Connecting with the Ancient Past

An Interdisinplinary Thematic Unit

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Theme:

Knowledge is perhaps the most powerful and useful tool one can have in our known universe. Through knowledge, humankind has tamed fire, developed tools, domesticated animals, created agriculture, and built structures for shelter and travel. Of course, closer examination reveals that knowledge was not alone in helping human beings master these fields; discovery and invention, offshoot products of knowledge, allowed our ancestors to use their knowledge and create new theories and products. The fruits of their mental and physical labor not only impacted their lives, but ours in the present day as well. The knowledge, discoveries, and inventions of ancient civilizations form the foundations of our world today. Therefore, our seventh grade team will be focused on inquiring into how the knowledge, discoveries, and inventions of the ancient past impact our lives today.

The theme of this interdisciplinary thematic unit (ITU), relating the importance of ancient civilization's knowledge on our world today, is focused on making connections. More specifically, this ITU is centered on helping our students answer the question that every teacher hears "why is this important". Many students have difficulty visualizing why knowledge from thousands of years ago is important, or how it affects them now. It is easy to understand why students who have known computers, the internet, as well as instant information and results all their lives may have difficulty connecting the automatic doors at their local convenience store with those who lived in the Iron Age. Through the activities in this unit, the students will examine and recognize the significance of ancient civilizations, their discoveries and inventions, and how many of the objects and thoughts that surround them from their iPod Nanos to the government that they live under have their origins in ancient civilizations.

Overview:

In this inquiry study, our 7th grade students will examine several factors concerning the theme of ancient knowledge. These include differentiating discovery from invention, analyzing how these are affected by values and needs, uncovering and observing discoveries and inventions from the ancient past, and connecting them to today. These studies will take place in all of the subject areas.

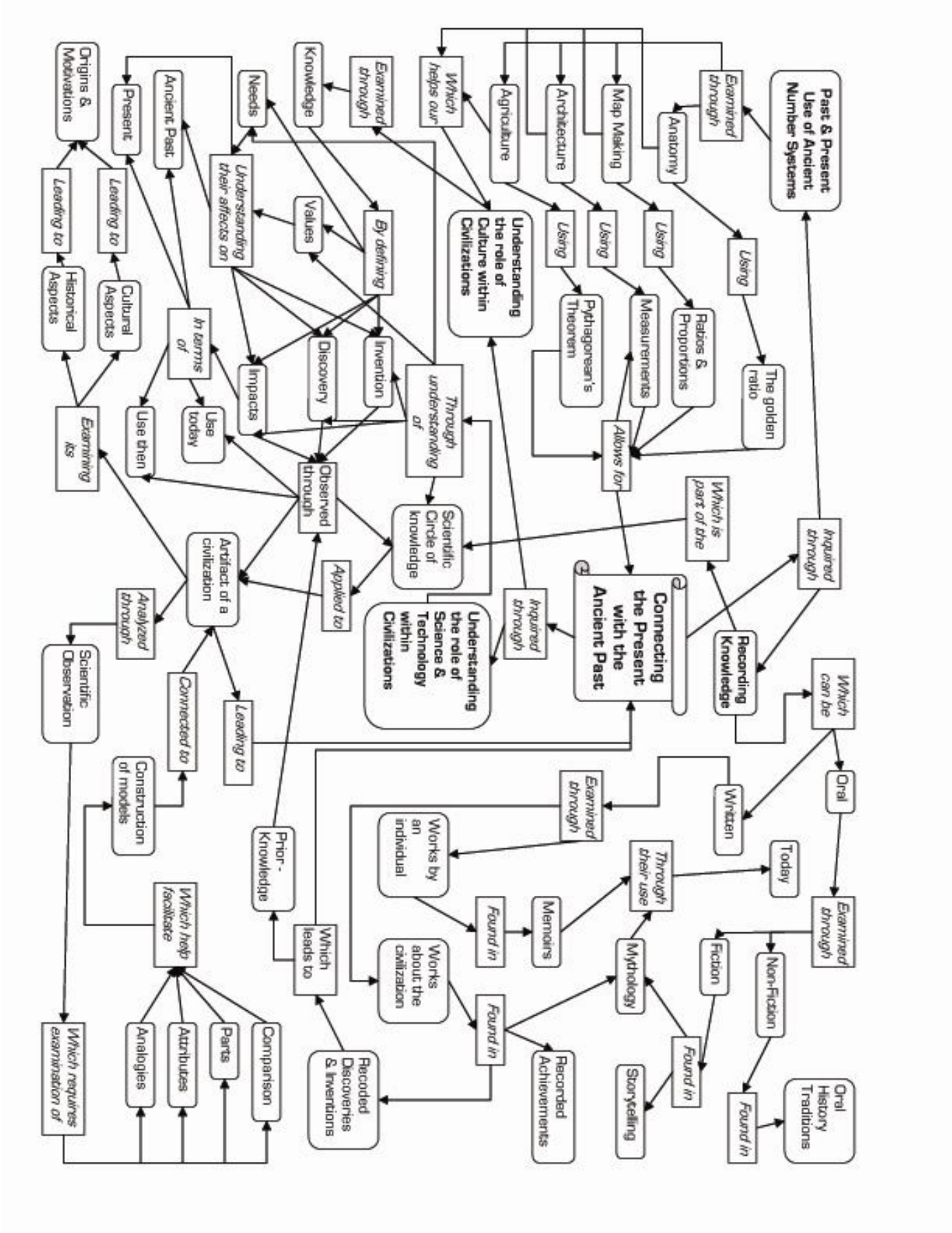
In developing this inquiry, a key guiding focus has been the determination to make this inquiry as student focused as possible. In keeping with this goal, the ideas and concepts within this ITU have been kept purposely broad. By keeping the concepts and details of the study broad, teachers who use this ITU will have a framework for guiding their students' inquiry wherever the students decide they want to take it. The flexibility of this design is most evident in the culminating activity.

Recognizing that humans remember 90% of what they teach, this unit will culminate with a World's Fair event in which students representing different ancient civilizations will teach about the knowledge, discoveries and inventions that their ancient civilization made and how it impacts our world today. Keeping to the broad ITU framework, the choice of civilizations will be determined by the students with the only restrictions being that the civilizations they choose are from the ancient past (pre-1000 CE).

At the end of this unit students should:

- Desire to make their mark on history through knowledge, discovery or invention.
- Explore their surroundings for items and thoughts that they can connect with the past
- Feel that their studies and accomplishments from this unit are another level in humankinds' evolutionary construction of knowledge
- Understand the interdependent relationship of a society's values and needs on discovery and invention.
- Appreciate the impact of ancient knowledge on the modern world.
- Recognize patterns across different ancient civilizations

Concept Map:



Habits of Mind:

Finding and Keeping Focus:

This will be encouraged as students sift through information to determine what their final project will be.

Asking Good Questions:

This is encouraged through the use of the central questions, which require students to ask themselves what they need to know, understand or examine in order to answer these questions.

This is acknowledged through the technology curriculum as students are asked whether or not a website is a credible source, a skill that will ideally become second nature.

This will be reinforced across the curriculum as students select what is important from the information they have acquired, and organize the facts into a coherent presentation.

Simplifying Questions and Problems:

This is accomplished within the social studies and science examinations of discovery and invention within the unit. In order for the students to examine these concepts, they will need to simplify their process by agreeing on and standardizing the definitions of 'discovery' and 'invention' for everyone in the inquiry.

This will be on going in every math class, and in the final project. The students will practice converting problems posed in English into mathematical problems, terms, charts and graphs.

Being Attentive:

Because there is some complexity to this inquiry, the students will need to exercise appropriate active listening skills in both instructional and discussion portions of the unit.

In the English classroom students will be asked to debate about the Internet and its impacts on the transmission of knowledge today. This activity will require students to be attentive to opposing arguments, particularly as they proceed through the debate format.

Students will also need to be attentive to both the goals of the final project, and how research is done, as both are objectives of the project. Students must be mindful of the information they are searching for, and where they are getting their information from.

Seeing Anomalies:

Inherent in this study as the purpose of the inquiry is to open the student's minds by offering the theory that the origins of many of the modern conveniences that surround them are found in ancient civilizations.

In math, seeing discrepancies with data collected will cause students to re-examine their findings. This is a great learning tool since students will need to re-assess their own thinking when this occurs.

Thinking Flexibly:

Having an open mind will be encouraged with the group work. In order to work well within a group students must be willing to both explain their ideas to others, and listen to and consider differing perspectives.

Forming Hunches:

Aspects of the unit foster theory development (forming hunches) via the students' need to determine their civilization's motivations for discovery or invention.

Students will form hunches in the English classroom as they read and analyze mythology from around the world with an eye for similarities and themes.

When working with data, in math, this is a good way for students to relate what they already know with what they are learning about. Using principals that are already understood to help them understand new expanded principals is a good problem solving tool.

Searching for Patterns:

Within social studies and science the students will be examining the commonalities and similarities behind motivations for advancement (invention and discovery) as well as the basic pattern of scientific or technical advancement.

Within the English curriculum, students will be asked to identify patterns and similarities in regard to myths across various cultures.

Patterns are everywhere in math and art, and we will be exploring this in math class. Across the curriculum we will be looking for patterns in the development of ancient civilizations. Since all math projects will be housed together at the world's fair students will have a opportunity to compare and contrast what other ancient societies were doing mathematically, and also to compare and contrast the types of societies where these inventions took place.

Using Models and Metaphors:

The presentation piece is designed to teach the audience something, so students will be able to use these skills to build models, or analogies to explain their concepts.

Thinking by Analogy:

This is a big part of the inquiry as we are helping the students reach the conclusion that many of the discoveries and inventions developed by the ancient civilizations have metamorphosized over thousands of years to become the modern conveniences that we know today. It is also found in the observational aspects of the science curriculum.

Taking Risks:

The students are given numerous opportunities to take risks via their choice in civilizations (they can pick one they may know almost nothing about) as well as in determining the motivations behind their civilization's discoveries and inventions.

Students will be asked to take a risk in English when they are asked to recount a personal story from their childhood. These stories, generally personal, will cause the student to reflect on their own history and events that have shaped them, events that may not always be the easiest to recall.

Cooperating and Collaborating:

Cooperation and collaboration are highly stressed and required in order for the student's civilization teams to meet the goals and criteria of their world's fair project.

Students in the English classroom will be asked to collaborate with one another through peer editing – a difficult, but important task for peers to participate in.

Students will be collaborating in math class on many projects, including the measuring of the football field with various types of measuring devices.

Competing:

Although competition is not being reinforced concretely, it is hoped that the students will take pride in their civilization, and wish to show that they are the best ancient culture, and the one who has contributed most, or most importantly. Although competition may be encouraged abstractly, proper conduct and community cohesiveness will be encouraged concretely.

Persevering and Having Self-Discipline:

This is a huge part of learning and should be brought to students attention in order to have them think about it. When working in groups it is imperative that all members push themselves forward so that the group does not become a disaster, although that is also a learning experience. We the teachers need to recognize perseverance in any student when he / she goes above and beyond. The math part of the assessment will include self and group evaluation check lists.

Initiating Activity:

Post-It's to the Past

Rationale:

The purpose of this engaging activity is to spark the attention of the students, inform them of the theme and focus of the inquiry, and begin their path towards connecting the ancient past with the present.

The engaging activity for this ITU begins in the auditorium with the students introduced to the theme and focus of the inquiry by the Team Teaching Leader dressed in costumes reminiscent of those worn in various ancient civilizations. The use of costumes is meant to get the students attention as well as foreshadow the students' eventual culminating activity in which they will be in costumes reflective of their chosen civilizations.

After introduction of the theme and focus, the students will be given pads of "post-it" notes in colours specific to their homeroom. The students will then be told that they are going to return to their homerooms and examine the rooms for items that they think might not exist if without the ideas and creations of the ancients. As the students examine and place their notes, the teachers (with their own coloured notes) will do the same picking objects that students might have missed and that will compliment the students' upcoming activities. After the students finish they will visit the other homerooms taking note of their peers' note placement and adding their own if they choose. The activity will end with the students returning to their homerooms and discussing with their teacher why they placed notes on certain items and what they thought of the notes placed by other students either within the room or in another room.

Essential Questions:

1. How can I connect the objects in my homeroom with what I have learned about ancient civilizations?
2. What are some contributions from ancient civilizations that are visible today?

Objectives:

- Students will activate their prior-knowledge of ancient civilizations.
- Students will observe and analyze items within their homeroom and look for connections with ancient civilizations.

Culminating Activity: An Ancient World's Fair

Rationale:

A world's fair is "a gathering of people from many parts of the world, at which they demonstrate their products, their arts, and brag about their homelands" similarly, they "allow people to explore the world outside of their everyday experience – outside cultures, new scientific advancements, and new inventions" (www.expomuseum.com).

The seventh grade year is a time when students are exposed to ancient civilizations, however often times information about these societies remains disconnected to the modern world with which students live. Therefore the purpose of holding an Ancient World's Fair is to allow students to form a connection with a particular ancient civilization, and value its importance as a steppingstone towards the world we live within today.

