

***** I had to redo sections: Social Studies and Health and Physical Education content areas.**

Vital Information

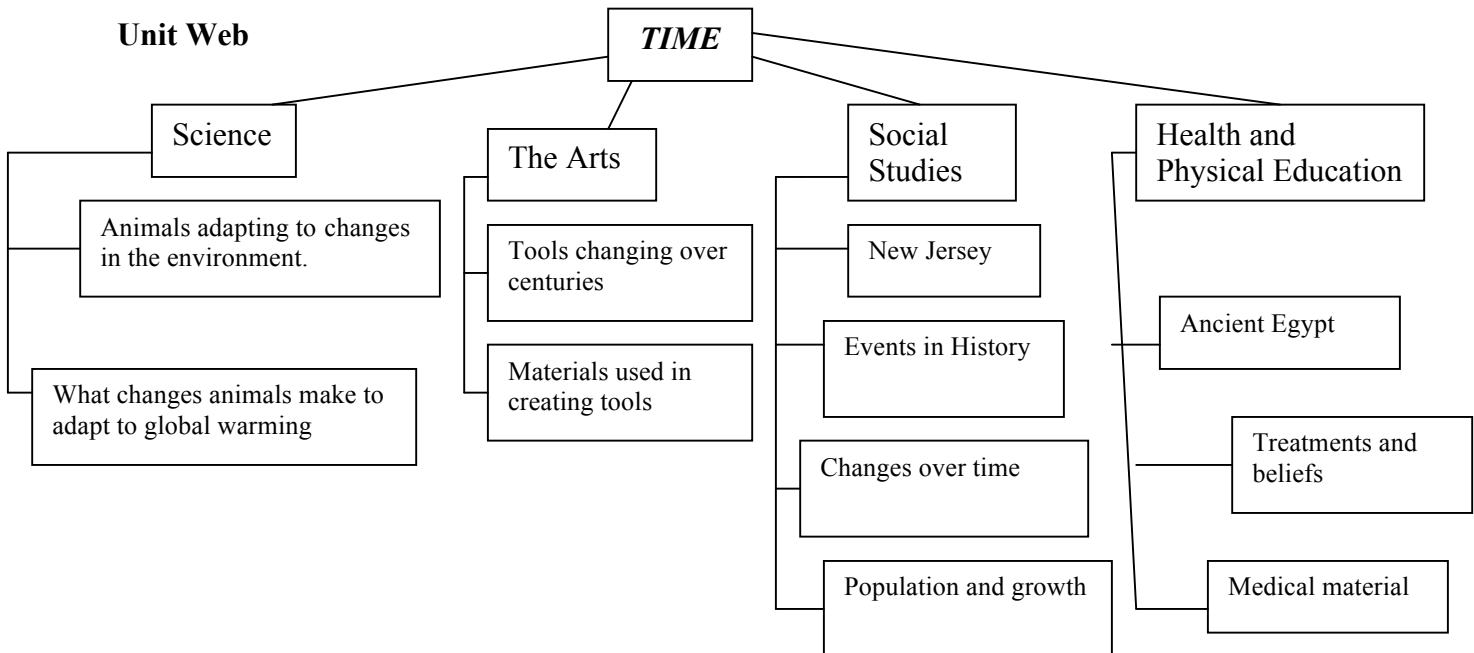
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Rationale: This unit plan is exploring the theme of time through four different subjects. The content is extremely important for fourth grade students to learn because it is designed for students to learn more about the concept of time. Through teaching my four subjects of science, social studies, health and physical education, and visual and performing arts, students will get a chance to explore the concept of time. Students will get to see the impact of global warming through time, how the state of New Jersey has changed over time, the medical attention on the ancient Egyptian time period, and how art supplies have changed in time.

Content and Standards

Guiding Questions:

1. How are animals adapting to their environments over time?
2. What different events occurred over time in New Jersey?
3. What were the medical conditions in the ancient Egyptian time period?
4. How has art materials changed overtime?



