



New Jersey School of Conservation

One Wapalanne Road • Branchville, NJ 07826-5115

<http://friendsofnjsoc.org> • info@friendsofnjsoc.org

Archery Lesson Plan

BACKGROUND:

Archery, which is at least 20,000 years old, is the oldest sport known to humankind. It was developed by early humans to secure food as well as for protection. The mythology of ancient Greece includes outstanding archery accomplishments by such famed characters as Apollo, Diana, Hercules, and Eros (Cupid). While England had Robin Hood, the ancient cultures of Japan and China also had legendary archery heroes. The American Indian's archery equipment was very crude; they therefore had to rely on stalking very close to their prey to be effective. It was in England that Archery was first organized into a sport in the 17th century and can now be found the world over. Archery skills continue to be used by some aboriginal tribes in Australia, Africa, and South America. In 1972 archery became an Olympic sport.

In keeping with fundamental principles of learning, immediate participation and immediate success are important factors for effective group instruction. These two factors are generally easily accomplished during the archery session. Therefore with as little lecture as possible, get the students shooting. **However, you must insist that the safety procedures be adhered to at all times.** Also be ready to give individualized attention to those needing it.

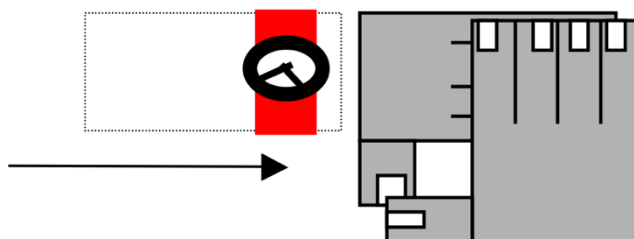
SETTING UP THE ARCHERY RANGE: (prior to student's arrival is preferred)

The shooting line should initially be set 10 yards from the targets. This distance provides a positive experience for the students because their arrows are hitting the target more often. Being on target also protects the arrows. **All archers must shoot from the same distance.** Archers who are waiting to shoot should remain 5 yards behind the shooting line. With two archers shooting at each of three targets, get out six bows and bow stands plus six arrows per archer. The arrows for each archer should be identical, since this simplifies retrieval. Place ground quivers/bow stands right next to the wooden shooting line. The ground is soft here and is easily punctured with the quiver. Please only use the bow stringers provided to string the wooden bows. This prevents the limbs (top & bottom parts of the bow) from twisting and therefore being damaged. To use the portable bow stringer, first place the plastic cup end onto the bottom of the bow (the end with the rubber band holding the string in place). Then hook the opposite loop end, (with rubber fins) over the top of the bow behind the bowstring. Now while pulling the bow handle upward with one hand use the other hand to slide the bowstring into place. Once the string is well seated in the notches, release the bow gently until the string is taut, then simply remove the bow stringer. At the end of class do the reverse to unstring the bows. The string must remain on the bow at all times, simply slide the string along the upper limb toward the grip.

DETERMINING EYE DOMINANCE

First, determine who is left and right eye dominant. A person should shoot lefty if they are left eye dominant, and right eyed people shoot right. Eye dominance is easy to determine. Have students face you with arms extended and palms toward you. Overlap the two hands and thumbs to form a small opening between the hands (see graphic below). With both eyes open have students aim at your forehead through this opening. As you peer back at them individually, through their hands, you will see their dominant eye. If the right eye remains in the opening, they are right eye dominant (right eye does the aiming) and therefore when shooting, should pull the string with the right hand, and tilt the top of the bow to the right, slightly. If the left eye remains in the opening, they are left eye dominant, and should pull the string with the left hand, and tilt the top of the bow to the left, slightly. Occasionally there will be a student with non-dominance; this student should shoot from the side that seems most natural to them.

With your arms held out straight
hold your hands this way to form
a small viewing hole



SAFETY POLICIES:

Remember a bow is like a gun. A nocked arrow is like a loaded gun. A bow drawn with arrow nocked is like a loaded gun cocked and ready to shoot. *Be as careful and thoughtful with a bow and arrow as you would a gun and ammunition.*

- Wait for the signal before nocking an arrow.
- Remain behind the shooting line until the signal is given to retrieve arrows. **When arrows are retrieved, all bows must remain on the ground quivers.**
- Never draw the bow (even without an arrow) while someone is in front of it.
- When holding a bow, always face down range.
- Never “dry fire” a bow, i.e. draw and release the fully drawn string, without an arrow.
- When retrieving arrows, only one archer at a time should be pulling from the target. The second archer must remain behind the 5 yard line.

SHOOTING INSTRUCTIONS:

Instructor should demonstrate how to; use arm guards, hold a bow, grasp bowstring with fingertip grip, nock arrow, stand, draw, aim, release, and retrieve arrows.

