**Inventions over Time**
Janet Hammer

**Lesson Overview:** The atlatl, spear point, and bow and arrow were important inventions during different periods of human cultural development. The students will discuss why these inventions were important to ancient people and compare ancient inventions with modern ones. This lesson addresses issues concerning the impact of science and technology on society.

**Objectives:** Students will
- Discuss inventions of the past and their importance
- Compare inventions of the past with some inventions of today
- Make a cause and effect chart
- Choose one item used by many people in the present and write a narrative on what archeologists in the future will know about us by finding this artifact.

**Texas Essential Knowledge and Skills (TEKS)**

**Social Studies, Grade 7**
- Social Studies 113.23 (1A), identify the major eras in Texas history
- Social Studies 113.23 (8A), create thematic charts
- Social Studies 113.23 (20A), compare types and uses of technology, past and present
- Social Studies 113.23 (21B), analyze information by drawing inferences and conclusions
- Social Studies 113.23 (22D), create written, oral, and visual presentations of social studies information

**English Language Arts and Reading, Grade 7**
- English Language Arts and Reading 110.23 (11D), connect, compare, and contrast ideas

**Materials:** Cause and Effect chart, post-it-notes, piece of Velcro, The History of Three Inventions, colored pencils or crayons, drawing paper, pencil, writing paper, access to www.TexasBeyondHistory.net.

**Activity:**
Step 1. Have students read “Hunting Without Guns” at [http://www.texasbeyonddhistory.net/kids/hunting/index.html#main](http://www.texasbeyonddhistory.net/kids/hunting/index.html#main) and “From Dart to Arrow” at [http://www.texasbeyonddhistory.net/graham/arrow.html](http://www.texasbeyonddhistory.net/graham/arrow.html) to see pictures of atlatls and bows and arrows and to learn more about ancient weaponry systems. Discuss the atlatl and the bow and arrow and their impact on the lives of people. The atlatl was a throwing device developed by Paleoinian people to improve the power of a spear or dart used to hunt large animals. It was used successfully for thousands of years, continuing during the Archaic period. The bow and arrow was developed during the Late Prehistoric Period and continued in use through the Historic period. Advantages of the bow and arrow over the atlatl and spear include the fact that a hunter with a bow and arrow can shoot an animal from much farther away, thus increasing safety. The arrow uses a smaller projectile point and can be aimed more accurately. By the Historic period, Native Americans had perfected the art of hunting with a bow and arrow from horseback, sometimes at great speed.
Step 2. Pass out the cause and effect chart and have students fill it in as the class discusses the ways inventions have affected peoples’ lives.

Step 3. Read the “History of Three Inventions” aloud to the students. Have students try to guess what invention you are describing. After the guesses, show examples of Velcro, etc.

Step 4. As a class review how telephones have changed over the years. (Operator assisted telephones, party lines, wall telephones, rotary dial, push button, cellular, etc.)

Step 5. Students work as individuals or small groups and select an item many people use today such as an automobile, microwave, or a computer. Have students write what archeologists of the future will know about us by finding this item.

Closure: Students share their stories and drawings with the class.

Extensions:
- Students may draw their rendition of their chosen invention in the future, such as the telephone of the future.

- Have students learn more about prehistoric life at the Kincaid Shelter exhibit: http://www.texasbeyondhistory.net/kincaid/index.html

- Have students learn more about ancient tools and toolmaking at the following exhibits:
  - Alibates Flint Quarries and Ruins: http://www.texasbeyondhistory.net/alibates/index.html
  - Harrell Site-What the Artifacts Tell Us: http://www.texasbeyondhistory.net/harrell/artifacts.html
  - Pavo Real - A Paleoindian and Archaic Campsite and Workshop on the Balcones Escarpment: http://www.texasbeyondhistory.net/pavoreal/index.html
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<thead>
<tr>
<th>Cause</th>
<th>Effect</th>
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<tr>
<td>Microwave Oven</td>
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<td>Automobile</td>
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<td>Pottery</td>
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<td>Mano &amp; Metate</td>
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<td>Fire Starter</td>
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<td>Bow &amp; Arrow</td>
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<td>Emboldened hunters to throw the spear farther</td>
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<td>Altar</td>
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Name

Cause and Effect
History of Three Inventions

Post-It-Notes

Art Fry was an employee of the 3-M Co. He always marked his choir book at church with scraps of paper. Often these pieces of paper would drop out and he would have to remark the page. In 1974, Mr. Fry remembered a fellow employee, by the name of Dr. Spencer Silver, had discovered and discarded an adhesive because it was not strong enough to be permanently useful. Mr. Fry began working on this adhesive. For one and a half years he worked to make an adhesive that would be strong enough to hold a note in place, but not too strong that it would be permanently attached. In 1977 the 3-M Co. test marketed the post-it-note in four cities. It was successful in only two of the cities. When they researched to find why, they discovered that the two successful cities had given free samples. After trying the post-it-note for free, people liked it so much they were then buying packages of them.

Telephone

In 1876 an inventor spilled battery acid on his pants and called for his assistant to please come help him. The assistant heard the plea for help through the device they were working on.

Alexander Graham Bell and his assistant, Thomas Watson, were working on the telephone. Bell called out, “Watson, please come here. I want you.” This accident helped them to realize their success, and the invention was patented a few months later.

Velcro

An inventor went for a walk and noticed upon returning that he had cockleburs stuck to his clothes. He wondered what enabled them to stick so tightly to clothes. He looked at one under a microscope and noticed it was covered with small hooks similar to fishhooks. This gave him the idea to develop Velcro.