Content Generalizations, Facts, and Concepts

1. Many animals adapt to their environment and change over time, particularly global warming.

-Marmots are ending their hibernations about three weeks earlier than they did 30 years ago due to the climate changes.

-Canadian red squirrels are breeding about 18 days earlier than they used to breed because of global warming.

-Red foxes are spreading northward, instead of their usual southern areas because of global warming effects.

-North American toads are breeding six days later than they did a decade ago to avoid climate changes.

-Polar bears today are thinner and less healthy than those of 20 years ago because of the increase of warm weather.

-The diet of some songbirds are changing, with some avoiding insects that consume leaves exposed to high levels of carbon dioxide.

-North American tree swallows are laying their eggs about nine days earlier than they did 40 years ago to avoid changes in environment.

-Wading birds, such as the ringed plover, are now spending the winter in the east of Britain rather than on the west coast because of climate changes.

-Warmer seas could lead to some turtle species becoming entirely female, as water temperature strongly affects the sex ratio of hatchlings.

Concepts- adaptation, environment, conditions, changes, breeding, carbon dioxide, species, sex ratio, hibernation

Sources:

Than, Ker (2005, June, 21). Animals and Plants Adapting to Climate Change. *Live Science*, Retrieved September 28, 2008, from http://www.livescience.com/environment/050621_warming_list.html

Hirsch, Tim (2005, October, 5). Animals 'hit by global warming'. *BBC News*, Retrieved September 28, 2008, from <http://news.bbc.co.uk/2/hi/science/nature/4313726.stm>

2. There are many events that happened in New Jersey over time.

- There has been civilization in the state of New Jersey for over 2800 years.
- The first settlers that were spotted by Europeans were known as the Lenni-Lenape Indians.
- Explorers in the 1500's discovered New Jersey and like the landscape with water surrounding the state to settle. The explorers wanted to settle in New Jersey for the opportunity of trading by the waterways.
- After a war between the European settlers and the Native American tribe, The first city was established in New Jersey called Jersey City.
- In the late 1600's, New Jersey was split into East Jersey and West Jersey. There were fights between both sides before agreeing to combine both East and West together in 1700's.
- In the early 1700's, New Jersey grew in population to about 10,000 people.
- Trenton becomes the state capital for a brief period before the national capital is Washington, D.C.
- New Jersey was involved in the slave trade in 1761 as it was easy access from the location and those from Pennsylvania came to New Jersey to avoid taxes.
- New Jersey had many abolitionists, and took part in the Underground Railroad to free slaves in parts of Greenwich, Salem, and Camden.
- In the year of 1790, the state of New Jersey was the first to sign the Bill of Rights.
- By the late 1700's, an industrial area was presented in the town of Patterson. This city later known for it's mass production of silk.
- By the 1800's, the population changed to about 100,000 residents as New Jersey had many more settlers from all over the world because of the location.
- In the 1900's, over 500,000 residents join the forces to fight in World War II.
- In 2000, the population grew to 8,414,350.

Concepts- New Jersey, slavery, settlers, population growth, war, industrial, Native Americans, towns, explorers.

Sources:

Chronological History of New Jersey. Retrieved on December 9, 2008 from the SHG web site: <http://www.shgresources.com/nj/timeline/>

The History of New Jersey. Retrieved on December 9, 2008 from Kindred Trails Web Site: <http://www.kindredtrails.com/New-Jersey-History-4.html>

New Jersey History. Retrieved on December 9, 2008 from the ALHN Web Site: <http://www.usgennet.org/usa/nj/state/NJ-History.htm>

