



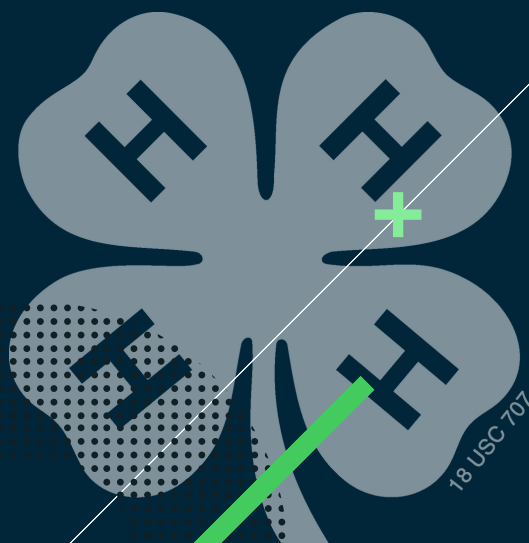
UTAH 4-H SHOOTING SPORTS

RIFLE GUIDE



Extension

UtahStateUniversity®



4-H Pledge:
I pledge my head to clearer thinking,
my heart to greater loyalty,
my hands to larger service, and
my health to better living,
for my club, my community, my country and my world.

In the 4-H shooting Sports Rifle discipline members will accomplish the following learning experiences:

- Follow safety regulations when on the shooting range, including following all the range officer's instructions
- Care and safety of shooting sports equipment
- Demonstrate safe use of rifle through practice, demonstrations, and exhibits
- Explore other project areas in 4-H
- Get involved with other rifle groups and practice with them throughout the year

Equipment Required:

- .22 Rifle
- Scope-optional
- Ammunition- Factory-loaded ammunition only-no reloaded ammunition is allowed
- Eye protection
- Ear protection
- Footwear-no open toe shoes

.22 Rifle Shooting Discipline consists of three sections:

1 - NRA Smallbore Silhouette

2 - CMP Sporter

3- NRA Three Position

State Requirements:

- 4-H Youth 3rd grade-18 years old of that year can compete at 4-H State Shooting Sports competition.
- Hunters Education Blue Card is required to compete at State.
- At State, you can participate in one or multiple disciplines - archery, .22 rifle & shotgun.

National Requirements:

- Participants must be 14 to 18 years of age on January 1st of that year to compete at the 4-H Shooting Sports National competitions.
- National is held the 3rd week of June.
- You will only compete in one qualified discipline.
- Utah 4-H will take one team in each discipline.

More information: <https://extension.usu.edu/utah4h/programs/shooting-sports>

Worked on by the Shooting Sports Coordinators: Marci Borg, Courtney Stephenson, Blake Clark

Rifle Glossary

.22 Long Rifle- A long-established variety of .22 caliber rimfire ammunition.

Action – The parts that load, fire and unload the gun

Accuracy- shots fired from a gun in relation to a shooter's intended point of aim.

Ammunition- the bullet, "Ammo".

Automatic firearm- continuous rounds as long as the trigger is pressed

Barrel- the part of the gun that the bullet travels down

Barrel Muzzle – Front of the Barrel

Bolt- Part of a firearm that blocks the barrel chamber while a round is fired.

Bolt action- type of firearm, where loading and extraction of cartridges

Bullet- firearm ammunition that exits the barrel during firing.

Caliber- diameter of a barrel's bore, measured in inches or millimeters.

Cartridge- contains the bullet, shot, slug, gunpowder, and primer

CBI – (Clear Bore Indicator) is visible from the muzzle and action (explain why)

Ceasefire- A command to immediately stop firing guns and to make them safe.

Centerfire ammunition- a primer located in the center of the cartridge

Chamber- Portion of the gun barrel that contains a cartridge before being fired.

Chambered- cartridge has been loaded into a chamber being ready to fire.

Discharge- Firing of a gun.

Downrange- Direction and location away from the firing position.

Ejector- spring-loaded component of a firearm that throws a spent round out

Extractor- firearm action that removes a spent round from the chamber.

Firing line- a position in which a shooter is stationed to fire upon targets.

