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***Range Set-Up
& Safety***



Range Set-Up & Safety

Discussion

Safety rating organizations rank archery safer than every ball sport taught in schools except table tennis. Archery accidents are almost unheard of because care is taken to lay out a safe range, rules are rigorously followed, and archery is a very deliberate controlled activity.

During this lesson, the BAI will learn how to make sure shooting occurs in a safe direction. They will learn how the waiting, shooting and target lines help keep everyone in safe positions on the archery range. A simple set of internationally accepted whistle commands is employed to direct archers when they are to walk to specific stations or areas on the range.

The BAI will learn where equipment is placed during range operations to promote safety and facilitate sharing. The BAI will learn how to handle bows and arrows to prevent harming people, facilities, and equipment. The procedures explained in this lesson are mandatory. It is critical the range be set up in the manner described and all range rules are strictly followed to maintain control of each member of the class. Doing so will preserve archery's reputation as a safe and enjoyable discipline.

Materials Needed

- *Signs to mark closed doors and other entryways – "Archery Inside Stay Out"*
- *One arrow curtain for each five or fewer targets*
- *Ladder, rope and zip ties for hanging the curtain*
- *One 80 cm FITA target & butt for each pair of shooters*
- *Paper to cover the target bull's eye during early lessons (or blank target butts)*
- *Supplies to place target, shooting and waiting lines on the floor or ground*
- *One floor quiver for each shooter*
- *Enough right-hand and left-hand bows for each student*
- *Hex wrenches to adjust compound bows*
- *Arm guards should an archer need one*
- *Enough bow rack space to hang each of the bows when not shooting*
- *Enough NASP® arrows for each shooter to shoot three to six arrows at a time*
- *Storage quivers or buckets for extra supply of arrows*
- *Whistle for the instructor*

Classroom Set-Up

In most cases, a safe archery range will be in place when the archers arrive to class. Students should be seated off range in bleachers, chairs, on the ground, or floor. Students should be able to see the range from their seated position or they will be walked to the waiting line as the class begins. The instructor should have a whistle. In some cases, this range and student seating will be provided in a school gymnasium. In other instances, the class may be taught at an appropriately laid out indoor or outdoor archery range.

Conducting the Lesson

Sample Introduction: The title of this presentation is called Range Set-Up and Safety. The purpose of the lesson is to teach each class member how safe and effective archery ranges should be set up and arranged. Adherence to the principles and specifications presented will be key to ensuring your archery class is ultra-safe.

Emergency Whistle Signal: “5 or more whistle blasts (demonstrate by blowing 5-10 blasts) means an emergency has occurred on the range. For example, someone has opened a door down range or a ball has rolled down range. When you hear this signal you must stop what you’re doing. If you are on the shooting line in the process of shooting an arrow, hold the string securely, and gently let the arrow down from full draw, and return it to the quiver. Wherever you are, walk your bow back to the bow rack, and walk behind the waiting line (**Figure 1.1**) until the emergency has been resolved. If one of you observes something happening you think might be unsafe, bring it to my attention.”



Fig. 1.1

Analyzing the Location: A safe shooting direction must be determined before the range is built. The location must be large enough for a NASP® archery range, which would be at least 30 feet (~10M) long and 50 feet (~13m) deep. Archers must be able to shoot in a direction that will be free of pedestrian traffic during the entire shooting session. If there are doors in the direction archers will be shooting they must be locked and signed (Archery Inside, Stay Out) to prevent entry. While an arrow resistant arrow curtain backdrop should be hung behind the targets, it is possible an arrow could pen-

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erate the curtain. Therefore the area near and behind the targets should be free of expensive equipment such as floor-mounted electronic score boards or walls with large windows. If shooting outdoors the range should be located in an open area where all who might approach can see that archery is taking place. In such an open setting the teacher (range operator) will have ample time to initiate the emergency whistle signal if someone is approaching the target area.