3. There were many different medical approaches in the time of Ancient Egypt.

- Egyptians felt that the gods had the answers to illnesses and diseases. Believed an ill person needed to cleanse their body of all evils for healing.
- Egyptians prayed to the god of healing, curses, and threats called Sekhmet.
- The life expectancy for people during this time were no more than 40 years.
- The doctor of this time was called a an Egyptian priest/physician as this person would focus on why and how the disease occurred and would take the measures to get rid of the illness.
- Magic was done to prevent illnesses and also drive the illnesses out of the body of a person being infected. Magic was used for curing a person.
- Many different herbs were used to reduce the pain accompanied by an illness as well as massaging different parts of the body.
 - Many believed that garlic and onions gave a person energy if a person consumed lots of it. Garlic was also given to those dealing with breathing issues like Asthma and treating the common cold.
- The physicians during this time was mostly men, as men were dominate in this time period.
- Art found centuries later have shown the existence of medicine through surgery as the hieroglyphics share what the different procedures were of this time.
- Medical material called Edwin Smith Surgical Papyrus that was found from this time period gives examples of treatments, injuries, and various health concerns of Ancient Egypt.

Concepts: illnesses, hieroglyphics, life expectancy, medicines, treatment, disease, herbs, remedies,

Sources:

Filer, Joyce. *Health Hazards and in Ancient Egypt*. Retrieved on December 10, 2008 from

BBC Home Web Site:

Cureshttp://www.bbc.co.uk/history/ancient/egyptians/health_06.shtml

Ancient Egyptian Medicine. Retrieved on December 10, 2008 from Pharaonic Egypt Web Site: <http://nefertiti.iwebland.com/timelines/topics/medicine.htm>

4. The tools used for art have changed dramatically over centuries.

- Antiquity period is from 30,000 BC to 500 AD.

-In 30,000 BC, rocks were used as tools for engraving and drawing.

-In 15,000 BC, hollow bones were used like airbrushes to blow colors onto cave paintings.

-In 16,000 BC, brushes made of animal hair and twigs were used.

-In 2000 BC, Egyptians used animal-hair brushes.

-Middle Ages is from 500 AD to 1400.

-In 600, brush making for painting (Sumi) took place in Nara, Japan.

-In 990, hairbrushes (made from Badger) were bound by silk thread, bristle brushes tied to a wooden handle and donkey hair set in eagle quills were used.

-In 1410, pigments, that were stored in pigs' bladders, were used.

- The Renaissance took place from 1400- 1600.

-In the 1400's, brush-making techniques were formed in Holland and quills were used for brushes in England.

-The 17th and 18th centuries.

-Artists' brushes made with tin ferrules were created in England.

-In 1747, brush makers in Manchester, England formed the first "Brush Makers Protective Society."

-In 1767, brushes made by horse, deer, and white goat hair in Kumano and Kawajiri, Japan.

- In the 19th Century.

-Industrial brush making began.

- Hog bristle squirrel, horse hair, goat hair and badger hair are common brush materials.
- In the 20th Century.
 - In 1969, synthetic brushes were introduced by Robert Simmons.
 - In 1984, The MacPaint, an Apple Macintosh computer paint program was introduced.
 - In 1995, Colour Shaper was introduced that is a program used on Apple Macintosh computers.

Concepts- brushes, computers, pigments, painting, animals, rocks, engraving, drawing, time periods.

Sources:

Timeline of Art. Retrieved September 28, 2008, from A Lifetime of Color Web site:
<http://www.alifetimeofcolor.com/study/timeline.html>

Art Materials Timeline- Antiquity to the 20th Century. Retrieved September 28, 2008, from MacPherson Art Web site:
<http://www.macphersonart.com/maclive/getstartedpub/timeline/history.htm>

State Standards and National Standards

Subject: Social Studies

- 6.1.4. A. 1. Explain how present events are connected to the past.
 - 6.1.4. A. 4. Organize events in a timeline.
 - 6.4.4.A. 4.- Discuss the history of their community, including the origins of its name, groups and individuals who lives there, and access to important places and buildings in the community.
 - 6.4.4.B.1.- Compare the major early culture of the Lenape that existed in the region that became New Jersey prior to contact with the Europeans.
- III. Time, Continuity, and Change
- b. demonstrate an ability to use correctly vocabulary associated with time such as past, present, future, and long ago; read and construct simple timelines; identify examples of change; and recognize examples of cause and effect relationships.