As stated before, humans remember 90% of what they teach, therefore this fair will allow students to share with their peers and community the knowledge they have gained about their community and palace of interest. The format of a fair will also allow and require students to brag about their area of expertise, something seventh grade students will greatly enjoy.

Event / Project Discussion:

In this project the students will team with other students as members of a civilization group. The following table shows an example of civilizations that students could pick from. It is important to note, however, that this list is just a template, and students will be free to suggest another civilization or palace that they would like to include in the fair. Palaces are areas of study that will be studied by one member of each civilization group. For example, the Egypt group has an expert of Agriculture, Arts, and Science & Engineering, while Greece has the same.

Template of Civilization and Palace Choices:

Civilization	Palace of Agriculture	Palace of the Arts	Palace of Science and Engineering	Palace of Culture	Palace of Governance	Palace of Education	Palace of Literature
Egypt	E-Ag	E-Ar	E-S&E				
Greece	G-Ag	G-Ar	G-S&E				
Rome							
Phoenicia							
Sumaria							
Lydia							
Israelites							
Mayans							
India							
China							
Hittites							

E = Egypt; Ag = Agriculture; Ar = Arts; S&E = Science & Engineering; G = Greece

The process of working towards this event will be one where students will have time to research within their civilization groups, as well as individually to create a poster presentation for the fair. This work will be completed on Wednesdays, for which the entire day will be devoted as 'team time' and students will be given the day to work. Groups will keep a 'team time' journal to document how they are spending their time working during the day. This will be one of the group roles (explained later), for one member of the team.

During Wednesday 'team time,' students will have a chance to check in with either their palace advisor, or their civilization advisor. Team teachers will divide the palaces, such that each will have two they will advise. Ideally, the palace advisor will be the teacher whose talents best represent the topic. We cannot denote these specifically within this plan as the palaces are designed to be flexible, and may change with implementation. Palace advisors will walk throughout the various rooms and continuously be checking in with students, helping students identify resources, and answering questions.

Wednesday 'team time' will also be governed by the following group roles. These roles will be important as students will be spread throughout the four classrooms when working with their groups. Implementing this system of group roles thus ensures that fewer students will be aimlessly wandering the halls, as that job is specifically given to one student.

Group Roles

(4 in a group)
Getter The person who gets out of their seat: a. to get any materials needed by the group b. ask questions of the teacher after the activity has begun
Starter The person who is responsible for keeping the group on task (therefore, needs to be extra clear on the parts of the task)
Recorder The person who is responsible for assuring that each team member records all the data, ideas, conclusions, and questions of the team.
Reporter / Observer The person who orally communicates the teams results thus far to the whole class. The person also takes quick notes on how the group worked together today.

The Event:

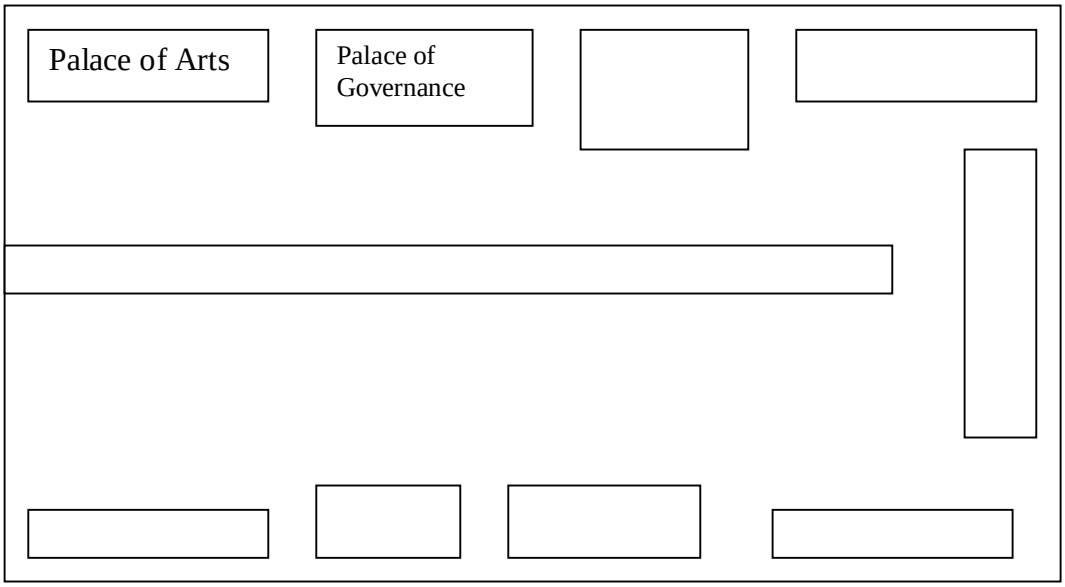
The event itself will be held in the auditorium, and will be open both to the school and to the public. We will hold the fair twice, once during the day for the school as well as parents who work at night, and once in the evening. Similarly, we will also videotape the event with the hope of putting the fair on public access television. This will give students further incentive to perform at the fair, get into costume, and be proud of their work.

The auditorium will be divided by palaces (see diagram below), each housing the representative from each civilization. When students first enter the event they will march in with their country down the center carpet, and then flow to their respective palaces. This format, based on an Olympic opening ceremony, celebrates the fact that this Worlds Fair is a celebration of ancient civilizations of the world, and is intended to be a peaceful event.

As audience members flow through the World's Fair they will observe students both standing at their poster within their palace, as well as individuals who are mingling, and interacting with other student experts. One may witness a Grecian Arts expert and an Egyptian Arts expert in a discussion about similarities and differences of arts within their community, or two Sumerian experts, a Literature and Education bragging about the highly influential nature of their civilization.

Sample Auditorium Setup:

Palaces are setup around the outside walls with distinct boundaries.



Instructional Objectives:

- Students will utilize prior knowledge of ancient civilizations and gain a deep understanding of their civilization in particular
- Present information in their area of expertise
- Work collaboratively with their civilization groups
- Successfully enjoy 'bragging rights' as they share with other groups
- Incorporate aspects of each subject into each civilizations project as a whole
- Relate the contributions of their ancient civilization to modern day life.

Study Skills Emphasized:

1. Completing Effective Research
2. Making a Public Presentation
3. Collaborative / Cooperative Learning
4. Project Organization and Management
5. Effective Use of Group Roles
6. Effective Use of Technology

Methods:

1. Students must pick a civilization they wish to study.
2. Within each group, students must divide the civilization groups into experts on various 'palaces' (see table under Event / Project Discussion section).
3. Each student will then research their own palace within their civilization, particularly looking for discoveries and inventions, as well as incorporating (See direction worksheet below).
4. Students will utilize their palace and civilization advisors (teachers) during designated team time on Wednesdays.
5. Within each class, students will be working towards their final project through various venues (creating an aspect of technology, making historical timelines etc.).
6. Students will then create a visual presentation of their research findings.
7. Posters / presentations will be grouped at the fair in regards to each Palace, with each palace housing representatives from each civilization.
8. These posters / presentations will be displayed at the worlds fair, which will be held on two occasions, and filmed for Public Access Television.

Assessment: (Begins on the following page)

Name: _____

Civilization: _____

Palace: _____

An Ancient World's Fair!

Use the following check-off sheet as you work towards completing your final presentations for the fair.

Your Group Should: *(Put a √ or an X as you complete each requirement)*

___ Use the group roles as you work during team time.

___ Provide a historical context for your civilization

___ Have a representative for each palace

___ Represent information from all of your courses *(as a group you should cover each of these, not individually)*

- ___ Math (eg., number systems, currency)
- ___ Science (eg., artifact)
- ___ History (eg., timeline,
- ___ English (eg., alphabet,
- ___ Art (eg., images, replicas)
- ___ Information Technology (eg., graphics, graphic organizer)

You Personally Should: *(Put a √ or an X as you complete each requirement)*

___ Incorporate technology somehow into your presentation

___ Explain a discovery / invention in relation to your palace

___ Work with your group to ensure all group tasks are successfully covered

___ Come to the fair ready to present, brag, and share all of the knowledge you have gained

Assessment cont:

Students will be assessed on their ability to use the previous directions when creating a presentation as well as on the criteria mentioned in the following rubric. The following rubric is one that encompasses how students prepare for the event, present their information on a poster, and work with their peers. The rubric was created using the rubistar website. Students will receive the rubric before the presentation day, and will be asked to rank themselves according to each of the following criteria, with an accompanying two-paragraph reflection. Within this reflection students will also be asked to reflect on the success of their group, as well as their individual participation within the group.

If an outsider were to come up to one of our students at the end of this project, we hope that they would be able to discuss that despite the fact that we live within a world filled with technology, all of these modern day commodities, originated in some way in the ancient world. Students should be able to acknowledge that our current existence in the world is as one link in a chain that connects human life. This exists on a level of countries learning from one another, to individuals learning skills, morals and facts throughout their own lives.

Sample Rubric for World's Fair Event:

CATEGORY	4	3	2	1
Preparedness	Student is completely prepared and has obviously rehearsed.	Student seems pretty prepared but might have needed a couple more rehearsals.	The student is somewhat prepared, but it is clear that rehearsal was lacking.	Student does not seem at all prepared to present.
Comprehension	Student is able to accurately answer almost all questions posed by classmates about the topic.	Student is able to accurately answer most questions posed by classmates about the topic.	Student is able to accurately answer a few questions posed by classmates about the topic.	Student is unable to accurately answer questions posed by classmates about the topic.
Speaks Clearly	Speaks clearly and distinctly all (100-95%) the time, and mispronounces no words.	Speaks clearly and distinctly all (100-95%) the time, but mispronounces one word.	Speaks clearly and distinctly most (94-85%) of the time. Mispronounces no more than one word.	Often mumbles or can not be understood OR mispronounces more than one word.
Collaboration with Peers	Almost always listens to, shares with, and supports the efforts of others in the group. Tries to keep people	Usually listens to, shares with, and supports the efforts of others in the group. Does not cause "waves" in the group.	Often listens to, shares with, and supports the efforts of others in the group but sometimes is not a good team	Rarely listens to, shares with, and supports the efforts of others in the group. Often is not a good team member.

	working well together.		member.	
Vocabulary	Uses vocabulary appropriate for the audience. Extends audience vocabulary by defining words that might be new to most of the audience.	Uses vocabulary appropriate for the audience. Includes 1-2 words that might be new to most of the audience, but does not define them.	Uses vocabulary appropriate for the audience. Does not include any vocabulary that might be new to the audience.	Uses several (5 or more) words or phrases that are not understood by the audience.
Content	Shows a full understanding of the topic.	Shows a good understanding of the topic.	Shows a good understanding of parts of the topic.	Does not seem to understand the topic very well.
Historical Accuracy	All historical information appeared to be accurate and in chronological order.	Almost all historical information appeared to be accurate and in chronological order.	Most of the historical information was accurate and in chronological order.	Very little of the historical information was accurate and / or in chronological order.
Knowledge Gained	Can clearly explain several ways in which his character "saw" things differently than other characters and can clearly explain why.	Can clearly explain several ways in which his character "saw" things differently than other characters.	Can clearly explain one way in which his character "saw" things differently than other characters.	Cannot explain one way in which his character "saw" things differently than other characters
Poster: Graphics - Clarity	Graphics are all in focus and the content easily viewed and identified from 6 ft. away.	Most graphics are in focus and the content easily viewed and identified from 6 ft. away.	Most graphics are in focus and the content is easily viewed and identified from 4 ft. away.	Many graphics are not clear or are too small.
Poster: Graphics-Relevance	All graphics are related to the topic and make it easier to understand. All borrowed graphics have a source citation.	All graphics are related to the topic and most make it easier to understand. All borrowed graphics have a source citation.	All graphics relate to the topic. Most borrowed graphics have a source citation.	Graphics do not relate to the topic OR several borrowed graphics do not have a source citation.

Poster: Grammar	There are no grammatical mistakes on the poster.	There is 1 grammatical mistake on the poster.	There are 2 grammatical mistakes on the poster.	There are more than 2 grammatical mistakes on the poster.
Internet Use	Successfully uses suggested internet links to find information and navigates within these sites easily without assistance.	Usually able to use suggested internet links to find information and navigates within these sites easily without assistance.	Occasionally able to use suggested internet links to find information and navigates within these sites easily without assistance.	Needs assistance or supervision to use suggested internet links and / or to navigate within these sites.

MATH GENERAL OVERVIEW

Rationale:

The concept of the inter-relationship of man with both his past and future is the broad concept of the entire unit. In math we will look at some mathematicians, and inventions from the ancient world and how they are present in our contemporary lives. Students will look at architecture and study proportions and ratios. They will also look at navigation and using the triangle to figure out distances using indirect measurement. We will be using student definitions for knowledge, discovery, inventions, values and impacts.

Instructional Objectives:

Students will be able to use ratios and proportions to translate maps from one size to another accurately. They will understand the implication of being able to measure and keep records about ownership and how this has influenced our world. Students will be able to use the Pythagorean theorem to solve problems and understand that this theorem led other mathematicians to discover other theorems still in use today as well.

