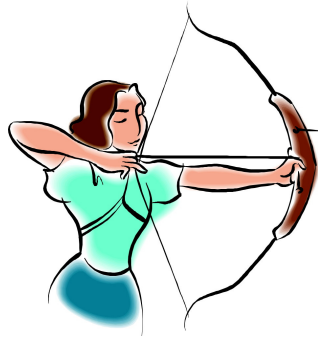


PEP:

Putting the Fun in Fitness

Archery

School District of Philadelphia



Putting the Fun In Fitness



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*Carol M. White, Physical Education for Progress
Cooperative Agreement # Q215F070064*

THE SCHOOL DISTRICT OF PHILADELPHIA
OFFICE OF TEACHING AND LEARNING
DIVISION OF HEALTH, SAFETY AND PHYSICAL EDUCATION
440 NORTH BROAD STREET
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Physical Education is an integral part of a school-wide, comprehensive, instructional program, and contributes to mental alertness, academic achievement and social development. A quality health-related fitness program, improves children's muscular strength, flexibility, muscular endurance, body composition and cardiovascular endurance. Physical activity can also be an outlet for releasing tension and anxiety, and facilitates emotional stability and resilience. Physical Education provides an opportunity for team building, cooperation, leadership development and sportsmanship.

According to NASPE guidelines, a high quality physical education program includes the following components:

- Opportunity to Learn, including qualified teachers and adequate resources
- Meaningful Content, including fitness education and assessment
- Appropriate Instruction, including full inclusion and well-designed lessons

The Office of Teaching and Learning, Division of Health, Safety and Physical Education is pleased to provide you with the Archery Unit of the Physical Education Core Curriculum. This unit, made possible through a Department of Education, Carol M. White, Physical Education for Progress (PEP) grant, was developed by a cadre of Philadelphia Health and Physical Educators to meet the specific needs of our schools, teachers, students and communities. It includes background information, guidelines for implementation, equipment recommendations, additional resource identification, and core lessons. There is a blank lesson plan template for you to use for additional lessons that you design.

Thank you for the outstanding job that you do. We will do everything that we can to continue to provide professional updates, workshops and resources to support your program.

Acknowledgments

The Division of Health, Safety and Physical Education would like to thank the following individuals and organizations for their help and expertise in developing this unit.

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Preface

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 dominant, 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.

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!

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Dear Parents and Caregivers,

The Office of Teaching and Learning, Division of Health, Safety and Physical Education, is reaching out to parents and caregivers as partners in addressing the health and fitness of our students. As you know, there is a tremendous rise in obesity in our nation, including Philadelphia.

Our office is excited to share wonderful news with parents, caregivers, teachers and students. We have been awarded a generous Physical Education for Progress (PEP) grant from the United States Department of Education. This grant has allowed us to develop updated physical activity units for our schools, including; Fitness, Adventure and Non-Traditional activities. Your child will be experiencing these new activities.

Over the next few weeks, your child will be introduced to non-traditional activities in his/her physical education class. During this time, teachers will encourage students to engage in activities that they have not participated in before. These activities may include yoga, lacrosse, rugby, golf, bowling and archery. The goal is to make physical activity appealing to students so that they will adopt a healthy and active lifestyle.

Please encourage your child to participate in all of these activities fully so that they can receive the full benefits of these units. It is also important for your child to understand and follow the dress requirements at their school. The Physical Education teacher will share those requirements with the class. If you have any questions, please feel free to call the school to discuss the units or classroom procedures with the teachers.

Thank You.

Sincerely,

Bettyann Creighton, Director
Health, Safety and Physical Education

**Academic Standards for Health, Safety and Physical
Education**
Pennsylvania Department of Education

10.3.9 Grade 9

- A. Analyze the role of individual responsibility for safe practices and injury prevention in the home, school and community.
- modes of transportation (e.g., pedestrian, bicycle, vehicular, passenger, farm vehicle, all-terrain vehicle)
 - violence prevention in school
 - self-protection in the home
 - self-protection in public places
- B. Describe and apply strategies for emergency and long-term management of injuries.
- rescue breathing
 - water rescue
 - self-care
 - sport injuries
- C. Analyze and apply strategies to avoid or manage conflict and violence during adolescence.
- effective negotiation
 - assertive behavior
- D. Analyze the role of individual responsibility for safety during organized group activities.

