NATIONAL CURRICULUM

GRADES 9-12

Revised 2006

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NASP Revised 2006

“On Target for Life”
Grades 9-12
Archery

Important note: This archery unit may be used ONLY in conjunction with the National Archery in the Schools Program certification classes and manual. The instructor must be authorized through the NASP program as having received the new NASP curriculum prior to classroom implementation.

Overview: As a result of this unit, the history, physical, emotional and social benefits will be learned. In addition, safety strategies, skills and archery techniques necessary to participate in and enjoy archery as a lifetime activity will be fully addressed.

Note to instructor: The activities, enhancements and timeframe of this unit may be adapted to fit specific student or classroom needs. However, the safety procedures and instructional guidelines for teaching archery as developed by the National Archery in the Schools Program MUST be taught throughout the unit. For adaptations for special needs students, please see the Appendix.

Major focus:

- National Standards:
    - Physical Education
        1. Uses a variety of basic and advanced movement forms (NPH.K-12.1)
        2. Uses movement concepts and principles in the development of motor skills (NPH.K-12.2)
        3. Understands the benefits and costs associated with participation in a physical activity. Exhibits and physically healthy lifestyle. (NPH.K-12.3)
        4. Understands how to monitor and maintain a health-enhancing level of physical fitness (NPH.K-12.4)
        5. Understands the social and personal responsibility associated with participation in physical activity (NPH.K-12.5)
        6. Demonstrates understanding and respect for differences among people in physical activity settings (NPH.K-12.6)
        7. Values physical activity for health, enjoyment, challenge, self-expression, and/or social interaction (NPH.K-12.7)
    - Social Studies
        1. US History – Understands comparative characteristics of societies in the Americas that increasing interacted after 1450 (NSS-USH.5-12.1)
        2. History/Culture – Understanding the biological and cultural processes that gave rise to the earliest human communities (NSS.USH.5-12.1)
        3. History/Culture – Understanding major global trends from 1750 to 1914 (NSS.USH.5-12.7)
    - Mathematics
        1. Understand numbers, ways of representing numbers, relationships among numbers and number systems (NM-NUM.9-12.1)
        2. Judge the effects of operations such as multiplication and computation powers on the magnitudes of quantities (NM-NUM.9-12.2)

3. Judge the reasonableness of numerical computations and their results (NM-NUM.9-12.3
4. Apply appropriate techniques, tools and formulas to determine measurements (NM-MEA.9-12.2)
5. Formulate questions that can be addressed with data and collect, organize and display relevant data to answer (NM-DATA.9-12.1)
6. Select and use appropriate statistical methods to analyze data (NM-DATA.9-12.2)
7. Develop and evaluate inferences and predictions based upon data (NM-DATA.9-12.3)
8. Understand and apply basic concepts of probability (NM-DATA.9-12.4)
9. Create and use representations to organize, record and communicate mathematical ideas (NM-PROB.REP.PK-12.1)

- Essential Core Content:

Social Studies: The history of archery. Students will understand, analyze and interpret historical events, conditions, trends and issues to develop historical perspective.

- History is a series of connected events, shaped by cause and effect relationships, tying the past to the present.
- As early hunters and gatherers developed new technologies, they settled into organized civilizations.

Strategies for archery safety : Using safety strategies in archery activities reduces the possibility of injury.

- *Archery skills and techniques:* Techniques (including practice and self-evaluation) are used to develop skills related to performance in games and/or sports.
- Principals of motor skills refinement such as accuracy, technique and movement require a logical and sequential approach.

Character Development through Archery : Physical, emotional and social benefits can be gained from regular participation in leisure/recreational and/or competitive physical activities.

- Communication, cooperation, rules and respect are important to the effective functioning of groups.
- Behaviors such as constructive communication, fulfilling commitments and cooperation show respect and responsibility to self and others.

Mathematical Concepts through Archery : Basic mathematical concepts can be addressed, taught and real-life connections formed through the use of archery.

- Organizer: How can I be "on target for life" through developing skills for, and participating in, the sport of archery?
- Essential Questions:
  - How do I participate in archery in a safe and responsible manner?
  - How do I successfully perform archery skills?
  - How does participation in archery activities promote my character development?
  - How does participation in archery activities enhance my physical, emotional and social well-being?
- Enabling knowledge
  - Safety strategies
  - Archery equipment
  - Archery techniques
  - Basic shooting form
  - Archery rules
  - Scoring procedure
  - Archery etiquette and sportsmanship
  - Archery history
  - Physical, social and emotional benefits of archery

- Enabling skills and processes:
  - Research skills
  - Listening skills
  - Observation skills
  - Hand-eye coordination

- Refinement of motor skills
- Self-evaluation
- Following directions
- Scoring
- Skill improvement through practice
- Effective group participation
- Communication skills
- Cooperation skills
- Practicing responsibility and respect

Instructional Plan 1

Title: String Bow™ Success

Time: 2 to 3 days

Academic Expectations:

Student health - Students demonstrate skills that promote individual well being.

Psychomotor skills – Students perform physical movement skills effectively in a variety of settings.

Essential Content:

Archery skills and techniques:

- Techniques (including practice and self-evaluation) are used to develop skills related to performance in games and/or sports.
- Principles of motor skills refinement such as accuracy, technique and movement require a logical and sequential approach.

Essential Questions:

How can I participate in archery in a safe and responsible manner?

How do I successfully perform archery skills?

How can I use the string bow tool to improve my archery skills?

Enabling Knowledge:

Safety strategies
Basic shooting form
Archery techniques
History of Archery

Enabling Skills and Processes:

Listening skills
Observation skills
Hand-eye coordination
Refinement of motor skills
Following directions

Effective group participation
Self-evaluation
Practicing responsibility and respect

Materials needed:
String bow™ (approximately 90" of 1/8" diameter, non-elastic string or cord) for each student
Painter's tape
Whistle
Safety rules poster
Television
DVD/VCR
Archery Journal

Note to instructor: Refer to the Appendix for Glossary of Archery terms. Also refer to the Basic Archery Instructor manual for more information on the specific lessons.

I. Establishing Eye Dominance

(Note to instructor: Establishing eye dominance is crucial to ensure that you have children's dominant eye matched to their drawing hand. However, according to industry reports, only 10% of bows sold are left-handed. ***Cross-dominant students (right-handed and left-eyed) can either be: a) taught left-handed (or right-handed, whichever eye is dominant) to begin with; b) be taught with their dominant hand and use a patch or flip-down to block their dominant eye; c) taught to close their dominate eye in order to aim with their non-dominant eye; and d) allowed to experiment with both methods to see which works best for them.****)* It is not absolutely necessary that an archer shoot with both eyes open. However, with both eyes open an archer will have better depth perception (binocular vision), better peripheral vision, and in some cases improved balance. If an archer shoots a bow that doesn't match the dominant eye (i.e. left-eye dominant person shooting a right-handed bow), the dominant eye must be closed or masked to achieve proper form and sight picture. For a right-handed shooter with a left dominant eye, if the left eye isn't closed the archer will either miss very badly to the left (opposite for left-handed/right-eyed persons) or the archer will exhibit improper posture leaning the head over the bow string to aim with the left eye instead of the right.
Early in the archery lesson it is beneficial to help a new archer determine if his dominant eye and string hand are on the same side. There are various methods of doing this.

You will begin participating in the sport of archery by completing either of the following activities:

<u>Pointing and Winking:</u>

With both eyes open have the students extend their right or left hand with their index finger pointing at a small, distant object. Then have the student close one eye at a time. For most people when the dominant eye is closed, the finger will appear to move to the right or left of the object. For example, for a right-eye dominant person, when the left eye is winked the object remains under the index pointer finger. When the right eye is winked the finger moves.

OR

Pointing at the Instructor:
Some students will have trouble or will resist these procedures and force the eye they want to be dominant to pass the "point and wink" test. In these cases it can be helpful to have the student stand 10-20 feet from the instructor and with both eyes open, have the student point the index finger of either hand toward the instructor's face. The instructor should be able to see the pointing finger naturally line up under the student's dominant eye.

II. Building a String Bow™

The use of the String Bow™ enables the instructor to teach the student what is needed to enjoy archery success without interference from the target. It helps to avoid having the student judge performance by where the arrow hits the target during the beginning stages of learning.

Use of the String Bow™ will enable the student to determine personal draw length and bow hand and string hand placement. The student can use the String Bow™ to practice proper archery form. The student can also use the String Bow™ to perform warm-up and warm-down exercises.

With the String Bow™ you can teach the new archer proper hand and finger position on the bow's string. You can guide archers to proper hand placement and knuckle angle alignment on the bow's grip. Use of the String Bow™ is also used to teach the student how to rotate the elbow to prevent the bow string from hitting the forearm.

The String Bow™ can be used to teach proper archery shooting dynamics. Students can learn which muscles they need to activate and how to keep them active so the arrow will clear the bow before the bow moves. Learning the proper way to release the string is very easy with the String Bow™. It will allow you to observe the student's follow-through and provide instant feedback whether or not the student is keeping her muscles properly active throughout the shot. By using the String Bow™ you can emphasize the importance of working on shot technique and developing a repeatable form. Without the actual bow and arrow in hand, the student can concentrate on learning proper form without the distraction

of scoring well on a target. Strive to teach the archer to feel the shot. Introduce the idea of shooting to learn rather than thinking about where the arrows land.

(Note to instructor: Please refer to the BAI manual you receive as part of your certification process for more detailed instructions on how to construct and use the String Bow™.)

Activity 2:

Once students have properly constructed a string bow, then instruction may begin on the "Eleven Steps to Archery Success." This approach allows students to concentrate on executing a correct shot, instead of being focused on the target and result of their shot. (See the Basic Archery Instructor's manual for further information.)

Eleven Steps to Archery Success

Lesson Objective:
Student archers will learn 11 steps to perform and execute ideal shooting form.

Discussion : There are many keys to enjoying success in archery. It is important that the archer's equipment fits and that bows, arrows and accessories are well tuned for effective arrow flight. The archer must also execute consistent shooting form from shot to shot. The archer's shooting form is most effective when it allows the shooter to be stable, relaxed and comfortable to maintain proper muscle activity throughout each shot.

During this lesson the archer will learn 11 consecutive steps to follow to achieve life-long archery success. These steps will guide the archer from initial form on the shooting line, through execution and reflection of each shot.

This lesson will rely heavily upon the String Bow™ previously constructed. New archers should master these steps using the String Bow™ before moving on to using bows, arrows and targets.

Occasionally, experienced archers will find it helpful to review their performance of these 11 steps, even using the String Bow™, to improve or maintain the level of performance they desire.

Materials Needed
• Each student needs a properly constructed and fitted String Bow™.

Why 3 Fingers? Some experienced archers will question placing three fingers under the arrow nock rather than one finger above and two below. Explain that three fingers under prevents twisting of the bow string and reduces the likelihood that the arrow will fall off the arrow rest.

Practicing Turning Elbow to Protect Arm For students who have a difficult time keeping the bow string from hitting the bow arm and who can't turn the elbow down and to the left (or right for left handed shooter), have them put their bow

hand palm against a wall and turn the elbow under and to the side. It is certainly acceptable for any student to wear an arm guard while shooting.

Classroom Set-Up: No actual shooting will take place during this lesson and this session may be held in a classroom, hallway or gymnasium. However, it is important that there be a waiting and shooting line and target direction for the students to simulate shooting. All students should be behind the waiting line.

Conducting the Lesson: The instructor should first show and explain the Eleven Steps to Archery Success to the class. The class will stand behind the waiting line while the instructor, using the String Bow™, stands at the shooting line. After the steps have been explained and students have followed the instructor through each step, have the students call them out for the instructor to demonstrate again. Then blow two whistles to move students to the shooting line. Next have the students perform the steps. Then have the class call them out as they do them together. If a student has difficulty with a particular step, refer them to more practice of this step using the String Bow™.

