



# Archery

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## Program Purpose:

Participants will learn how to identify and safely use basic archery equipment. Participants will practice correctly shooting aluminum or fiberglass shaft arrows with adjustable tension compound bows at standard archery targets.

**Program Length:** 1 – 1 ½ hours

**Ideal Age:** 4<sup>th</sup> – 12<sup>th</sup> Grade, 10 – 19 year olds

**Maximum Number of Participants:** 25

## Objectives:

After taking part in this lesson, participants will be able to:

- Demonstrate proper shooting stance, nocking, aiming, and arrow release techniques.
- Follow basic safety procedures involved in handling and using archery equipment.
- Develop the basic skills necessary to enjoy archery as a sport.

**Materials:** see Appendix A

**Training Checklist:** see Appendix E

**Safety Information:** see Appendix D

**Instructor Requirements:** The archery instructor must be 4H shooting sports certified, a certified National Archery in the Schools Program (NASP) Instructor or trained/validated by Upham Staff based on the checklist in the lesson plan

**Teacher Preparation:** Prior to use, check Archery Equipment for the following:

- Check arrows to see if they are bent or have broken nocks or tips.
- Check bowstrings. If excessive fraying is present, or you are in doubt about the safety of the equipment, don't use the equipment.
- Check bows for cracks, loose bowstrings or other loose pieces. If any are present or you are in doubt about the safety of the bow, don't use it.

Ideally the first class of the day should open the archery shed and set up. Equipment set up includes opening up the Archery shed, setting up target stands and targets, pulling across the chainmail curtain, providing one to two arrow racks per target, and placing three to four arrows per arrow rack. Pull out bow rack and set out arm guards and finger guards for easy access. If a group has brought their own instructor for this lesson, Upham staff should do the set up.

## Program Activities:

### 1. Road Crossing

Use the woodchip path that follows the road and crosses near the Overflow Parking Lot. Orange flags are stored in containers near the road crossing and must be used when crossing County Rd. N to the Archery Range. Place one adult chaperone at the center line of the road waving the flag, or have one flag each being held at the front and back of the line. Have all participants cross the road together.

### 2. Introduction (At roped entrance to Archery Range)

Introduce yourself and the title of the class and explain to the class that they will have the opportunity to work with Archery equipment. Explain the following *Range Safety Expectations* to the participants before allowing them to enter the Archery Range:

- Everyone who is not shooting must stay behind the rope line at all times.
- Shooters must stay behind the pillars/shooting line at all times that the range is open.
- No one can be in the shooting range when it is open.
- Archery bows and arrows are considered weapons. The instructor reserves the right to deny anyone access to the equipment due to unsafe practices such as goofing around or improper use of equipment.

### 3. Equipment and Safety Review

Once participants have agreed to the *Range Safety Expectations*, allow them to enter the Archery Range. As the instructor, go over the *Shooting Safety Expectations*:

- Bows and Arrows must always be pointed down range (toward the targets) at all times.
- Never dry-fire the bows – pulling back on the string with no arrow. This puts stress on the bow and can snap it. It is also dangerous for the shooter.

As the instructor, follow and explain the parts of a bow, parts of the arrow, and demonstrate how to shoot, following the Shooting Demo. For more information or visuals of the shooting demo, see Appendix C.