Study Skills:

1. Using research effectively
2. Having a well organized project that speaks to the theme of inter-connectedness
3. Cooperative learning
4. Final presentation to an audience

Math standards covered in this unit:

The standards addressed in this unit will be:

8.N.3 Use ratios and proportions in the solution of problems, in particular, problems involving unit rates, scale factors, and rate of change.

8.P.9 Use linear equations to model and analyze problems involving proportional relationships. Use technology as appropriate.

8.G.4 Demonstrate an understanding of the Pythagorean theorem. Apply the theorem to the solution of problems.

8.M.4 Use ratio and proportion (including scale factors) in the solution of problems, including problems involving similar plane figures and indirect measurement.

Weekly Math Units:

Week One

Goals: Students will begin to think of how ancient civilizations influenced our current society. Students will be able to determine ratios and size change magnitudes of similar geometric shapes.
The concepts of ratios and proportions will be introduced to the students through the observation of architecture and the use of indirect measurement.
Students will be introduced to the Pythagorean Theorem and will be able to use the principles to solve Geometric problems.

Monday:
Introduce ratios and proportions with a whole class brainstorming session on ways they use ratios in their everyday lives. Possible ways could include determining how to divide food equitably among a group of friends, how to determine the best price for a supermarket item, using unit pricing, how to determine who gets what percent of a payment for yard work when two or more people have not worked the same number of hours at the job.
Students will use Geo Boards to create a pair of similar triangles. Students will determine the magnitude of change and how this compares to the ratios of the lengths of the corresponding sides of the figures.
The idea of ratio proportion in architecture will be introduced.

Tuesday:
The class will go on a field excursion noting elements of Greek architecture in our town. We will also be taking some measurements. I will include a worksheet to record these measurements. We will be comparing shadows cast by students and various buildings so that we can later determine the heights of the buildings. Students will be able to use ratios and proportions to perform indirect measurements of these building heights. I will check with the town to get the official listing of building heights before this class. Students will used data collected in a later class.

Wednesday:
Civilization groups meet to work on their projects.

Thursday:
Students will use the data gathered on Tuesday to solve the indirect measurements. We will discuss how this method might have been used by ancient civilizations and how it might be used today.
We will discuss the 'golden ratio'. Students will use rulers to measure their own hand segments to determine if the ratio really works. Examples of the golden ratio can be viewed on this website: http://www.geocities.com/robinhuiscool/Goldenratio.html.

Friday:

Students will create a set of proportional figures using graph paper. They will then exchange papers with their partners. Partners will determine the length of segments and proportional ratios of the sides, then compute the size change magnitude used by their partner. Students may use rulers.

Students will work with their partner to determine what they can conclude about the ratios of lengths of corresponding sides of similar figures.

Week Two

Goals: Students will be introduced to some numbering systems used in ancient civilizations and discuss how this increased trade among different civilizations. Students will be able to solve problems using ratio and proportion, and be able to create accurate scale drawings. Students will be able to use proportions and ratios to create a map to scale.

Students will also consider the importance of Geometry in ancient society.

Monday:

Students are assigned nightly homework to reinforce the concepts introduced in class. Over the weekend students were to locate three pairs of similar objects in their homes and to calculate the ratios of at least three corresponding lengths in each pair to verify that they are similar and to determine the ratio of similitude.

Students will get in their groups (of 4) and discuss the questions they wrote for homework last night. Each group will decide which are the four best questions their group came up with. One question should be from each group member. Groups will then exchange these questions with another group.

The second group will then do the problems. Each member should do one of the problems individually. Each group will share one of their problems with the class.

Tuesday:

Students will be given a map on a regular 8x11 piece of paper. They will also be given a large blank paper and crayons or markers as well as rulers. Working in pairs the students will create a larger map to scale. They must determine what the scale they want to use will be and also translate accurately all items on the small map. This will be used to assess the proportions unit.

Wednesday:

Civilization groups meet to work on their projects.

Thursday:

Using graph paper, introduce the Pythagorean Theorem by drawing four squares on graph paper that are 3x3, 4x4, and 5x5 in size. Place the squares on the graph paper to demonstrate the theorem. Have

students work on problems to determine the length of the missing side of right triangles. Students may use rulers to assist with their guesses.

Discuss the use of the knotted rope in ancient Egypt.

Friday:

We will further test the Pythagorean Theorem by using a knotted rope to measure two sides of a football field to determine the diagonal measure from one corner to the other. Two groups of four will work to get the measurements, two using the knotted ropes and two using contemporary measuring devices.

We will compare results back in the room. We can assess whether Geometry is used in a similar way today as it was in ancient times.

Week Three

Monday:

Practice using geometry on real life problems, such as figuring the height of a water slide, the rise of a wheelchair ramp, the angle of a ladder leaning against a house and how far up a person would be able to reach from the ladder. Have a class discussion about contributions of ancient societies and how some of their ideas are still in use today.

Tuesday:

Introduce three dimensional figures. Brainstorm with the class to identify as many different three dimensional figures as possible. Compare these figures to famous buildings around the world. What is a prism? How do we measure volume and surface of a three dimensional object?

Wednesday:

Civilization groups meet to work on their projects.

Thursday:

Have a whole class discussion about inventions of ancient civilizations, which the students have been researching. Discuss how the inventions changed the day to day lives of the ancient people and how it impacts modern life. Have each student discuss what their civilization group has discovered about ancient math.

Friday:

Students will spend the day presenting their research topics to the other classes in the school, as well as any parents and grandparents who wish to attend the daytime session. There will also be an evening presentation.

Assessment:

Assessment in math will be on-going.

- Students have nightly homework, which will be checked daily.
- Students will also keep a dictionary of math terms throughout the year. This will be checked periodically.
- For this portion of the year the two assessments will be enlarging the map, the final project.

ITU Math Rubrics – Final Project

1. Students will demonstrate their understanding of math concepts and their connections with the ancient society they have selected to work on.
2. Part of the grade will be determined by how well the group works together. Once the project is completed they will evaluate both themselves and their teammates on how well they think they worked together. A worksheet will be provided. The students will be informed at the beginning of the project that this will be part of the objective and grade.
3. Two ways students will demonstrate #1 are:
   - The students will have some sort of presentation at their world's fair station. It may be a poster, Power Point, diorama, or any type of demonstration. This demonstration will be graded on neatness, spelling, and the artfulness of the actual demonstration.
   - The objective of the presentation is to teach the audience something mathematical about an ancient civilization, so the students will be graded on how well the presentation teaches the idea, and how well they demonstrate their own understanding of the concept.

Instructional Resources:

http://regentsprep.org/Regents/math/math-topic.cfm?TopicCode=codilate

http://www.geocities.com/robinhuiscool/Goldenratio.html

Zalman, Usiskin, Feldman, Cathy Hynes, Davis, Suzanne, Mallo, Sharon, Sanders, Gladys, Witonsky, David, Flanders, James, Polonsky, Sydia, Proter, Susan, Viktora, Steven S.(2nd ed.),The University of Chicago School Mathematics Project: Transision Mathematics, Glenview, IL, HarperCollinsPublishers, 1995.

Chapin, Suzanne H., Illingworth, Mark, Landau, Marsha S., Masingila, Joanna O., McCracken, Leah,Middle Grades Math: Tools for Success, Upper Saddle River, NJ, Prentice-Hall, Inc. 1999.

Class notes Lesley University, EEDUC 5110, J. Lubin

SCIENCE GENERAL OVERVIEW

Rationale:

The inquiries and activities taking place within the science component of the ITU will be focused on examining the physical science and engineering aspects of ancient discovery and invention. Many strong connections between ancient civilizations and the modern world can and will be made through analysis of different technologies and discoveries or "artifacts" first developed by the ancients. As the students proceed through the ITU, they will use their work and activities from the other subjects to add greater depth and meaning to their work in science.

The goal of the first week's activities will be for the students to gain an understanding of the processes required to make discoveries or inventions. The students will see the circular relationship between past discoveries, prior-knowledge, new discoveries, inventions, impacts, and the recording of knowledge, and how through this process the discoveries and inventions of ancient civilizations are still visible today. Along with their work on the scientific aspects of knowledge, discoveries and inventions, the students will also spend part of the week working in class with their teachers from Social Studies and English / Language Arts (E / LA). With their Social Studies teacher, the students will further address the role that the values and needs of a civilization play in the development and utilization of knowledge. With their E / LA teacher, the students will discuss the importance of recording knowledge. At the end of the week, the students will be given a weekend homework assignment in which they will apply the "Circle of Knowledge" to an artifact (discovery or invention) specific to the civilization they will be representing at the World's Fair.

During the second week, the students will focus their study on a particular artifact from their chosen culture. The first half of the week will focus the students on learning the necessary components for observing objects as well as having them utilize their prior-knowledge of physical science concepts developed during the year and applying them to their artifact. In addition to their scientific study, the students will complete further work in:

- *Social Studies* in order to gain a historical and cultural understanding of their artifact
- *English / Language Arts* in order to understand how their culture might have recorded their knowledge
- *Math* in order to incorporate mathematical aspects related to their artifact
- *Information Technology* researching materials necessary for their inquiry or creating and formatting the information required for their World's Fair exhibit.

The students will use the second half of the week to work on constructing their models or displays of their chosen artifacts and discussing them with the class.

The final week of the inquiry will be focused on students researching how their artifacts connect with today's modern-world. At the beginning of the week, the students will welcome a local scientist who will discuss and answer questions about the modern impacts of ancient discoveries and inventions. After the students discover the modern impacts and connections of their own artifacts, they will spend time writing a short creative piece on what life might possibly be like if their discovery or invention never existed. Finally, at

the end of the week the students will work on compiling the work they have developed and informally presenting it to the rest of the class.

Central Questions (CQ):

CQ 1.	• What is / are knowledge, values and impacts?
CQ 2.	• What are some examples of knowledge from the ancient past?
CQ 3.	• Does knowledge have a noticeable / visible impact on our present-day world (society / culture / country / region / state / town)?

Instructional Objectives:

Students will be able to:

- Apply the concepts of past discoveries, prior-knowledge, new discoveries, invention, impacts, and the need to record knowledge to their artifacts
- Identify and describe the four aspects of observation
- Construct or describe their chosen invention or discovery artifact
- Describe the impact their artifact had on their group's civilization and connect it to a modern-day technology
- Describe the roles that values and needs play in the creation of a new discovery or invention.

Study Skills Objectives:

- Activating prior-knowledge
- Active listening
- Effective scientific & historical research
- Citation of sources
- Collaboration & cooperation
- Sharing of findings & constructive criticism

Massachusetts Frameworks:

The frameworks listed below are not an accounting of all the specific topics and subjects that will be touched upon during the course of the ITU, rather they are an example of what might be covered based upon the direction the students take the inquiry. In addition, specific physical science subjects might be covered by some students, but not by others, as their artifacts for the World's Fair will differ. Although students will be examining different artifacts for their civilizations, the universal topics such as the concepts required for knowledge, discovery and invention to occur in science, as well as proper scientific observation and recording will be examined and used by all students.

Physical Sciences

Properties of Matter

2. Differentiate between volume and mass. Define density.

3. Recognize that the measurement of volume and mass requires understanding of the sensitivity of measurement tools (e.g., rulers, graduated cylinders, balances) and knowledge and appropriate use of significant digits.

Elements, Compounds, and Mixtures

5. Recognize that there are more than 100 elements that combine in a multitude of ways to produce compounds that make up all of the living and nonliving things that we encounter.

6. Differentiate between an atom (the smallest unit of an element that maintains the characteristics of that element) and a molecule (the smallest unit of a compound that maintains the characteristics of that compound).

7. Give basic examples of elements and compounds.

8. Differentiate between mixtures and pure substances.

9. Recognize that a substance (element or compound) has a melting point and a boiling point, both of which are independent of the amount of the sample.

Motion of Objects

11. Explain and give examples of how the motion of an object can be described by its position, direction of motion, and speed.

12. Graph and interpret distance vs. time graphs for constant speed.

Forms of Energy

13. Differentiate between potential and kinetic energy. Identify situations where kinetic energy is transformed into potential energy and vice versa.

Heat Energy

15. Explain the effect of heat on particle motion through a description of what happens to particles during a change in phase.

16. Give examples of how heat moves in predictable ways, moving from warmer objects to cooler ones until they reach equilibrium.

Technology / Engineering

1. Materials, Tools, and Machines

1.1 Given a design task, identify appropriate materials (e.g., wood, paper, plastic, aggregates, ceramics, metals, solvents, adhesives) based on specific properties and characteristics (e.g., weight, strength, hardness, and flexibility).

1.2 Identify and explain appropriate measuring tools, hand tools, and power tools used to hold, lift, carry, fasten, and separate, and explain their safe and proper use.

1.3 Identify and explain the safe and proper use of measuring tools, hand tools, and machines (e.g., band saw, drill press, sanders, hammer, screwdriver, pliers, tape measure, screws, nails, and other mechanical fasteners) needed to construct a prototype of an engineering design.

