INSTRUCTOR GUIDE
LESSON 8: INTRODUCTION TO BLACK POWDER

V. 2/2017

Basic Hunter Education 2014 Standards – Section 2
Objectives 14, B, & C

Instructor Notes 	This lesson introduces the students to the knowledge necessary to use black powder firearms safely. This lesson corresponds with Chapter 7 (pages 107-111) in the student manual. Teach this lesson as part of a round robin. **Teaching Methods Used In This Lesson** • **Lecture** • **Demonstration**
Time Suggested 	20 Minutes
Materials Required 	• Projectiles of different designs (e.g. bullet; sabot) • Bullet starter • Modern In-line Muzzleloader • Powder (e.g. Black powder; Pyrodex powder; Pyrodex pellets) • Primers (e.g. 209 primer) • Ram-rod with marker line

	• Table
Station Set-up  10 minutes	1. Lay out all materials on a table.
Vocabulary Builder 	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. **Black powder –** A mixture of charcoal, sulfur, and saltpeter. **Black powder substitute –** A specialty powder designed to reduce smoke and fouling in muzzleloaders. **Bullet starter –** A very short rod used to start a muzzleloader projectile in the barrel. **Caplock –** A muzzleloading ignition system using a small brass cap filled with fulminate of mercury that when struck by the hammer produces a spark and flame capable of igniting the powder charge. **Flintlock –** An ignition system with a piece of flint clamped in the jaws of the cock used to create sparks when struck against the face of the frizzen. **Fouling –** The residue of burnt powder. **Grain of powder –** A measurement of powder where 7000

grains is equal to one pound.

Hangfire – An unexpected delay between the triggering of a firearm and the ignition of the propellant.

In-line – A muzzleloader design where the nipple and percussion cap are in a straight line with the bore.

Misfire – When, during the process of taking a shot, the trigger is pulled but the cartridge fails to fire.

Muzzleloader – A firearm that is loaded through the muzzle of the barrel by loading each part of the load singly.

Powder measure – A measuring device used to measure a specific volume of black powder, normally designed to pour a volume of powder equal to a specific number of grains.

Priming powder – A very fine powder that burns hot and fast and creates high pressures that is used only to ignite the main powder charge in a muzzleloader.

Pyrodex – A black powder substitute.

Ramrod – A rod used to push loading components down the bore, and to clean the bore of the barrel.

Squib fire – A firearms malfunction where a fired projectile does not have enough force behind it to exit the barrel.

LESSON PLAN

PART A: **Focus Activity**  1 minute	The purpose of this activity is to get everyone focused on the lesson. Ask: "What makes a muzzleloading black powder firearm different from modern firearms?"
PART B: **Objectives**  1 minute	State the learning objectives to the students. "At the end of this lesson, you will be able to: • identify the types and parts of a muzzleloader; • explain how to load and fire a muzzleloader safely; • and describe how to safely handle a firearm during and after a misfire."
PART C: **Teaching Method**  15 minutes	Say: "We're going to focus this lesson on the most commonly used muzzleloader, the modern in-line." 1. Identify what classifies a firearm as a muzzleloader and what design features make the muzzleloader an in-line. • it can only be loaded through the muzzle of the gun • a muzzleloader design where the firing mechanism and primer are in a straight horizontal line with the bore. 2. Identify and explain the parts of a muzzleloader: • hammer • breech plug • thimble • ramrod 3. Explain the different types of black powder and their granulations:

- black powder
- black powder substitute (e.g. Pyrodex, Triple Seven)
  - Fg
  - **FFg – Used in modern muzzleloaders**
  - FFFg
  - FFFFg (priming powder only)
- modern smokeless powder (should never be used in muzzleloaders)

4. Show and explain the different types of projectiles:
   - bullet with sleeve (sabot)
   - bullet (e.g. powerbelt)

5. Show and explain the most common type of primer:
   - 209 primer

6. Demonstrate and explain how to load a muzzleloader:
   - use a powder measurer or 2-3 pellets depending on suggested load
   - barrel facing a safe direction
   - bullet starter
   - ramrod with marker line
   - priming (e.g. 209 primer)

7. Explain how to safely handle an improper ignition:
   - hangfire
   - misfire
   - squib fire

8. Explain how to safely unload a firearm:
   - shooting
   - CO_2 discharge
   - remove breech plug

Students are not being tested at this stage; they are gaining

	new knowledge. Your role as the instructor is that of a facilitator/coach to help the students learn the material. Ensure they understand the terminology.
PART D: **Student Summary**  3 minutes	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. • Which type of powder is acceptable for use in a modern black powder rifle? • How long should we hold on target if we pull the trigger and the gun fails to fire? • How and why should we mark a ramrod? **END OF LESSON**
Addendum A 	**FREQUENTLY ASKED QUESTIONS** 1. Are in-line muzzleloaders legal in Massachusetts? *Yes, as are hinge action muzzleloaders, telescopic sights, and saboted rounds.* 2. Are muzzleloaders as effective as a shotgun/rifle? *Yes as long as the hunter knows their limitations with their implement. Shot placement is more important than the implement being used.*