Academic Standards for Health, Safety and Physical Education

Pennsylvania Department of Education

10.4.9 Grade 9

- A. Analyze and engage in physical activities that are developmentally/individually appropriate and support achievement of personal fitness and activity goals.
- B. Analyze the effects of regular participation in moderate to vigorous physical activities in relation to adolescent health improvement.
 - stress management
 - disease prevention
 - weight management
- C. Analyze factors that affect the responses of body systems during moderate to vigorous physical activities.
 - exercise (e.g., climate, altitude, location, temperature)
 - healthy fitness zone
 - individual fitness status (e.g. cardio/respiratory fitness, muscular endurance, muscular strength, flexibility)
 - drug/substance use/abuse
- D. Analyze factors that affect physical activity preferences of adolescents.
 - skill competence
 - social benefits
 - previous experience
 - activity confidence
- E. Analyze factors that impact on the relationship between regular participation in physical activity and motor skill improvement.
 - personal choice
 - developmental differences
 - amount of physical activity
 - authentic practice
- F. Analyze the effects of positive and negative interactions of adolescent group members in physical activities.
 - group dynamics
 - social pressure

Academic Standards for Health, Safety and Physical Education

Pennsylvania Department of Education

10.5.9 Grade 9

- A. Describe and apply the components of skill-related fitness to movement performance.
- agility
 - balance
 - coordination
 - power
 - reaction time
 - speed
- B. Describe and apply concepts of motor skill development that impact the quality of increasingly complex movement.
- response selection
 - stages of learning a motor skill (i.e. verbal cognitive, motor, automatic)
 - types of skill (i.e. discrete, serial, continuous)
- C. Identify and apply practice strategies for skill improvement.
- D. Identify and describe the principles of training using appropriate vocabulary.
- specificity
 - overload
 - progression
 - aerobic/anaerobic
 - circuit/interval
 - repetition/set
- E. Analyze and apply scientific and biomechanical principles to complex movements.
- centripetal/centrifugal force
 - linear motion
 - rotary motion
 - friction/resistance
 - equilibrium
 - number of moving segments
- F. Describe and apply game strategies to complex games and physical activities.
- offensive strategies
 - defensive strategies
 - time management

Archery Lessons

Archery Lesson 1

Archery Safety and Technique

Objective:

The students will be able to:

- Recognize the equipment used for Archery
- Understand the safety rules necessary for the Archery unit
- Follow the commands used during the Archery unit
- Demonstrate proper body and bow position
- Demonstrate how to nock an arrow
- Demonstrate how to draw and release an arrow

Standard:

10.3 Safety and Injury Prevention D

D. Analyze the role of individual responsibility for safety during organized group activities.

10.4 Physical Activity A/D/F

- A. Analyze and engage in appropriate physical activities that support achievement of personal fitness and activity goals
- D. Analyze factors that affect physical activity preferences
- F. Analyze the affects of positive and negative interactions of adolescent group members in physical activities
 - Group dynamics

10.5 Principals and Strategies of Movement B/C

- B. Describe and apply the concepts of motor skill development
 - stages of learning a motor skill (i.e. verbal cognitive, motor, automatic)
- C. Identify and apply practice strategies for skill improvement

Equipment/Set-up:

Compound Bows, Flu Flu arrows (rubber, flat end tips), netting & cones or mats to create different safety areas. Ink pads, chart paper and gym critters for targets.

Netting must be hung in a relatively safe area of the gym (activity area) away from doors and traffic areas. If you must hang it near a door, that door must be able to lock from the inside so that NO ONE can enter unexpectedly. (a warning sign on the door helps as well). Try to hang netting so that the bottom is not touching the floor.

- Set up a firing line, with firing lanes greater than 5 feet apart, approx 30-40 feet away from target area
- Set up a waiting area approx. 10 feet behind and a safety line 3-5 feet behind that

All bows and arrows stay at the safety line. Instructor must distribute arrows at the beginning of the activity and collect all of the arrows at the end of the activity.

Archery Safety Rules (post in the gym)

- All students **stay in ready area** behind instructor & safety line
- Archers **move to the safety line** on instructors command
- Archers **move to the firing line** on instructors command
- Archers **nock arrows on command** from the instructor
- Archers **commence shooting on command** from the instructor
- After all arrows are released, archers **record score**
- Archers **place bows on table and retrieve arrows** on command from the instructor

Instant Activity:

Arm Pull: Partners stand facing each other. Partners step out with his or her right foot so the outside of the foot is touching their partners foot. Grasp right hands as if arm wrestling. Take turns pulling partners hand toward the shoulder while the partner applies some resistance. Repeat with the left.

Fitness Activity:

Archery Warm up

Active Isolated Stretching

Shoulders, hamstrings and back (A-I stretching descriptions can be found in the “Fitness Unit” book pages 18-20)

Lesson (Unit Specific):