Hammer- Part of the firearm that strikes the primer or firing pin

Lever-action- a type of firearm which uses a lever located around the trigger guard
M.A.T – (Muzzle, Action, Trigger) Three Fundamental Rules of Gun Safety

Magazine- ammunition storage and feeding device within or attached to a repeating

Marksman- a person who is skilled in precision shooting

Muzzle- the front end of a gun barrel which a projectile exits toward the target.

Muzzle discipline- the practice of keeping the muzzle pointed in a safe direction

Operator- The individual carrying and using a given firearm.

Pistol- short-barreled, a stockless firearm designed to be held

Point of impact- The location which a bullet impacts after being fired from a gun.

Primer- a combustible chemical used to initiate combustion of a cartridge

Prone- body position in which a shooter lies flat with chest down and back up.

Recoil- Backwards movement

Rifle- a long-barreled firearm that has stock.

Rimfire- primer is contained in a protruding rim at the base of the cartridge.

Safety – when red is not visible, the mechanical device can fail

Stock and forearm- the parts of the gun that you grip

Semiautomatic- a firearm that fires one bullet for an individual trigger pull

Sight- aiming device used to assist in visually aligning a firearm toward the target.

Stance-Body positions assumed to aim and fire a gun.

Trigger – That part of the action that releases the firing mechanism

Trigger control- keeping finger off the trigger until ready to shoot

Trigger guard-loop surrounding the trigger of a firearm to protect the trigger

RANGE COMMANDS

1. RANGE IS HOT

2. SHOOTERS TO THE LINE

3. IS THE LINE READY

4. COACHES REMOVE CBI

5. LOAD THE ROUND

6. TAKE OFF SAFETY

7. FIRE WHEN READY

8. SAFETY ON

9. OPEN ACTION

10. CEASE FIRE

11. MAKE RIFLES SAFE

12. CBI IN PLAC

13. RANGE IS CLEAR

14. YOU MAY GO DOWN RANGE

AND RETRIEVE YOUR TARGET

15. LOAD AND MAKE READY

16. ARE YOU READY?

Rifle Range Rules

- **Know and obey all range commands and instructions.**
- **Eye and ear protection must be worn while on the Range.**
- **Firearms are to remain unloaded until you are on the firing line and have received instruction from the range instructor**
- **Always keep your rifle on safety until told by the range officer to shoot or that the range is “open”.**
- **Always keep your rifle pointed downward or at the target.**
- **Only aim and shoot at your target downrange.**
- **When not shooting a firearm- it will be placed in a gun rack or stored in a case.**
- **If you drop a bullet across the shooting line, leave it on the ground until you are told to retrieve all your bullets.**
- **Always walk when you are on the rifle range.**
- **Always be courteous to the shooter next to you.**
- **Stand behind the waiting line when you are finished or not shooting.**
- **Walk back to the waiting line and return to your rifle after reviewing the target.**
- **Transporting firearms- When not shooting the firearm- the firearm is to remain unloaded and the action is to remain open.**
- **SAFETY IS ALWAYS THE FIRST PRIORITY!**

NRA Smallbore Silhouette

TARGET:

40 TOTAL ROUNDS

10 SHOTS,

4 DIFFERENT STEEL SILHOUETTES

DISTANCE:

10 CHICKENS @ 40 YARDS

10 PIGS @ 60 YARDS

10 TURKEYS @ 77 YARDS

10 RAMS @ 100 YARDS



POSITION: STANDING FOR ALL TARGETS

PROCEDURE:

- Shoot left to right, bottom row then top row second
- One-shot at each silhouette
- 2.5 minutes every 5 targets
- Shooters required to score and reset targets
- Targets must be knocked off the stand
- Turned target doesn't count

RESTRICTIONS:

- Rifle Weight Max 10lbs. 2 oz., with the magazine.
- Max 30" Barrel length
- Any Safe Trigger / Conventional Stock
- No Supportive Clothing is allowed
- Any Scope Power allowed / Spotters allowed

CMP Sporter

TARGET: 60 Rounds shot at this event.

