



INSTRUCTOR GUIDE

LESSON 6: EQUIPMENT SELECTION

V.2/2018

Bowhunter Education 2017 Standards – Sections 2,3 & 6

Objectives 8, 10, 12, 26, 28

Instructor Notes



This lesson introduces the students to the knowledge needed to select the proper archery equipment. This lesson corresponds with Chapter 4 (pgs. 28-35) in the Today's Bowhunter student manual. Teach this lesson as part of a Round Robin with a small group (4-8) of students.

Teaching Methods Used In This Lesson

- Lecture
- Discussion
- Demonstration

Time Suggested





20 Minutes

Materials Required



- Arrow tips (target point, small game heads, mechanical broadhead, removable-blade broadhead, and fixed blade broadhead)

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- Arrows fletched for display (carbon, fiberglass, aluminum, wood, flu-flu, and crossbow bolt)
 - Bow Fit exerciser bands (1 of each size)
 - Bow target
 - Compound bow (equipped with sight and rest)
 - Crossbow
 - Draw length indicator bow
 - Long bow
 - Mechanical releases (wrist strap, handheld, back tension)
 - Protective equipment (arm guard and finger tab/glove)
 - Quivers (hip/field quiver, detachable bow quiver, back quiver)
 - Recurve bow
 - Tables (Two 8 footers)
 - Traditional bow stringer
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<p><u>Station</u> <u>Set-up</u></p>  <p>20 minutes</p>	<ol style="list-style-type: none"> 1. Set up two 8' tables to display archery equipment. 2. Lay out all archery equipment. Place all the bows together, arrows together, and accessory equipment together in the order in which you will speak about it.
<p><u>Vocabulary</u> <u>Builder</u></p> 	<div data-bbox="418 615 1419 779" style="border: 1px solid black; padding: 10px; margin-bottom: 20px;"> <p>Note: Do not read the vocabulary to the students. These are terms commonly used during this lesson, and the definitions are for instructor reference only.</p> </div> <p>Arm guard – A wrap around an archers bow arm that prevents the bowstring from slapping the archer's arm.</p> <p>Arrow fletching – A feather or plastic vane glued onto the rear of the arrow shaft that causes the arrow to spin and stabilize the arrow in flight.</p> <p>Arrow shaft – The body of the arrow, typically made with wood, fiberglass, aluminum, or carbon fiber.</p> <p>Arrow spine – The amount of deflection of a 28" arrow with a 1.94 pound weight hanging from the center of the arrow.</p> <p>Blunt tip – A tip of an arrow with a flat end used for shooting small game.</p> <p>Bolt – A crossbow arrow consisting of a head, shaft, fletch, andnock.</p> <p>Bowstring – The string of the bow which is pulled to engage the limbs and released to propel the arrow.</p>

Bow stringer – A string used to flex the limbs of a traditional bow so that the bowstring can be put on the bow.

Broadhead – A tip of an arrow with razor sharp blades used for big game.

Cable – The strings of a compound bow or crossbow which link the cams.

Cable guard – A rod that extends back from the riser of a compound bow that holds the cables out of the path of the arrow.

Cam – The mechanical wheel at the end of a compound bow's (or crossbows) limb.

Compound Bow – A bow with one or two cams mounted on the end of the limbs that allow faster speeds, greater energy, and let-off.

Crossbow – A bow with the limbs mounted horizontally on a shouldered stock and is fired like a firearm.

Draw length – The measurement at full draw from the nock point to the throat of the grip plus 1 $\frac{3}{4}$ ".

Draw weight – The peak amount of weight an archer will pull while drawing the bow.

Dry-fire – Pulling a bowstring back and releasing it without having an arrow in the bow.

Expandable broadhead – see Mechanical broadhead.

Finger tab/glove – A piece of fabric used to shield the archer's fingers from the bowstring to allow a smooth release of the

bowstring.

Fixed-blade broadhead – A broadhead typically used for big game with at least two permanent blades.

Fletching – Feathers or plastic vanes around the nock end of the arrow shaft that helps stabilize the flight of the arrow.

Flu-flu – An arrow with large fletchings to produce increased drag to limit the distance the arrow will fly. Generally used for aerial shooting.

Helical – Fletchings are glued on in a slight spiral pattern around the shaft.

Horizontal bow – A bow that is held horizontally while shooting (e.g. crossbow).

Judo point – A tip of an arrow used for shooting small game that consists of a blunt end with wires sticking out to the side.

Kisser button – A small piece of plastic that fits around the bowstring slightly above the nocking point that is placed at the corner of the shooter's mouth upon drawing the bow back.

Let-off – A percentage that the draw-weight is reduced upon reaching full draw.

Long bow – A bow resembling a stick and string.

Mechanical broadhead – A broadhead typically used for big game with at least two blades that open upon impact with the target.

Mechanical release aid – A trigger device an archer uses instead of their fingers to draw and release the bowstring.

Nock – A slot in the end of an arrow that fits on the string.

Nocking point – The location on a bowstring where the arrow is connected.

Peep sight – A small piece of plastic or metal that is inserted into the bowstring above the nock to serve as a rear sight window.

Quiver – A container that may or may not be attached to the bow that stores the arrows and can cover broadheads securely.

Recurve bow – A bow resembling a stick and string with the limbs curved away from the archer.