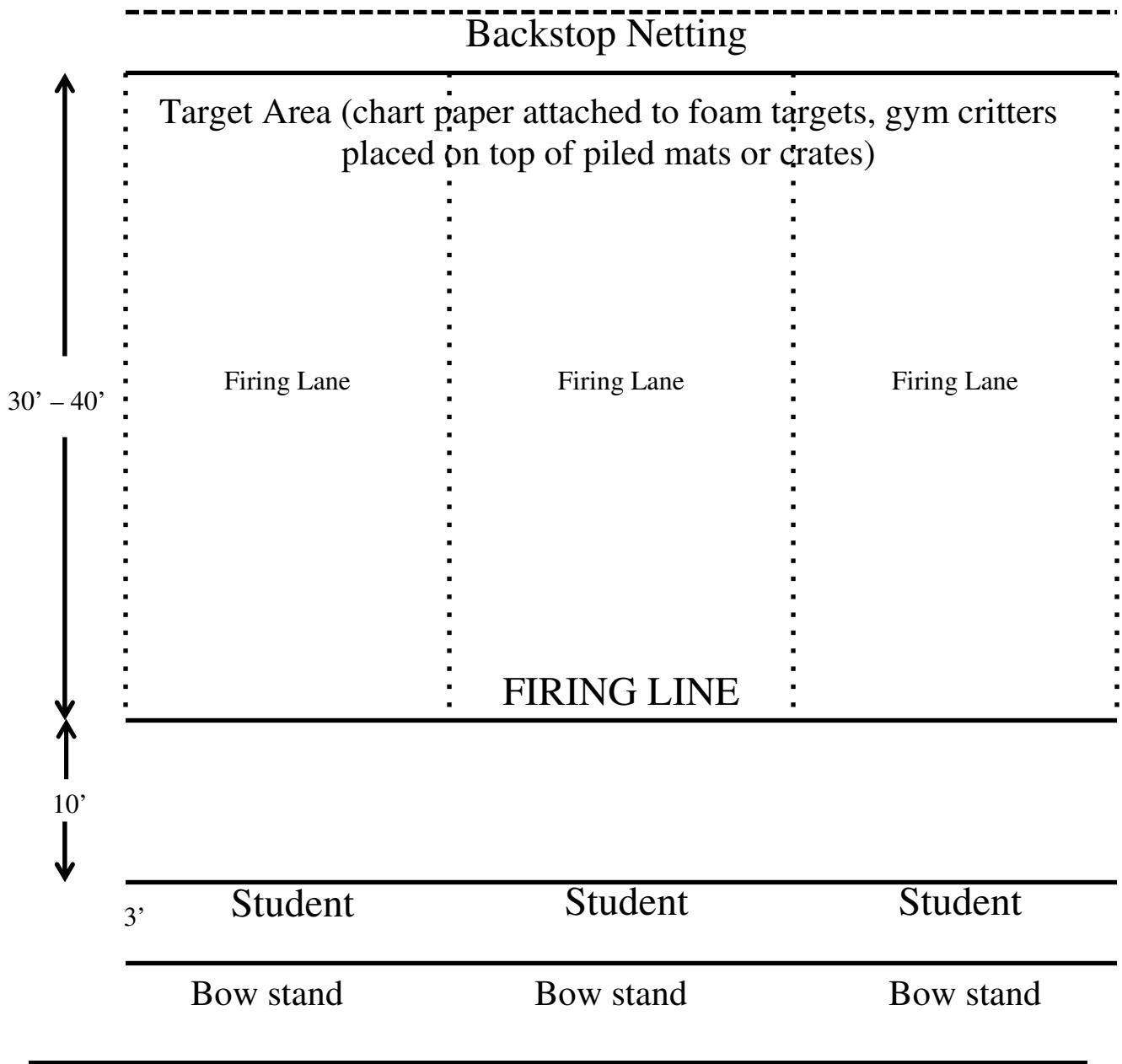
- Review safety rules
- Tour the shooting range and explain each area of the range
- Practice drawing the bowstring, but do not let string go. Release the string with a controlled movement
- Students look at the anatomy of the arrow. Identify the nock and feathers
- Students report to the ready area
- Three students approach firing line, nock arrow and release, aiming to keep the arrow’s flight from 1-5 feet above the floor
- All students practice the nocking and releasing technique

Closure/Cool Down:

Slow, giant, arm circles and torso twists to loosen up a bit. Light stretching.
Review technique: focus on hand position and aim, using dominant eye to look down the arrow towards the target, letting go of bow string quickly and cleanly to increase accuracy

Indoor Range Plan

All doors in gym must be locked from the inside when shooting is in progress



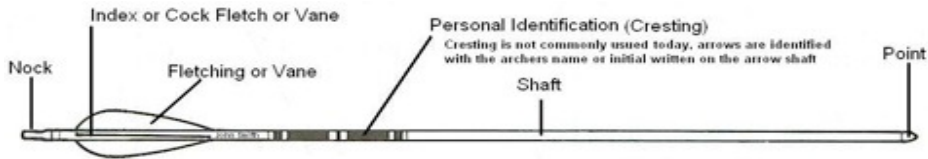
INSTRUCTOR

Ready Area

Students wait on benches behind instructor

Teacher Background Information

- Review safety guidelines
- Introduce the students to the equipment
 - Arrow
 - Shaft
 - Feathers (vane)
 - Nock
 - Point



- Bow: Compound usually easier for beginners
 - Grip
 - String
 - Rest for arrow
- Arm Guard
- Finger Tabs
- “Tour” the shooting range: Ready area, firing line, target area
- Review the paper for inked Flu Flu shot, chart paper targets, rubber critters, and foam archery targets

Ready area. (where students wait)

Firing line (where archers will shoot from). 1-3 archers only in designated space.
(see diagram)