2. Engineering Design

2.1 Identify and explain the steps of the engineering design process, i.e., identify the need or problem, research the problem, develop possible solutions, select the best possible solution(s), construct a prototype, test and evaluate, communicate the solution(s), and redesign.

2.2 Demonstrate methods of representing solutions to a design problem, e.g., sketches, orthographic projections, multiview drawings.

2.3 Describe and explain the purpose of a given prototype.

2.4 Identify appropriate materials, tools, and machines needed to construct a prototype of a given engineering design.

2.5 Explain how such design features as size, shape, weight, function, and cost limitations would affect the construction of a given prototype.

2.6 Identify the five elements of a universal systems model: goal, inputs, processes, outputs, and feedback.

WEEKLY OVERVIEW

Week 1: What is / are knowledge, values and impacts?

Central Question 1 Sub-questions	
1.1	• What is / are knowledge, discovery and invention in science? ➢ What concepts are required for knowledge, discovery and invention to occur in science? ➢ How can we focus our examination of discovery, invention and their necessary conditions and criteria in the field of science?
1.2	• What role do values play in scientific discovery and invention? ➢ What are the basic characteristics of values in scientific study? ➢ How do values affect the occurrence or development of knowledge, discoveries and inventions in science?
1.3	• Within the context of science, what is an impact? ➢ How can we detect or identify a scientific impact? ➢ Why is the recording of knowledge important?

Week 1 Activities:	
Monday	The class will begin by examining some of the post-it notes around the room which will lead in to the introduction of the "Circle of Knowledge" ***(Appendix: SC 1)*** Lesson examining the components of knowledge required for invention and discovery via an examination of a windmill. Concepts discussed: Past Discoveries & Prior Knowledge
Tuesday	The class will continue work on the "Circle of Knowledge" lesson. The first half of the class will be spent examining the discoveries behind the windmill as well as how it relates to the invention of the windmill itself. During the second half, the class will be joined by their ***Social Studies Teacher*** in order to relate the concepts of values and needs to their science based examination. Concepts discussed: Discovery, Invention, Values, & Needs
Wednesday	Civilization Groups Working Day
Thursday	The class will conclude their lesson on the "Circle of Knowledge" lesson by spending the first half discussing the concept of impacts. During the second half, the class will be joined by their ***E / LA Teacher*** who will assist with a discussion on the importance of recording knowledge. Concepts discussed: Impacts & Recording of Knowledge
Friday	Class will begin with a brief review and Q&A session on the "Circle of Knowledge". In concluding the week's inquiry, the students will be assigned a weekend homework project. The goal of the weekend assignment will be for the students to choose an artifact (a discovery or invention related to their chosen civilization). After choosing their artifact the students will then be required to research the origins of their artifact and map (as much as they can) its progression using the "Circle of Knowledge". Time will be given to answer questions and discuss possible ideas for artifacts and the teacher will make available a list of artifacts for the students to choose from if they like. Before the end of class, the focus of next week's inquiry will be provided to the students.

Week 2: What are some examples of knowledge from the ancient past?

Central Question 2 Sub-questions	
2.1	• How do we study and analyze discoveries and inventions from the past? ➢ What are some observations we can make?
2.2	• How does their discovery or invention function? ➢ What are some of the attributes of a discovery or invention?
2.3	• How can we apply some of the concepts learned this year towards these discoveries and inventions?

Week 2 Activities:	
Monday	In order for the students to begin their scientific examinations of their chosen artifacts, the class will learn the necessary components for examining objects. These components include the use of: Comparison, Parts, Attributes, & Analogies
Tuesday	Students will spend the class period examining their artifacts, recording the components they learned the previous day on their observation chart (***Appendix: SC 2)***. After recording their observations, the students will be introduced to their science projects in which they will create models of their inventions or displays of their discoveries. Included within this introduction will be details of the requirements for project such as the need to use scientific language and terms in describing their artifact.
Wednesday	Civilization Groups Working Day
Thursday	The majority of class time will be allotted to the students to allow them to continue construction of their models and displays. In addition, the students can use this time to ask the teacher for assistance on their projects or extra help on other aspects of their unit work that relate to science.
Friday	The class will begin with a brief period time given to the students to show off their artifact and tell a little bit of information about it to their fellow students. After their show and tell, the student's will be informed of their weekend assignment, which charges them with completing their artifact projects. Following the presentation of the assignment to the students, the teacher will provide time for questions and answers about the assignment or any concepts relating to it. Finally, the teacher will conclude class with an introduction to the next week's inquiry focus.

Week 3: Does knowledge have a noticeable / visible impact on our present-day world (society / culture / country / region / state / town)?

Central Question 3 Sub-questions	
3.1	• Where are these impacts visible? ➢ How do these impacts affect scientific research and development?
3.2	• What impact do these discoveries / inventions still have?
3.3	• Would our lives still be the same if the discovery or invention never occurred or was never made? ➢ How would it be different?

Week 3 Activities:	
Monday	The class will welcome a working scientist from a local university to the class today to speak about how ancient discoveries and inventions impact our world today, and how these impacts play a role in continued scientific research and development. For homework, the students will be assigned to research the impact their artifacts have in the world today, and add it to their artifact projects.
Tuesday	The student's **E / LA Teacher** will join the class today and assist the science teacher with helping the students begin their work on a short (1 page) creative description of what they think the world might be like if their artifact have never been discovered or invented. For homework, the students will be required to finish their creative piece so that it can be typed up in their next **Information Technology** class.
Wednesday	Civilization Groups Working Day
Thursday	The students will use their class time to compile all of the work they have completed and will have time to ask questions and tie up any loose ends.
Friday	Presentation Day

Assessment Rubrics:

Circle of Knowledge

CATEGORY	4: What we are all capable with hard work!	3: What we can do when we almost give our all.	2: What we can do when we are not trying to do our best	1: What we can do when we don't really try
Understanding	Student's Circle of Knowledge shows accurate understanding of the concept	Student's Circle of Knowledge shows moderate understanding of the concept.	Student's Circle of Knowledge shows basic understanding of the concept.	Student's Circle of Knowledge shows little understanding of the concept.
Accuracy	Student's Artifact components are accurate and properly placed.	Student's Artifact components are mainly accurate and properly placed.	Student's Artifact components are somewhat accurate and / or properly placed	Student's Artifact components are not accurate and / or placed incorrectly.
Labels & Features - Neatness	90-100% of the labels / features can be read easily.	89-80% of the labels / features can be read easily.	79-70% of the labels / features can be read easily.	Less than 70% of the labels / features can be read easily.
Title	Title tells the purpose / content of the circle, is clearly distinguishable as the title (e.g. larger letters, underlined, etc), and is printed at the top of the circle.	Title tells the purpose / content of the circle and is printed at the top of the circle.	Title tells the purpose / content of the circle, but is not located at the top of the circle.	Purpose / content of the circle is not clear from the title.

Observation Report

CATEGORY	4: What we are all capable with hard work!	3: What we can do when we almost give our all.	2: What we can do when we are not trying to do our best	1: What we can do when we don't really try
Scientific Concepts	Report illustrates an accurate and thorough understanding of scientific concepts underlying the observation.	Report illustrates an accurate understanding of most scientific concepts underlying the observation.	Report illustrates a limited understanding of scientific concepts underlying the observation.	Report illustrates inaccurate understanding of scientific concepts underlying the observation.
Components of the report	All required elements are present and additional elements that add to the report (thoughtful comments) have been added.	All required elements are present.	One required element is missing, but additional elements that add to the report (thoughtful comments) have been added.	Several required elements are missing.
Spelling, Punctuation & Grammar	One or fewer errors in spelling, punctuation and grammar in the report.	Two or three errors in spelling, punctuation and grammar in the report.	Four errors in spelling, punctuation and grammar in the report.	More than 4 errors in spelling, punctuation and grammar in the report.

Artifact Project

CATEGORY	4: What we are all capable with hard work!	3: What we can do when we almost give our all.	2: What we can do when we are not trying to do our best	1: What we can do when we don't really try
Scientific Knowledge	Explanation of Invention / Discovery Artifact indicates a clear and accurate understanding of scientific principles underlying the construction or creative origins.	Explanation of Invention / Discovery Artifact indicates a relatively accurate understanding of scientific principles underlying the construction or creative origins.	Explanation of Invention / Discovery Artifact indicates a somewhat accurate understanding of scientific principles underlying the construction or creative origins.	Explanation of Invention / Discovery Artifact does not illustrate much understanding of scientific principles underlying the construction or creative origins.
Function	Invention / Discovery Artifact functions or is described extraordinarily well	Invention / Discovery Artifact functions or is described well.	Invention / Discovery Artifact functions or is described pretty well.	Fatal flaws in Invention / Discovery Artifact function or description.
Plan	Description is neat with clear observation findings and labeling for all components.	Description has clear observation findings and labeling for most components.	Description provides somewhat clear observation findings and labeling for most components.	Description does not show observation findings or is otherwise inadequately labeled.
Information Gathering	Accurate information taken from several sources in a systematic manner.	Accurate information taken from a couple of sources in a systematic manner.	Accurate information taken from a couple of sources but not systematically.	Information taken from only one source and / or information not accurate.

Instructional Resources:

The American heritage student science dictionary. (2002). Boston, MA: Houghton-Mifflin.

Beshore, G. (1988). *Science in ancient China.* New York: F. Watts.

Brewer, D. (2003). *100 things you should know about inventions.* Essex, United Kingdom: Miles Kelley Publishing.

Durkin, J. (1981). *Junkyard treasures game : How to think like an inventor*. San Diego, CA: Creative Learning Systems.

Filson, B. (1986). *Famous experiments and how to repeat them.* New York: J. Messner.

Gay, K. (1988). *Science in ancient Greece.* New York: F. Watts.

Hakim, J. (2004). *Aristotle leads the way.* Washington, DC: Smithsonian Books.

Konigsburg, E. L. (1991). *Samuel Todd's book of great inventions.* New York: Maxwell Macmillan.

Lambert, D. (1985). *Great discoveries and inventions.* New York: Facts on File Publications.

Macaulay, D. (1988). *The way things work.* Boston, MA: Houghton-Mifflin.

Macaulay, D. (1974). *City: A story of roman planning and construction.* Boston, MA: Houghton Mifflin.

McCormack, A. J. (1981). *Inventors workshop.* Torrance, CA: Fearon Teacher Aids.

Meyer, C. (1985). *The mystery of the ancient maya.* New York: Atheneum.

Michaelson, C. (ed.). (2005). *Discoveries: Ancient china.* New York: Barnes & Noble Publishing .

Platt, R. (1994). *Smithsonian visual timeline of inventions.* New York: Dorling Kindersley.

Schofield, S. (ed.) (2003). *Discoveries: Ancient greece.* San Francisco, CA: Fog City Press.

Smith, N. F. (1990). *How to do successful science projects.* Englewood Cliffs, NJ : J. Messner.

Tannenbaum, B. (1988). *Science of the early american indians.* New York: F. Watts.

Woods, G. (1988). *Science in ancient egypt.* New York : F. Watts.

Books for Low-Level & ELL Readers

Bradley, K. B. (2005). *Forces make things move.* New York : HarperCollins.

Simon, S. (1968). *Motion.* New York, Coward-McCann.

Sipiera, P. P. (1991). *I can be a physicist.* Chicago : Childrens Press.

St. George, J. (2002). *So you want to be an inventor?.* New York : Philomel Books.

SOCIAL STUDIES GENERAL OVERVIEW

Rationale:

Inquiries and activities within the Social Studies component of this ITU will be focused on examining the historical and philosophical aspects of knowledge, discovery and invention during ancient times. Over the course of the unit, the students will search for and examine evidence focused on answering the three central questions of the inquiry. In answering these questions the students will participate in activities and assignments that cross many of the subjects within Social Studies including;

• History	• Philosophy	• Political Science
• Sociology	• Anthropology	• Geography

This study includes formalizing defined meaning for the concepts of knowledge, discovery, and invention, as well as values and impacts. The finalized and agreed upon definitions for these words will be used by the students in all of their subject specific examinations of the theme and central questions. In addition to standardizing inquiry specific terms, students will also participate in a range of activities centered on study of their chosen civilizations. Through these small cooperative group activities, the students will recall aspects of their civilization and the discoveries and inventions learned before, as well as use various resources to expand and increase their knowledge. After formalizing their inquiry vocabulary and conducting research on their civilizations, the students will construct imaginative writing pieces, create maps and generate time-lines by analyzing the research they have performed and looking for connections to their inquiry questions. Through this process, the students will synthesize what they know with what they have learned and develop conclusions regarding the affect of their chosen civilization's cultures and needs and the impact of their discoveries and inventions.

Central Questions (CQ):

CQ 1.	What is / are knowledge, values and impacts?
CQ 2.	What are some examples of knowledge from the ancient past?
CQ 3.	Does knowledge have a noticeable / visible impact on our present-day world (society / culture / country / region / state / town)?