#### Shooting Demo

- Holding the Bow and Parts of the Bow:* As the instructor, demonstrate how to hold the bow correctly and the parts of the bow such as the string, pulleys, nock point, sight and whisker biscuit/rest. A right handed person uses the right handed bows, and it is held in the left hand. A left handed person uses the left handed bows and holds in in their right hand. The bow should never touch the ground – it can get damaged if dirt gets into the pulleys.
- Safety and Stance:* Show the participants some of the safety equipment for shooting, which includes the arm guard (protects the forearm from the string of the bow), and finger guards (protects fingers from rubbing on the string or arrow during shooting). Demonstrate proper shooting stance. The body of the shooter should be perpendicular to the target, with feet shoulder width apart. Hold the bow by the grip, with the shooting arm held straight out. Both feet of the shooter should be behind the shooting line.
- Nocking an Arrow:* Explain the parts of the arrow to the participants. Demonstrate to the participants how to properly nock an arrow onto the bow by placing the arrow through the whisker biscuit, then placing the nock above the nock point on the string, with the odd feather/fletching pointing out or up (if all the fletchings are present on the arrow.) If there are fletchings missing, just have participants nock the arrow however it fits onto the string. Emphasize that shooters do not have to hold onto the arrow, that is the job of the nock.
- Preparing to fire:* The arm holding the bow should be extended straight out toward the target. Once the arrow is nocked, grasp the string with three fingers, using only the fingertips. The grip can be either with one finger above the arrow and two fingers below, or with all three fingers below the arrow. Draw back on the string far enough that your hand comes to your jawbone.
- Sighting/Aiming:* Aiming is done with the dominant eye and can be sighted off of points on the bow or straight down the arrow.
- Release:* When ready, release the arrow by relaxing the fingers that are holding the string.

Repeat these steps until all arrows are gone from the arrow racks. Once all shooters are finished, declare that the range is closed. Place the bows on the arrow racks or the hang them up on the bow rack. Shooter should then approach the range and retrieve their arrows. The safest way to pull arrows out is to place one hand flat against the target with the arrow coming out between your thumb and pointer finger. Wrap the other hand around the arrow as close to your first hand as possible and pull straight out. Do not wiggle the arrow around to remove it, simply pull as straight as possible. This prevents the arrows from bending and the targets from getting large holes in them. Once the arrow is out of the target, lay it down on the ground until all arrows are out. Carry arrows back to the arrow racks with points down or by holding the points in one hand and the shafts in the other.

### 4. Shooting Commands on the Range

Explain to the participants that Archery Range commands will make sure that everyone stays safe. In order to shoot, the following commands should be used (Demonstrate these to the participants):

- “Shooters to the line.”  
(Come up and get the bow)
- “Shooters nock your first arrow.”  
(Nock their arrow and wait)
- “Shooters ready.”  
(Get into the shooting stance & draw)
- “Range open, fire at will.”  
(Release the arrow)
- “Range closed. Put your bows down”

- “Retrieve your arrows.”

Divide the participants into groups, with one group per target. Using the Shooting Commands, allow participants to fire their arrows at the target. **NOTE: The Instructor will observe each participant shoot their first arrow assisting in to ensure proper technique.** Close the range, retrieve arrows, and repeat all the commands with the next round of shooters. Remember: no one should ever step across the firing line until the “range closed” command is given, even if you drop an arrow and could reach it within one step. It is important to have patience because everyone takes different amounts of time to shoot.

Explain that just like any other sport or skill it takes practice to really get the hang of it. The goal is for the participants to feel more comfortable recreating with Archery equipment. If there is time to have participants shoot multiple rounds, explain how to correct aiming to hit the bulls eye.

#### Common Shooting mistakes:

- *Not having the proper stance* – body isn’t perpendicular to the target
- *Arrow isn’t nocked correctly* – the feathers are facing the wrong way, or it was not nocked tightly enough
- *Holding onto the arrow too tightly* – fingers aren’t placed correctly on the string
- *Not drawing back far enough* – their hand should be pulled back to their jaw bone. Upham has bows with a variety of draw poundage to help with participants who are not strong enough to pull back with full poundage.
- *String hits their arm* – poor form, they may need to bend the arm that is holding the bow

#### Optional Shooting Activities

Once you have gone through a couple of rounds with the teams of shooters, fun skill tests might help to keep their interest. Here are some ideas:

- Tape cards onto the targets
- Tape balloons or stuffed animals to the targets
- Score each round by having each color worth a point value. Have the participants keep track of their individual score or as a team.
- Put a piece of masking tape anywhere on the target. Participants can try to hit the piece of tape, hit one end of the tape, or can simply aim to have all arrows hit on one side or the other of the tape.
- Have participants draw a picture to tape onto the target (ex: donut, star, etc). They are not allowed to draw a person.
- Elimination game: Each person shoots three arrows, participants who hit the bulls-eye (or any other color of your choosing) moves onto the next round. For the next round, participants only have 2 arrows with which to hit the appointed target area. For the final round participants only shoot one arrow, and whoever is closest to the target area wins.