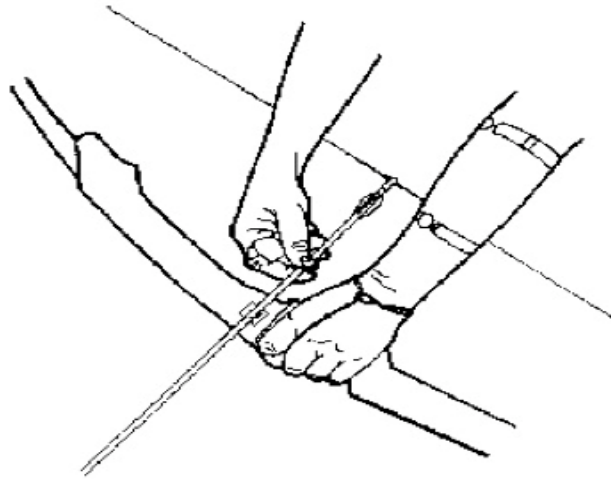
Students may move to the next line/zone only on command from instructor.

*****bows must always be facing down range*****

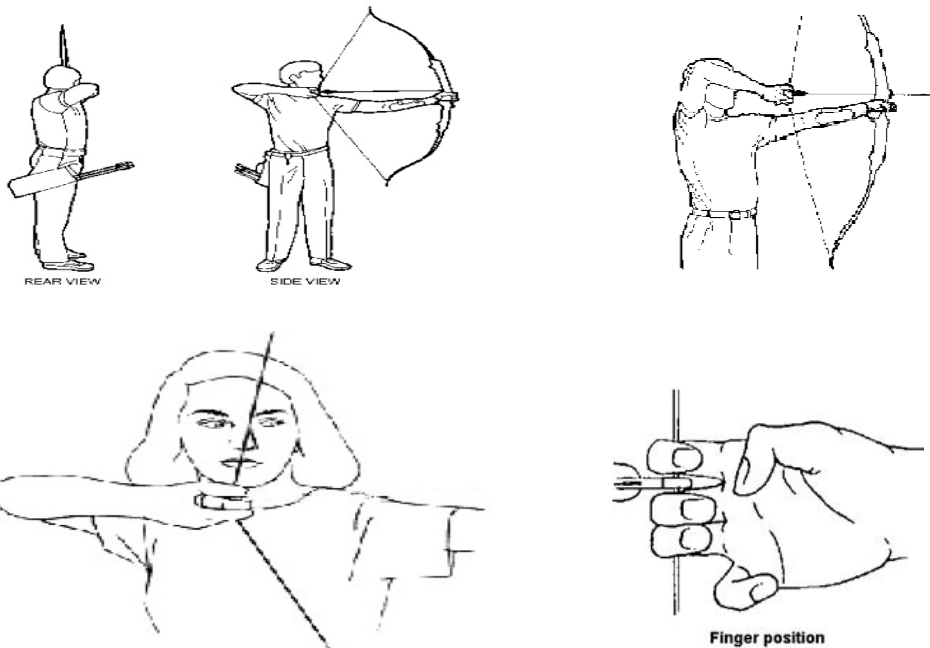
Commands for shooting

Approach the firing line – Stand with bow hand shoulder facing the target, feet comfortably apart, facing 90 degrees from target

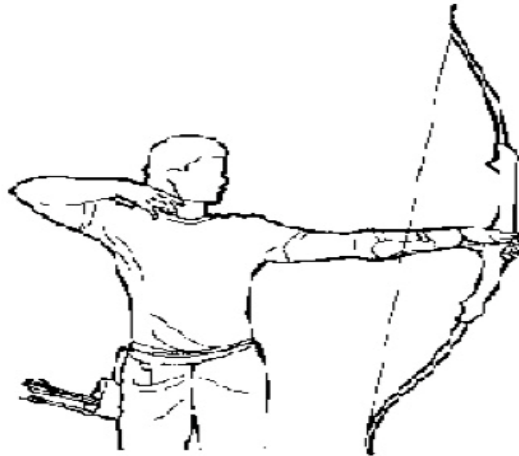
Pick up bow and nock arrow – place arrow on bowstring so that the odd colored feather is facing away from the bow. (*Warn students not to release bowstring without an arrow as it may damage the bow*)



Draw - Using 2-3 fingers on bowstring, with arrow being held lightly between index and middle, draw back the bowstring while still holding the arrow on the string. (*Be Specific: pulling back on the arrow or with the whole hand may cause arrow to torque and rotate away from the bow. Do not squeeze the bow, hold it gently*)



Fire when ready: allow students to fire when they are comfortable and have taken aim. Review follow-through position (*Arrows that fall beyond the firing line short of the targets are to be left there and not retrieved until directed. No one may cross the line for any reason*)



Bows down & retrieve arrows – next student is not allowed to approach firing line until the last person returns with arrows. (*This does not have to be done after each group finishes their turn, usually after every 2-3 archers to increase frequency*)

Allow students to fire 1-2 arrows on the first day to get them used to the safety areas and commands.