Subject: Visual and Performing Arts

- 1.2.4. D. 2. Explore the use of paint, clay, charcoal, pastels, colored pencils, markers, and printing inks and select appropriate tools in the production of works of art.
- 1.3.4. D. 2. Identify elements and principles of design in specific works of art.

- 1.5.4. A. 2. Recognize arts resources that exist in communities.
- Understanding the visual arts in relation to history and cultures.

Subject: Science

- 5.1.4. B. 2. Identify the evidence used in an explanation.
- 5.5.4. A. 2. Differentiate between the needs of plants and those of animals.
- 5.5.4. A. 3. Recognize that plants and animals are composed of different parts performing different functions and working together for the well being of the organism.
- An organism’s patterns of behavior are related to the nature of that organism’s environment, including the kinds and numbers of other organisms present, the availability of food and resources, and the physical characteristics of the environment. When the environment changes, some plants and animals survive and reproduce, and others die or move to new locations.
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Subject: Health and Physical Education

- 7.5.1. Identify responsible personal health behaviors.
- 1.5.2- Identify examples of emotional, intellectual, physical, and social health.
- 2.1.4. A. 3.- Analyze the impact of health choices and behaviors on wellness.
- 2.5.2.- Identify the influences of culture on health practices and behaviors.

State and National Standards reference list:

Cited from Pre-publication document of National Health Education Standards, PreK-12, American Cancer Society. December 2005 – August 2006”

National Association for Sport and Physical Education. (1995). Moving standards for physical education. Reston, VA: American Alliance for Health, Physical Education, Recreation, and Dance.

National Council for the Social Studies. (1994) *Curriculum Standards for Social Studies: Expectations of Excellence*. Washington, D.C.: National Council for the Social Studies

New Jersey Department of Education, (2004). New Jersey core curriculum content standards. Trenton, NJ: Author.

National Research Council. (1996). National Science education standards. Washington, D.C.: National Academy Press,

Implementations

Lessons

1. **Science-** The lesson will show students the impact of environmental changes and how animals may adapt or leave their environment over time. I will take the time to share with the class many different environmental impacts that may occur. This will lead to a discussion among the students about some environmental changes that know about or heard of and the impacts to nature. I will then share with the class examples on how certain animals have changed to adapt to situations. I will place them in groups and give them certain scenarios to have the class give authentic real-life examples. They will work cooperatively to answer what they would do if they were placed in an environment and what they would need to do to adapt or change their location over time.
2. **Social Studies-** This lesson will allow students to see how the state has evolved over time through many events. I will assign students a specific event and have them work and explore in partners more about their particular assigned event. After the students had sufficient time looking through the textbook and the sources I have given them, I will ask the groups to present their findings to the class. Each group will have to share more about the event and explain why it is important to learn, when learning about the state of New Jersey. The students will be asked to take notes during each presentation on the different events in their writing journals. At the end of the presentation, the students will write a reflective piece on what they found was the most interesting event that took place years ago in New Jersey.
3. **Health and Physical Education-** This lesson will have students placed in group of three or four to discuss the changes of medicine through time. The students will have to compare and contrast the skills and ideas used today from the previous ideas used in ancient Egypt. Once the lesson has been taught and each group has a list of ideas from ancient Egypt, the students have to create their own list of the changes and the tools still used today in medicine. I will also give students handouts on medicines and procedures used today to help guide students along. After the groups are finished, they will create a poster with a Venn-diagram of all the ideas the group came up with.
4. **Visual and Performing Arts-** This lesson is how tools have changed over time from the past to the present. I will begin with a discussion about what tools the class uses to complete art. I will write these examples on the board and have an ongoing list of materials. After a few different suggestions I will elaborate with pictures and bring in tools to share with the class that were previously used to complete art in history. The class will try some of the materials and acknowledge the different time periods and materials available during that time. I will next use the projector or PowerPoint to show the class pictures of what the tools looked like in the past (for those tools that I could not bring to class) and how technology has evolved over time.