Removable-blade broadhead – A broadhead typically used for big game with at least two replaceable blades.

Riser – The stiff frame of a bow that the limbs extend from.




Servings – A small diameter string that is wound tightly around the bowstring, typically where the arrow is nocked and where the bowstring meets the cams.

Target point / Bullet point / Field tip – A tip of an arrow used for shooting practice targets.

Traditional Bow – A longbow or recurve bow.

Vertical bow – A bow that is held vertically when shooting (e.g. compound, longbow, recurve).

LESSON PLAN

<p><u>PART A:</u></p> <p><u>Focus Activity</u></p>  <p>1 minute</p>	<p>The purpose of the focus activity is to get everyone's attention focused on the lesson. Ask, "can anyone tell me why ensuring the bow is properly fitted to the shooter would be important?"</p>
<p><u>PART B:</u></p> <p><u>Objectives</u></p>  <p>1 minute</p>	<p>State the learning objective to the students. "At the end of this lesson, you will be able to:</p> <ul style="list-style-type: none"> • list three ways bowhunting equipment must be properly matched; • list the common types of bowhunting injuries and how to prevent them; • explain why proper storage and transportation is important; • describe how to match a bow with an arrow and then to the individual hunter; • and describe how to adjust a bow to fit the hunter's current physical condition."
<p><u>PART C:</u></p> <p><u>Teaching Method</u></p>  <p>8 minutes</p>	<p>Ask: "does anyone know the two ways a bow must fit an archer?" Discuss the following topics:</p> <ol style="list-style-type: none"> 1. Explain what draw weight is and why it's important: <ul style="list-style-type: none"> • The peak weight pulled when the bow is drawn back • Must be a weight that an archer can comfortably pull back multiple times without stress • Wearing layers of clothes in cold weather may change the weight a bowhunter can pull

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2. Explain what draw length is and why it's important:
 - Distance from the nocking point to the grip while the bow is at full draw, plus $1\frac{3}{4}$ "
 - There are several methods for determining draw length, and all will put the archer in the correct range, yet it needs to be fine-tuned by a professional bow technician
 - Proper form is a necessity when fine-tuning draw length
 3. Discuss briefly the basic fundamentals of proper form:
 - Foreword arm slightly bent
 - Rear arm straight back
 - Grip hand relaxed
 - Bow string to nose and corner of mouth
 - Crossbow should be held with firearm fundamentals
 4. Discuss the importance of selecting the proper arrow for the bow:
 - Arrow length
 - Arrow must be long enough to prevent being drawn back beyond the rest
 - Arrow must be long enough to prevent a broadhead from cutting a finger on the shooter's grip hand or making contact with the riser
 - Arrow weight
 - The unit of measure for arrow weight is grains
 - An arrow too light will not properly absorb the energy of the bowstring and may shatter when released
 - Arrow spine (i.e. stiffness)
 - Heavier draw weights require stiffer arrows
 - Arrows that are not stiff enough may shatter from the force of the bowstring
 - Use the chart on the box, or manufacturer's website, to determine recommended arrow
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PART D:



Student
Exercise



13 minutes

5. Explain to the students what dry-firing a bow is and why it should never be done:
 - Drawing a bowstring and releasing it (intentional or not) without an arrow on the bow; never draw a bow without an arrow
 - The majority of the energy of a bow is transferred to the arrow during the shot. Without an arrow on the bow, all of the energy is disseminated throughout the bow. This can cause the bow to break and accessories to fly off.
6. Inform the students that they will now be allowed handle any of the equipment (no drawing the bows) and open the lesson up for discussion.
7. Explain the importance and proper method for storing and transporting archery equipment:
 - Wax the bowstring
 - Store/transport in a hard case
 - Some jurisdictions require that a bow be in a case when in a vehicle or on an ATV/UTV
 - Do not store a bow in a hot vehicle

Students are not being tested at this stage; they are gaining new knowledge and practicing proper form. Your role as the instructor is that of a facilitator/coach to help the students learn the material.

<p><u>PART E:</u></p> <p><u>Student Summary</u></p>  <p>2 minutes</p>	<p>Ask students to recall the important topics that were covered in the lesson. It is important for students to be able to verbalize these points. Use questioning strategies to flesh out answers.</p> <ul style="list-style-type: none"> • What are the two measurements that a bowhunter must consider when purchasing a bow? • What is the bare minimum weight an arrow should be? • What is dry-firing a bow and why is it a bad thing to do? <p>END OF LESSON</p>
<p><u>Addendum</u></p> <p><u>A</u></p> 	<p>FREQUENTLY ASKED QUESTIONS</p> <ol style="list-style-type: none"> 1. Why would a bowhunter choose to use a traditional bow? <i>Some hunters prefer the “traditional” feel of using a recurve or longbow. Some hunters just prefer the added challenge of these traditional methods.</i> 2. Is one mechanical release aid safer than another? <i>The most important factor in the safety of the different releases is the user’s familiarity with the release. All of the releases are effective in the hands of a user who is familiar with the release.</i> 3. Why aren’t crossbows legal in Massachusetts? <i>By Massachusetts statute (MGL 131 s69), crossbows are not a legal means of archery equipment for hunting unless the hunter is permanently disabled to the point that they can’t draw a conventional bow. To change this law requires an act of legislature. Bills are periodically presented to the state House and Senate to change this law, but so they have failed to pass.</i>