Instructional Objectives:

Students will be able to:

- Explain and understand their class defined meanings of knowledge, discovery, and invention
- Identify the cultural values that facilitate discovery and invention
- Accurately place their artifact within a civilization and time period
- Describe the impact of their artifact on its civilization and for the modern world
- Describe why the study of ancient civilizations helps us to understand the modern world

Study Skills Objectives:

- Conducting effective historical research
- Creating visual expressions of time (Time Lines)
- Using reference materials in other subjects
- Cooperation and collaboration within small groups

Social Studies Standards (Massachusetts):

The frameworks listed below are not an accounting of all the specific topics and subjects that will be touched upon during the course of the ITU, rather they are an example of what might be covered based upon the direction the students take the inquiry. In addition, specific civilization subjects might be covered by some students, but not by others as their civilizations for the World's Fair will differ. Although students will be examining different civilizations, the universal topics such as the role of values and needs, the affects of geography and access to resources and other elements required for civilizations to exist and thrive will be examined and used by all students.

7.4 Explain the importance of the invention of metallurgy and agriculture (the growing of crops and the domestication of animals). (H)

7.5 Describe how the invention of agriculture related to settlement, population growth, and the emergence of civilization. (H)

7.6 Identify the characteristics of civilizations. (H, G, E)
A. the presence of geographic boundaries and political institutions
B. an economy that produces food surpluses
C. a concentration of population in distinct areas or cities
D. the existence of social classes
E. developed systems of religion, learning, art, and architecture
F. a system of record keeping

7.7 On a historical map, locate the Tigris and Euphrates Rivers and identify Sumer, Babylon, and Assyria as successive civilizations and empires in this region, and explain why the region is sometimes called "the Fertile Crescent." On a modern map of western Asia, identify the modern countries in the region (Iraq, Iran, and Turkey). (H, G, E)

7.8 Identify polytheism (the belief that there are many gods) as the religious belief of the people in Mesopotamian civilizations. (H)

7.9 Describe how irrigation, metalsmithing, slavery, the domestication of animals, and inventions such as the wheel, the sail, and the plow contributed to the growth of Mesopotamian civilizations. (H, E)

7.10 Describe the important achievements of Mesopotamian civilization. (H, C, E)
A. its system of writing (and its importance in record keeping and tax collection)
B. monumental architecture (the ziggurat)
C. art (large relief sculpture, mosaics, and cylinder seals)

7.11 Describe who Hammurabi was and explain the basic principle of justice in Hammurabi's Code ("an eye for an eye"). (H, C, E)

7.12 On a historical map of the Mediterranean region, locate the Mediterranean and Red Seas, the Nile River and Delta, and the areas of ancient Nubia and Egypt. Identify the locations of ancient Upper and Lower Egypt and explain what the terms mean. On a modern map, identify the modern countries of Egypt and Sudan. (G)

7.14 Describe the role of the pharaoh as god / king, the concept of dynasties, the importance of at least one Egyptian ruler, the relationship of pharaohs to peasants, and the role of slaves in ancient Egypt. (H, C)

7.15 Describe the polytheistic religion of ancient Egypt with respect to beliefs about death, the afterlife, mummification, and the roles of different deities. (H)

7.16 Summarize important achievements of Egyptian civilization. (H)
A. the agricultural system
B. the invention of a calendar
C. monumental architecture and art such as the Pyramids and Sphinx at Giza
D. hieroglyphic writing
E. the invention of papyrus

7.17 On a map of the ancient Mediterranean world, locate Greece, Asia Minor, Crete, Phoenicia, the Aegean, and the Red Sea. On a modern map, locate Greece, Crete, Turkey, Lebanon, and Syria. (G)

7.18 Identify the Phoenicians as the successors to the Minoans in dominating maritime trade in the Mediterranean from c. 1000–300 BC / BCE. Describe how the Phoenician writing system was the first alphabet (with 22 symbols for consonants) and the precursor of the first complete alphabet developed by the ancient Greeks (with symbols representing both consonants and vowels). (H, E)

7.19 On a historical map of the Mediterranean, locate Asia Minor, Greece and Mesopotamia, the kingdoms of the Hittites and ancient Israel, and Egypt. On a modern map, locate Egypt, Greece, Israel, Jordan, Lebanon, the area governed by the Palestinian Authority, Syria, and Turkey. (G)

7.21 Describe the monotheistic religion of the Israelites. (H)
A. the belief that there is one God
B. the Ten Commandments
C. the emphasis on individual worth and personal responsibility
D. the belief that all people must adhere to the same moral obligations, whether ruler or ruled
E. the Hebrew Bible (Old Testament) as part of the history of early Israel.

7.25 Explain how the geographical location of ancient Athens and other city-states contributed to their role in maritime trade, their colonies in the Mediterranean, and the expansion of their cultural influence. (H, G, E)

7.26 Explain why the government of ancient Athens is considered the beginning of democracy and explain the democratic political concepts developed in ancient Greece. (H, C)
A. the “polis” or city-state
B. civic participation and voting rights
C. legislative bodies
D. constitution writing
E. rule of law

7.34 Describe the purposes and functions of development of Greek institutions such as the lyceum, the gymnasium, and the Library of Alexandria, and identify the major accomplishments of the ancient Greeks. (H)
A. Thales (science)
B. Pythagoras and Euclid (mathematics)
C. Hippocrates (medicine)
D. Socrates, Plato, and Aristotle (philosophy)
E. Herodotus, Thucydides, Homer, Aeschylus, Sophocles, Aristophanes, and Euripides
(history, poetry, and drama)
F. the Parthenon, the Acropolis, and the Temple of Apollo (architecture)
G. the development of the first complete alphabet with symbols for consonants and vowels

7.35 On a historical map, identify ancient Rome and trace the extent of the Roman Empire to 500 AD / CE. (H, G)

7.36 Explain how the geographical location of ancient Rome contributed to the shaping of Roman society and the expansion of its political power in the Mediterranean region and beyond. (H, G, E)

7.38 Describe the government of the Roman Republic and its contribution to the development of democratic principles, including separation of powers, rule of law, representative government, and the notion of civic duty. (H, C)

7.39 Describe the influence of Julius Caesar and Augustus in Rome's transition from a republic to an empire and explain the reasons for the growth and long life of the Roman Empire. (H, E)
A. Military organization, tactics, and conquests; and decentralized administration
B. the purpose and functions of taxes
C. the promotion of economic growth through the use of a standard currency, road construction, and the protection of trade routes
D. the benefits of a Pax Romana

7.40 Describe the characteristics of slavery under the Romans. (H)

7.41 Describe the origins of Christianity and its central features. (H)
A. monotheism
B. the belief in Jesus as the Messiah and God's son who redeemed humans from sin
C. the concept of salvation
D. belief in the Old and New Testament
E. the lives and teachings of Jesus and Saint Paul
F. the relationship of early Christians to officials of the Roman Empire

7.43 Describe the contribution of Roman civilization to law, literature, poetry, architecture, engineering, and technology (e.g., roads, bridges, arenas, baths, aqueducts, central heating, plumbing, and sanitation). (H)

7.44 Explain the spread and influence of the Roman alphabet and the Latin language, the use of Latin as the language of education for more than 1,000 years, and the role of Latin and Greek in scientific and academic vocabulary. (H)

WEEKLY OVERVIEW

Week 1: What is / are knowledge, values and impacts?

Central Question 1 Sub-questions	
1.1	• What is / are knowledge, discovery and invention? ➢ What conditions are required for knowledge, discovery and invention to occur? ➢ How can we examine discovery, invention and their necessary conditions and criteria?
1.2	• What are values? ➢ What are the characteristics of values? ➢ How do values affect the occurrence or development of knowledge, discoveries and inventions?
1.3	• What is an impact? ➢ What are the characteristics of an impact?

Week 1 Activities:	
Monday	Class will begin with a brief discussion on the students' placements of post-it notes throughout the room during their initiating activity After concluding the discussion, the students will be introduced to the social studies' focus of the ITU. In addition, the students will also be introduced to the focus of the first week's inquiry. Following the introductions students will begin work on the first week's inquiry into the meaning of knowledge, discovery, inventions and impacts through activation of prior-knowledge, brainstorming and use of reference texts such as dictionaries. During this examination, the students will work individually and within small groups comparing and contrasting the meanings of the terms. All of the students will conduct the formalizing of the terms, in order to create a Knowledge Inquiry Vocabulary Chart that will be used by all the students in their various classes, during their first whole team meeting on Wednesday.
Tuesday	The class will be working on recalling the role that values and culture play within a civilization. More specifically the students' review will focus on the relationship between values / culture and discovery and invention. The results of their work will be added to their Knowledge Inquiry Vocabulary Chart. In order to shed light on this relationship the students will examine the role that culture and values play in the construction of structures. Within this examination the students working in small groups will observe structures from the ancient past (Pyramid at Giza & Coliseum) as well as more modern structures built during the late 19th and early 20th century (Eiffel Tower & Empire State Building) and create landmark trading cards detailing the culture and values that lead to these structures' construction as well as a drawings for each of the structures.
Wednesday	Civilization Groups Working Day
Thursday	The first half of class will be focused on reviewing the criteria for impacts learned earlier in the year. To reinforce this review the students will be asked to work in small groups and devise an answer for the following "what are three ways the invention of the wheel impacted the world". After concluding their review, each group will provide one example they listed. After concluding

	the review of impacts the students will be given time to ask questions about, or begin background research on the civilization they chose in their ITU groups the previous day.
Friday	The last class of the first week will begin with a Jeopardy type game to review the concepts and questions discussed during the past week. The game will last for about half the class at which point the teacher will provide some time for questions and answers regarding the week's inquiry. After concluding the Q & A session, the teacher will assign the students a weekend homework assignment. The students' homework assignment tasks them with researching the timelines of their World's Fair civilization and finding five sources about the discoveries, inventions, culture, or values of their civilization from the library or internet. The student's will record this information and for their sources write short annotations describing why they choose the particular source and how the information relates to their Inquiry Vocabulary Chart. Additionally the student will be asked to discuss or bring in information regarding the discovery or invention they have chosen for their science class. Finally, the teacher will conclude class by introducing the focus of the next week's work.

Week 2: What are some examples of knowledge from the ancient past?

Central Question 2 Sub-questions	
2.1	• What were some of the discoveries and inventions of my (students) World's Fair Civilization? ➢ What time-period what the discovery or invention made?
2.2	• What was the purpose or motivation behind the discovery or invention? ➢ What role did my civilization's values and beliefs play in initiating or motivating their discovery or invention?
2.3	• What role did geography play in initiating my civilizations development of discoveries and inventions?

Week 2 Activities:	
Monday	Class will begin with a brief show and tell exercise in which each civilization group will introduce their civilization, what period of time it existed and why they chose it. After concluding their brief informal presentations, The students will begin the "It's About Time" lesson, which will facilitate the creation of a detailed timeline of their civilization as well as one for their science class discovery or invention.
Tuesday	The E / LA teacher will work with our class today as we examine the role that needs and motivation play in the origins and creation of discoveries or inventions. This will be done through an "Ancient Journalism" Lesson detailing in newspaper article form the circumstances surrounding their specific invention or discovery from their science class. The students will use the resources from their weekend homework assignment to construct a one-page newspaper-type article. The students will access their prior-knowledge of this form of writing, which has been used frequently through out the year using the books, The Greek News, The Roman News, The Egyptian News, and will be further accented with The Aztec News and The Mayan News. The students will also access the resources they found during their weekend assignment as well.
Wednesday	Civilization Groups Working Day
Thursday	Class will be focus on recalling the affects that geographic location plays in a civilizations development and advancement. Using atlases and students will draw their own maps or may use blank maps provided by the teacher (if they feel they are not artistically inclined), and fill-in the locations of major cities as well as important natural resources. Creation of these maps will not only aid the student's research into their civilization but will help with their science examination of their discovery or invention.
Friday	The final day of the second week's inquiry will be an open time for the students to ask questions and continue historical research on their civilization for their World's Fair group or for activities or assignments from other classes requiring historical information. Towards the end of the class, the teacher will introduce the next week's inquiry. After introducing the third week's focus the teacher will introduce the homework assignment, which tasks the students with revising and formatting their timelines and maps.

Week 3: Does knowledge have a noticeable / visible impact on our present-day world (society / culture / country / region / state / town)?

Central Question 3 Sub-questions	
3.1	• What were some impacts of my civilization? ➢ How did these impacts affect my World's Fair civilization during ancient times? ➢ How do these impacts affect my modern civilization?
3.2	• Would our lives still be the same if the discovery or invention never occurred or was made? ➢ How would it be different?