Form

Stance: Each student should straddle the shooting line with one foot on either side. If the archer is right-handed, the left foot should be over the shooting line toward the target line. To establish correct foot placement begin with both feet together and toes even or "closed." Then move the foot closest to the target (front foot) back so these toes are even with the mid-point of the back foot. Then, while maintaining this mid-point toe placement, move the front foot toward the target so the feet are shoulder-width apart. Then turn (open) the front foot toward the target. Imagine the shooter is facing a 12 o'clock position. The toes of the back foot should be pointed to 12 o'clock, parallel to the shooting line. The toes of the front foot should be pointing toward 10 o'clock for a right-handed shooter and 2 o'clock for a left-handed shooter. Stand vertical with your head up and knees firm with slight pressure on the inside of both knees and feet.

Nock Arrow: With your bow in your bow hand, withdraw an arrow from the floor quiver by grasping the arrow below the fletching. Keeping your bow as vertical as possible, carry the arrow up and over the top of the bow. With the different colored "index fletching" pointed toward you, snap the arrow's nock under or between the nock locator(s). The arrow shaft should be placed on the arrow rest.

Drawing Hand Set: With your bow at arm's length and pointed down, grasp the string immediately under the nock at least to the first joint of the 1st and 3rd finger and slightly inside the joint of the middle finger forming a hook. Keep the back of the hand flat and the thumb down and relaxed. This is done exactly the same for the String Bow™ and the real bow.

Bow Hand Set: Place your hand in the bow grip with the meaty part of your thumb inside the grip to the lifeline of your palm. The lifeline should be aligned over the center of the bow's grip. When set properly the knuckles of your bow hand should form a 30- to 45-degree angle. At the same time your bow hand is set, rotate your elbow down to the left (for right-handed archer). This hand and elbow position allows for improved string clearance of the bow arm. This is done exactly the same for the String Bow™ and the real bow.

SHOT EXECUTION

Pre-Draw: Starting with your bow arm hanging relaxed at your side, lift your arm allowing it to hinge at your shoulder so your shoulder will remain level. Your drawing hand will remain hooked around the bow string with the bow un-drawn. The drawing arm will be slightly higher than the bow arm. The drawing hand, arm and elbow should be parallel to the floor or ground. This is done exactly the same for the String Bow™ and the real bow.

Draw: Pull or draw the string toward the right side of your face (right-handed archer) by rotating your hips and your shoulder around until your elbow is slightly in front of the arrow line. You want the feeling of getting in behind the bow. You should feel your upper back muscles being activated. This is done exactly the same for the String Bow™ and the real bow.

Anchor: Anchor by touching your index finger to the corner of your mouth. Keep muscles active while maintaining full draw. This is done exactly the same for the String Bow™ and the real bow.

Aiming: Your master eye is your rear sight and needs to be consistent in location as it relates to the anchor. Think of sighting as an alignment between your eye, the string and your front sight. In bare bow archery (without sights) your front sight would be either your arrow or some part of your bow riser or both. Allow your bow to move naturally—a perfectly still bow is unnatural. Be aware of the target and the sight. Keep your muscles active during the sighting process. This is done exactly the same for the String Bow™ and the real bow.

Shot Set-Up: After you have reached your anchor and begun your sight alignment, you need to create a slight movement from your drawing shoulder and/or arm to the rear. You can initiate the release anytime during this rearward movement. This is done exactly the same for the String Bow™ and the real bow.

Release: The release is a combination of relaxing your fingers and the back of your hand all at once. All your arm and back muscles remain active during this process. This is done exactly the same for the String Bow™ and the real bow.

Follow-Through/Reflection: Upon release, your drawing hand will move rearward with your fingers relaxed and end up with your thumb touching or near your drawing shoulder. The shoulder should hinge so your elbow can move down. The bow arm moves a bit forward then slightly both left (right for left-handed shooter) and down. After follow-through, reflect upon the position of your drawing and bow hand to see that they are in the proper ending positions as a result of having kept your muscles active throughout the shot sequence. This is done exactly the same for the String Bow™ and the real bow.

Instructional Plan 2

Title: Shoot Straight - Be Safe
Number of days: 3 to 4 days
Academic Expectations:

- Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
- Psychomotor Skills - Students perform physical movement skills effectively in a variety of settings.

Essential Content:

• Strategies for archery safety –Using safety strategies (e.g., in archery activities) reduces the possibility of injury.
• Archery skills and techniques –Techniques (e.g., practice, self-evaluation) used to develop skills are related to performance in games and/or sports. Principles of motor skills refinement (e.g., accuracy, technique, movement) require a logical and sequential approach.
• The history of archery:

- Students understand analyze, and interpret historical events, conditions, trends, and issues to develop a historical perspective.
- History is a series of connected events shaped by cause-and-effect relationships, tying the past to the present.
- As early hunters and gatherers developed new technologies, they settled into organized civilizations.

• Communication, cooperation, rules, and respect are important to the effective functioning of groups.
• There are behaviors (e.g., constructive communication, fulfilling commitments, cooperation) that show respect and responsibility to self and others.)

Essential Questions:

• How do I participate in archery in a safe and responsible manner?
• How do I successfully perform archery skills?

Enabling Knowledge:

• Safety strategies
• Archery equipment
• Archery techniques
• Basic shooting form
• Archery rules
• Scoring procedures
• History of archery

Enabling Skills and Processes:

• Research skills
• Listening skills

- Observation skills
- Hand-eye coordination
- Refinement of motor skills
- Following directions
- Effective group participation
- Self-evaluation
- Practicing responsibility and respect

Activity 1

Materials:

- Bow rack
- Easton 1820 Aluminum arrows
- Floor quivers for arrows (e.g., cones)
- Genesis Bow
- Blue painter's tape
- Targets (covered or blank faces until later in lesson, then use FITA 80cm faces)
- Whistle
- Safety rules posters
- Clearly defined shooting range
- Archery Journal

(*Instructor note:* Refer to the Appendix <u>or</u> *Basic Archery Instructor* Manual for Shooting Range Diagram, Archery Range Rules, Whistle Commands, Archery Safety Procedures and a Glossary of Archery Terms.)

Steps:

- Describe the boundaries and lines of the shooting range.
- Explain archery equipment safety rules and location of equipment.
- Explain and demonstrate "whistle commands."
    - Two blasts - Archers may walk to the shooting line.
    - One Blast - Archers may load their bows and begin shooting.
    - Three Blasts - Archers may walk to the target line to retrieve arrows.
    - Five or more blasts –EMERGENCY SITUATION - STOP SHOOTING and put your arrows back in your quivers.

Archery Journal Entry
Answer the following Open Response question in your Archery Journal:
Archery is a safe and enjoyable lifetime physical activity when safety procedures are followed.
a. Identify four safety procedures you must follow when participating in archery activities.
b. Explain why each of these are important.

Rubric for scoring open response:

Performance Level	**Indicator**
International Archer (4)	-Student identifies at least four safety procedures -Student demonstrates an extensive understanding of why each procedure identified is important to safety -Student connects learning to personal experiences or expands his or her explanation of the importance of safety and procedures.
Master Archer (3)	-Student identifies four safety procedures –Student demonstrates a broad understanding of why each of the three safety procedures is important
Bowman (2)	-Student identifies three safety procedures -Student demonstrates a basic understanding of why each safety procedure is important
Yeoman (1)	-Student identifies one or two safety procedures -Student demonstrates a minimal knowledge of safety procedures that are identified
(0)	-Student response is totally incorrect or irrelevant

Activity 2

Materials:

- Bow rack
- Easton 1820 Arrows
- Floor quiver for arrows (e.g., cones)
- Genesis bows
- Blue Painter's Tape
- 80 cm FITA faces - Targets
- Whistle
- Safety rules posters
- Clearly defined shooting range
- Archery Journal

Steps:

- Review safety procedures and whistle commands.
- Divide students into groups with two or three students.
- Begin actual shooting instruction with a target placed at a close distance. Targets will not be moved back until all students have become proficient at this distance
- Observe and correct any form or technique issues that arise through positive reinforcement. For example, if a child is 'plucking' the string, comment that you'd like to see a good shot set-up.

Objectives:

- You will be striving to develop correct form and technique in your students' shooting by making helpful suggestions. Students will encourage and assist other students in your group as they shoot.
- As the classes progress, you will move the targets back based on the ability of the class until you reach the NASP competition distances of 10 and 15 meters.
- Once students can maintain a proper shooting form, scoring processes may be addressed, using the rings on the target.

(Note to the Instructor: Refer to the Appendix for a Sample Archery Scorecard and Sample Target.)

Archery Journal Entry

Record the scores in your Archery Journal for your last end (or round) of arrows (5 arrows).

You will also record the following:

List and define the "Eleven Steps to Archery Success."

Describe two things I learned today as I worked on my archery techniques that will help me improve my shooting skills.

Activity 3

Note to the Instructor: You may collaborate with the Language Arts, Social Studies, and/or Media Specialist in the completion of the research activity.

Materials:

- Summary of the History of Archery (Appendix)
- Resource materials on the history of archery
- Computer Lab
- Book-marked Internet sites

You will read a summary of the history of archery provided by your instructor. Choose a topic from these materials and using reference books from the library or the internet prepare a two page report on the impact of archery on society at a particular time in history, contrasting the place archery had then and in the world today.

OR

Select from one of the following topics:

- History of Olympic archery,
- Archery in contemporary bow hunting,
- Compound bow versus recurve bow,
- Compare one historical period of archery with another, or
- Another archery topic with instructor's approval.

Note to the Instructor, suggestion for enrichment activities:

Collaborate with the art teacher for students to create a mural depicting a timeline of the history of archery.

Collaborate with the English teacher in the selection of literature or reading materials that include archery activities from historical time periods.

Instructional Plan 3

Title: Practice Makes Perfect
Number of days: 6 to 7 days
Academic Expectation:

- Students demonstrate skills that promote individual well-being.
- Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
- Psychomotor Skills - Students perform physical movement skills effectively in a variety of settings.
- Lifetime Physical Activities - Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout their lives.

Essential Core Content:

- Strategies for archery safety - Using safety strategies (e. g., in archery activities) reduce the possibility of injury.
- Archery skills and techniques - Techniques (e.g., practice, self-evaluation) used to develop skills are related to performance in games and/or sports.
- Principles of motor skills refinement (e.g., accuracy, techniques, movement) require a logical and sequential approach.
- Character development through archery participation - Physical, emotional, and social benefits can be gained from regular participation in leisure/recreational and/or competitive physical activities.
- Communication, cooperation, rules, and respect are important to the effective functioning of groups.
- There are behaviors (e.g., constructive communication, fulfilling commitments, cooperation) that show respect and responsibility to self and others.

Essential Questions:

• How do I participate in archery activities in a safe and responsible manner?
• How does participation in archery activities promote my character development?
• How does participation in archery activities enhance my physical, emotional, and social well being?