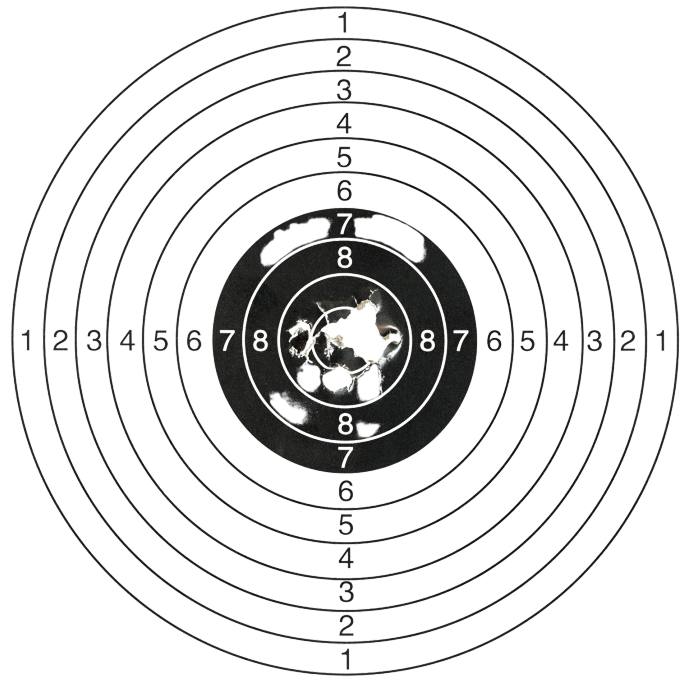
B-19 CMP Rimfire Sporter Target

DISTANCE: 25 Yards & 50 Yards

POSITION: Prone (50 yards)

Sitting/Kneeling(50 yards)

Standing (25 yards)



PROCEDURE:

- 10 slow and 10 Rapid at each position
- Slow fire: 10 shots in 10 minutes
- Rapid-fire: semi-auto action: 5 shots in 25 sec.
- Bolt/manual action: 5 shots in 30 seconds. 2.

CMP Sporter Regulations & Rules:

- Max rifle weight 7.5 lbs.
- Minimum trigger 3.0 lb. pull
 - ** Rifle trigger must be capable of lifting and supporting the 3.0# weight without firing. Triggers that break as the 3.0# weight is lifted will be disqualified.
- Sling must be less than 1.25" wide
- Open sights or less than 6x magnification
- With a 1x-6x power scope. You may adjust power for standing, prone, or sitting within the 1-6 power.
- If you have an adjustable scope that is over 6x – for example, 3-9x power, you must tape it at one power 6x or below and shoot the complete event at that one Power.
- No changing tape during this event.
- No shooting specific clothing or padding or aids.
- No round may be chambered until the shooter is in position
- Action will be open or locked open (semi-autos) or closed on an empty chamber before inserting magazine or loading tube

NRA Three Position

TARGET:

A-51 Paper Target

Each shooter will have 3 separate targets to shoot at, one per position.

The top two bulls on each target are sighters (practice bulls) if your first practice shot goes below the sighter bull line, ask for assistance from the range officer, or it will be a scored shot.

At each position, you can shoot as many practice shots into the top 2 sighter bulls as you want.

Then you must shoot 5 rounds for scoring at each of the 4 Lower bulls. 20 total shots at each position.

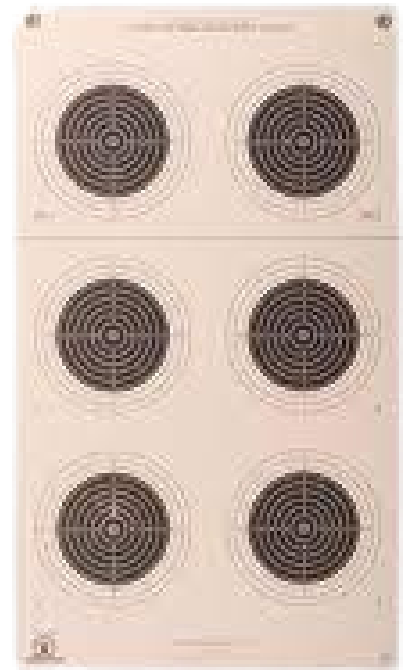
Each position has a time limit listed below that you have to shoot all of the practice shots you want and the 20 scoring shots.

POSITIONS & TIME:

Prone 50 yards / 20 Minutes

Standing 50 yards / 40 Minutes

Kneeling 50 yards / 30 Minutes



PROCEDURE :

- 20 shots each position
- ONE Round in Rifle at a time / no full magazines
- Must be in shooting position before loading round into the chamber

LIMITATIONS:

- ONLY Iron sights, according to the 3-POS rules
- Open Sights or Peep Sights
- This includes standing open sights, peep sights, etc.