Week 3 Activities:	
Monday	The E / LA teacher will join class again this day to help with our written work on our focus on determining the impact our discovery or invention had on our civilization when it occurred (long-view). Through the "Changes & the Individual" lesson we will imagine ourselves as a member of our civilization at the time our discovery or invention from science class was made. Using this information the students will write a fictional journal entry describing what life was life before the impact and describe what impact this newfound knowledge had on their civilization. The students will complete this assignment for homework.
Tuesday	Examining what impact our World's Fair civilizations have today and how this / these impact(s) affect our lives. Through our "Tracing the Roots of Discovery and Invention Today" lesson, the students will examine the relationship between their ancient civilizations discoveries and inventions and its modern applications and add their findings to their timelines.
Wednesday	Civilization Groups Working Day
Thursday	Wrapping up the historical and social examination of discovery and impacts. Class-time will be spent answering questions, reviewing material or completing work for the World's Fair. In addition, the students will have time to finish up or revise any of their assignments, or request a visit to the Computer room to conduct internet research or type documents.
Friday	Presentation Day

Assessment Rubrics:

Artifact Timelines

CATEGORY	4: What we are all capable with hard work!	3: What we can do when we almost give our all.	2: What we can do when we are not trying to do our best	1: What we can do when we don't really try
Content	Facts were accurate for all events dealing with their artifact on the timeline.	Facts were accurate for almost all events dealing with their artifact on the timeline.	Facts were accurate for most (60%) of the events dealing with their artifact on the timeline.	Facts were often inaccurate for events dealing with their artifact on the timeline.
Knowledge	The student can accurately describe 75% (or more) of the events dealing with their artifact on the timeline without referring to it and can quickly determine which of two events occurred first.	The student can accurately describe 50% of the events dealing with their artifact on the timeline without referring to it and can quickly determine which of two events occurred first.	The student can describe any event dealing with their artifact on the timeline if allowed to refer to it and can determine which of two events occurred first.	The student cannot use the timeline effectively to describe events dealing with their artifact or to compare events.
Preparation	The student had notes about all the events and dates s / he wished to include on the timeline before beginning to design the timeline.	The student had notes about almost all the events and dates s / he wished to include on the timeline before beginning to design the timeline.	The student had notes about most (~75%) of the events and dates s / he wished to include on the timeline before beginning to design the timeline.	The student had not prepared adequate notes before beginning to design the timeline.
Fonts & Colours	The use of font styles and colors is consistent and shows a logical pattern. It helps organize the material.	The use of font styles and colors is consistent and shows a logical pattern for the most part. It helps organize the material somewhat.	The use of font styles and colors is consistent , but is not used effectively to organize.	The use of font styles and colors is not consistent OR detracts from the organization.
Resources	The timeline contained at least 8-10 events related to the topic being studied.	The timeline contained at least 6-7 events related to the topic being studied.	The timeline contained at least 5 events related to the topic being studied.	The timeline contained fewer than 5 events.
Spelling & Capitalization	Spelling and capitalization were checked by another student and are correct throughout.	Spelling and capitalization were checked by another student and were mostly correct .	Spelling and capitalization were mostly correct, but were not checked by another student.	There were many spelling and capitalization errors.

Ancient Journalism Assignment

CATEGORY	4: What we are all capable with hard work!	3: What we can do when we almost give our all.	2: What we can do when we are not trying to do our best	1: What we can do when we don't really try
Articles - Purpose	Article establishes a clear purpose in the lead paragraph and demonstrates a clear understanding of the topic.	Article establishes a mostly clear purpose in the lead paragraph and demonstrates a fair understanding of the topic.	Article fails to establish a purpose in the lead paragraph or does not demonstrate a clear understanding of the topic.	Article neither establishes a clear purpose in the lead paragraph nor demonstrates a clear understanding of the topic.
Articles - Supporting Details	The details about the motivation for the artifact in the article are clear, effective.	The details about the motivation for the artifact in the article are mostly clear and accurate.	The details about the motivation for the artifact in the article are either not clear or are inaccurate	The details about the motivation for the artifact in the article are neither clear nor accurate
Who, What, When, Where & How	Article addresses all of the 5 W's (who, what, when, where and how).	Article adequately addresses 4 of the 5 W's (who, what, when, where and how).	Article adequately addresses 3 of the 5 W's (who, what, when, where and how).	Article adequately addresses 2 or less of the 5 W's (who, what, when, where and how).
Spelling & Proofreading	No spelling or grammar errors found in the article.	No more than a couple of spelling or grammar errors found in the article.	No more than 5 spelling or grammar errors found in the article.	More than 5 spelling or grammar errors found in the article.

Civilization Map

CATEGORY	4: What we are all capable with hard work!	3: What we can do when we almost give our all	2: What we can do when we are not trying to do our best	1: What we can do when we don't really try
Labels - Accuracy	At least 90% of the items are labeled and located correctly.	80-89% of the items are labeled and located correctly.	79-70% of the items are labeled and located correctly.	Less than 70% of the items are labeled and located correctly.
Spelling & Capitalization	95-100% of words on the map are spelled and capitalized correctly.	94-85% of the words on the map are spelled and capitalized correctly.	84-75% of the words on the map are spelled and capitalized correctly.	Less than 75% of the words on the map are spelled and / or capitalized correctly.
Knowledge Gained	When shown a blank base map, the student can accurately label at least 10 features.	When shown a blank base map, the student can accurately label 8-9 features.	When shown a blank base map, the student can accurately label 6-7 features.	When shown a blank base map, the student can accurately label fewer than 6 features.
Scale	All features on map are drawn to scale.	Almost all features on the map are drawn to scale.	Most features of the map are drawn to scale.	Many features of the map are NOT drawn to scale.

Historical Impact Journal Entry

CATEGORY	4: What we are all capable with hard work!	3: What we can do when we almost give our all.	2: What we can do when we are not trying to do our best	1: What we can do when we don't really try
Role	Narrator's experiences and events were consistent with time and place.	Narrator's experiences and events were mostly consistent with time and place.	Narrator's experiences and events were sometimes consistent with time and place.	Narrator's experiences and events were rarely consistent with time and place.
Required Elements	Student included more information than was required.	Student included all information that was required.	Student included most information that was required.	Student included less information than was required.
Historical Accuracy	All historical information appeared to be accurate and in chronological order.	Almost all historical information appeared to be accurate and in chronological order.	Most of the historical information was accurate and in chronological order.	Very little of the historical information was accurate and / or in chronological order.
Knowledge Gained	Clearly explained several ways in which his / her character saw impacts and clearly explained how.	Clearly explained some ways in which his / her character saw impacts but did not explain how.	Clearly explained one way in which his / her character saw an impact.	Cannot explain one way in which his character his / her character saw an impact.
Spelling & Proofreading	No spelling or grammar errors found in the article.	No more than a couple of spelling or grammar errors found in the article.	No more than 5 spelling or grammar errors found in the article.	More than 5 spelling or grammar errors found in the article.

Instructional Resources:

Baquedano, E. (2005). *Eyewitness Books: Aztec, Inca, Maya*. New York : DK Publishing.

Baquedano, E. (2004). *Eyewitness Books: Ancient Greece*. New York : DK Publishing.

Beck, B. L. (1998). *The first book of the ancient Maya.* New York: F. Watts.

Brewer, D. (2003). *100 things you should know about inventions.* Essex, United Kingdom: Miles Kelley Publishing.

Chatterjee, M. (2002). *Eyewitness Books: Ancient India*. New York : DK Publishing.

Cotterel, A. (2000). *Eyewitness Books: Ancient China*. New York : DK Publishing.

James, S. (1990). *Eyewitness Books: Ancient Rome*. New York : DK Publishing.

Konigsburg, E. L. (1991). *Samuel Todd's book of great inventions.* New York: Maxwell Macmillan.

Macaulay, D. (1974). *City: A story of roman planning and construction.* Boston, MA: Houghton Mifflin.

Macdonald, F. (2001). *100 things you should know about ancient rome.* Essex, United Kingdom: Miles Kelley Publishing.

Macdonald, F. (2001). *People in history: Over 100 questions and answers to things you want to know.* Bath, United Kingdom: Paragon Publishing.

Meyer, C. (1985). *The mystery of the ancient maya.* New York: Atheneum.

Michaelson, C. (ed.). (2005). *Discoveries: Ancient china.* New York: Barnes & Noble Publishing .

Platt, R. (1994). *Smithsonian visual timeline of inventions.* New York: Dorling Kindersley.

Schofield, S. (ed.) (2003). *Discoveries: Ancient greece.* San Francisco, CA: Fog City Press.

ENGLISH / LANGUAGE ARTS GENERAL OVERVIEW

Rationale:

This three week lesson is designed to allow students to contemplate how knowledge has been transmitted throughout history, both orally as well as written. They will then be challenged to think about how ancient knowledge impacts the world today. During this three week unit students will begin by thinking about how their own past has influenced their present selves through the creation of a personal memoir. In class they will have time to reflect upon an experience which they will focus on for the rest of the unit.

When writing memoirs, students must think about what *to* include as well as what *not to* include. This process is one that is difficult for many students, as the stories they choose to document are often ones that are quite personal, and important to them. However they will be asked to reflect on their audience, and think about the message they wish to convey, and what pieces of information are most important when sending that message. This ties directly into the theme of knowledge as students will contemplate what knowledge they have of events that have shaped their own lives, and further – how they will choose to document this information.

While students will grapple with how to pass on their own story (knowledge) through the venue of writing, they will also think about oral transmission of knowledge as an alternate method. Mythology presents an appropriate venue to study such a topic, and allows for ties to their civilizations they will study for the world's fair. Furthermore, we will look at the connection of oral facts today within their worlds through an examination of rumors.

By the end of this semester students will have thought about how knowledge is documented in both written and oral forms. These skills will then be put to use during their presentation where they will have to present their own knowledge both orally and on paper. Finally, the purpose of the second two weeks of the unit are to have activities be solely in class and not requiring much outside preparation, as they will have plenty of work to do writing and editing their memoirs as well as work on their worlds fair presentations.

Objectives:

1. Students will reflect on their pasts, particularly on how one event has shaped who they are today.
2. Understand and use basic concepts of memoir style.
3. Students will be able to note similarities that exist across world mythology.
4. Successfully participate in a debate.

Habits of Mind:

- *Being Attentive*:
  Students will be asked to debate about the Internet and its impacts on the transmission of knowledge today. This activity will require students to be attentive to opposing arguments, particularly as they proceed through the debate format.
- *Forming Hunches*:
  Students will form hunches as they read and analyze mythology from around the world with an eye for similarities and themes.
- *Searching for Patterns*:
  Students will be asked to identify patterns and similarities in regards to myths across various cultures.
- *Taking Risks*:
  Students will be asked to take a risk when they are asked to recount a personal story from their childhood. These stories, generally personal, will cause the student to reflect on their own history and events that have shaped them, events which may not always be the easiest to recall.
- *Cooperating & Collaborating*:
  Students in the English classroom will be asked to collaborate with one another through peer editing - a difficult, but important task for peers to participate in.

Week One

Central Question 1:

- What is / are knowledge, values and impacts?

Central Question 1 Sub-questions

1.1 How / why are values different for different people / cultures?
1.2 What are the characteristics of values?
1.3 How do values influence / shape our lives?

Goals:

1. Students will understand that all humans contain unique banks of knowledge
2. Students will understand the basic function of a memoir
3. Students will be exposed to multiple formats of memoirs
4. Students will brainstorm events from their own life and start to document it in their original piece of writing

Week One: Introduction to Memoirs	
Monday	-Everyone has various pieces of knowledge: Building exercise (Appendix E. 1. Monday) -Students will complete the exercise in groups for 30 minutes, then debrief as a class. Introduction to Memoirs: -Read a memoir of a famous person together (This as a class then jigsaw for the rest of the period. Jigsaw memoirs will be composed of various forms such as poetry (Walt Whitman "There Was A Child Went Forth", children's book, novel, and short story). -The class will finally come together to create a list of characteristics that are common to each form of memoir. This list (on chart paper) will then be kept up as students work on their own piece of writing.
Tuesday	Today students will create a list of events from their own life that they then will use to think of a memoir topic during this *pre-writing* period. -In order to guide them through thinking back on significant life events, I will read them two children stories, pausing every few pages to let them jot down and briefly share stories. (See resources for possible books). -As students share stories, these may cause them to recall further events They will then have free writing time, for which I will provide a list of further questions (See Appendix E. 1. Tuesday) to free write on if they still have not picked an event. -free writing time: goal, begin thinking about events that have shaped who you are today HW: Come in with two or three events, in a paragraph each, with explanations of how they shape your lives.
Wednesday	'Team Time'
Thursday	Homework Back: Give back their Tuesday homework with teacher comments. Have them start to think further about one event, pick one to write about. -Have class analyze a 'bad on purpose' memoir written by me. The purpose of doing this is so that they are not attacking another students work, but instead are aware that they are looking for mistakes that were purposefully inserted into the piece. -How would they critique, make list Take list of themes from 'bad on purpose' and use for mini lessons in the next week.

	15 minutes of free writing time at the end. Guiding question "what knowledge have you learned today that you hope to incorporate into your memoir?" HW: (Due Monday – Rough Draft!)
Friday	Today I will present a revised version of yesterdays 'bad on purpose' memoir. They will be able to see how dramatically the same story can be presented by keeping in mind several key points. Mini Lesson: Language Students will think about how this new version touches upon each of the readers 5 senses. Writing Activity with the 5 Senses. (Write about your kitchen). 15 minutes of free writing time / questions / work on memoirs

Week Two

Central Question 2:

- What are some examples of knowledge from the ancient past?