Archery Lesson 2

Archery: Ready, Aim, Fire

Objective:

The students will be able to:

- Follow the commands for target archery
- Understand the safety rules necessary for the Archery unit
- Demonstrate ready, aim, fire
- Demonstrate shooting at targets

Standard:

10.3 Safety and Injury Prevention D

D. Analyze the role of individual responsibility for safety during organized group activities.

10.4 Physical Activity A/D/F

- A. Analyze and engage in appropriate physical activities that support achievement of personal fitness and activity goals
- D. Analyze factors that affect physical activity preferences
- F. Analyze the affects of positive and negative interactions of adolescent group members in physical activities
 - Group dynamics

10.5 Principals and Strategies of Movement B/C

- B. Describe and apply the concepts of motor skill development
 - stages of learning a motor skill (i.e. verbal cognitive, motor, automatic)
- C. Identify and apply practice strategies for skill improvement

Equipment/Set-up:

Compound Bows, Flu Flu arrows (rubber, flat end tips), netting & cones or mats to create different safety areas. Ink pads, chart paper and gym critters for targets.

*Netting must be hung in a relatively safe area of the gym (activity area) away from doors and traffic areas. If you must hang it near a door, that door must be able to lock from the inside so that **NO ONE** can enter unexpectedly. (a warning sign on the door helps as well). Try to hang netting so that the bottom is not touching the floor.*

- Set up a firing line, with firing lanes greater than 5 feet apart, approx 30-40 feet away from target area
- Set up a waiting area approx. 10 feet behind and a safety line 3-5 feet behind that

All bows and arrows stay at the safety line. Instructor must distribute arrows at the beginning of the activity and collect all of the arrows at the end of the activity.

Archery Safety Guidelines

(post in the gym)

- All students **stay in ready area** behind instructor & safety line
- Archers **move to the safety line** on instructors command
- Archers **move to the firing line** on instructors command
- Archers **nock arrows on command** from the instructor
- Archers **commence shooting on command** from the instructor
- After all arrows are released, archers **record score**
- Archers **place bows on table and retrieve arrows** on command from the instructor

Instant Activity:

Med Ball: Ready, med ball steady! Hold the med ball in non-dominant hand at shoulder height for 15-20 seconds. Change hands and repeat with dominant hand. Alternate between hands for 10 reps. Helps to improve balance and strength of the bow hand.

Fitness Activity:

Teacher will demonstrate and students will follow a dynamic warm-up including shoulder rolls, standing hip circles, squats, walking lunges, and active-isolated stretching of the shoulders, hamstrings and back (A-I stretching descriptions can be found in the “Fitness Unit” book pages 18-20)

Lesson (Unit Specific):

Ready, Aim, Fire

- Students report to ready area
- On command, three students step to firing line
- Nock arrows, draw, aim for targets, release upon command
- Targets include chart paper attached to foam targets and gym critters or stuffed animals perched on mats or crates (to reduce possibility of arrows hitting the gym floor)
- Bows down to retrieve arrows on command
- Change archers on command
- Review how to improve aim with slight corrections
- Stress importance of steady grip and sight down arrow

Closure/Cool Down:

Slow, giant, arm circles and torso twists to loosen up a bit. Light stretching.
Review technique: What accommodations did you make to improve your aim?

Archery Lesson 3

Archery: Long Bow

Objective:

The students will be able to:

- Follow the commands for target archery
- Understand the safety rules necessary for the Archery unit
- Demonstrate ready, aim, fire
- Demonstrate shooting at smaller targets

Standard:

10.3 Safety and Injury Prevention D

D. Analyze the role of individual responsibility for safety during organized group activities.

10.4 Physical Activity A/D/F

- A. Analyze and engage in appropriate physical activities that support achievement of personal fitness and activity goals
- D. Analyze factors that affect physical activity preferences
- F. Analyze the affects of positive and negative interactions of adolescent group members in physical activities
 - Group dynamics

10.5 Principals and Strategies of Movement B/C

- B. Describe and apply the concepts of motor skill development
 - stages of learning a motor skill (i.e. verbal cognitive, motor, automatic)
- C. Identify and apply practice strategies for skill improvement

Equipment/Set-up:

Compound Bows, Long bows, Flu Flu arrows (rubber, flat end tips), netting & cones or mats to create different safety areas. Ink pads, chart paper and gym critters for targets.

*Netting must be hung in a relatively safe area of the gym (activity area) away from doors and traffic areas. If you must hang it near a door, that door must be able to lock from the inside so that **NO ONE** can enter unexpectedly. (a warning sign on the door helps as well). Try to hang netting so that the bottom is not touching the floor.*

- Set up a firing line, with firing lanes greater than 5 feet apart, approx 30-40 feet away from target area
- Set up a waiting area approx. 10 feet behind and a safety line 3-5 feet behind that

All bows and arrows stay at the safety line. Instructor must distribute arrows at the beginning of the activity and collect all of the arrows at the end of the activity.