Rank Advancement

The shooting sports program also helps young people learn life skills, build self-worth, strengthen conservation ethics and become more effective environmental stewards. The lessons are written to provide learning for all members. This is the start of the Rifle Rank Advancement program.

If the leader is a family member of the member, someone else should conduct the interview or review when possible. Having someone with valuable expertise perform the interview, and give feedback will prepare members for job interviews and other life experiences. Would be a great chance to have parents form a committee to review each member and give the interview in front of the committee.

This advancement will:

- *Help you learn more about your rifle
- *Help you improve your shooting
- *Allow you to advance according to your ability, interest, and willingness to work.
- *Provide you with recognition for work.

ALWAYS WEAR EAR AND EYE PROTECTION!

Rifle Rank Advancement is another step in this program. When ready contact the county 4-H Coordinator to get the rest set up to go forward. Will need to go over things with the youth for history, conservation, safety, sportsmanship, ethics, and leadership. All skills part will be done from this program.

Lesson 1

What are the major safety rules of shooting:

Muzzle control, finger off the trigger until ready to shoot, know your backstop

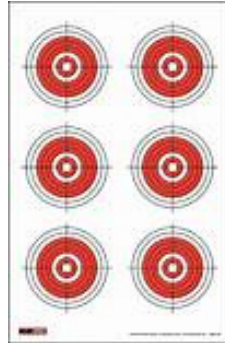
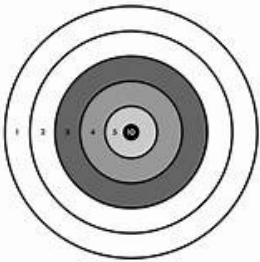
- Determine your eye dominance.
 - Step 1- Stretch your arms in front of you and, by placing your thumbs and forefingers together, make a triangular opening around the center of your visual field. Try to keep your hands out at about a 45° angle or "flat" relative to your eyes.
 - Step 2- Keep both eyes open and center the triangular opening between your thumbs and forefingers on some distant object. It doesn't matter what the object is – just make sure it's some meters away and not right in front of you.
 - Step 3- Next, close your left eye. If the object in the center of your triangle remains centered – that is, if it doesn't disappear or otherwise change position – then your right eye is dominant because it's the only eye still open. In contrast, if the object moved or disappeared behind your hands, then your dominant eye is your left eye. Basically, this test takes advantage of our natural and instinctual positioning.
- Name six range commands. (listed on page 4) These are safety commands that the leader will use at the range.
- Demonstrate how to safely handle a rifle.
 - <https://youtu.be/mk7uihP5oMY>
- Explain "caliber"
 - Caliber is the nominal bore diameter of a firearm. It is measured in inches or millimeters. The term also applies to the diameter of a bullet
- Describe the actions to take when you hear the words "cease fire"
 - to immediately stop firing
- Demonstrate the safety practices to follow when picking up a rifle and when passing it from one to another person.
 - Acknowledge them and say a word you both know that means "I got it"
- Explain what you should do when you see a rifle or another weapon in public or at a friend's house.
 - explain that they don't know if it's loaded, you can ask for them to make sure it's unloaded, and ask nicely to put it away. BUT NEVER PLAY WITH IT!
- Define "ethics" and "sportsmanship"
 - Hunting ethics is a term that defines the true standards, conduct, and moral judgment of a sportsman. Sportsmanship refers to fair, respectful, and gracious behavior in a sport or contest
- Demonstrate safe range and shooting procedures.
 - watching surroundings, keep the muzzle pointed in a safe direction.
- Identify the basic parts of a rifle.
 - 1. Stock- allows shooter to control the rifle 2. Action - consists of a firing mechanism, trigger, and safety 3. Muzzle- the front end of the gun, which the bullet comes out of
- Help set up and clean up (pick up more shells than you shot). Help watch for safety.
- Start off getting familiar with their rifle, while unloaded, safety is on. Always keep the muzzle pointed in a safe direction.