Enabling Knowledge

• Safety strategies
• Archery equipment
• Archery techniques
• Basic shooting form
• Archery rules
• Scoring procedures
• Archery etiquette and sportsmanship
• Physical, emotional, and social benefits of archery

Enabling Skills and Processes

• Research skills
• Listening skills

- Observation skills
- Refinement of motor skills
- Self-evaluation
- Effective group participation
- Communication skills
- Cooperation skills
- Sportsmanship
- Practicing responsibility and respect

Activity 1

- Bow rack
- Easton 1820 arrows
- Floor arrow quiver (e.g., cones)
- Genesis bows
- Blue painter's tape
- FITA 80cm faced targets
- Whistle
- Safety rules posters
- Clearly defined shooting range
- Score Card
- Archery Journal

Steps:

- Whole group: Brainstorm what communication, cooperation, rules, and respect mean to students and how these will be applied when participating in archery activities.
- Depending on the size of your class and the available equipment, place students in a group of three or four students to share the same target.
- Following safety procedures and commands, students will repeatedly shoot one end (5 arrows) throughout the class period.
- "Non-shooting groups" will rotate through centers to develop core-strength and flexibility and be able to work with their string bows on proper shot execution.
- Students record their scores on their scorecard.

Archery Journal Entry :You will record the scores in your Archery Journal.
Answer the following Open Response Question in your Archery Journal:

Communication, cooperation, rules, and respect are important to the effective functioning of a group.

a. Give two examples of how a person uses communication skills and applies these skills effectively in a group archery activity.
b. Provide two examples of opportunities to cooperate with others in a group archery activity and explain how these examples impact the group.

Rubric for scoring open response:

Performance Level	**Indicators**
International Archer (4)	-Student identifies two ways a person can use communication skills in a group archery activity. -Student demonstrates an extensive understanding of how these skills impact the function of the group. -Student proposes two examples of opportunities to cooperate with others in a group archery activity. -Student demonstrates an extensive understanding of how these examples impact the function of the group.
Master Archer (3)	-Student identifies two ways a person can use communication skills in a group archery activity. -Student demonstrates a broad understanding of how these skills impact the function of the group. -Student proposes two examples of opportunities to cooperate with others in a group archery activity. -Student demonstrates a broad understanding of how these examples impact the function of the group.
Bowman (2)	Student identifies one or two ways a person can use communication skills in a group archery activity. -Student demonstrates a basic understanding of how these skills impact the function of the group. -Student proposes two examples of opportunities to cooperate with others in a group archery activity. -Student demonstrates a basic understanding of how these examples impact the function of the group.
Yeoman (1)	Student identifies one way a person can use communication skills in a group archery activity. -Student demonstrates minimal understanding of how these skills impact the function of the group. -Student proposes one example of opportunities to cooperate with others in a group archery activity. -Student demonstrates a minimal understanding of how these examples impact the function of the group.
(0)	-Student response is totally incorrect or irrelevant.

Activity 2

Materials:

- Bow rack
- Easton 1820 arrows
- Floor arrow quivers (e.g., cones)
- Genesis bows
- Blue painter's tape
- FITA 80cm faced targets
- Whistle
- Safety rules posters
- Clearly defined shooting range
- Score Card
- Archery Journal

Discuss with students the principles of practice and the importance of practice in improving their skill in any sport.

To enhance their archery skills through practice, they will be allowed to shoot with a group of students of your choice.

OR

Allow students to challenge willing classmates to a friendly competition.

Archery Journal Entry
Answer the following Open Response question in your Archery Journal:
Martha is excited about joining an Archery Club. She wants to be on a competitive team but knows she has to practice in order to improve her shooting skills and reach her goal.
a. List two important principles of practice to be considered when practicing any sport.
b. How can Martha apply these two principles of practice to improve her skill level in archery?

Rubric for scoring open response:

Performance Level	**Indicators**
International Archer (4)	-Student identifies two principles of practice to be considered when practicing any sport. -Student demonstrates an extensive understanding of how the application of these two principles of practice will affect the level of archery skills.
Master Archer (3)	-Student identifies two principles of practice to be considered when practicing any sport. -Student demonstrates a broad understanding of how the application of these two principles of practice will affect the level of archery skills.
Bowman (2)	-Student identifies two principles of practice to be considered when practicing any sport. -Student demonstrates a basic understanding of how the application of these two principles of practice will affect the level of archery skills.
Yeoman (1)	-Student identifies one principle of practice to be considered when practicing any sport. -Student demonstrates a limited or no understanding of how the application of this one principle of practice will affect the level of archery skills.
(0)	-Student response is totally incorrect or irrelevant.

Activity 3

Materials:

- Bow rack
- Easton 1820 arrows
- Floor quivers (e.g., cones)
- Genesis bows
- Blue painter's tape
- FITA 80cm targets
- Whistle
- Safety rules posters
- Clearly defined shooting range
- Archery Journal

Students will brainstorm with the class a list of positive sportsmanship procedures to follow as a participant or as a spectator of any team activity. They will be required and expected to practice good sportsmanship during the following tournament.

Steps:

- Place students in a single elimination seeding based on their previous scores recorded on a scorecard and turned in.
- Review safety procedures and commands.
- Give each student five arrows for a practice round.
- Allow students to perform in a one-on-one tournament to determine the winner, scoring after each end.

Archery Journal Entry
Record your scores from the score card in your journal.
Answer the following Open Response question in your Archery Journal:
Ben enjoys participating in sports activities and is a good athlete but he needs to improve his sportsmanship.

a. Describe three behaviors Ben can demonstrate as a **participant** in a team activity to show good sportsmanship.
b. Describe three behaviors Ben can demonstrate as a **spectator** of a team activity to show good sportsmanship.

Rubric for scoring open response:

Performance Level	**Indicators**
International Archer (4)	-Student describes three behaviors a **participant** can demonstrate to show good sportsmanship. This description shows an extensive understanding of good sportsmanship for participants. -Student describes three behaviors a **spectator** can demonstrate to show good sportsman ship. This description shows an extensive understanding of good sportsmanship for spectators.
Master Archer (3)	-Student describes two behaviors a **participant** can demonstrate to show good sportsmanship. This description shows a broad understanding of good sportsmanship for participants. -Student describes two behaviors a **spectator** can demonstrate to show good sportsmanship. This description shows a broad understanding of good sportsmanship for spectators.
Bowman (2)	-Student describes one behavior a **participant** can demonstrate to show good sportsmanship. This description shows a basic understanding of good sportsmanship for participants. -Student describes one behavior a **spectator** can demonstrate to show good sportsmanship. This description shows a basic understanding of good sportsmanship for spectators.
Yeoman (1)	-Student describes one behavior a **participant** can demonstrate to show good sportsmanship. This description shows a minimal understanding of good sportsmanship for participants. **OR** -Student describes one behavior a **spectator** can demonstrate to show good sportsman ship. This description shows a minimal understanding of good sportsmanship for spectators.
(0)	-Student response is totally incorrect or irrelevant.

Activity 4

Materials:

- Bow rack
- Easton 1820 arrows
- Floor quivers (e.g., cones)
- Genesis bows
- Blue painter's tape
- FITA 80cm faced targets
- Whistle
- Safety rules posters
- Clearly defined shooting range
- "100 Benefits of Exercise" sheet from Appendix
- Archery Journal

Steps:

- Place students in teams of three. Each team will have students designated as A, B, and C players as determined by previous scores.
- Each team will shoot several rounds to determine the seeding for the follow day, practicing good sportsmanship during the following tournament.
- Students will participate in a double-elimination tournament.
- Two teams will compete at a time. The rest of the class will watch the match and support the competitors. You may invite other students, parents, and/or staff members to watch the tournament.

Archery Journal Entry: As a class you will brainstorm and make a list of the short- and long-term physical, emotional, and social benefits of exercise.
OR
Create an individual list of physical, emotional, and social benefits of exercise to share with the class. Compile a class list.
Your instructor will hand out "100 Benefits of Exercise."
Compare the class list with the "100 Benefits of Exercise" list.
Circle 30 items on either list that have the most relevance to you. Discuss why these benefits are important.

(Note to Instructor: See Appendix for handout.)

Archery Journal Entry: Choose one physical, one emotional, and one social benefit that can be gained through participation in archery activities.
In your Archery Journal explain why you chose these benefits and how they are important to you.

(Note to the Instructor: Collaborate with the Language Arts and Media Specialist in the students' completion of the following out-of-class activities. These writing activities are appropriate for a portfolio piece.)

As an out-of-class assignment you will research the possible physical, emotional, and social benefits of participating in archery activities. Select and complete one of the following writing activities.

You will write an article for the school newspaper that will convince students and school staff of the physical, emotional, and social benefits of participating in archery activities.
OR
You will write a letter to your school-based council convincing them that archery should become a permanent part of your school's curriculum. Site and explain the physical, emotional, and social benefits of participating in archery activities.
OR
You will write a letter to a large business or corporation (e.g., bank, manufacturing company) in your community requesting funding for an archery club in your school. Site the physical, emotional, and social benefits students will experience as a result of participating in the sport of archery. Explain the effect that these benefits will have on the community as a whole.

Archery Journal Entry
(Note to the Instructor: Collaborate with the mathematics teacher in the development of appropriate types of graphs for this activity.)
Using all of your recorded scores, create a graph for your journal that demonstrates the change in your skill level over time.

Activity 5

Materials:

- Bow rack
- Easton 1820 arrows
- Floor quivers (e.g., cones)
- Genesis bows
- Blue painter's tape
- FITA 80cm faced targets
- Whistle
- Safety rules posters
- Clearly defined shooting range
- Other materials will be determined by game selected
- Archery Journal

Assessment Activity

(Note to the Instructor: Refer to the Appendix and the Archery Instructor Manual for information to use in the development of the archery assessment questions.)

Students will complete a written test developed by you, as the instructor, covering the content learned in the Archery Unit including but not limited to archery safety procedures, "Eleven Steps to Archery Success," archery range, target, equipment, and other archery-related topics.

(Note to the Instructor: Refer to the Appendix for a list of Sample Games and Activities.)

During the remainder of the class period(s) students may participate in archery games for fun.

Resources:

http://www.ping.be/olivier_plcard/medieval/
http://www.horsearchery.com
http://www.centenaryardners.gil.com.au/history.htm
http://library.thinkquest.org/27344/history.htm
http://www.usarchery.org/naapub/history.htm
http://www.schuetzenbund.de/archery/history/histo/histo.htm
http://www.abc.het.au/olympics/archery/about/history.htm

NASP™

NATIONAL ARCHERY IN THE SCHOOLS PROGRAM

Appendix of Resources

Appendix

Teaching Archery to Persons with Disabilities

Guidelines for Disabilities:

Throughout this document are items which may or may not be familiar to you. Many of the items that are familiar may now have a different definition as the information is provided in this section to eliminate any distortions, misconceptions, as well as additional barriers that people with disabilities have faced over the years due to inadequate terminology.

In most personal and social relationships labels are rarely used, except perhaps as a sign of endearment. However, in a legal or professional sense, there is often a need to categorize people to make them eligible for a privilege, such as a student loan, low-income housing, or special educational opportunities. In class, approach a student as an individual and a person, rather than someone with a disability.

Words can bring people together, or they can push them apart. The words that have been used interchangeably for many years are "impairment," "disability," and "handicap." The handicap or impairment is that vision may be blurred at long range, or there could be difficulty reading small print. When dealing in plain semantics, it should be remembered that disabilities don't always create a handicap or impairment in every situation.

As far as students with impairments, disabilities and handicaps are concerned, teachers must deal with the handicap or impairment the student's disability has created. This can be done through modification of the activity or by modifying the environment in which the activity takes place. One example of this is a person who has blurred vision when looking at a target 60 feet away. This handicap can be addressed with prescription glasses thus modifying the activity, or bringing the target closer can modify the environment.

First, you must work to identify students' abilities as well as their disabilities and plan to accommodate them in the group. The goal is to meet the individual student's needs.