Indoors: The 30 feet long and 10-8 feet high (~10m x 2.5m) arrow curtain weighs more than 20 pounds. It should be attached to sturdy supports such as basketball backboard frames or wall-mounted eye bolts (**Figure 1.2 and Teaching Suggestion 1.1**). Portable volleyball standards are unsuitable to support the curtain because they may fall under the curtain's weight. The curtain is arrow-resistant, but not arrow-proof. The curtain should be hung at least one arrow length (30in or 76 cm) from the wall, columns, or other hard objects to prevent an arrow from bouncing back towards the archers. About 3 to 6 inches (8-15 centimeters) of the curtain bottom is draped onto the floor to catch low arrows. The curtain should be loosely draped with folds and wrinkles along its length (**Figure 1.3**). A tight arrow curtain is less likely to stop an arrow than a loosely hung curtain.



Fig. 1.2



Fig. 1.3



Teaching Suggestion 1.1 Use Stable Curtain Supports

Portable volleyball poles are usually unable to support the weight of the arrow curtain. To prevent the poles from falling and possibly causing injury, they should not be used or should be securely supported in an upright condition even under the weight of the arrow curtain.

Outdoors: An arrow curtain should be used to catch stray arrows (**Figure 1.4**). With or without a curtain, there should be a barrier or enough distance (50+ yards or meters) behind the curtain to prevent a pass-through or over arrow from endangering a bystander, structure, or equipment. Be sure to count arrows before shooting outdoors to ensure all arrows are removed from the range area to prevent a hazard for others who share use of the grounds.



Fig. 1.4

80 cm FITA Target Placement

Target butts are placed as close to the curtain as possible without pinning down the bottom of the curtain and making it tight. Positioning the target butts one arrow length or closer prevents a high arrow from glancing off the top of the target and over the curtain. Targets are evenly spaced so that five to six targets are in front of the curtain. Target centers should be 2 arrow lengths (5' or 1.5 m) if trying to replicate a formal tournament situation. It is acceptable for one or two archers at a time to shoot the same target. Different colored fletching, shafts, or nocks or unique arrow markings, can help archers differentiate their arrows when scoring.

Range Lines (Teaching Suggestion 1.2)

Indoors: Three range management lines must be placed on the floor. Easily removable "painter's tape" should be used to tape range lines on floors.

Target Line: A target line is taped to the floor about 2 yards or meters up range from and parallel to the targets. Only one archer may approach the target to pull arrows at a time. If multiple archers have arrows in a target, one may approach the target but the others must wait their turn, safely behind the target line.



Teaching Suggestion 1.2 Moving as Archers Progress

When the entire class is routinely hitting the target at the close distance, move the entire class back a couple yards or meters. Be sure that waiting line spacing of 4 yards or meters is maintained behind the shooting line and arrow quivers and bow racks are moved accordingly.

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This protects waiting archers from being struck by the nock or rear end of the arrow as it is pulled from the target.

Shooting Line: Beginning archery instruction will start at a distance close enough for every student in the class to regularly hit the target. Therefore the initial shooting line should be 5-7 yards or meters up range from the targets.

Waiting Line: A waiting line should be placed 4 yards or meters up range from the shooting line. As the entire archery class progresses, more distant shooting and waiting lines should be placed. **(Figure 1.5 and Teaching Suggestions 1.3)**



Teaching Suggestion 1.3 NASP® Tournament Distances

Student archers who will participate in NASP® tournaments should be provided experience shooting at 10 and 15 meters. The shooting line should only be moved back when the students have developed enough proficiency to hit the target at closer distances.



Teaching Suggestion 1.4 Outdoor Ranges

Set-up ranges in an area that has good visibility. You should have at least 50 yds of "drop zone" behind the curtain. A curtain should be used to prevent losing arrows in a field or woods.