Lesson 2

- Give five examples of when you should unload
 - 1- when not in use. 2- Finish shooting. 3- Storage 4- handing it to someone. 5- when crossing a fence or has an obstacle that needs crossing.
- Describe ethical and unethical shooting practices
 - Not being respectful to those around you, being a good example, making fun of someone who is struggling to hit the target.
- Explain the different actions and their function of them.
 - Break- shooter pushes a switch or lever on the rifle, and the barrel swings open on a hinge, “breaking” the gun and exposing the breach so you can load and unload the weapon.
 - Bolt- shooter manually feeds and ejects each round by directly manipulating the bolt by rotating, pulling, and pushing a bolt handle on the side of the rifle. Rotate, pull, push, rotate, fire, repeat.
 - Pump-load the shells into a tube that runs below the barrel and then “pump” the fore-end back and forth to load the first shell into the battery.
 - Lever- push the lever down and forward, which pushes the rifle’s bolt back, locking the hammer back and opening the breach. Pulling the lever back to its original position pulls the bolt closed, chambering a round.
 - Semi-gases released by the round going off do that job for you. This is known as direct impingement.
- Name four components of a rifle cartridge
 - Casing: The container that holds all the components together. The case can be made of brass, steel, or copper for pistols and rifles. Shotgun “shells” are plastic cases, with the base covered in a thin brass covering.
 - Primer: The primer is an explosive chemical compound that ignites gunpowder when struck by a firing pin. Primer may be placed either on the rim of the case (rimfire) or in the center of the base of the case (centerfire).
 - Powder: Gunpowder is an explosive consisting of a powdered mixture of saltpeter, sulfur, and charcoal.
 - Bullet: The projectile is typically made of metal-containing lead, cylindrical and pointed, that is expelled from the barrel.
- Explain the different types of sights available for rifles.
 - Open Sights- or iron sights, rear sight on the rifle’s receiver that consists of some sort of window. The point is that you look through the rear sight to see the front sight located at the end of the rifle barrel. The front sight is usually a narrow pin that needs to be lined up with the target.
 - Dot sights-projecting a small laser beam onto a piece of glass or clear plastic (complete breakdown here). This dot functions similarly to the front pin on the design of the open sight.
 - Laser Sight- has a laser that is on top of the rifle
 - Telescopic Sights- small tubes attached to the top of the rifle’s receiver and provide anywhere between 1.5 and 80 times magnification, which makes them incredibly useful for long-distance shots.
- Start out at 25 yards, if all the youth can shoot here comfortably and make a good score with an understanding of each position (standing, sitting or kneeling, prone (laying down)), move to 50 yards.
- As a club write a paragraph up to put in the newspaper about your experience in Shooting Sports.
- As a youth, help your leaders write a paragraph about safety and post to your local 4-H social media.

Lesson 3

- Explain the difference between rimfire and center-fire cartridges
 - the difference between the rimfire and the centerfire is where that primer is located. The easiest way to tell them apart is to see if you can see a circular primer in the center at the base of the casing. The primer in the center = centerfire! If you see a smaller cartridge with no overt primer, it is likely rimfire.
- Demonstrate how to carry a firearm with someone in the different positions around you.
- Post flyers about your Rifle Club
- Explain rifle targets and talk about them.



- Explain the different parts of a rifle and what they are used for

MAKE SURE BEFORE SHOOTING EACH YOUTH HAVE EYE AND EAR PROTECTION!

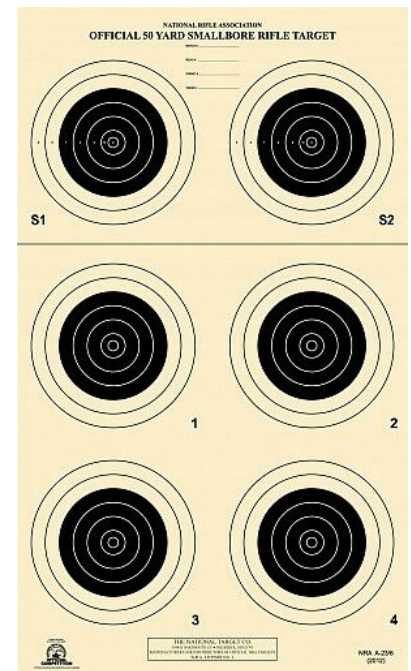
NRA Smallbore Silhouettes PROCEDURE:

- Shoot left to right, bottom row then top row second- Go through the ways to shoot it with each participant to make sure they understand how they will need to shoot in competition.
- One-shot at each silhouette- they want to keep moving on the targets and not spend more than 1 bullet on each target.
- 2.5 minutes every 5 targets- take either time and get the shots correct.
- Shooters required to score and reset targets
- Targets must be knocked off the stand
- Turned target doesn't count