Students with disabilities may require additional class time and have special needs, like space for a wheelchair or an interpreter who knows sign language. Plan for those needs before class begins and try to be prepared for student disabilities, which were not discovered before the session began. Once the first class has been conducted, the planning stage will be easier. Alternative teaching methods may or may not be needed. Take charge of the group and the environment. Students with multiple disabilities may require more than one adaptive device or approach. Experiment with different teaching methods. Other items to note include:

- Ramps or elevators can be added to the facility to eliminate difficulty. The person is assisted past the barrier, or a new, more accessible location can be obtained for the event;
- Narrow doors, poor telephone placement or handles put at levels that are inconsistent with a wheelchair user's needs can create problems;

- Clearing overhanging branches from outdoor walkways, removing doormats, repositioning furniture and clearing debris from walkways will ease many different handicaps;
- Another example of a handicap or impairment is the lack of range accessibility, resulting from any of a long list of disabilities. Steps, high curbs, inclines and improperly designed facilities can all create a handicap or impairment;
- Be creative, modify equipment and procedures to allow the students to reach their highest level of performance;
- Build each lesson plan on previously learned knowledge;
- Use a variety of teaching methods in classes. Alternate between lectures and practical exercises and use visual aids to play to each student's strengths. Always remember that different students learn differently;
- Repeat safety rules, fundamentals and other information frequently;
- Encourage students to do things independently using as little adaptive equipment as possible;
- Assist minimally, but whenever necessary;
- Provide regular feedback whenever something goes right, regardless of level of success; and
- Use discreet physical contact to correct positions and help the child maintain the safety of the equipment.

Disability Awareness:

Persons with disabilities have the same needs as every other person in the world. Students need to feel the joy of learning, sharing and growing, and to experience new challenges. No matter what the disability, all persons have the potential to become whatever they want to be.

Communication: An instructor's major concern is communication with students. Addressing the impairments or handicaps that some disabilities cause may require modification of communications techniques. Deal with the person, not the disability. Treat adults as adults, and not as children. Talk to the person with the disability and not just to the companion who may be along with them. When offering help, wait until they accept it, as they are the only one who really knows if they need help or not. Take cues from the person with the disability concerning what they can or cannot do, and don't emphasize any supposed differenced in their abilities.

There are a variety of impairments or handicaps, and many ways and levels to communicate with the individual students that address their impairments yet still allow them to feel they are part of the group.

Students with Physical Impairments:

Because there is such a wide range of causes, definitions, and severities of physical disabilities, there is no recognized system for classifying a disability by degree. Terms referring to physical conditions such as "paraplegia," "cerebral palsy," and "muscular dystrophy" are good clinical descriptions but have little functional meaning,

since people with the same condition differ greatly in what they can do. The best way to determine what a person can do or not do is to ask them.

Knowing the abilities of students is very important. Keep in mind that individuals with the same physical condition will vary in both preferences and abilities to do the same task.

Thousands of people have some degree of physical disability. Just because they have disabilities does not mean they can't do everything required in a shooting sports class.

Mobility poses the biggest problem for many students. Fortunately, shooting doesn't require a great deal of movement. In situations requiring movement, adaptations may be made.

Lack of strength poses a problem for some persons with disabilities. Equipment may be modified to alleviate the problem in many cases.

When working with people with disabilities:

Don't assume that a person in a wheelchair needs help. If the person requests help, by all means help, but don't assume they want it. If a person with a disability falls, wait for them to say that they need help getting up before helping them to their feet.

Be patient without being protective or overindulgent. Although a person may be progressing as fast as the rest of the class, it may be very important to them to do it themselves.

Crutches, canes, and wheelchairs are necessary pieces of equipment. Do not put them in the closet or roll them out of the way to "tidy up." Doing so leaves their owner stranded.

Allow all students to do all the activities offered. Do not underestimate the capabilities or interests of the individual.

Misconceptions and myths have always been the major handicap of persons with disabilities. So often, the person's perceived handicap exists only in the teachers" mind, or the minds of other students

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Personal aids and devices:

People with physical disabilities often depend on tools to increase their functional abilities. Typically, those tools such as a wheelchair-loading device on the top of their car, or a custom made, ultra-lite racing wheelchair, become as personal to that person as clothes do to others. As a result, any handling of a person's tools should be done carefully and considerately.

In most situations, the person has complete mastery of their equipment and will not need help with it. If they do need help it is not only proper, but usually necessary, to ask them how to help. For children, ask a parent or guardian how to assist them.

Some pieces of equipment have rules or restrictions regarding what the operator can do while using them. Ask the user what might cause trouble, i.e. vibration, shock, or extremes of temperature.

Hearing Impairments:

Hearing disabilities are probably the second most common disability in modern society. As far as shooting sports are concerned, this disability will not cause as many difficulties for the participants as other disabilities might. The main teaching tasks will be to assess the degree of the disability and then adjust methods of communication to resolve any handicap. There are two types of hearing disabilities: one is any of a varying degree of hearing loss. Some form of hearing device to amplify sound is needed. Depending on their hearing loss, the student may still need to watch the instructor's mouth and partially read lips in conjunction with the sounds they are hearing. The other form of hearing disability is deafness, where the person is unable to understand sounds even with amplification. Two-way communication techniques may need to be used such as signing, lip-reading, writing or any of the new keyboard devices now available.

Students with Hearing Impairments:

Hearing impairments are among the most common of disabilities. As with other disabilities, there are different levels of hearing impairment. People who are "hard of hearing" have difficulty hearing other people's speech, but can understand it with the help of amplification. People who are "deaf" Cannot hear sound well enough to distinguish it, even with amplification.

A person who is hearing impaired may also have trouble speaking clearly, since he/she may not be able to hear well enough to correct pronunciation errors in their own speech. People tend to speak the way they hear. Some people with severe hearing impairments may choose not to use their voices.

"Lip reading" is a technique learned by some people with hearing impairments. It assists them in understanding the speech of others; Lip-readers watch a speaker's mouth and identify words by the shape and position of the lips and tongue. This is a difficult skill to master, since less than 35 percent of English words are recognizable solely by mouth positions and movements. Do not expect your hearing- impaired students to read lips. Body language and what the speaker is saying are very important.

People with speech impairments as well as hearing impairments often use signing and writing for communication. For some, writing is the only means of communication available. People with hearing or speech impairments generally find communication to be their main problem, rather than the techniques of a particular activity.

Interpreters who translate verbal language are often necessary in order to include people with severe hearing impairments. Often, finding an interpreter can be accomplished by checking with the student's family to locate a volunteer. Ask other people with hearing impairments for a reference, or call the local department of rehabilitation or social services for suggestions. Check for special education personnel in the school system for interpreters who are teachers or aides. Contact local technical or community colleges for names of instructors who teach sign language, and check the community service listings in the phone book for agencies that serve people with hearing impairments.

Visual Impairments:

Visual disabilities vary from the lack of acuity (clearness) and field (the angle of vision) to legally blind and totally blind. The degree of the disability is measured against the "20/20" formula. The formula means that in one eye a person can see at 20 feet what a person with the benchmark 20/20 vision can see at 20 feet. An example of a visual disability is if someone has 20/100 in one eye. That means that at 20 feet that eye can only see what a person with perfect vision can see at 100 feet. Visual disabilities can also encompass difficulty in perceiving colors, or an extreme sensitivity or insensitivity to light. The degree of the disability will govern the amount of the handicap and, in turn, the amount of modification needed either to the environment or the activity.

When working with people with visual impairments:

If someone seems to need assistance, offer help but don't give it unless the offer is accepted. If it is accepted, ask for an exact explanation of how to help. Generally a vision impairment has no affect on a person's hearing or their mental abilities, so don't shout at, or talk down to, a person with a visual impairment. Talk directly to them and not to others on their behalf. Don't be afraid to use words such as "see," "look" or "blind." Such words are part of everyday vocabulary, and persons with a visual impairment use them, too. When meeting a person who is blind, be sure to identify yourself and remember to let them know when leaving. Do not pet guide dogs, especially without the owner's permission. A dog in a harness is on duty, and if the dog is distracted the owner may be placed in jeopardy.

Use specific, descriptive language when giving directions. Use colors, textures, movements, and directional indicators to make directions more vivid for the person with a visual impairment. Orient the person with the visual impairment to the placement of objects around them. The analogy of using the clock face to pinpoint locations works well for all people, not just those with disabilities. For example: "The bottle of cleaning oil is at nine o' clock and the patches are at three o' clock, on your table." When seating a person who has a visual disability, place their hand on the back of the seat and let them seat themselves. Orient the person to new environments by describing sizes, shapes, distances, and any obstacles or hazards. Minimize noise-high levels of background noise can be very distracting and confusing to a person who relies on their hearing for information about their surroundings. When demonstrating a skill, the person with a visual impairment may want to hold the instructor's hands as they work. Explain graphically, in concrete terms, what is being done as it is done. Sometimes it's best to stand behind a person and reach through their arms, so they can follow the exact movements of the instructor.

When assisting someone with a visual impairment:

If someone with poor vision accepts an offer to guide them, ask, "Would you like to take my arm?" Brush a forearm against theirs so the blind person can grip the arm

above the elbow. Children will grip the same way, only at the wrist. Some aged and/or disabled will want to walk arm-in-arm because it offers more support. Important! Don't attempt to lead someone by taking his or her arm!

The instructor's arm should be relaxed at their side, while the persons arm will be bent at the elbow. The instructor should keep the student's arm close to their body.

While using the sighted guide method, the person with the visual impairment should walk a half step behind the guide. The guide must walk at that person's pace. If the person being guided pulls back or tightens their grip, the guide is probably going too fast. Never try to push or steer any person in front, and always remember to mention ramps, stairs, narrow hallways, doors, etc. Add whether the stairs go up or down, which way the door opens, and when they've reached the last step.

When opening doors:

When approaching a door, say so. Keep the person's free hand side to the door. Tell them which way the door opens and allow the person to hold the door open.

Students with Learning Impairments:

People with learning disabilities often have average to above average intelligence. However, they lack a particular skill to complete the learning process. Learning disabilities take many forms and may involve any of an individual's senses.
*Some read, "saw" for "was" and write "71" for "17."
*Some have difficulty with sequential things like yesterday, today, and tomorrow.
*Some cannot remember well.
*Many have difficulty with specific sources of information. For example, auditory learners retain spoken information well but have great difficulty retaining information they read.
*Some have poor coordination or timing.

In order to facilitate learning:
*Use a variety of formats (verbal, visual, and physical) to communicate information.
*Break down skills into smaller parts.
*Use colors or symbols to differentiate left from right, front from back, etc.

People with what are called "behavior-motor functioning difficulties" may be over active, behave impulsively, or have coordination problems. When instructing, provide clearly defined activity spaces (range, classroom). Complete one activity before starting another, and provide a variety of activities so that everyone's strengths will shine through.

When working with students who are developmentally disabled:

Concentrate on the abilities and interests of each individual and don't underestimate those abilities or interests. Break down directions into small steps that can be learned sequentially, and demonstrate where possible. Speak to students with dignity

and respect, regardless of their learning ability level. Keep in mind that some people's ability to understand speech is much better developed than their ability to create speech. Don't talk about a person in front of them, a speech problem does not mean they can't understand. Provide positive feedback for positive experiences, not negative feedback for negative experiences. If the person appears to need help, wait until the offer to help is accepted. It may be very important for them to do something themselves even if they don't do it perfectly.

The structure of the activities is important. If a short attention span is a problem, provide a variety of activities with different tasks. Allow plenty of time for learning and completion of a task and, above all, repetition is extremely important.

Before beginning a new activity, review the safety rules. A person with a developmental disability may lack the judgment to understand which situations are dangerous. Persons with developmental disabilities may not be aware of what action is inappropriate or appropriate, so discuss it with them. Provide some non-competitive games and activities, preferably ones that don't eliminate some players from the action.

