History Lesson #7
Subject: Technology-Inventions
Grade Level: 4 - 6
Name: Irene Sullivan

Anticipatory Set:
Ask the students what is an inventor?

New York State Standards:
Social Studies:
Standard 1.1, 1.2 - History of the United States and New York
Mathematic, Science, and Technology:
Standards 1.2, 1.3 - Analysis, Inquiry, and Design
Standard 2.1 - Information Systems
Standard 5.1, 5.2 - Technology

Objectives:
Students will learn about different inventors through web-based research. The students will learn how to develop an idea for an invention by making a model or drawing of their invention. Students will also learn the importance of teamwork by working in groups on their invention.

Purpose:
The purpose of this lesson is to help students understand how an invention started off as an idea.

Summary:
To invent is to produce or contrive something previously unknown, by the use of ingenuity or imagination. The invention can be something new or an improvement on something that already exists.

Local inventors in Watertown, New York and other nearby areas

Walter Hunt (1796-1859) **-** In 1834 Walter Hunt built America's first sewing machine, which was also the first eye pointed needle sewing machine. He later lost interest in patenting his sewing machine, because he believed the invention would cause unemployment. On April 10, 1849 Walter Hunt invented the safety pin. He thought little of his safety pin as an invention and soon sold the patent for four hundred dollars.

Dr. Samuel Guthrie – (1782-1848) Guthrie discovered chloroform. He used it at the Madison Barracks in the hospital in Sackets Harbor during amputations. He was also the inventor of the percussion compound for firearms, which superseded flints.

William Lord – First manufacturer of the steel plow.

John Perkey – Shredded Wheat cereal
Theodore Woodruff (1811-1892) – The railroad sleeping car.

Frank W. Woolworth – (1852–1919) Founder of the Woolworth five and dime stores.
James Armstrong Liddy – bed springs
Darwin B. Gotham – paper mill screen
Robert Hitchcock – (1887) The Hitchcock lamp
Charles Brooks Hoard – portable steam engine
William R. Baker (1876) - yoyo
Walter W. Chamberlain – Double wiper for windshield
Dr. Harry Thatcher – Potsdam – milk bottle and butter coloring
John E. Bennell – Incubator and brooder
Howell Cooper – Buckeye mowing machine and cooper cheese vat.
Darwin B. Gotham – paper mill screen
John Palmer Hooker – telephone switchboard
H.H. Potter – (1877) car coupler
Thomas L. Rankin – artificial ice machine
George Henry Babcock – Babcock carriage – "happy Thought gear"
Moses Eames – Portable steam engine and improved process of making cheese.
Fredrick Eames – Eames vacuum Railroad air brake, founder of the New York Air Brake Company.
Dick Chapin – irrigation hose
Black Clawson Co. – Verti-Forma paper machine – A new concept in papermaking.
George Goulding – New and useful improvement in the spinning machine
Frank Rudolph Schmid – New and improvement in pianos
John Joseph Musselman (1939) bottle design
F.M. Williams Grapefruit Prod. Inc. – (1913) Tall glass bottle, soft drink type with clamp top "Grapefruitola"
Sarah H. Brisbane (1868) New useful scissors
Louise Wilber (1872) - improvement in hair turning hatchels
Mary H. Huntington (1873) – Improvement in cosmetic bottles
Mary E. Garnham and Fernando D. Hubbard – (1876) – Improvement in milk coolers and warmers
Mary E. Garnham (1876) – Improvement in hair curling irons
Sophronia T. Lewis – (1885) – dress chart
Sarah A. Goodale (1885) – pocket for wearing apparel
Mary J. West – (1866) – Improvement in marking attachments for sewing machines.

Materials/Aids:

1) Paper for writing
2) Pencils
3) Markers, colored pencils
4) Construction paper
5) Other art supplies like paint, cardboard, etc.

Teach:
The lesson plan will introduce two of the web sites that will show a number of inventions. The sites show ancient inventions as well as those you don't think too much about.
1. Ask the class and make a list on the board:

a. What inventions do they know and who invented them?
b. What is the purpose of inventions?
c. How do the inventions affect our society and the world?
d. Are all inventions considered good for our world?