DISTANCE:

1. 10 Chickens @ 40 Yards
2. 10 Pigs @ 60 Yards
3. 10 Turkeys @ 77 Yards
4. 10 Rams @ 100 Yards

POSITION: Standing for all targets

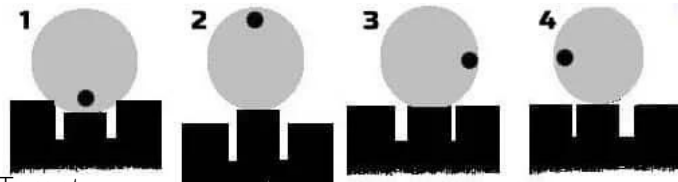


Lesson 4

- Explain how the rifle makes the ammunition come out.
 - Rifling is the process of making helical grooves in the barrel of a gun or firearm, which imparts a spin to a projectile around its long axis.
- Host an election for club officers- President, Vice President, Secretary
- What does it mean by different calibers, and name 5 different rifle calibers?
 - Caliber is a measure of barrel diameter from the lands



- What is a firing line and what does it do?
 - the line of positions from which gunfire is directed at targets. It shows the shooting where to stand and not go in front of.
- Help a leader plan a club meeting.
- Determine what the Pittman-Robertson Act is and how is it important?
 - The Federal Aid in Wildlife Restoration Act, also commonly known as the Pittman-Robertson Act, has been in place since 1937 and is a key funding source for wildlife management, habitat, conservation, and hunter education programs for state wildlife agencies.
- Demonstrate sight alignment



1. Front Sight is **TOO LOW** – so **LOW** hit on Target
2. Front Sight is **TOO HIGH** – so **HIGH** hit on Target
3. Front Sight is **SKEWED To RIGHT** – so **RIGHT** hit on Target
4. Front Sight is **SKEWED to LEFT** – so **LEFT** hit on Targe

- Invite someone to the club and help them participate.
- Shoot from the 50 & 60-yard distance.

Lesson 5

- Explain how to clean a rifle and store it.
 - Wipe down the action, trigger guard, scope, barrel, and all exterior metalwork of the rifle with a light coat of gun oil. Run one last patch dabbed with a light coat of oil into the bore to prevent rust. To further avoid rust, firearms should be stored in an environment that stays around 70 degrees F year-round with humidity of 50 to 55 percent. It is best to lock all your guns and ammunition in a gun safe.
- Explain what happens inside the .22 rifle ammunition when the trigger is pulled.
 - The science of ballistics covers three basic parts: interior, exterior and terminal. When this happens, the sear releases the hammer or the striker (firing pin), thereby initiating a complex but predictable chain of events. It's called a firing sequence.
 - The hammer rotates forward until it hits the firing pin, driving it forward; the striker (firing pin) moves forward if there is no hammer. The tip of the firing pin strikes the primer cup, deforming it and crushing the priming compound inside against the anvil underneath. The priming compound explodes, sending hot, rapidly expanding gas through the flash hole and into the case. The gas rapidly raises the temperature and pressure inside the cartridge case, thus igniting the propellant. As the propellant burns, it generates hot, expanding gas at a temperature of about 5,600 degrees Fahrenheit. This quickly raises the pressure inside the cartridge case to peak levels up to 62,000 pounds per square inch (p.s.i.). The increasing pressure irons the cartridge case sidewalls outward against the chamber walls, creating a seal that prevents hot gas from escaping to the rear. At shot-start pressure (normally 2,000-10,000 p.s.i.), the bullet overcomes case neck tension, allowing the expanding propellant gases to accelerate it down the bore. After traveling a short distance in the chamber's throat, the bullet contacts the rifling and engraves. As the bullet accelerates down the bore, the rifling lands grip the bullet's surface, imparting spin. About one-third of the way down the barrel, the bullet breaks the sound barrier. As the bullet accelerates farther down the barrel, internal volume increases...which, in turn, causes chamber pressure to begin to drop. Progressive burning of the propellant offsets the pressure drop to some extent but does not prevent it. As the bullet clears the muzzle, a jet of hot, high-velocity propellant gas, still at 10 to 30 percent of peak chamber pressure, is released. As the gas jet escapes, it compresses the air surrounding the muzzle, thus creating a loud "report." The pressure inside the barrel and chamber quickly drops back to ambient levels, allowing the cartridge case sidewalls to spring back from the chamber walls for extraction.
- What does Trigger control mean?
 - the act of moving the trigger and firing the gun without disturbing aim
- Demonstrate how to zero a rifle by adjusting the sights.
 - A bullet tip or small tool can make adjusting the front sight easier. Look for the arrow which points to the way it should spin. Moving it in that direction would raise the POI and front sight post. Fire a last group of shots to confirm your iron sight zero. Again, your zero is only good for your chosen distance.
- Participate in range clean-up.