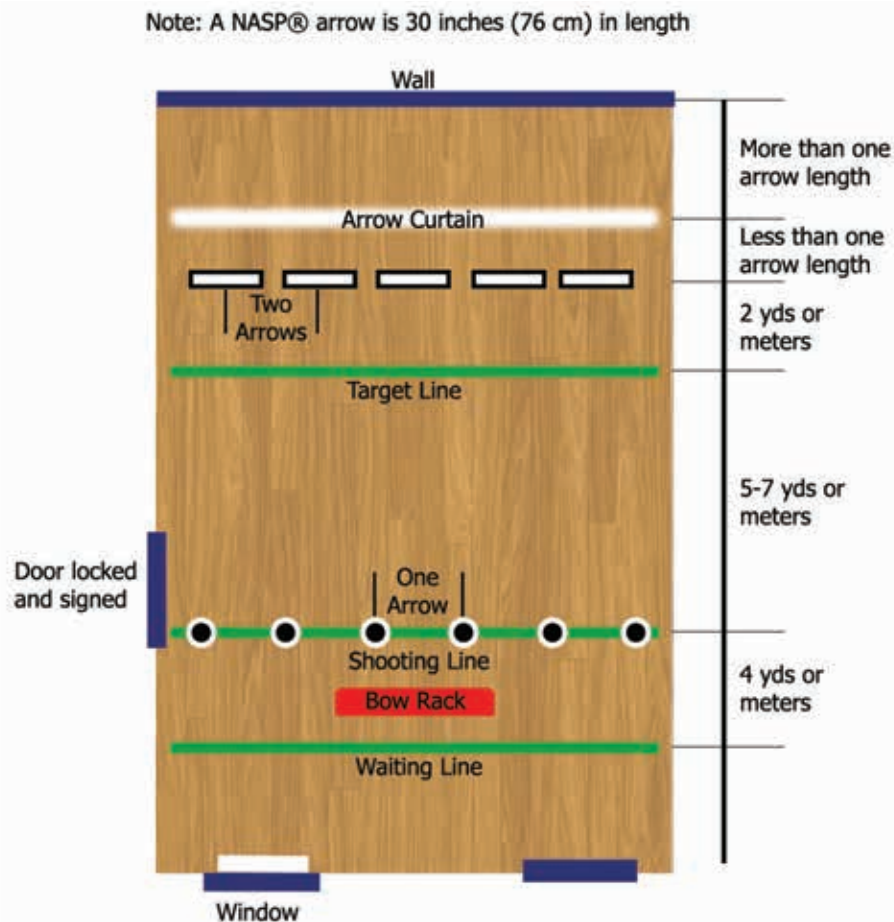


Fig. 1.5

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Outdoors: Painter's tape fails on asphalt, the ground or grass. However, the target, shooting and waiting lines must also be used on all NASP® ranges. The best way to place these lines in many outdoor situations is to use a chalk line, surveyor's spray paint, or a section of rope. The rope should be laid loosely rather than tied or staked down. This prevents the rope line from becoming a tripping hazard.

(Teaching Suggestion 1.4)

Equipment Placement

Arrows are placed in floor or ground quivers on the shooting line for safety and to facilitate equipment sharing. The best quivers keep arrows securely in place, require minimal space, and provide ample access for the archer to remove arrows by grasping them around the shaft below the fletching. Vertical tubes about 15 inches (38cm) meter tall and 2-4 inches (5-10 cm) in diameter with secure bases work very well. Safety cones can be used but are less than ideal because they are usually too short or tall, have open bases that allow arrow points to strike the floor and they take up more space on the shooting line. Every archer on the shooting line must have his own quiver. Quivers should be spaced about 1 arrow apart on the shooting line. Bows are placed on racks midway between the shooting and waiting lines, out of reach of archers standing behind the waiting line. (Figure 1.6)

Explain Safe Shooting Direction and Dry Fire

A bow should only be shot with an arrow properly nocked and pointed in a safe direction downrange towards the target. To shoot a bow without an arrow is called a 'dry fire'. This can harm you, bystanders or the bow.



Fig. 1.6



Checks for Understanding

Why is it important that doors be locked and signed between the shooting line and behind the arrow curtain?

How close should the beginning archer start from the target?

If you have an arrow fully drawn in your bow and you see someone walk in a door behind the arrow curtain, what should you do?