Students with Mental Impairments:

The terms "mental retardation" and "mental handicap" are now outdated. Instructors must refer to students with a slower ability to learn as "developmentally disabled." There are different levels or categories of developmental disability. The general categories used are mild, moderate, severe, and profound. The range between mild and severe is extremely broad. Many people who are developmentally disabled can easily participate in shooting classes.

People who are developmentally disabled may also have accompanying physical disabilities, and may require help with some tasks. Be sure to consider if they will need help to participate in an activity. If so, make sure that an instructor, a friend, or volunteer understands how to provide that assistance.

Instructor and Student safety:

No matter what is done to promote safety, teaching the shooting sports will always hold a certain element of danger. Instructors have given their ideas on how to make the profession a safer one for those on the shooting line.

Close adherence to range procedure is, of course, the best way to avoid problems with safety. However, there are a few things instructors can do to protect themselves, their students and keep problems from happening.

Range Procedure Tips

By dividing the range space into shooting and non-shooting areas, only instructors and the students they are working with are allowed to get close to the shooting line. This

keeps people from wandering close to the shooters, distracting them, and potentially having a safety problem.

Program Safety

The safety of all students in the program begins right in the classroom. By ingraining archery safety into the students' minds, no one in the class should ever have to worry about another persons' equipment. Safe handling is when every shooter knows 100% of the time what the status of their bow or arrow is. As an instructor, teach through example. A positive attitude, and total control over the class at all times, will teach the students the same attitude toward total control over their archery equipment.

Environmental Safety

Many facilities have been made barrier free, while others are still in the process of becoming accessible to all persons with disabilities. It is the class provider's responsibility to determine if barriers still exist in the class facility or if the accessibility changes that have been made lend themselves to the shooting sports. It can be little things that are not only irritating, but can pose a real danger (i.e. positioning tables too close for wheelchairs, walkers or crutches, or doormats that cause problems for wheelchairs and crutches and others). As people with disabilities are trained and graduate, they can act as critics on access and safety, and can give helpful suggestions.

Access for All People:

The Americans with Disabilities Act of 1990 has mandated access to all people, however, complete access at every facility will take time. During this implementation period, flexibility will be important in planning programs and finding facilities at which to hold classes. Endeavor only to use facilities that are fully accessible to all students. The following is information that, even if as a last resort, will help utilize facilities that have not been made fully accessible.

Wheelchair Pointers:

Moving a wheelchair:

*Don't lift or steer with the armrests, as they come off.

*Don't let fingers get between the seat and the frame because they could be crushed.

*When lifting, grab the frame, not the wheels.

Taking a wheelchair up stairs:

*This is a two-person job!

*Position the chair against the bottom step, back to the stairs.

*Standing on the first step, take a firm grip and lift the chair onto the first step.

*The second person must stand below the chair to lift and steady the chair as it goes up the stairs. They must hold the frame, not the wheels.

*Make sure the second person is strong enough to hold the weight of the chair and its occupant in case it slips.

Carrying a wheelchair down stairs:

*This is a two-person job!

*Do not attempt to take an occupied wheelchair down stairs unless the occupant's weight and the weight of the chair can be lifted repeatedly, and full control can be maintained.

*Grasp the handgrips and tip the chair back. With the second person holding the chair from below, slowly move the chair forward to the stairs.

*The lifters must use their bodies as a brake starting at the first step. Don't wait until the chair falls to do so.

*Rest between stops.

Pushing a wheelchair up a curb:

*Tip the chair back and place the front wheels on the top of the curb.

*Lift/push the chair onto the curb.

Pushing a wheelchair down a curb:

*Place your foot on the tipping lever. Take firm hold of the handgrips, and then tip the chair backward.

*Gently lower the chair down the curb, taking some of the weight yourself and making sure both wheels hit the ground at the same time.

Change of Environment:

A change in the program's environment can accomplish several major goals. It can provide access to certain individuals, it can eliminate a handicap and it can make the activity more enjoyable for all participants. The one idea that educators must constantly reinforce is-don't create access for one person that will turn into a handicap for another. An example would be if a "guideline" for a person with a visual impairment was improperly placed on the shooting range, making it a barrier for a person with a physical impairment. An example of a proper change is a ramp – an environmental change that can benefit persons with physical impairments and the elderly, without impairing other students. Railings on the ramp can aid students with visual impairments. Directional beepers that are activated on the shooting line are a direct benefit to the shooter with a visual impairment, and adding a target that shows a hit (balloons, exploding targets, etc.) is of benefit to the shooter with a hearing impairment. In all these cases, the bottom line is that the change in the environment must not handicap any other shooters.

Change the Program

All people learn differently. Instructors must learn to recognize the different learning styles of students and either modify methods or bring additional teachers in to address different students. Some students may need total "hands-on" learning experiences, or do better with written directions. Others may be very productive using

spoken or visual directions. An instructor, teaching to any group of students using only one style, will only reach part of the class.

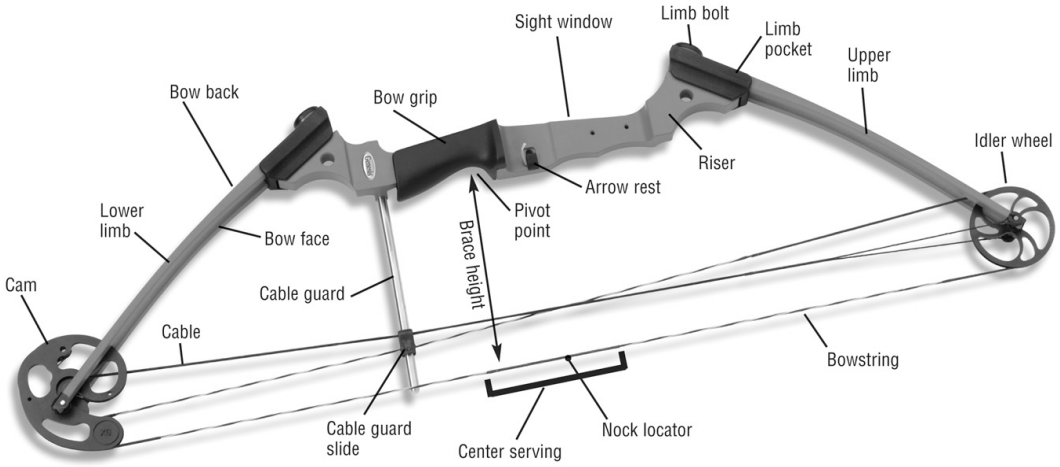
Program changes can run from various forms of special scoring systems to the use of adaptive devices. An example is the “Spot Round” for archery competition. Students shoot two complete rounds at a 40 cm target from 20 yards. By referring to a handicap chart, students are then switched to the proper sized target to fit their skill level. From that point on, the students compete on equal levels with periodic adjustments for improvement in their skill level.

Another example of a program change is once again to add a balloon to the center of the target to provide either a visual or auditory alert of a hit. Imagination, modification, and communication are the key elements to bring a shooting sports program into the mainstream, and allow all people to learn and enjoy. To be flexible enough to modify the program or the product where needed and to be able to communicate your needs and understand the needs of others is the goal of both the teacher and the student.

Archery Theory & Assistive Devices

Theory:

By using lightweight compound bows and any of the multitude of the adaptive devices available, most people can be taught to shoot a bow and arrow. The invention and development of the compound bow has literally brought archery to every man, woman and child regardless of their age or physical abilities. In addition, the development and the full scale use of mechanical bowstring releasing devices has also opened many doors to new shooters, eliminating the need for strength or manual dexterity. Research into audible indicators has allowed accessibility to the sport of archery for those persons with visual disabilities. It has advanced to the point of staging tournaments exclusively for those persons with visual impairments, including those people who are totally blind. With the full array of archery products on the market, many easily converted to use as an adaptive aid, the majority of people with varying abilities can now enjoy the sport of archery.



Bows :

The compound bow can look complicated to the new shooter, but in reality it is just a system of levers and pulleys. The compound bow could also be included in the next section on assistive devices. So, when speaking about the compound, it must be recognized that what makes this device so unique is that it is not made specifically for persons with disabilities. It is the number one selling bow in the world for all forms of archery.

Assistive Devices

Assistive Devices for Hand and Wrist Disabilities:

Amputees have dozens of mechanical bowstring release aids to use or adapt. The aids come with "T" shaped handles, wrist strap or a concho-style. Their trigger mechanisms can be located on the top, bottom or straight out the back, with a variety of ways to attach them to the bowstring. Many of these devices can be mounted directly to prosthesis with little or no adapting.

Elbow and Wrist supports

These supports can run the full gamut from a regular archery wrist sling or duct tape to a commercially manufactured support. A mechanical bowstring release aid can be used in conjunction with a support.

Wrist slings can be worn on the archer's bow hand or prostheses or attached to the bow. The sling's basic use for all archers is to keep the bow from falling out of their hand when shooting with a relaxed bow hand.

Commercial supports are manufactured for treatment of carpal tunnel syndrome and for use in spinal cord injuries. Products such as Thermo Plasti or duct tape can also do wonders in providing that extra support or confidence for the shooter.

See the illustrations on the following pages on ways to adapt equipment to better suit archers with these types of disabilities.

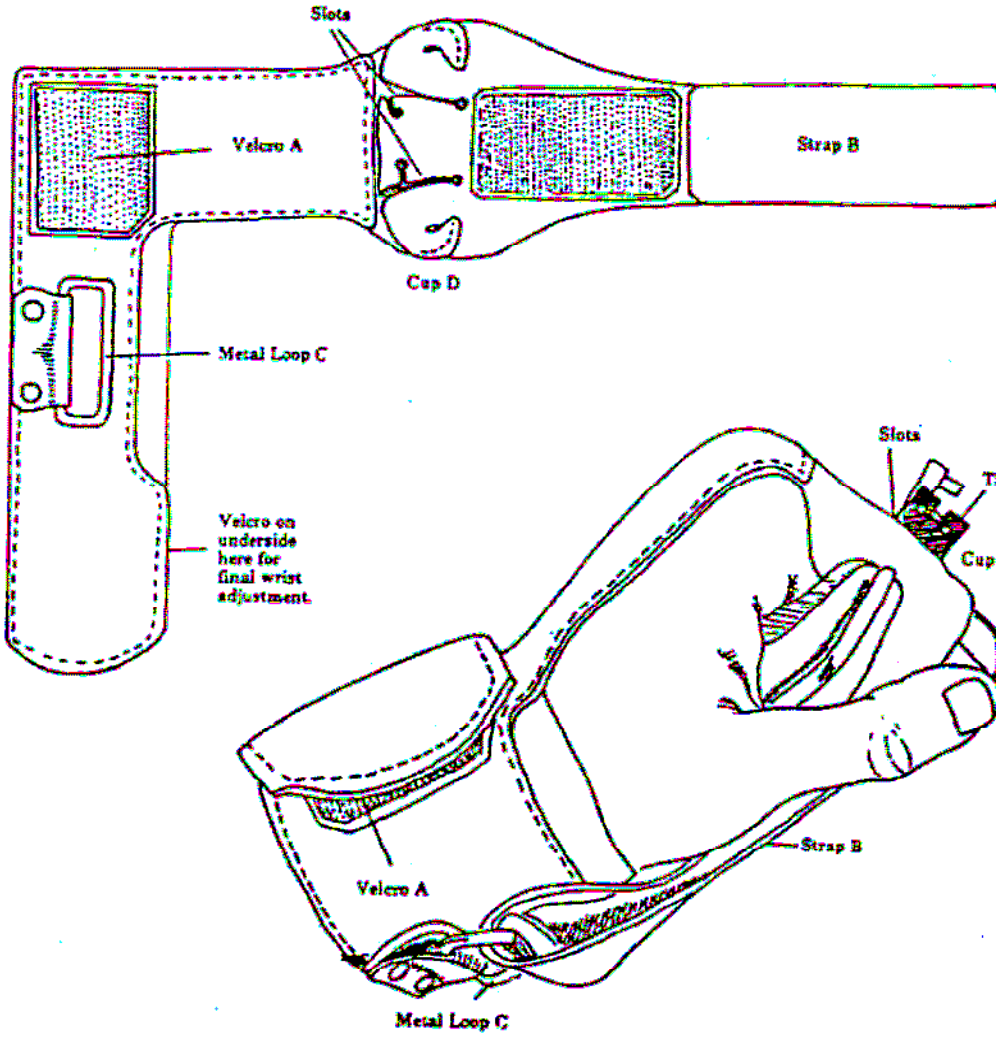
Archery Release Cuff

Operational Instructions

1. Place cuff on the top side of hand, centering 2nd knuckle of fingers under cup D, with Velcro A on back of wrist and metal loop C on palmer side. Tighten around wrist.