Lesson 6

- Explain different types of bullets
 - OTM or Open Tip Bullets- These types of bullets usually have an opening at the top from the way they were manufactured. The openings are very small, therefore they never expand. These types of bullets are best used for target shooting.
 - Soft Point bullets- This is a bullet that expands once it hits its target. It has a soft metal core that is enclosed by a very strong metal jacket, which is left open at the front tip.
 - FMJ or the Full Jacket Metal- It comes with a soft center metal like lead, which is protected by a harder metal on the outside, like copper. These types of bullets are usually round, pointy, or even flat. They usually cut small channels through which they go through the target. They are good for short-range shooting but are not the best to use in self-defense scenarios.
 - HP or the Hollow Point bullets- These are the kinds of bullets that are designed in such a way that they expand once they hit the target. They are for concealed carry
 - Ballistic Tip- It is basically a hollow point bullet that has been covered by plastic in order to look like the FMJ. It is mainly used for hunting.
- What does misfire, hang fire, and squib mean?
 - Ultimately a misfire is a failure to discharge the bullet. However, a hangfire occurs when the cartridge discharges fully after a significant delay. Similarly, squib loads involve the ignition of the primer, powder charge, or both.

CMP Sporter PROCEDURE:

60 Rounds shot DISTANCE:

- Standing (25 yards)
- POSITION: Prone (50 yards)
- Sitting/Kneeling(50 yards)
- 10 slow and 10 Rapid - Standing, Sitting or kneeling, prone (laying down)
 - Slow fire: 10 shots in 10 minutes
 - Rapid-fire: semi-auto action: 5 shots in 25 sec.
 - Bolt/manual action: 5 shots in 30 seconds.

Go over how to score the targets, how many points they will get. Show them a scorecard.



Lesson 7

- What does "backstop" mean?
 - A device constructed to stop or redirect bullets fired on a range. This is usually an earthen structure, placed between 16 and 20 feet in vertical height, built in accordance with NRA recommended standards.
- Describe your 4-H club understanding of the Second Amendment.
 - A well-regulated Militia, being necessary to the security of a free State, the right of the people to keep and bear Arms, shall not be infringed.
- Explain a Hunting Plan and what it tells
- tells where and with whom you are hunting and when you expect to return. It also should contain specific directions on your route to your destination and any alternate destination you may have if bad weather changes your plans. Be sure to include your cell phone number and cell phone carrier. Law enforcement officials can work with the carrier to locate your position using your cell phone even if you are injured and cannot answer.
- Describe how is best to store firearms, and keep them safe from unauthorized users.
 - Clean, Unloaded in a gun safe.

NRA Three Position

POSITIONS & TIME, 20 shots each position

- Prone 50 yards / 20 Minutes
 - Standing 50 yards / 40 Minutes
 - Kneeling 50 yards / 30 Minutes
 - ONLY Iron sights
- Learning to build a good shooting position in the three positions hinges on the youth's ability. When learning each position, the first step is to study the position through pictures or demonstrations.
 - After thoroughly studying the position, the youth assumes the position without a rifle. The youth should then turn his/her attention toward how the position feels, and where each part of the body is placed.
1. A good position is balanced—it puts the center of gravity of the body-rifle unit over the support points of the position.
 2. A good position should have a head position that achieves balance and allows proper use of the eyes.
 3. A good position requires little use of muscle with the weight of the body-rifle unit supported by the participant's bone structure.
 4. A good position provides a small area of hold.
 5. A good position allows good circulation and unhindered breathing.
 6. A good position should be reasonably comfortable.
 7. A good position provides a good natural point of aim.