Central Question 2 Sub-questions

2.1 In what ways was ancient knowledge recorded? (Oral and Written)
2.2 What was the impact of such knowledge / stories?

Goals:
1. Discuss the pro's and con's of oral and written documentation of knowledge
2. Think about the power rumors have in their world.
3. Identify common themes present in mythology from around the world.
4. Participate in a discussion about such themes, why they exist, and how they are present within their own current lives.

Week Two: How was knowledge transmitted in Ancient Civilizations, particularly orally While we are thinking about our own pasts, and stories that have shaped us, we can look at stories that have shaped other cultures around the world.	
Monday	Students will come to class with their rough drafts, and will participate in PEER EDITING today. (see Appendix E. 2. Monday) Students will then meet in small groups to discuss the major themes that came across when reading each others papers. (think – pair – square). As a class we will then transition into thinking about how we just transmitted knowledge through writing (editing worksheet) as well as orally (meetings), and that both have different values. -Play Telephone. Discuss rumors in the school (pro's and cons). HW: Incorporate peer edits, bring draft 2 tomorrow for teacher review.
Tuesday	World Mythology I will read a mythology picture book to the children and discuss the meaning (for example Aesop, or Greek Mythology) with the goal being a moral or message. Showing that the details along the way are just to make the story memorable and enjoyable. We will also discuss how stories are told that make them enjoyable (facial expressions, tone etc.) I will then Jigsaw stories from around the world to groups of students. Each group will make a visual to present to the class - image, role-play etc. As groups present, we will create a list of themes that arise which we will use the next day. HW: bring in stories from your own culture. To do this you may find it interesting to interview your parents, grandparents or members of your cultural community. (make note of how these stories are similar and / or different).
Wednesday	'Team Time'

Thursday	In a roundtable type discussion students will have a chance to present the stories that they have learned from their family and explain the culture that they originated from. As students present will create another list of themes / morals that arise. Then we will look at how the themes from today compare to those of yesterday's mythology lesson. I will share the story of Dhegheder that was created by a group of Somali refugee students in a summer program I ran. They found that this oral story was quite varied based on what part of the country the students were from, and the process of compiling it into one 'book' was quite challenging.
Friday	Discussion about the common themes that we uncovered. Students will be in about 4 or 5 groups (based on themes we define). Each group will have a station that student will rotate through. Stations will include: A Folder defining the theme (creation, survival, etc.), Discussion questions, and a graffiti wall. Students will rotate through each station, have some gallery time to walk back through each station then come together for a student directed (teacher not a part) discussion. (I will pass 2nd drafts back by today). HW: Can you find mythology from your Ancient Civilization? Final Draft of Memoir due next Tuesday. Due Monday: Questions / comments for writers meetings

Week Three

Central Question 3:

- Does ancient knowledge have a noticeable / visible impact on our present-day world (society / culture / country / region / state / town)?

Central Question 3 Sub-questions

3.1 Where are these impacts visible and how do these impacts affect us?
3.2 How would our lives be the same if ancient knowledge was not passed on?
3.3 How is knowledge preserved in modern day society

Goals:
1. Students will be able to discuss how is knowledge preserved in modern day society
2. Students will debate the pro's and cons of the internet
3. Students will transmit knowledge both orally and through writing at the worlds fair
4. Students will create a poster that is grammatically accurate

Week Two: Documenting Information in Today's Modern World	
Monday	Today students will be broken into two groups to prepare for a debate on the impact of the internet on modern day society, as it is either a positive or negative discovery / invention. (This will incorporate things they have learned within the Information Technology course). The class will have today to research their arguments.
Tuesday	-Final Draft of Memoir Due IN CLASS DEBATE: Will be setup in a standard debate format with rebuttals, opening statements etc.
Wednesday	'Team Time'
Thursday	Today will be devoted to individual teacher-student meetings with students on the written material they have presented for the fair. They will also be practicing information they hope to transmit orally by being in pairs 'until the bell chimes' when they will move to the next partner. (Like inside circle, outside circle).
Friday	* * WORLDS FAIR * *

Assessment:

Students will be assessed in several ways throughout this lesson. Students will be assessed on how well they complete the peer-evaluation form (see Appendix E.2. Monday) as well as through the rubric for the final memoir (See Appendix E.3. Tuesday). They will receive this rubric when they write the rough draft, and my comments will appear on this same sheet. Therefore when I grade their final, they will see how their grade has improved from rough draft to final on the same rubric. They will also use the rubric to write a reflection on how they personally believed they did.

Massachusetts Standards Addressed:

- *Language Strand*: 1. Discussion
- *Language Strand*: 2. Questioning, Listening, and Contributing
- *Language Strand*: 3. Oral Presentation
- *Language Strand*: 5. Structure and Origins of Modern English
    - Students will analyze standard English grammar and usage and recognize how its vocabulary has developed and been influenced by other languages
- *Language Strand*: 6. Formal and Informal English
    - Students will describe, analyze and use appropriated formal and informal English
- *Reading and Literature Strand*: 8. Understanding a Text
    - Students will identify basic facts and main ideas in a tet and use them as the basis for interpretation
- *Reading and Literature Strand*: 10: Genre
    - Students will identify, analyze, and apply knowledge of the characteristics of different genre's
- *Reading and Literature Strand*: 11. Theme
    - Students will identify, analyze and apply knowledge of theme in a literary work and provide evidence from the text to support their understanding
- *Reading and Literature Strand:* 15. Style and Language
    - Students will identify and analyze how an author's words appeal to the senses, create imagery, suggest mood, and set tone, and will provide evidence from the text to support their understanding
- *Reading and Literature Strand*: 16. Myth, Traditional Narrative, and Classical Literature
- *Reading and Literature Strand*: 18. Dramatic Reading and Performance
- *Composition Strand*: 19. Writing
- *Composition Strand*: 20 Consideration of Audience and Purpose
- *Composition Strand*: 21 Revising
- *Composition Strand*: 23 Organizing Ideas in Writing.

Resources:

www.wku.edu / 3kinds / rwawcheckchildhoot.html

http: / / www.stoa.org / metis /

http: / / www.crystalinks.com / chinainventions.html

http: / / www.ocrat.com / ocrat / chargif /

http: / / www.chinapage.com /

http: / / www.purgingtalon.com / nlm / worldmyth /

http://faculty.valenciacc.edu/eshaw/mythology.htm

http://www.julen.net/ancient/

http://surfaquarium.com/newsletter/myths.htm

Atwell, N. ( ). *Lessons That Change Writers*. Portsmouth, NH: Hinemann.

Brewer, D. (2003). *100 things you should know about Inventions*. Essex, United Kingdom: Miles Kelly Publishing

MacDonald, F., (2001). *100 things you should know about Ancient Rome.*. Essex, United Kingdom: Miles Kelly Publishing

MacDonald, F., (2001). *People in History; Over 100 Questions and Answers to Things you Want to Know.*. Bath, United Kingdom: Peragon Publishing

Michealson, C. (ed.,). (2005). *Discoveries in Ancient China.* New York, New York: Barns & Noble
Schofield, L. ed., (2003). *Ancient Greece*. San Francisco, California: Fog City Press

Memoir Resources:

Dillard, A. (1987). *An American Childhood*. New York: Harper & Row

Finn, P. (1999). An American Childhood. New York: Scholastic

Zinsser, W. (1998). *The Art and Craft of Memoir*. Boston: Houghton Mifflin

Memoir Picture Books:

Baker, J. (1984). *Home in the Sky*. New York: Greenwillow Books

Baylor, B. (1983). The Best Town in the World. New York: Scribners

Bunting, E. (1994). Smoky Night. New York: Harcourt Brace & Company

Fife, D. (1991). Empty Lot. Canada: Sierra Club Books

Keats, E. (1971). Apartment 3. New York: Macmillan Company

Rylant, C. (1985). When the Relatives Came. New York: Bradbury Press

Silverman E. (1990). On Grandma's Roof. New York: Macmillan Company

Stevenson, James. (1986). When I Was Nine. New York: Greenwillow

INFORMATION TECHNOLOGY GENERAL OVERVIEW

Rationale:

Information technology provides an invaluable link to this interdisciplinary unit as it allows students to think about the technological world that is currently available to them. Using this large pool of resources, students will begin to learn how to distinguish what knowledge posted on the world wide web is truly a reliable source. Students will think about the ease with which text can be posted, and will inquire whether or not such text is truly reliable, backed by fact or research. We will also discuss the importance of academic honesty which can be addressed as students learn to accurately cite their work. These skills are ones that they will then carry throughout the rest of their academic career.

Objectives:

1. Students will be able to identify a reliable source
2. Use the Internet to find and identify information on their civilization and palace
3. Students will create accurate reference sheets / bibliographies
4. Create an aspect of their poster presentation that incorporates technology

Habits of Mind:

- *Ask good questions*
  Students will be asked whether or not a website is a credible source, a skill that will ideally become second nature.

Week One: What is Knowledge

Goals: Identifying credible online resources and acknowledging that online only provides some information and other sources are valuable and necessary as well.

Monday	Tuesday	Wednesday	Thursday	Friday
-Provide students with reliable websites to start their research online. (aka do not just google, look for updated pages with authors)		TEAM TIME	Have students begin to put together a list of reliable sources for their own research See Appendix IT.1.Thurs for worksheet students will use	

Standards:
2.12 Validate a Web site for authenticity (e.g. find site sponsor, author, and date the site was last updated)
2.13 Explain how media and technology can be misused to distort or exaggerate information
3.7 Use search engines effectively to find relevant, unbiased, and current information on a subject.

Week Two: What is / are knowledge from the ancient past? Goals: How to cite online sources & images properly				
Monday	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
-How to cite online sources, google does NOT work			-Reminder to cite images as well Mini Lesson: Using Tables, charts and graphs	
Standards: 2.7 Explain and demonstrate ethical and legal behavior in copying files, applications, and media. 2.14 Write correct citations for text and images gathered from electronic sources. Understand that use of materials is limited by the fair use rule of copyright law.				

Week Three: Does ancient knowledge have a noticeable / visible impact on our present-day world [society / culture / country / region / state / town]? Goals: Work on developing a technological aspect to your project				
Monday	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
Mini Lesson: -Using Microsoft word for posters & presentations (formatting text etc.)		TEAM TIME	Work Day: Mini Lesson: Putting the final touch on documents (boarders, fonts etc.)	WORLDS FAIR
Standards: 3.9 Communicate results of research and learning with others using the most appropriate tools 3.8 Organize information that is collected using a variety of tools (e.g., spreadsheet, database, saved files.)				

Assessment:

Within this course students will be assessed on the weekly assignments given, worksheets completed in-class, and whether or not they incorporate technology into their final presentation. They will also add work from this unit to a technology portfolio that they will create throughout the entire year, which will help define their final grade.

Resources:

www.wikipedia.com
http://www.matisse.net/files/glossary.html
http://www.infotoday.com/MMSchools/mar00/osullivan&scott.htm
http://www.glc.k12.ga.us/pandp/technlgy/BusInfTech/middle.htm

VISUAL ARTS GENERAL OVERVIEW

Rationale:

Seventh grade students meet in their art class once per week. Some of our art projects throughout the year are undertaken with regard to what the students are studying in other areas of the curriculum, and other projects are done independently. This project was incorporated with all the core subjects and technology, to add depth to the students understanding of ancient civilizations.

Goals:

Students will address preK-12 standards 1, 2 and 10. They will form interdisciplinary connections between art and other subject areas, observe elements and principles of design, and work within a medium using a defined technique.

Week One

Students will have time to research some type of ancient pottery or religious figure that they would like to replicate, using sculpy clay in place of the type of clay that ancient people would have used. The students will have researched how various civilizations created clay from the materials available where they lived. Students will begin to design the project they would like to create.

Week Two:

Students will finish the design they wish to execute. Students will begin creating their clay sculpture using either the pinch method or slab method, depending on what creation they have selected.