2. Insert TSS release between fingers and throu slots in cuff.

3. Insert strap B through metal loop C and secu to desired tightness.



Archery Splints
Operational Instructions

Long Arm Brace

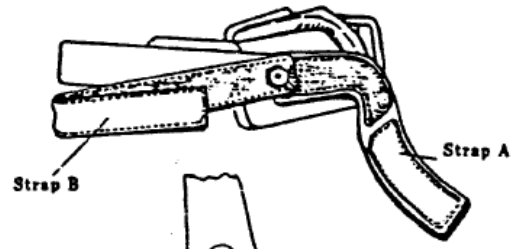
1. Place dycem pad around bow handle, attach bow holder so that it is properly angled to bow handle and comfortable to the hand. Be sure to allow enough space for the webbing of the thumb to rest on the bow handle where it should. Secure with strap A.

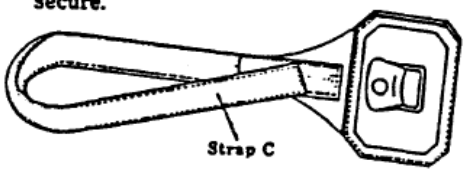
2. Center brace on elbow. Secure wrist support around wrist and forearm with the channel on the palm side.

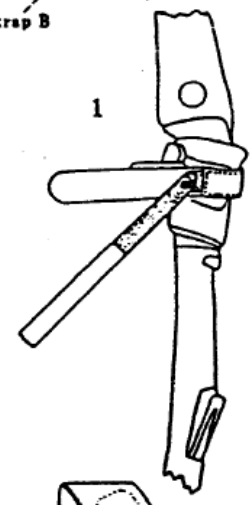
3. Pass elbow strap between elbow and plastic bar. Tighten fold back and secure.

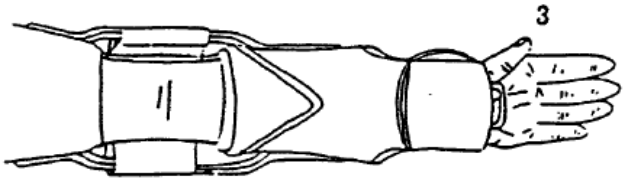
4. Place bow in hand and slide metal bar into channel and secure to wrist support with strap B through metal loop.

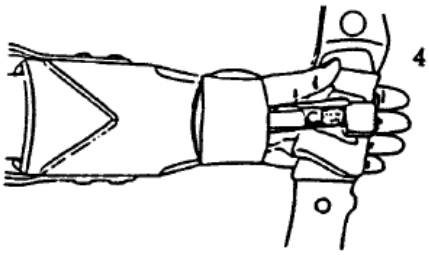
5. Position pressure pad on back of hand. Wrap strap C around metal bar and pass strap through metal loop on pressure pad and secure.

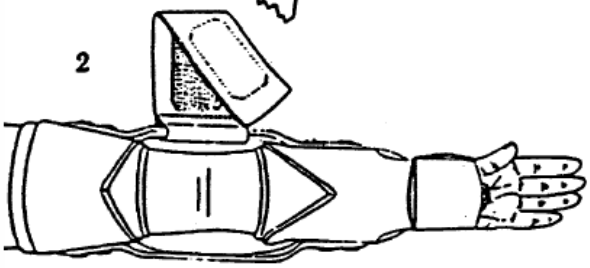


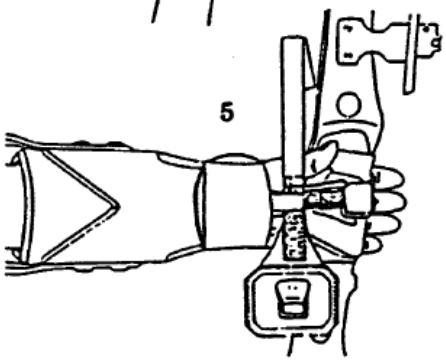












Note: Loosen equipment and check

Archery Splints
Operational Instructions

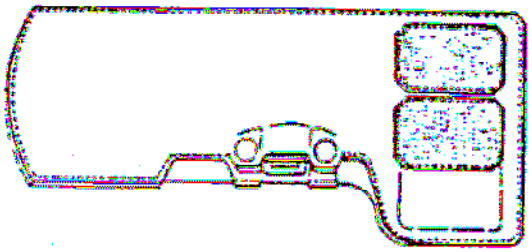
Wrist Support

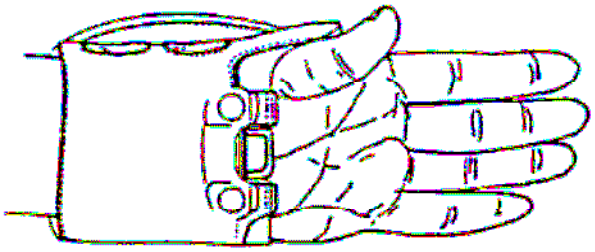
1. Place dycem pad around bow handle, attach bow holder so that it is properly angled to bow handle and comfortable to the hand. Be sure to allow enough space for the webbing of the thumb to rest on the bow handle where it should. Secure with strap A.

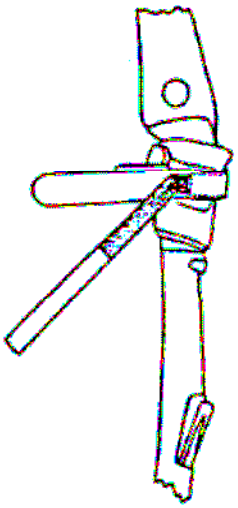
2. Secure wrist support around wrist and forearm with the channel on the palm side.

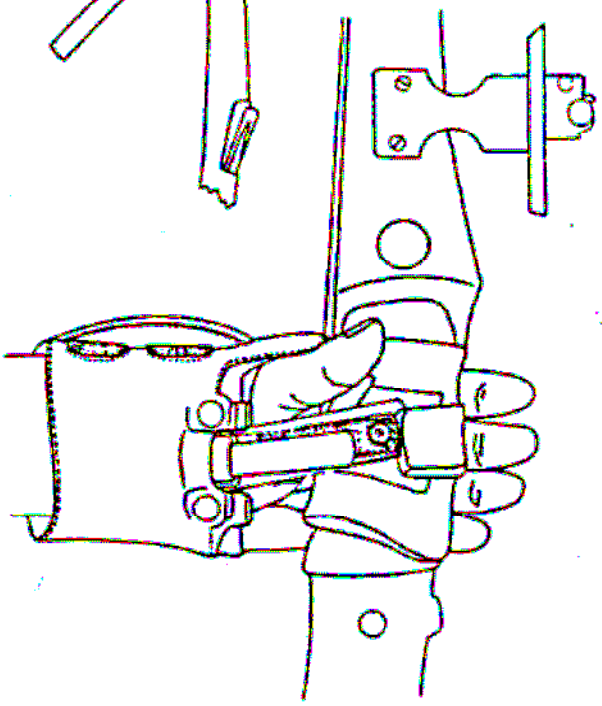
3. Place bow in hand and slide metal bar into channel and secure to wrist support with strap B through metal loop.

4. Position pressure pad on back of wrist. Wrap strap C around metal bar and pass through metal loop on pressure pad and secure.









Note: Loosen equipment and check for pressure spots frequently.

Bows Placed Sideways

In order to assist students who might have cerebral palsy or might be missing an arm, hemiplegics or even missing both arms – a method might be to place the bow sideways. By building or buying a system that will hold the bow horizontally in front of the archer, students can participate when they might have never thought they could before. A bench press lends itself to quick conversion – just tape the bow to the uprights.

Nocking points or release cushion buttons

All shooters, no matter what their abilities, need to use some form of nocking point. They act as a nock located to ensure that each arrow is loaded at the same point on the string. They also eliminate arrows slipping off the bowstring or sliding up and down on the string while loading or at full draw. A nocking point can be as simple as a piece of tape, shrink-wrap, tied thread or a crimped-on brass clamp.

Cresting made of tape

People with visual disabilities are often unable to see the color or pattern of arrow cresting. By using cresting made from particular combinations of tape, shooters with visual impairments will be able to identify their arrows from among several similar ones in a target.

Feel-able scoring rings

In order for people with visual disabilities to score their targets, tape bands of string onto the target outlining the scoring areas. Building targets with scoring rings made out of different fabrics such as burlap, linen or tin foil, also allows the shooter to score the target by touch, rather than by sight.

Four-fletched arrows

Archers with sight impairments or learning disabilities often have trouble distinguishing the index feather or vane (generally the different-colored feather or vane which would eliminate the confusion of proper nocking configuration by eliminating the need for a specific vane (or the index vane) being placed a particular way.

HISTORY

The bow and arrow are two of the oldest tools known to mankind, dating back to the Stone Age. As the bow and arrow became dominate, history began to change. Creating lore and legends of Attila, King of the Huns, Genghis Khan, Robin Hood and William Tell, the bow and arrow literally changed the world.

Modern American archery history began in 1828 with the first organized recreational archery club formed in Philadelphia, growing to over six million archers today.

Archery adapts easily to individual physical needs and archers face only the challenge of improving their own score, competing against others or testing their skills in pursuit of wild game.

Excellent physical condition is not required for beginning archery classes. Upper body, shoulder and arm strength can be developed, as can hand-eye coordination, and both gross and fine motor skills.

For a student, competitive shooting matches provide an opportunity to both compete against one's self and to share in personal achievements, team spirit and team pride in competition with others. Participating with a team can create feelings of unity between students and their peers and allows students to develop disciplined self-control.

Students' knowledge of shooting can enhance their enjoyment of the outdoors thanks to the many options that shooting presents.

A More Detailed Archery History

Experts believe the bow and arrow are one of the three most important inventions in human history – right alongside the discovery of fire and the development of speech. Once, sticks and stones were man's only weapons against bigger, stronger and faster predators. But armed with the bow and arrow, man suddenly became the most efficient hunter on Earth, able to shoot his prey accurately from a safe distance. The bow and arrow gave humans greater protection, a diet richer in protein, and also a more abundant supply of the raw materials like bone, sinew and hide, upon which early man depended for survival.

The bow and arrow were crucially important to man's survival at one time. Even though guns replaced bows as a weapon almost 400 years ago, archery has evolved as a sport because it is now a unique and rewarding challenge. There are now at least five million archers in the English-speaking world.

Today, the "twang" of the bowstring can be heard at schools, municipal parks, club ranges and in the programs of various youth groups. The reasons for this popularity are simple. It is a sport that can be practiced at any time of the year, indoors or out, in any part of the world, with friends or alone. It is relatively inexpensive. Unlike athletes in

many other sports, an archer can improve with age, since endurance and skill are far more important than brute strength. Archers in their 80s have won competitions!

