a walk around the inside of the building, making notes in their time travelers' journals about the differences between the older part to the building and the newer from the inside. This should include the design of the floors, size of rooms, lighting, windows and ceilings, bathrooms and the different building material used.
- 3. Pass out blueprint drawings of the building and have students examine the drawing. Have them outline the

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outside of the new addition with one colored marker and outline the older part of the building. Lead a discussion about what they noticed about the shapes of the building and why the old building was designed in a rectangular shape and the newer addition in a curved shape. Ask questions that will promote inquiry and hypotheses of these different designs using Bloom's taxonomy.

- 4. Pass out the aerial pictures of Edgewood and have students notice the two designs from the top. How do they match with the blueprints?
- 5. Have students work in their groups, discussing their architectural findings. Direct students to make inferences explaining the different designs and the purposes behind them as if they were looking back from the future trying to figure out this building.
- 6. Have groups prepare a short report of their findings and hypotheses as if they were reporting at a time travel archeologist's conference.
- 7. Have students prepare a scavenger hunt with at least 10 architectural features they found from the past and the present. Other classes can use this future activity.

#### Sample Lesson #2: Gargoyles as Artifacts

**Objectives:** Students will be able to:

- 1. Understand what a gargoyle is and how it relates to being an artifact.
- 2. Demonstrate where you find gargoyles
- 3. Create a context or narrative about the gargoyles
- 4. Compare and contrast the Yale gargoyles with the Edgewood School gargoyles
- 5. Hypothesize the meaning behind the different gargoyles
- 6. Create their own gargoyle

#### **Activities:**

Building on the previous lesson's discovery and observations of the gargoyles on Edgewood's building:

- 1. The student will be asked to give a definition of a gargoyle from what they have observed on Edgewood School in the previous lesson. Next I will have them compare their definitions to a dictionary definition. Then the students will create a list of questions they want to know about the meaning and purpose of gargoyles.
- 2. Organize a field trip to the Yale University campus to notice the many gargoyles on the buildings. If possible arrange for a tour. Have the students bring their time travelers notebooks to make sketches and note observations about the Yale gargoyles.
- 3. Back at class, share observations. How are the Edgewood gargoyles similar and different from the Yale ones? Ask students what questions they have about them. Record on a class chart. Have students hypothesize about the purpose of the gargoyles on both buildings. Students can work in groups to gather information on the internet regarding any of the questions.

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4. Have students create their own gargoyle and write the meaning or purpose of their gargoyle. Have students share their gargoyles and ask classmates to try and hypothesize what the meaning of their gargoyles.

### Sample Lesson # 3: Edgewood School as a Place of Learning: Past, Present and Future

**Objectives:** The students will be able to:

- 1. Develop an idea of what it was like to go to Edgewood School in 1911.
- 2. Develop ideas about what future archeologists might find as artifacts in their classrooms and what might they interpret them as.
- 3. Develop ideas about what Edgewood School will be like in the future.

#### **Activities:**

Past:

- 1. Have students create a list of questions they might ask someone who went to Edgewood School in 1911 when it first opened.
- 2. Students will be given artifacts from Edgewood's past, including a photograph of the class of 1921 and various scenes from the Westville neighborhood at the turn of the century. Students will note observations from the artifacts including type of dress, style of hair, modes of transportation, and neighborhood landscape.
- 3. Students will be given examples of magazine advertisements to further their ideas

of the time period.

- 4. Students will then visualize what it would be like to be a student at Edgewood School at that time period. They should include their knowledge of what they learned in the previous lessons about the architecture of the building and try to answer any of the questions they created at the beginning of the lesson.
- 5. Have students write a journal entry as if they were a student going to Edgewood School in 1911. They can create a fictional name and a narrative about what their life and school is like.

#### Present:

- 1. Have students create a collection of 5 artifacts from their classrooms.
- 2. Review the ideas of being future archeologists as in *Motel of the Mysteries*.
- 3. Have the students create alternate uses for their artifacts that future archeologists might infer about these objects they discovered.
- 4. Students will create "Treasure Pages" such as the one below in Motel of the Mysteries.