Archery Safety Guidelines (post in the gym)

- All students **stay in ready area** behind instructor & safety line
- Archers **move to the safety line** on instructors command
- Archers **move to the firing line** on instructors command
- Archers **nock arrows on command** from the instructor
- Archers **commence shooting on command** from the instructor
- After all arrows are released, archers **record score**
- Archers **place bows on table and retrieve arrows** on command from the instructor

Instant Activity:

Arm Pull: Partners stand facing each other. Each partner places outside of right foot against the outside of his or her partners right foot. Grasp right hands as if arm wrestling. Take turns pulling partner's hand toward shoulder while partner applies resistance. Repeat with the left foot and hand.

Fitness Activity:

Teacher will demonstrate and students will follow a dynamic warm-up including shoulder rolls, standing hip circles, squats, walking lunges, and active-isolated stretching of the shoulders, hamstrings and back (A-I stretching descriptions can be found in the "Fitness Unit" book pages 18-20)

Lesson (Unit Specific):

- Students report to ready area
- Introduce the Long Bow and the difference in resistance
- On command, three students step to firing line
- Nock arrows, draw, aim for targets, release upon command
- Targets include chart paper attached to foam targets and gym critters or stuffed animals perched on mats or crates (to reduce possibility of arrows hitting the gym floor)
- Bows down to retrieve arrows on command
- Change archers on command
- Review how to improve aim with slight corrections
- Stress importance of steady grip and sight down arrow

Closure/Cool Down:

Slow, giant, arm circles and torso twists to loosen up a bit. Light stretching.
Review technique: How was using the Long Bow different from the Compound Bow?
What accommodations do you have to make with this bow?

Archery Lesson 4

Archery Games

Objective:

The students will be able to:

- Follow the commands for target archery
- Understand the safety rules necessary for the Archery unit
- Demonstrate ready, aim, fire using the bow of their choice
- Demonstrate shooting at smaller targets

Standard:

10.3 Safety and Injury Prevention D

D. Analyze the role of individual responsibility for safety during organized group activities.

10.4 Physical Activity A/D/F

- A. Analyze and engage in appropriate physical activities that support achievement of personal fitness and activity goals
- D. Analyze factors that affect physical activity preferences
- F. Analyze the affects of positive and negative interactions of adolescent group members in physical activities
 - Group dynamics

10.5 Principals and Strategies of Movement B/C

- B. Describe and apply the concepts of motor skill development
 - stages of learning a motor skill (i.e. verbal cognitive, motor, automatic)
- C. Identify and apply practice strategies for skill improvement

Equipment/Set-up:

Compound and Long Bows, Flu Flu arrows (rubber, flat end tips), netting & cones or mats to create different safety areas. Ink pads, chart paper and gym critters for targets.

*Netting must be hung in a relatively safe area of the gym (activity area) away from doors and traffic areas. If you must hang it near a door, that door must be able to lock from the inside so that **NO ONE** can enter unexpectedly. (a warning sign on the door helps as well). Try to hang netting so that the bottom is not touching the floor.*

- Set up a firing line, with firing lanes greater than 5 feet apart, approx 30-40 feet away from target area
- Set up a waiting area approx. 10 feet behind and a safety line 3-5 feet behind that

All bows and arrows stay at the safety line. Instructor must distribute arrows at the beginning of the activity and collect all of the arrows at the end of the activity.

Archery Safety Guidelines

(post in the gym)

- All students **stay in ready area** behind instructor & safety line
- Archers **move to the safety line** on instructors command
- Archers **move to the firing line** on instructors command
- Archers **nock arrows on command** from the instructor
- Archers **commence shooting on command** from the instructor
- After all arrows are released, archers **record score**
- Archers **place bows on table and retrieve arrows** on command from the instruct

Instant Activity:

Med Ball: Balance med ball in each hand at shoulder height. Hold for 15-20 seconds.
Relax and repeat 10 repetitions

Fitness Activity:

Teacher will demonstrate and students will follow a dynamic warm-up including shoulder rolls, standing hip circles, squats, walking lunges, and active-isolated stretching of the shoulders, hamstrings and back (A-I stretching descriptions can be found in the “Fitness Unit” book pages 18-20)

Lesson (Unit Specific):

- Students report to ready area
- Explain that students will have a choice of the Long Bow or Compound Bow
- Play Archery Games
- Modify the games by using only the Long Bow or Compound Bow
- On command, three students step to firing line
- Nock arrows, draw, aim for targets, release upon command
- Bows down to retrieve arrows on command
- Change archers on command
- Record team scores

Closure/Cool Down:

Slow, giant, arm circles and torso twists to loosen up a bit. Light stretching.
Review technique: Why did you use the bow that you used? Were you able to focus on one target or did you just aim at the entire mat?