Week Three:

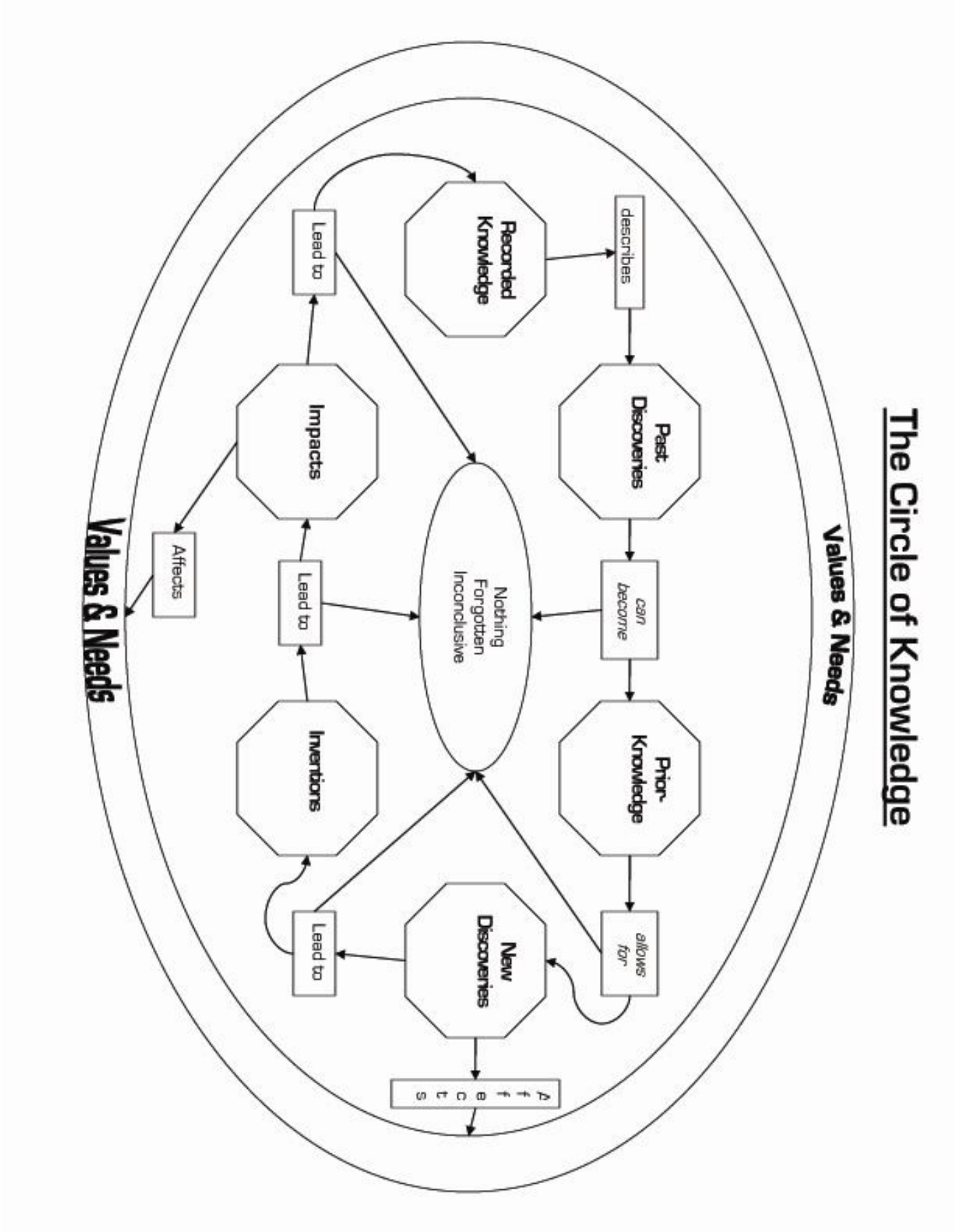
Students will complete their sculptures. These artifacts will be part of the presentation at the 'Ancient World's Fair'. Students will write an explanation of how the particular sculpture they have created would have been used by the civilization they have researched, and what the object would have been made out of in ancient times.

Bibliography:

http://sculpey.com/Projects/projects_AncientPottery.htm

APPENDIX

SC-1



SC-2

Recording Our Observations

A valuable scientific aspect we have learned and discussed this year is the importance of observation and the recording of our findings. We all know that in order for future generations to know about our discoveries and understandings, we must provide them with an account of our findings. Below is a chart that will help us record and organize the observations we have made on our artifacts. Please record all of your observations in the correct categories below.

Artifact's Name:	_____
Artifact's Civilization:	_____
Time Period:	_____
Discoverer / Inventor: (*If Known*)	_____

Comparisons: *In a complete sentence, describe something that looks just like your artifact.*

My artifact kind of looks like a…_____

_____

_____

Parts & Functions:

- **Inventions:** *In complete sentences list three major parts of your artifact and the functions these parts perform.*
- **Discoveries:** *In complete sentences list three ways your artifact might be used.*

Number	Part	Function
1	_____ _____	_____ _____ _____
2	_____ _____	_____ _____ _____
3	_____ _____	_____ _____ _____

Attributes: *In complete sentences, describe all of the attributes that apply to your artifact from the categories below and how these attributes help your artifacts perform their functions.*

- Expand / Contract:
- Tilt:
- Flexibility:
- Movement:
- Temperature:
- Spring:
- Strength / Frailty:

Attribute: **Description**

1. _____
(Attribute Type)

2. _____
(Attribute Type)

3. _____
(Attribute Type)

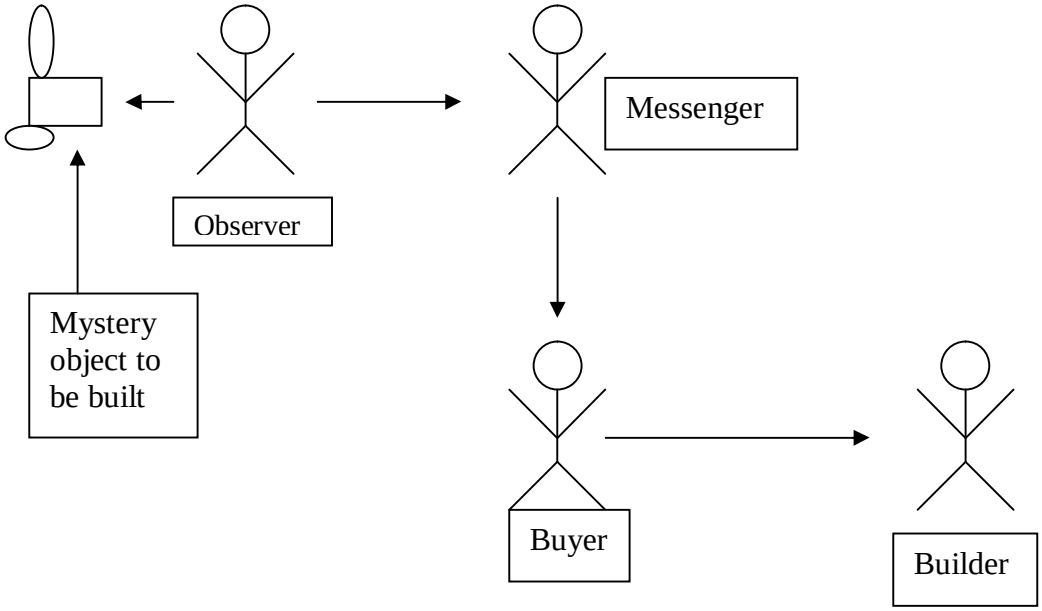
Analogies:	*In complete sentences, write three analogies that describe something else your artifact could be. Be creative, there are no wrong answers, only interesting and wild ideas!*
	My artifact is like…
Analogy 1	
Analogy 2	
Analogy 3	

Appendix E. 1. Monday

Name_____

Group Build!

Today we are going to have a little competition, and see which group is able to rebuild an object most accurately. The trick is, only one person in your group will be able to see the object you are trying to build. This is not a race for time, it is just a race for accuracy. Good Luck!



Your role in this chain:

Observer: As the observer, you are the only member of your team who can see the object you are trying to build. You can also only communicate with the messenger.

Messenger: You will receive information from the observer, and can then only communicate with the buyer.

Buyer: You will receive information from the messenger and then you will come to me (your teacher) and ask for various items. They will be hidden from your sight, so you must be descriptive with what you ask for. You may also only ask for one item at a time.

Builder: You will build the object, and will only be in communication with the buyer who will hand you items one at a time. You are the ONLY member of your group whose hands can touch the structure.

If any of these roles are broken, your team must forfeit. ☺ Happy Building.

Appendix E. 1. Tuesday (This can be handed out as a worksheet, or individual questions can be pulled out and used as mini pre-writing lessons).

Further Questions for Memoir Brainstorming

These questions are here to help you think about more events from your childhood that helped to shape who you are today. You do not have to answer all of them and you do not have to go in order, they are just here if you get stuck.

1. Draw a map of your childhood neighborhood, label as much as you can.
    a. On another piece of paper, write a detailed key of events that took place at various spots on your map
2. Fill out the following sentences, feel free to ask your family members to do the same and see how they compare"
    a. I am as _____ as a / an _____.
    b. I used to be _____ but now I am _____.
3. What are my earliest memories? How far back can I remember?
4. What are the most important things that have happened to me in my life so far?
5. What have I seen that I can't forget?
6. What's an incident that shows what my family and I are like?
7. What's an incident that shows what my friends are like? (pets?)
8. What's something that happened to me at school that I'll always remember?
9. What's something that happened to me at home that I'll always remember?
10. What's an incident that changed how I think or feel about something?
11. What's and incident that changed my life?
12. What's a time or place that I was perfectly happy? Laughed a lot? Felt as if my heart were breaking?
13. What's a time with a parent / grandparent / brother / sister / cousin / another relative that I'll never forget?
14. Can I remember a time I learned to do something, or did something for the first time?
15. What memories emerge when I make a time line of my life so far and note the most important things that happened to me each year?

Think about the following chart:

Who am I? What has made me who I am?

People:			
Relatives	Friends	Teachers	Other
Places:			
Homes	Special Places	Vacations	Travel Routes
Nature:			
Trees and Plants	Weather	Water	Other
Stories:			
Books	Television	Movies	Family Stories
Animals:			
Pets	Wild Animals	Insects	Other
Sensations:			
Food	Smells	Music	Other
Diversions:			
Games	Sports	Dreams	Daydreams

(From Scholastic Professional Books; Teaching Memoir Writing)

Appendix E. 2. Monday

Memoir Peer Review Checklist

Use this checklist as you review your partner's rough draft. You may also make some corrections on your partners paper if you wish.

Writer's Name: _____ Reviewer's Name: _____

Questions	Yes	No
1. Has the writer narrowed the topic and focused on the purpose?		
2. Is there evidence of an individual voice? Can you "hear" the writer?		
3. Does the piece begin in an interesting way?		
4. Does the piece develop ideas by using interesting or important experience of the writer?		
5. Does the piece include sensory details (things for the reader to hear, see, smell, feel and taste?)		
6. Can you "see" the location?		
7. Can you tell the time period of the experience?		
8. Does the writer place ideas and details in meaningful order?		
9. Does the writer provide the reader with a natural flow and sequence to the story?		
10. Can the reader understand the purpose of writing about the incident in the writer's life?		
11. Can the reader under the importance of the relationship between the writer and the subject of the writing?		
12. Does the ending leave the reader wondering? Does the ending go on and on?		

(www.wku.edu / 3kinds / rwawcheckchildhoot.html)

What would you identify as a strength of the story?

What part of the story do you think needs to become stronger?

What two questions do you have for the author?

Do you have any final comments?

Appendix E. 3. Thursday

Grading Rubric for Final Memoir

Name: _____
Title:_____

(A) Writing Style & Voice						
1	2	3	4	5	x4 =	
Try Again. I don't hear your voice. Many words or expressions are bland.		I can hear your voce. Some words or expressions can be improved		Yes! Fresh words, honest writing. I can hear you loud and clear.		
(B) Development and Details						
1	2	3	4	5	x4 =	
Try Again. There is little development. Add details.		Complete story. Look at your beginning or ending, how could it be made better?		Wow. Exciting vivid details, kept me reading until the end. Good Job.		
(C) Knowledge and Reasoning						
1	2	3	4	5	x4 =	
Try again. What did you learn from this experience?		Good. Try using more descriptive words. How did this change your life? Did it?		I am there. I can tell why you chose this experience. Great writing.		
(D) Revisions and Proofreading						
1	2	3	4	5	x4 =	
Try Again. Did you read your paper outloud? Some sentences are not complete. Many errors found.		Several errors remain. Try reading story out loud. Proofread carefully.		I can see the effort. Very few, if any, errors. I'm impressed		
(E) Overall Impression						
1	2	3	4	5	x4 =	
Spend more time developing ideas for writing.		Yes. I see lots of potential here. Keep working and your writing will shine.		I was touched by your writing. You really made a connection with the audience.		
					Total:	

(http://www.wku.edu/2kinds/rwawsgchildhood.html).

Student Name: _____

Web Site Evaluation Worksheet

Topic: _____

Search Engine: _____

# of hits: _____

URL: _____

As you browse this website, think about each of the following themes below, and fill in some brief responses to the questions.

1. Accuracy (Is the information reliable? Are the links accurate? Sources cited? Information believable?)

2. Authority (Who is the author of the site? What are his / her qualifications? Is the site sponsored by an organization? Is the organization reputable or legitimate?)

3. Objectivity (Does the information reveal a bias? What is the point of view of the author? Is the information trying to sway you? Do the links also reflect a bias?)

4. Currency (When was the site last updated? Is the information kept up to date? Is the publication date indicated? Are the links up to date?)

5. Coverage (How is the information presented? Heavy use of graphics, text, statistics? Topic coverage cursory or in-depth?)

(http: / / www.infotoday.com / MMSchools / mar00 / osullivan&scott.htm)