#### Future:

1. Have students think about what Edgewood School might look in the year 2111

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(at its next centennial)

- 2. Thinking back on the changes they have studied from 1911 to the present and using that information as a basis for their hypotheses.
- 3. Have students
- create artifacts from this future classroom
- create a new design for the building as if it was renovated again
- create the neighborhood around the school

This incorporates all the concepts studied up to this point, taking the micro to the macro and the past to the future.

# **Bibliography/ Teacher Resources**

Anat, Zohar, and Dori Yehudit. "Higher Order Thinking Skills and Low Achieving Students: Are They Mutually Exclusive?" *Journal of the Learning Sciences* 12.2 (2003): 145-181. Educational research that provides evidence that low achieving students benefit from higher order questioning and thinking

Anderson, Lorin W., David R. Krathwohl, and Benjamin Samuel Bloom. *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. Complete ed. New York: Longman, 2001.

Bloom, Benjamin. All Our Children Learning. New York: McGraw-Hill, 1982.

Bloom, Benjamin Samuel, and Lauren A. Sosniak. Developing Talent in Young People. New York: Ballantine Books, 1985.

All of these books by Bloom explain his taxonomy and how important it is in the development of children's learning.

Brookhart, Susan. Assess Higher-Order Thinking Skills in your Classroom . Alexandria: ASCD, 2010.

This book is an excellent resource for teachers who are trying to find research based strategies for teaching and assessing higher-order thinking skills.

Brown, Elizabeth. New Haven: A Guide to Architecture and Urban Design. New Haven:

Yale University Press, 1976

This book provides a background on New Haven's neighborhoods including Westville and Edgewood sections of town. Helpful photographs and historical narrative.

Gaddis, John. The Landscape of History How Historians Map the Past. New York: Oxford University Press, 2002.

This book examines the role of the historian. He argues that a historian's job is both an art and a science. It is filled with many interesting and somewhat quirky metaphors and references. Entertaining and enlightening.

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Gardner, Howard . Intelligences Reframed . New York: Basic Books, 1999. Print.

An outline of Gardner's Multiple Intelligence Theory.

Godinho, Sally, and Jeni Wilson. *Out of the question: guiding students to a deeper understanding of what they do, read, and hear*. Markham, Ont.: Pembroke Publishers, 2007.

This practical book provides strategies that help students and teachers critically evualte what they see, hear and do.

Halpern, Diane. "Teaching Critical Thinking for Transfer Across Domains: Dispositions, Skills, Structure Training, and Metacognitive Monitoring." *American Psychologist* 53.4 (1998): 449-55.

This article outlines numerous studies that have shown that critical thinking, defined as the deliberate use of skills and strategies that increase the probability of a desirable outcome, can be learned in ways that promote transfer to novel contexts. A model of teaching thinking is defined.

Kornhaber, M.L.. "Howard Gardner." *Fifty Modern Thinkers on Education*. London: Routedge, 2001. 272-275. A chapter that outlines Howard Gardner's life and his theories on intelligence and education.

Magno, Carlo. "The Role of Megacognitive Skills in Developing Critical Thinking." Metacognition and Learning 5.2 (2010): 137-156.

This study investigated the influence of metacognition on critical thinking skills. It is hypothesized in the study that critical thinking occurs when individuals use their underlying metacognitive skills and strategies that increase the probability of a desirable outcome.

Macaulay, David. Motel of the Mysteries. Boston: Houghton Mifflin, 1979

The Motel of the Mysteries is a satirical look at archeology and history.

Sanko, Anne. New Haven's Cultural Landscape: Its Changing People and Places . Hartford: Lebron Press, 2001.

A publication developed by the Architecture Resource Center, The New Haven Colony Historical Society and the New Haven Public Schools that include lessons, prose, illustrations and hands on activities to use as resource for the teaching of social studies in New Haven.

# **Student Reading List:**

Gutman, Dan. Qwerty Stevens Adventure Series. New York: Simon and Schuster Children's Publishing.