Survivor Game

- Create three teams, one for each firing line
- Teams choose a name and write that name on post-its, one for each team member. Teams can use their own marker color
- Mix-up the post-its and stick them to the mats in front of each firing line (Panel mats are set up so that the post-its are on the center two panels with the outside panels stabilize the mats)
- Students then take turns shooting at the post-its, aiming to hit other team names and not their own
- After each squad shoots, remove hit post-its and record how many of each teams post-its have been hit
- Continue through each squad, keeping score of how many post-its get hit
- After the last archers shoot, tally which team has the most post-its remaining on the mats

Hanging Plates

- Set up the panel mats the same as the Survivor Game. Run a string from one outside panel to the other, creating a clothesline with the center sections of the mat behind the string. Attach paper plates to the line with tape.
- Allow students to aim for the hanging plates
- Each student Keeps their own score

Progressive Targets

- Each student will shoot at three different targets in their firing line. They cannot progress to the next target unless they hit the previous one
- Students who hit all three targets will compete with each other using smaller targets or helium balloons attached to the mats

Support Materials

Physical Education Lesson Plan

Objective:

Standard:

Equipment/Set up:

Lesson Related Instant Activity:

Fitness Activity:

Lesson (Unit Specific):

Closure/Cool Down:

Archery Safety Guidelines

All students stay in ready area behind instructor & safety line.

Archers move to the safety line on instructors command.

Archers move to the firing line on instructors command.

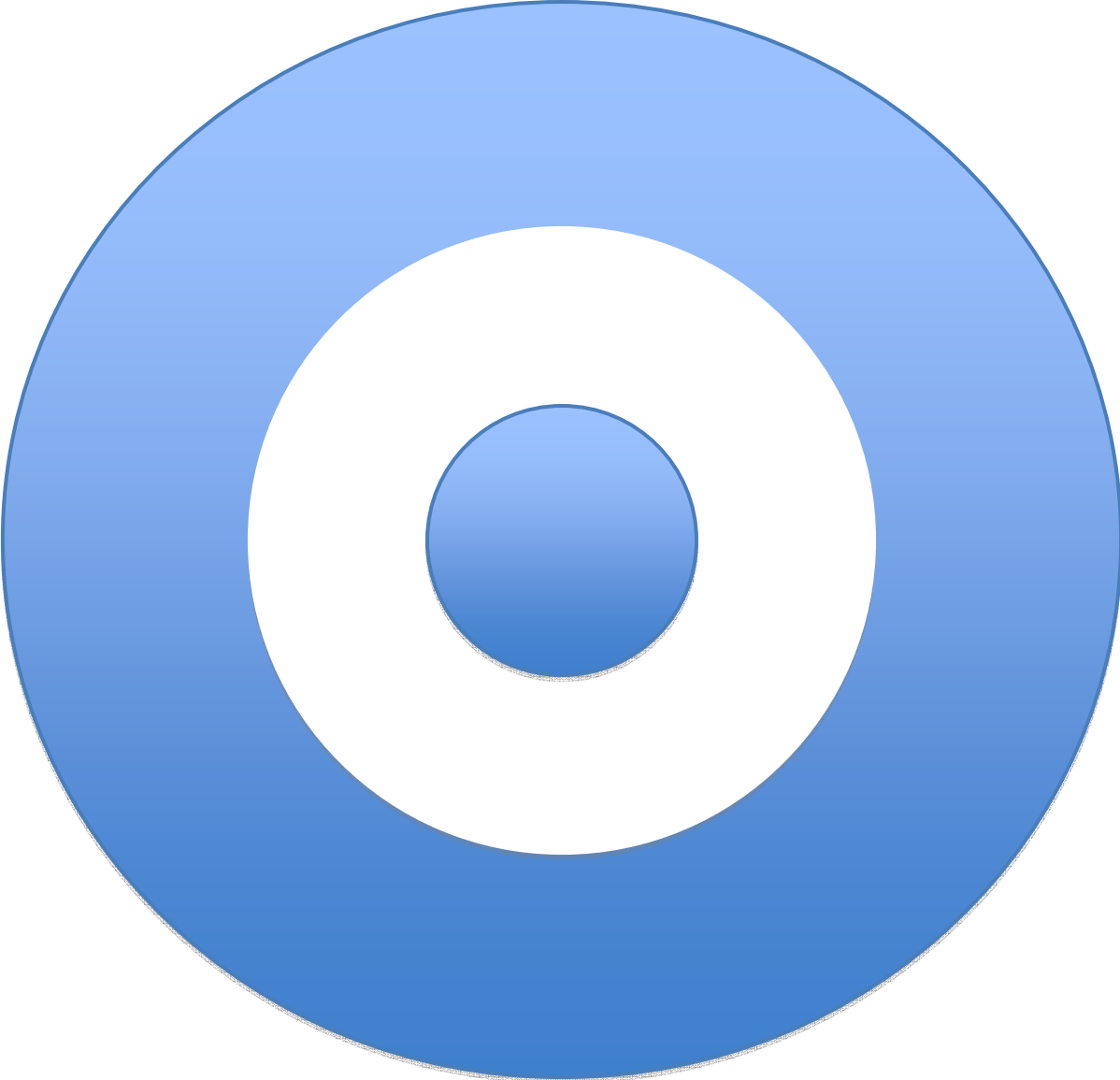
Archers nock arrows on command from the instructor.