1. Arm guards should be worn on the inside of the forearm that holds the bow with narrow end closest to the wrist. The stance involves standing at a right angle to the target, with shoulder that is holding the bow closest to the target. Weight should be evenly distributed on both feet, while feet are spread shoulder width apart.
2. Hold the bow in a relaxed “handshake” position (in hand opposite of your eye dominance). Place bow in the “V” formed by the thumb and fingers. Elbow and wrist should be “locked”. If shooters have a problem with “string slap”, (string hitting the forearm holding the bow) have the archer flex their elbow a little bit. Since your bow is tilted slightly, place the arrow on the upper shelf (same side as the hand holding the

bow). Nock the arrow by placing it on the string in such a way that allows the odd colored feather or "index feather" to point away from the bow. This position prevents the arrow's flight path from being altered due to the index feather contacting the bow. Also it is important for the arrow to be nocked at right angles to the bowstring and thereby parallel to the ground. This right angle is easily achieved by nocking the arrow just below the nocking point that is on the bowstring.

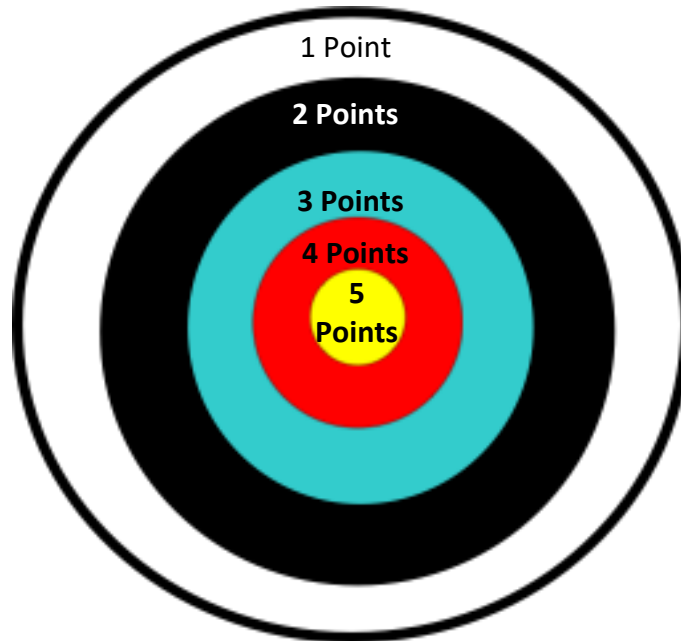
3. The draw begins with the string grip. This fingertip grip should use the three middle fingers, similar to the "Boy Scout salute". The string should rest in the crease formed at the joint nearest the fingertips. Grasp the bowstring with three fingers below the arrow. The "pinky" finger is held down with the thumb and neither are used in holding the string. During the draw phase, it is important to emphasize that the arrow should not be over-drawn. The point should remain 1-2 inches in front of the bow. All arrows must remain pointing down range, at the targets, **at all times**. During the draw phase your "string" elbow should remain in a straight line with the arrow and horizontal.
4. The release should be limited to the fingertips. Everything else should remain still. Try not to move the bow or your arms at all. Keep aiming at the target even after releasing the arrow. This will help to limit unwanted body movements that may affect the arrow's flight.

The goal in archery or any shooting sport is consistency. If your arrows are grouped, then you are doing very well. During your first set of arrows (6) you should aim all of them at the same spot. Even though your arrows are not going where you want them, be consistent with your aiming for the first round. Then after this round you will know better how to adjust for your particular style and this particular bow. For instance, if after your first round of arrows when you were aiming at the gold center, you find that all your arrows are high and to the right of the bullseye, you should then aim low and to the left of center. On your second round using the same equipment, changing your aiming point should find the arrows much nearer the gold.

After shooting the last arrow, return the bow to the ground quiver; wait until all bows are set down. Then at instructor's command, **retrieve arrows from each target, one archer at a time**. When removing arrows from the target, please place one hand on the target with the arrow between the thumb and fingers, at the base of the thumb. With the other hand, grasp the arrow **close to the target** and pull straight out. This prevents broken arrows and also preserves the target face.

Only when everyone has returned behind the shooting line with arrows, can bows be picked up. Then repeat the procedure described above. Continue with a rotation helping those who need it most.

Scoring: Gold = 5, Red = 4, Blue = 3 Black = 2, and White = 1. (See diagram below). Olympic scoring begins with 10 points for the inner bullseye, 9 pts for the outer gold ring, 8 for inner red ring, 7 for outer red, etc.



The objective of this class is to teach basic Archery skills. We hope the students will continue the safe shooting routine advocated at SOC. Students may also come away with the realization that hunting with a bow is very difficult. Since virtually all early cultures (at least 20,000 years old) relied on the bow and arrow for hunting wild game, this could give them a better understanding of the struggles of these cultures. Most visiting students have never had the opportunity to try archery, and once they do have the experience, they find it fun. Therefore this activity encompasses development of new skills, safety awareness, and provides insights into former cultures all while being enjoyable.