A time travel series for ages 9-12 that takes the main character Qwerty Stevens to various historical places and people from Thomas Edison to Benjamin Franklin.

Osborne, Mary Pope, and Sal Murdocca. Magic Tree House Series. New York: Random House, 1992.

An award winning series where the main characters Jack and Annie discover a tree house that lets them travel back in time on various time travel adventures.

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Woodruff, Elvia. Time Travel Adventures. New York: Scholastic Press.

Another time travel series for grades 4-6 where the main characters travel back in time to give readers an authentic perspective on what it was like

# **Electronic Sources:**

"Future History: Plastic Water Bottles" http://www.youtube.com/watch?v=gFCbQ7vZxKI. Short video about what a future archeologist would say about water bottles.

"Assessment & Reporting." *Department of Education and Children's Services (DECS)*. N http://www.decs.sa.gov.au/assessment/pages/assessmentstrategies/question. The Q matrix used to organize questions based on higher order thinking levels.

"Visible Thinking." Project Zero .

http://www.pz.harvard.edu/research/VisThink.htm>.

An outline of a systematic, research based approach to the instruction of thinking skills

in the classroom. It emphasizes the concept of making thinking visible.

Artifact and Analysis

http://smithsonianeducation.org. This site is a teacher resource for lessons and activities incorporating artifacts and documents into classrooms.

http://Teachinghistory.org. This site explores different ways to teach history with artifacts.

The Age of Critical Thinking *Employers say Critical Thinking is Most Critical Emerging Skill* . http://worldlogicleague.wordpress.com/2008/12/11/employers-critical-thinking-is-most-critical-emerging-skill/United

# Appendix A

Connecticut Social Studies Standards - Curriculum Framework Grades PK-12

Connecticut Department of Education 2009

Standard 1- Content Knowledge

Knowledge of concepts and information from history and social studies to promote understanding of our nation and world

Standard 2 - History/Social Studies Literacy

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Competence in literacy, inquiry and research skills necessary to analyze, evaluate and present history and social studies information.

#### Standard 3 - Application

Civic competence is addressing historical issues and problems require the use of information, skills and empathic awareness. This unit's activities address all of the Connecticut state standards.

### **Endnotes:**

- 1 The Age of Critical Thinking Employers say Critical Thinking is Most Critical Emerging Skill http://worldlogicleague.wordpress.com/2008/12/11/employers-critical-thinking-is-most-critical-emerging-skill/2 http://worldlogicleague.wordpress.com/
- 3 Magno, Carlo. "The Role of Megacognitive Skills in Developing Critical Thinking." *Metacognition and Learning* 5.2 (2010): 137-156.
- 4 Visible Thinking." *Project Zero*. http://www.pz.harvard.edu/research/VisThink.htm>.
- 5 Gaddis, John. The Landscape of History How Historians Map the Past. New York: Oxford University Press,

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# **QUESTION MATRIX**

The Question Matrix was designed by Chuck Weiderhold in 1991. It contains 36 question starters asking what, where, when, which, who, why and how. Proceeding through the matrix, the questions become more complex and open-ended.

#### The Question Matrix could be used:

- to help students create their own questions about a specific topic and to encourage in-depth (hinking
- as question starters for teachers to elicit further information about a student's knowledge and understanding of a topic
- to formulate questions for a particular purpose eg organising a camp, answering questions on a program etc.
  For example, the Question Matrix can used to answer questions about Behind the News; and program etc.

### QUESTION MATRIX

	Event	Situation	Choice	Person	Reason	Means
Present	What is?	Where / When is?	Which did?	Who is?	Why is?	How is?
Past	What did?	Where i When did?	Which did?	Who did?	Why did?	How did?
Possibility	What can?	Where i When can?	Which can?	Who can?	Why can?	How can?
Probability	What would?	Where / When would?	Which would?	Who would?	Why would?	How would?
Prediction	What will?	Where / When will?	Which will?	Who will?	Why will?	How will?
Imagination	What might?	Where / When might?	Which might?	Who might?	Why might?	How might?

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