2. You will use the two web sites to continue the lesson on inventions. The websites will show all kinds of inventions from eyeglasses to printing press. The one site gives a brief description of the item and the inventor.

http://www.twingroves.district96.k12.il.us/Renaissance/University/Inventions/Inventions.html

http://www.smith.edu/hsc/museum/ancient_inventions/hsclist.htm

3. Split the class into groups of 3 to 4 students. Each group will invent something new. Here are a few approaches the students could use to come up with some inventions.

a. Create a new game.
b. Think about environmental issues we are facing today and come up with some objects we can use to improve our environment.
c. Create a new video game.
d. Create a new kind of sport
e. Create a new gadget for the house to make life easier.
f. Take an object that already exists and think of some way to improve it.

4. Have each group discuss what they want to work on by brainstorming some ideas.
5. After the groups brainstorm, have each group settle on one idea and start working on how they will create their invention. Have them write an essay and make a drawing of their invention.
6. Once you have approved the invention have the students create a model of the object or make some kind of drawings that explains how the object works.
7. This project is something the students could work on each day for a certain amount of time and within a week the groups could present their invention to the rest of the class. Have the students prepare their presentations as a commercial selling the product.
8. For individual work have the students visit these web sites or any other web site they can find to look up an inventor and write a report on the inventor.

http://tqjunior.thinkquest.org/5847

http://www.enchantedlearning.com/inventors/indexa.shtml

Guided Practice:

Assist the students by going to each group to make sure they are working on ideas. Help the groups settle on an invention. Assist students with research on an inventor by giving students time to go to computer lab for researching.

Closure:

How do inventions affect our everyday lives? Does an invention have to be something totally new? What do we see on the television commercials that show improvements to existing products?

Independent Practice:

Students have to write an essay on an inventor.

Extended Activities:

a. Have the whole class brainstorm and come up with an invention. The class can work together to produce the object. They can take the object and show it to other classes.
b. Have the students create only board games. The board games could be on a certain topic in Social Studies, Science or Math.
c. Have the class take an object, like a pencil, and come up with ideas on how to improve it.

Web Sites:

1) http://www.twingroves.district96.k12.il.us/Renaissance/University/Inventions/Inventions.html
This web site gives a brief description of inventions like the flushing toilet and the match.

2) http://www.smith.edu/hsc/museum/ancient_inventions/hsclist.htm
This web site has photos and a brief description of inventions that are ancient. Students can see how some of the inventions are used today or have been improved since they first were invented.

3) http://tqjunior.thinkquest.org/5847
This web site was designed by a group of students. They list the top ten inventors. The site gives you summaries on the inventors. The site also gives you a list of web site links to go to for further information.

4) http://www.enchantedlearning.com/inventors/indexa.shtml

This web site is full of information on inventors. This is a great site for students to find information for their essays.

5) http://www.noogenesis.com/inventing/pencil/pencil_page.html
This is a great web site for teachers to use. The site has students work on ideas on how to improve the pencil.

6) http://inventors.about.com
This web site gives the top ten inventors and information on other people who have invented something.

Resources:

"The 100 Greatest Inventions of All Time: A Ranking Past and Present" , Tom Philbin, Citadel Press, Aug 2003, ISBN 0806524030

Books for Children:

1. "The Usborne Book of Inventors", Struan Reid, Patricia Fara, Scholastic Inc., 1994, ISBN 0590621750 (ages 9-12)
2. "53and ½ Things That Changed the World", David West, Scholastic Inc., 1992, ISBN 0439394996 (ages 9-12)
3. "Toys! Amazing Stories Behind Some Great Inventions", Don Wulffson, Scholastic Inc., 2000, ISBN 0439323398 (ages 9-12)
4. "100 Inventions That Shaped World History", Bill Yenne, Dr. Grosser Morton, Bluewood Books, July 1993, ISBN 092517026 (ages 9-12)
5. "1000 Inventions and Discoveries" Roger Bridgman, Dorling Kindersley Publishing, Aug 2002, ISBN 0789488264 (ages 9-12)
6. "Mistakes That Worked", Charlotte Foltz Jones, John O'Brien, Doubleday Books, June 1994, ISBN 0385320434 (ages 9-12)