Primitive cave paintings, such as those discovered in Eastern Spain, prove that man has hunted with a bow and arrow for at least 12,000 years. Ancient arrowheads found at Bir-El-Atir in Tunisia date back even further, some as early as forty thousand years ago.

3500 BC: The ancient Egyptians used two kinds of wooden longbows, the simple one-piece or "self: bow and the double recurve type. They also used the shorter composite bows, made of Oryx horn and wood. Many of these bows were imported from master boyers in Syria and Asia Minor. The Egyptians' leaf-shaped and diamond-shaped arrowheads were made of flint and later bronze.

1700 BC: The Assyrians, who dominated the Middle East for centuries, were the first to use mounted archers. Their powerful composite bows were uniquely triangular in shape and short enough to be easily handled by archers on horseback.

1200 BC: The Hittites' skillful use of archery from chariots was an effective form of mobile warfare. Their light, fast chariots enabled them to out-maneuver and out-shoot their opponents in many Middle Eastern battles.

100 BC: Although the Romans were great soldiers, unparalleled in hand-to-hand combat, they were ineffective archers. To compensate for this, they hired professional bowmen from nations within their frontiers, who fought under the Latin name: Cohortes Sagittariorum.

AD 100: The Parthians were Asiatic horse-archers who invented the art of twisting around in the saddle and shooting backward while at full gallop. Known as the "Parthian Shot," this acrobatic maneuver enable the lightly armored Parthians to ride swiftly through enemy ranks, shooting arrows in any direction.

AD 1066: The Vikings introduced the longbow to the French when they settled in Normandy in the 8th century. The Normans became expert bowmen, and the archers led by William, Duke of Normandy, use the longbow to defeat King Harold's Saxon army at the Battle of Hastings in 1066. The superiority of the longbow persuaded later generations of Englishmen to adopt it as their main weapon.

AD 1200: The Mongols, armed with powerful composite bows and iron-tipped arrows, conquered most of the world known to them. All of Asia and Europe trembled before these fierce, disciplined, nomadic horse-archers, who, led by the military genius, Genghis Khan, perfected the art of mobile warfare.

AD 1400: English archers, shooting the mighty longbow and "cloth yard" (37 inches) shafts, gained everlasting fame and respect in the 13th and 14th centuries by defeating the French in such historical battles as Crecy, Potiers and Agincourt.

AD 1600: The bow and arrow began as a weapon in ancient Japan, but by the 17th century, had evolved into a ceremonial archery or kyudo. Still very much a tradition, archers shoot arrows that are one meter long, and bows that are often seven feet or more in length and asymmetrical in shape.

Early tournament archery

By the time of the 17th century in England, lead bullets and gunpowder had replaced the bow as a weapon, but there were still large numbers of trained archers, and interest in the bow remained strong.

Fairs and festivals included contests that captured the fun and challenge of archery. Archers competed by shooting balls tossed in the air, by shooting for distances or shooting arrows into and through armored shields.

Tournaments were held, and target archery evolved as a competitive sport. In 1781, the Toxophilite Society was formed. Women wanted to join men in archery competitions and in 1787, the Royal British Bowmen became the first archery society to admit female contestants.

But the British weren't the only people interested in competitive archery. Many countries in Europe and Asia also included archery in their national sports. In Turkey, the Archery Guild – founded in 1453 – set aside large areas for distance for "flight" shooting. Incredible distances were shot and recorded on stone markers. The farthest distance occurred in 1798 when Sultan Selim shot a flight arrow 972 yards and two inches – a record that stood until as recently as 1968.

In the United States, the Civil War was partly responsible for the rise in interest in archery. After the war, Confederate soldiers were not permitted to own firearms. This forced two veterans, brothers Will and Maurice Thompson to learn to hunt with a bow and arrow. Maurice's book, The Witchery of Archery, described their hunting exploits and captured their love of the sport. The book was widely read and interest in archery spread throughout the country.

In 1879, the Thompsons helped organize the National Archery Association, and Maurice was elected president. The first tournament was held the next year. Will won, and he won the following five tournaments as well.

Although an archer – the mystical Greek hero Hercules, supposedly founded the Ancient Olympic Games – archery did not become an official event until the modern Olympics, held in Paris, France, in 1900.

The French hosts had no standard rules to follow, so they tried to accommodate the different countries' styles and rules. For example, they included an archery event called "la perche," or the Popinjay," which is still popular in France today. The "popinjay" targets are brightly colored "birds" made of feathers tied to the top of a mast. The French won three gold medals in the contest, while Belgium won two and Austria took one.

Archery was also in the next Olympiad, held at the St. Louis Worlds Fair in 1904. Rain turned the tournament grounds into a quagmire, but the determined archers shot

anyway. Few foreign archers registered for the tournament and the Americans won all the medals.

Competitors donned their best sporting finery for the 1908 Olympics in England. As the chief archery authority of the host country, the Royal Toxophilite Society set the rules for the competition, which included 25 ladies and 15 gentlemen from Great Britain, 11 gentlemen from France and one American. The rules established by the Society covered more than shooting. Manners on the field were also a concern. For example, rule #8 read: "The gentlemen will not be allowed to smoke at the ladies' targets." Great Britain won six medals that year, France four and the lone American gentlemen, Henry Richardson, returned home with a bronze.

Sweden chose not to include archery in the 1912 Stockholm Olympics and in 1916, due to World War I, the Olympics were not held. But in 1920, when the games were held in Belgium, the host country included archery because it was popular there. "Popinjay" was a major event. Not surprisingly, Belgium swept six medals, with the Netherlands, France and England each winning one.

After the 1920 Olympiad, archery was not a part of the Olympic Games for more than a half century. Archery enthusiasts, anxious to compete in international tournaments, knew that universal rules needed to be established. The breakthrough came in 1931, when Poland hosted the first international archery tournament, and with the help of France and Poland organized the Federation Internationale de Tir A L'Arc. Now known as FITA, it is the central authority for international archery competition today.

Later tournament archery

By the 1972 Olympics in Munich, FITA rules were recognized throughout the world, and the "FITA round" was adopted for Olympic competition. In the single FITA round, men competitors shot six sets of arrows from distances of 90, 70, 50, and 30 meters; the women, the same number of arrows from 70, 60, 50, and 30 meters. Olympic archers shot two FITA rounds in the four days' competition, and the top three men and women with the highest combined totals were awarded gold, silver or bronze medals, respectively.

This format continued unchanged in the ensuing Olympics, held in 1976, 1980 and 1984. Then, in the 1988 Games, the competition was changed to feature two new rounds – the Grand FITA and Grand FITA Team Event.

The Grand FITA round consisted of an Open Round shot as a FITA round, and the Finals Round, in which the 24 men and 24 women with the highest scores in the Open FITA compete. The Finals Round was an elimination in which archers shot nine arrows from each of four distances of the FITA Round. After 36 arrows, six archers were dropped and those left would move on to the next round. This process of elimination continued until only eight men and eight women remained for the exciting final 36 arrows.

In the Grand FITA Team Round, teams from each country are made up of the top three archers from the Open Round shooting at the same time. The scoring was cumulative, and the eight best teams in the Grand Finals shot their final arrows starting at the shortest distance.

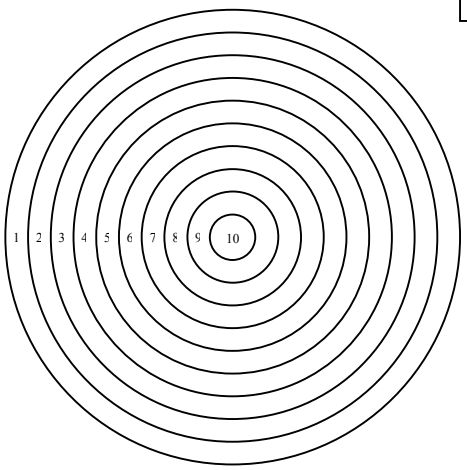
In 1992, a more challenging round was developed. The ‘New Olympic Round’ featured match competition among the competitors. During the first two days of the competition, the archers shot a single FITA round as before. The top 32 archers advanced to single elimination match play, shooting one-on-one against their competition. Twelve arrows, shot at 70 meters determined who competed for a medal. A single arrow broke ties closest to the center, in a shoot-off. The new Olympic Round provided spectators with a fast-paced competition that often came down to the last arrow to determine the winner.

Note: This may be made into a poster for use in the classroom and/or gym.

Sample 80cm target face

Scoring is from 1 (outside ring) to 10 points for the inner yellow ring. Anytime the arrow cuts the line of the next higher score – the higher score is awarded.

Note: This may be made into a poster for use in the classroom and/or gym.



NASP scoring instructions

After each stand of arrows, the target should have 10 arrows in each face. Five will be of similar colored nocks (STUDENT 1); five will be of another color (STUDENT 2). Please go by the scoring rings above. If an arrow touches a line, it is counted as the next higher score. If the arrow is outside the total target circle or misses entirely, it is a zero. Arrows that hit the target and bounce off should be left blank and then after **all** shooting is over, students will be allowed to shoot again for "bounce outs." No scorer should pull arrows **until after** they are scored and marked on the score sheets/clipboards. Indicate the number of 10s/Xs for final ranking purposes. Upon completion of the 15 meter round, scorers and students will check the accuracy of the scores and then sign the scorecard before turning them in to the scorers table. See below for an example of a student's scorecard.

NAME: Bill Smith							Date: 2/12	
Gender: M F Male			GRADE LEVEL: ___7____				Shooting Lane: ___6___	
10 M. SETS	1	2	3	4	5	End Total	Running Total	X
	7	8	9	10	10	44	44	2
	9	9	6	10	8	42	86	1
	10	9	8	9	10	46	132	2
TOTAL SCORE							132	5
15 M. SETS	1	2	3	4	5	End Total	Running Total	X
	7	8	9	10	10	44	176	2
	10	9	6	10	9	44	220	2
	6	8	9	10	10	43	263	2
TOTAL SCORE							263	6
OVERALL TOTAL SCORE							263	11

Note: These may be made into posters for use in the classroom and/or gym.

Glossary of Archery Terms

Aim: Any method used to point the arrow in the directions you want it to go.
Anchor: Consistent placement of the drawing hand to a position on the face, mouth or jaw.
Arm Guard: A piece of stiff material such as leather used to protect the bow arm of the bowstring upon release. It is worn on the inside of the forearm of the bow arm.
Arrow rest: The horizontal projection on the bow upon which the arrow lies.
Back: The side of the bow away from the bowstring.
Bare bow: A style of shooting – without a bow sight.
Blunt tip: An arrow point usually made of rubber and used in some archery activities.
Bow: A device made of a piece of flexible material with a string connecting the two ends, used to propel an arrow.
Bow sight: A mechanical device placed on the bow, which the archer uses for aiming at the target.
Bow square: A "T" shaped device used to measure brace height and for placing nock locaters.
Bow stringer: A device used to string a bow safely.
Brace height: The distance between the pivot point to the string when the bow is strung. (Also called the string height and once called the fistmele.)
Broadhead: A sharp, razor bladed arrow point used for hunting
Butt: Any backstop to which a target face is attached.
Cant: To tilt the bow left or right while at full draw.
Cast: The ability of a bow to propel an arrow at a given distance.
Center serving: The material is the center of the bowstring where the arrow is nocked. Protects the string from wear.
Composite bow: A bow made of several materials.
Compound bow: A hand-held, hand-drawn bow that uses a pair of cables and wheels to store more energy.
Crest: The colored bands around the shaft of an arrow, which aid in its identification.
Draw: To pull the bow string back. Also the distance the bowstring is pulled back.
Draw weight: The weight, measured in pounds, used to bring the bow to full draw. Also the weight on a bow, using 28 inches to front of bow as the standard draw length.
End: A set number of arrows that are shot before going to the target to score and retrieve them.
Finger Tab: A flat piece of smooth material, which protects the fingers of the drawing

hand.