#### 5. Conclusion

At the end of each class make sure that all equipment is accounted for. All bows should be hung in the shed between classes, but targets and arrows can stay out. If there is more than an hour between classes, arrows should be returned to the shed. After the last class of the day, all of the equipment should be put away and locked up in the shed.

#### **Differentiation:**

**Cultural/historical/career:** People have used archery equipment since prehistoric times. Archery equipment has changed a great deal over time, from simple recurve bows to the modern compound bows. Explain to participants that today they are using a compound bow which was developed so that the drawing of the bow is easier, thus allowing the arrow to travel faster. Show participants the different styles of bows and discuss the advantages or disadvantages of each [Comprehension].

#### **Additional/Optional Activities:**

**Finding Dominant Eye:** Extend your arms out in front of you and create a triangular opening between your thumbs and forefingers. With both eyes open, center this triangular opening on a distance object (a leaf, tree branch, corner of building etc). Close your left eye. If the object stays centered, your right eye (the one that is open) is your dominant eye. If the object is no longer framed by your hands, your left eye is your dominant eye.

**Adjusting the aim to hit bullseye:**

Most participants will try to aim down the arrow, lining the arrow tip directly over bulls-eye. Different points on the bow may also be helpful, but the key is to be consistent throughout the shooting. For participants who would like to hit the bulls-eye, it is helpful to have them shoot a consistent group of arrows in the same spot. Once a grouping is established, they can begin to adjust their aiming. See Appendix C for more information.

## **Appendix A: Materials**

### Archery Range:

- Chain mail curtain
- Target Stands
- Targets
- Arrow Racks (sometimes known as Quivers)
- Arrows
- Bows
  - 1 Left- handed Medium Pull
  - 1 Left- handed Heavy Pull
  - 1 Right – handed Light Pull
  - 4 Right – handed Medium Pull
  - 3 Right- handed Heavy Pull
  - 2 Mini: Right – handed Light pull
  - 1 Mini: Left – handed Light pull

\*For the Genesis original bows full/heavy pull is approximately 20 lbs. For the Genesis Mini bows, full/heavy pull is approximately 12 pounds. When adjusting pull weight on Genesis bows, one full rotation is approximately 1.5 lbs. Adjusting both the top and bottom Limb Bolts 1 rotation creates a bow with approximately 18.5 lbs. pull weight.

Heavy = Full poundage

Medium = 3 rotations from full poundage (subtract approximately 3 lbs)

Light = 6 rotations from full poundage (subtract approximately 6 lbs)

### Participant Safety Equipment:

- Arm Guards
- Finger Guards

### Additional/Optional Equipment:

- Balloons

## **Appendix B: Standards Alignment**

### Wisconsin Academic Standards:

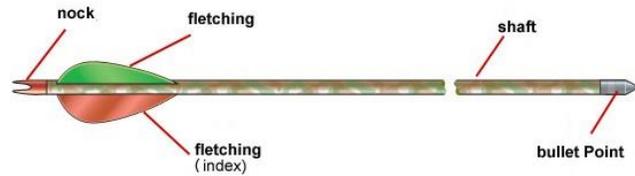
#### Physical Education

- |          |          |
|----------|----------|
| • 1:3:A3 | • 5:2:A3 |
| • 1:4:A1 | • 5:2:A4 |
| • 1:4:A8 | • 5:3:A3 |
| • 2:3:A5 | • 5:3:B5 |
| • 3:2:A3 | • 5:4:A5 |
| • 4:3:B1 |          |

Appendix C: Additional Background Information



Proper Shooting Stance: Body perpendicular to the target, feet shoulder width apart, arm holding the bow closest to the target.