Archers commence shooting on command from the instructor.

After all arrows are released, archers record score.

Archers place bows on table and retrieve arrows on command from the instructor.

Copy and post in gymnasium during Archery Unit



Archery Success Story

This school year I was lucky enough to be one of the first schools to borrow the new sets of archery equipment. I had been talking about it since the PD workshop at Lincoln, so many of my students were very anxious and excited to try it out, although some had some reservations because it would be too dangerous.

I spent about 2 weeks using the equipment. On the first day, so many of my kids were so excited that I really didn't have to remind anyone about listening or talking while I gave instruction (quite nice for a change).

The first thing that absolutely had to be done was to set the boundaries that the students need to know to maximize safety. Using some mats for the kids to sit on I created a safety zone where all students were to remain when not using the bows. This area was bordered in front by the aerobic steps (also provided by the PEP grant) so the kids would physically have to step over them to enter the next area. Cones marked off the next zone, the ready zone. This was the area where a student would wait while arrows were being collected and had to remain until all archers returned to the safety zone. Last was our firing line, also created by mats. It was extremely important that all students knew not to cross this line at any time while firing, especially if an arrow was dropped. All dropped arrows were held by the instructor until other arrows were retrieved.

The kids were very understanding and receptive to these rules. The students respected the dangers and seriousness of this new activity to the degree that many students took it upon themselves to make sure that the students that missed the first day knew just what to do when they came back to class.

Not all of the students were extremely excited about archery and some started to lose some interest as frustration set in due to low levels of success. I felt it was important that day one was really used as a day to acclimate the students to the bows and arrows (I used the compound bows for the first 2 days). Their focus was to be able to keep the arrows down by really focusing on grip and aiming technique. Some of the students were becoming easily upset and frustrated due to their low levels of success. Some had trouble gripping and pulling the bow string with an arrow. I encouraged them to try again and again. By the end of the unit **every** student was showing some degree of success, which really helped lift spirits to a competitive level.

When using the flu flu arrows (rubber tips) the students really enjoyed shooting at objects rather than targets. The fact that the objects went flying when they got hit was very exciting to them. I used just about anything available that was not of value or could break. I used old balls that no longer held air very well, large water and soda bottles, etc.

When I put out the foam targets and began using the target arrows (metal tip) it also renewed their excitement. We spent one day focusing on hitting the targets with the bull's-eye and the next day when I assigned numerical values to each ring, some of the

kids got ultra competitive. Many of the female students were out shooting the boys (probably due to patience and focus) and this aggravated some of the guys who always felt they were the best at every sport (very satisfying to the others).

By the end, I had the gym divided with object stations on the left side and target on the right (all shooting in the same direction still). This allowed students to choose what they liked better and some would bounce back and forth.

Over all it was a great experience for all of the students, as well as for me. I look forward to borrowing the archery equipment next year as well as in years to come. I would like to make it a permanent part of the curriculum. Thanks for the opportunity.

Brian Beaton
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Archery Vocabulary

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

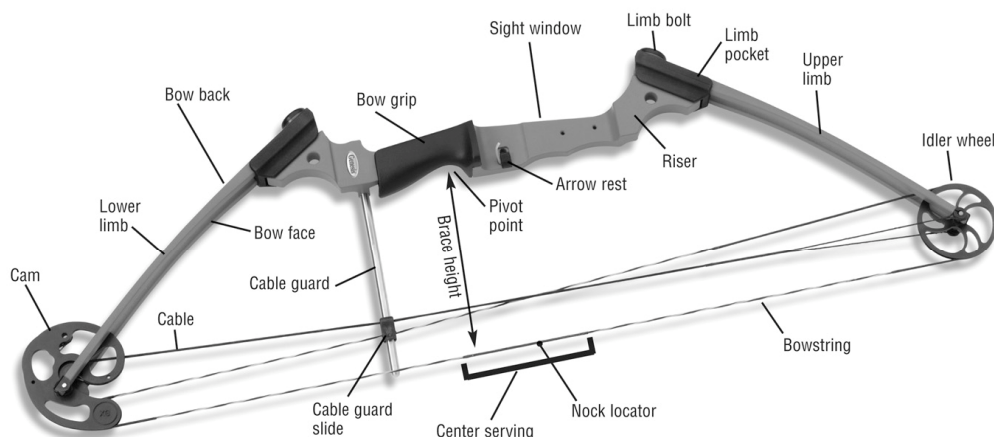
Broadhead – A sharp, razor bladed arrow point used for hunting

Cant – To tilt the bow left or right while at full draw

Center Serving – The material in 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

Finger Tab – A flat piece of smooth material, which protects the fingers of the drawing 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

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

Equipment & Resource

Equipment

- Compound Bows
- Long Bows
- Flu-Flu arrows (rubber, flat end tips)
- Netting
- Cones or mats to create safety areas
- Ink pads
- Chart paper for targets
- Gym critters for targets

Resource

National Archery in the Schools Program – nasparchery.com