Finger Sling: A small strap that attaches to the thumb and index finger of the bow hand.

Fletching/Fletch: The feathers, plastic vanes or other devices attached to the arrow shaft, which stabilize the flight of an arrow.

Flu-Flu: An arrow with large untrimmed feathers, which restrict the distance it will travel; used for shooting aerial targets.

Follow-through: Maintaining the motion of the upper body muscles after releasing the string.

Full-draw: The position of the archer when the bowstring has been draw to the anchor point.

Group: To shoot arrows in a pattern, or the pattern of the arrows in the target.

Laminated bow: A bow made of several layers of material glued together, usually two layers of fiberglass and a hardwood core.

Let down: Returning from full draw to the undrawn position with control and not releasing the string.

Limb: Upper or lower part of the bow that bends when the string is drawn back. The part of the bow where the energy is stored.

Nock: To place the arrow on the string. Also the attachment to the rear end of an arrow, which is placed on the bowstring and holds the arrow on the string.

Nock locator: The mark or device that indicates where the arrow is to be placed on the string.

Recurve bow: A bow with limbs that bend away from the archer when the bow is held in the shooting position

Serving: The wrapping of material around the loops and center of the bowstring to protect it from wear.

Spine: The stiffness or amount and arrow bends, determined by hanging a 2# weight from the center of the arrow and measuring the bend.

Stabilizer: A rod attached to the handle riser. Usually has a weight on the end of the rod. Absorbs the vibration of the bow when the string is released.

Toxophilite: A lover of the bow: an archer.

Tune: To adjust the variables in the bow and arrow system to achieve the best arrow flight and arrow groups.

Vane: Any fletching made of a material other than feathers, usually plastic.

Windage: The left-right adjustment of the bow sight.

Note: This may be made into a poster for use in the classroom and/or gym.

Archery Range Rules

1. Know and obey all range commands and instructors.

2. Always keep your arrows in your quivers until told to shoot with the "one whistle" command.

3. Only use the arrows your instructor gave you. Remember what they look like.

4. Always keep your arrows pointed down to the floor or at the target.

5. Only aim and shoot at your target downrange.

6. If you drop an arrow, leave it on the ground until you are told to retrieve all your arrows.

7. Always walk on the archery range.

8. Always be courteous to the shooter next to you.

9. Stand behind the waiting line when you are finished or not shooting.

10. Only one archer may retrieve their arrows from the target at a time.

11. Be sure no one is behind you when removing your arrows.

12. Walk back to the waiting line and return your arrows to your quivers after retrieving them.

13. SAFETY IS ALWAYS FIRST PRIORITY!

Note: This may be made into a poster for use in the classroom and/or gym.

Whistle Commands

Two Blasts – "Archers may walk to the shooting line."

One Blast – "Archers may load their bows and begin shooting."

Three Blasts – "Archers may walk to the target line to retrieve arrows."

Five or More Blasts – "STOP SHOOTING and put your arrow back in your quiver."

Note: This may be made into a poster for use in the classroom and/or gym.

Archery Safety Procedures

- Always listen to the archery range instructor.
- Always inspect equipment for cracks or damaged areas on the bow limbs, strings, and arrows; remove any damaged materials from the shooting area.
- Observe courtesy and sportsmanship ideals.
- Only approach the shooting line after hearing two whistle blasts.
- Keep your arrows in your quiver until a whistle is blown one time to load your bows and begin shooting.
- Your arrows should always be pointed downrange while loading the bow.
- Shoot only at the target directly in front of you.
- Always look downrange and beyond your target to be sure that there are no obstructions and the range is clear beyond the targets.
- Shoot with one foot on each side of the shooting line.
- Stop shooting immediately and set your bow down if there are five or more whistle blasts.
- Only approach the target after hearing three whistles and hearing the command to walk to the targets.
- Always carry arrows with one hand on the points and the other hand placed around the shafts just below the fletching.
- Always store the archery equipment in a secure and locked area with only adult access.
- Store all gear including bows, targets and arrows in a dry area with moderate temperatures.

Note: These may be made into posters for use in the classroom and/or gym.

100 Benefits of Exercise

1. Enhances your immune system.
2. Increases your self-confidence and self-esteem.
3. Improves digestion.
4. Helps you sleep better.
5. Gives you more energy.
6. Adds a sparkle and radiance to your complexion.
7. Improves your body shape.
8. Burns up extra calories.
9. Tones and firms up muscle.
10. Provides a more muscular definition.
11. Improves circulation and helps reduce blood pressure.
12. Lifts your spirits.
13. Reduces tension and stress.
14. Enables you to lose weight and keep it off.
15. Makes you limber.
16. Builds strength.
17. Improves endurance.
18. Increases your body's lean muscle tissue.
19. Improves your appetite for nutritious foods.
20. Alleviates menstrual cramps.
21. Improves muscle chemistry.
22. Increases metabolic rate.
23. Improves coordination and balance.
24. Improves your posture.
25. Eases and possibly eliminates back problems and pain.
26. Improves your body's efficiency to use calories.
27. Lowers your resting heart rate.
28. Increases muscle size through an increase in muscle fibers.
29. Enables your body to utilize nutrients more efficiently.
30. Improves the body's ability to burn fat.
31. Enhances oxygen transport through the body.
32. Improves liver functioning.
33. Strengthens the heart.
34. Improves blood flow through the body.
35. Helps to eliminate varicose veins.

36. Increases maximum cardiac output due to an increase in stroke volume.
37. Strengthens your bones.
38. Increases the weight of the heart.
39. Increases heart size.
40. Improves contractile function of the whole heart.
41. Deters heart disease.
42. Decreases cholesterol.
43. Decreases triglycerides.
44. Increases total hemoglobin.
45. Improves the body's ability to remove lactic acid.
46. Improves the body's ability to decrease heart rate after exercise.
47. Increases the number of open capillaries.
48. Improves blood flow to the active muscles at the peak of training.
49. Enhances the functioning of the cardiovascular system.
50. Enhances the functioning of the respiratory system.
51. Improves efficiency in breathing.
52. Increases lung capacity.
53. Improves bone metabolism.
54. Decreases the changes of osteoporosis.
55. Improves the development of and the strength of connective tissue.
56. Increases strength of ligaments.
57. Enhances neuromuscular relaxation thus reducing anxiety and tension
58. Enables you to relax more quickly and completely.
59. Alleviates depression.
60. Enhances clarity of the mind.
61. Improves emotional stability.
62. Makes you feel good.
63. Increases efficiency of your sweat glands.
64. Makes you better able to stay warm in cold environments.
65. Helps you respond quicker to heat in that sweating begins at a lower body temperature.
66. Improves your body composition.
67. Increase bone density.
68. Decreases fat tissue more easily.
69. Helps you become more agile.
70. Instills a positive attitude about yourself and about life.

71. Alleviates constipation.
72. Increases the efficiency of utilizing oxygen.
73. Enables you to meet new friends and develop fulfilling relationships.
74. Enables you to socialize and get in shape at the same time.
75. Helps you move past self-imposed limitations.
76. Gives you a great appreciation for life as a result of feeling better about yourself.
77. Enables you to better enjoy all types of physical activity.
78. Makes your clothes look better on you.
79. Makes it easier to exercise consistently because you like how you look and feel and don't' want to lose it.
80. Gives you a greater desire to fully participate in life and to take more risks as a result of increased confidence and self-esteem.
81. Improves athletic performance.
82. Improves the whole quality of your life.
83. May add a few years to your life.
84. Is the greatest tune-up for your body.
85. Reduces joint discomfort.
86. Increases your range of motion.
87. Gives you a feeling of control or mastery over your life and a belief that you can create any reality you want.
88. Stimulates and improves concentration.
89. Brings color to your cheeks.
90. Decreases appetite when you work out from 20 minutes to one hour before a meal.
91. Gets your mind off of minor irritations.
92. Stimulates a feeling of well-being and accomplishment.
93. Invigorates the body and mind.
94. Is a wonderful way to enjoy nature and the great outdoors.
95. Increases the body's awareness of itself.
96. Reduces or precludes boredom.
97. Increases your ability to solve problems more easily.
98. Gives you a clear perspective of ideas, issues, problems and challenges.
99. Releases blockages and limitations in thinking.
100. Helps you to save money on doctor bills and insurance premiums.

Sample games and activities

Tic-tac-toe

Cover the target with a tic-tac-toe target about three feet square. Shoot three arrows trying to get three in a row. Score three points for each. You can also play this head to head with another archer.

Color shoot

First person shoots one arrow and goes to the target to score. This archer and all of that team will aim for that particular color. Each team may be aiming for a different color. Score one point for each arrow in the right color area. Instructor may select color and archers shoot and score only the hits within that color.

Musical arrows

When the music starts, each archer shoots until the music stops. Score and retrieve arrows and move to the next target.

Score as follows: Target #1: All arrows that hit red count one point.
Target #2: All arrows that touch any part of the target count one point. The black dot counts three.
Target #3: Arrows that hit the gold count one point.
Target #4: Arrows that hit the black count one point.
Target #5: Arrows that hit the blue count one point.

Bingo

Make target face to represent a Bingo card on a brown paper bag or wrapping paper. A scorecard can be made by having the students fill in number on the squares before the shooting begins.

Shoot six arrows; and as they are removed from the target, the corresponding number is crossed off the scorecard. Winner is the first to get any combination of numbers crossed.

Bottle Shoot

Target: A half-gallon plastic bottle hung by the neck or handle.
Distance: 10 meters
Number of arrows: four
Scoring: 15 if the arrow sticks in the bottle, 10 if it strikes the bottle and rebounds, and 0 if it misses the bottle.

Shoot the instructor's hat

Hang your hat on the target for the archers to shoot at.

Balloon elimination shoot

After a scoring round, rank the archers from lowest to highest. Hang a balloon in the center of the target. Starting with the lowest scoring archer, each archer shoots one

arrow at the balloon. If the archer pops the balloon, they move to the winners' circle until all archers in turn have shot three arrows. Prizes are awarded to the balloon breakers.

Holidays

If classes are taught as the different holidays approach, it is fun to make special targets in the shape of an item that represents the holiday. For example, the students can shoot at pumpkins, witches, and cats at Halloween, a turkey at Thanksgiving, a bell at New Year's, a shamrock on St. Patrick's Day, eggs at Easter, and flowers at May Day. The scoring areas can follow the outline of the target, giving higher values as the arrows come nearer whatever "center" there may be for that shape. At the completion of the event, it might be fun to award silly prizes appropriate to the holiday.

For the 4th of July, archers can shoot at balloons filled with flour or confetti to simulate fireworks.

Archery Golf

Target: A rubber ball four inches in diameter on a wire stand.
Distance: 10 meters
Number of arrows: four
Scoring: 5 points for each hit

Tablecloth shoot

Target: a regular target covered with a checkered oilcloth with two-inch squares; squares randomly numbered from one to nine.
Distance: 15 meters
Number of arrows: four
Scoring: as marked

Wand Shoot

Target: a three-inch string of masking tape placed vertically on the target mat
Distance: 10 meters
Number of arrows: twelve
Scoring: five points for each hit

Battle ship

Use index cards sized accordingly to the ability of the archers. Draw different ships on the cards and assign points from one to five. You can also include blank cards. Each individual or team will pin the cards up with the blank side showing on the target of their competitor. Archer shoots three to six arrows each or 12-15 as a team. Points are scored by the value of the ship they hit.