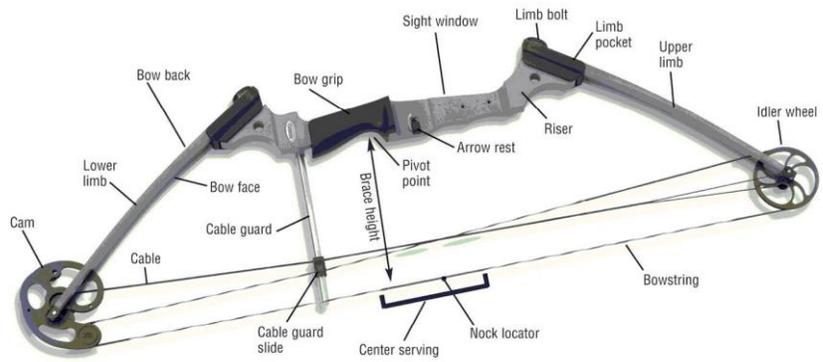
Parts of an Arrow: Fletching and Feather are used interchangeably. Typically it is called a fletching if it is made of plastic. If there are three fletchings on the arrow, one is always a different color than the other two. This odd colored one should be pointing out or up when the arrow is nocked to the string.

For more information, especially specific to our Genesis bows, visit Genesisbow.com Maintenance:

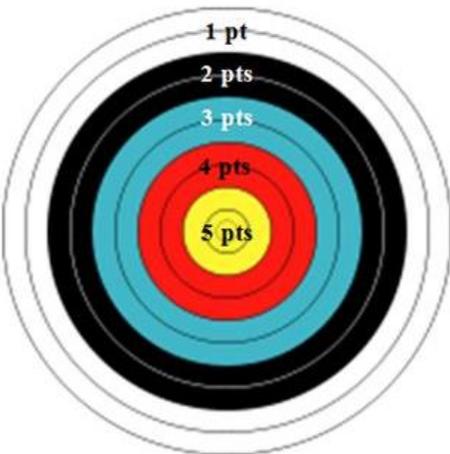
<https://www.genesisbow.com/maintenance-tips/>

How to shoot correctly:

<https://www.genesisbow.com/archery-101/>



Parts of a Bow



Where the grouping is located	Where to aim
Above bulls-eye	→ Aim below bulls-eye
Below bulls eye	→ Aim above bulls-eye
Left of bulls eye	→ Aim right of bulls-eye
Right of bulls eye	→ Aim left of bulls eye

Scoring and how to adjust the aim to hit bulls eye.

## 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. When removed from the quiver, always keep your arrows pointed at the target.
5. Only shoot a bow with an arrow nocked on the string.
6. Only aim and shoot at your target downrange.
7. If you drop an arrow, leave it on the ground until you are told to retrieve all your arrows.
8. Always walk on the archery range.
9. Always be courteous to the shooter next to you.
10. Stand behind the waiting line when you are finished or not shooting.
11. Only retrieve your arrows from the target when told to "three whistle" command.
12. Be sure no one is too close behind you when removing your arrows.
13. After removing arrows from the targets, with arrow points covered, walk to return your arrows to your quivers and go behind the waiting line.
14. SAFETY IS ALWAYS FIRST PRIORITY!

## Whistle Commands

Two Blasts- Archers may walk to “get bows” and go to the shooting line.

One Blast- Archers may load their bows and begin to “shoot.”

Three Blasts- “Archers may walk to the target line to “go get arrows.”

Five or more blasts- “STOP SHOOTING” and put your arrow back in your quiver, bow on the back, and walk behind the waiting line.

## 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.
- Only shoot a bow with an arrow nocked on the string.
- 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 both feet just behind 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 covering 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.

**Archery Staff Skills Verification**

Date _____ Staff names:						
Can string bows (optional)						
can determine proper bow size/strength for varying skill levels						
can check bows and strings for safety						
can check arrows for safety						
can store archery equipment appropriately						
can set up and maintain archery course						
can describe and follow appropriate range commands						
can describe proper safety procedures						
can describe proper emergency response to varying situations						
can give clear orientation to participants						
can describe adaptive measures for varying skill levels						
can appropriately demonstrate correct stances (left and right)						
can appropriately demonstrate and correct arrow position						
can appropriately demonstrate correct pull						
can demonstrate and describe correct use of arm guard						
can demonstrate and describe correct use of finger tabs						
can demonstrate ability to correct technique problems						