Following each class please return all bows and arrows to the Archery shed. It would be very unwise to leave these items accessible and unsupervised for even a short period of time. Please do not leave weapons and ammunition available for students when an adult is not available to oversee the range. Please cover the targets at the end of the session.

Additional Important Information:

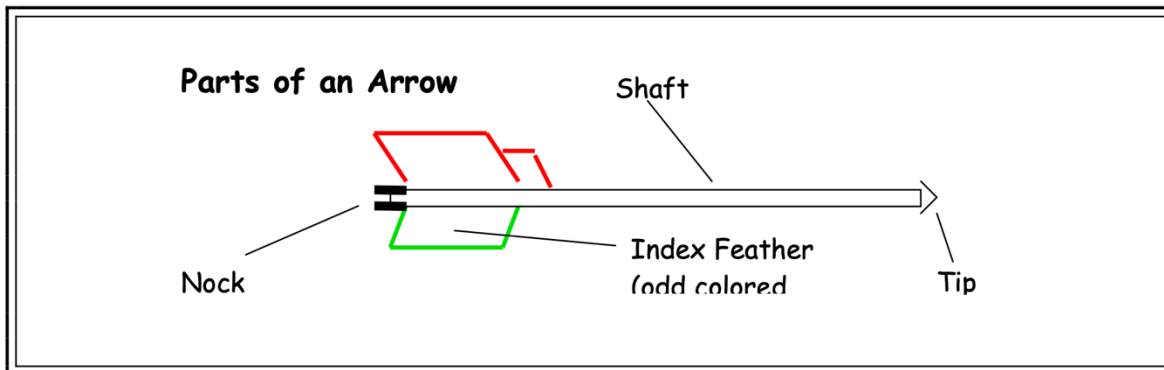
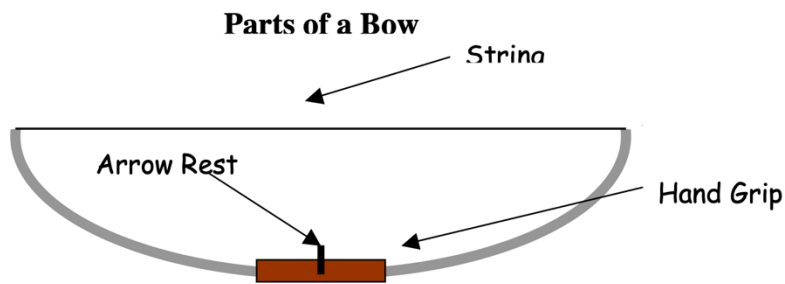
Please unstring the bows using the bow stringers. This protects the bows from damage. Do not take the string off the bow, simply let it slip toward the grip.

Retire any arrows that are cracked! Break them and put them in the trash.

Replace bowstrings when a strand breaks, or when the serving is compromised.

Return all equipment to the shed after the class, and lock the shed. Cover targets.

If any equipment needs servicing, please inform the SOC staff.



For further information:

Boy Scouts of America. (1986). **Archery**. Irving, TX.

Brown, Illoyd, W. (1995). **National Archery Association Level 1 basic Instructor Course**.

Second Edition. National Archery Association of the United States, Colorado Springs, CO.

National Archery in the Schools Program. www.naspschools.org

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NJ Student Learning Standards

COMPREHENSIVE HEALTH AND PHYSICAL EDUCATION

- 2.2.8.MSC.1: Explain and demonstrate the transition of movement skills from isolated settings (e.g., skill practice) into applied settings (e.g., games, sports, dance, recreational activities).
- 2.2.8.MSC.5: Predict the impact of rules, etiquette, procedures, and sportsmanship on players' behavior in small groups and large teams during physical activities and games
- 2.1.8.PGD.4: Analyze the relationship between healthy behaviors and personal health.
- 2.3.8.PS.1: Assess the degree of risk in a variety of situations, and identify strategies needed to reduce deliberate and non-deliberate injuries to self and others

LIFE LITERACY AND KEY SKILLS

- 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process

- 9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global

SOCIAL STUDIES

- 6.2.8.GeoPP.1.a: Compare and contrast the social organization, natural resources, and land use of early hunters/gatherers and those who lived in early agrarian societies.
- 6.1.5.GeoGI.4: Explain how cultural and environmental characteristics affect the distribution and movement of people, goods, and ideas.

SOCIAL AND EMOTIONAL LEARNING

All of our field lessons integrate the concepts of self-awareness, self-management, social awareness, responsible decision-making, and relationship skills found in the [New Jersey's Core Social and Emotional Learning \(SEL\) Competencies](#).