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ABSTRACT

The shooting and hunting manual, part of a series of books and pamphlets on outdoor education, explains shooting skills, hunting, and proper gun handling on the range and in the field. This manual should be supplemented and enriched by available references, facilities, and resources. It may be included in the community's educational and leisure-related activities. Topics are: (1) a brief history of guns through the ages; (2) shooting skills, ammunition, gun parts and types, and safety and range procedures; (3) informal and organized shooting games; (4) rifle clubs, shotgun activities, shooting clinics, and the school curriculum; (5) firing ranges; (6) equipment; (7) gun handling; and (8) training aids. Definitions of shooting and hunting terms and a list of reference books, articles, and films are included. (NQ)

ED 091136



# SHOOTING <sup>and</sup> HUNTING

American Association  
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and Recreation

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### THE OUTDOOR EDUCATION SERIES

*Shooting and Hunting* is one of a series of books and pamphlets on outdoor education, a most significant recent development in education. Other titles include *Casting and Angling* (for the accomplished fisherman and the novice), 52 p., \$2.00; *Outdoor Education* (for the elementary school teacher), 32 p., 75¢; and *Outdoor Education for American Youth* (for the secondary school teacher) 150 p., \$2.50.

### A AHPER OUTDOOR EDUCATION PROJECT

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# FOREWORD

SHOOTING AND HUNTING replaces the AAHPER Instructors' Manual, *Shooting and Firearms Education*, now out of print. The first guide, published in 1956, was in such demand that the Association set up a Revision Committee to incorporate the basic material in this handbook on shooting and hunting as one of the Outdoor Education series. With the addition of much new material, *Shooting and Hunting* now deals in greater detail with shooting skills and hunting as well as proper gun handling on the range and in the field. The Committee has been guided in this revision by the suggestions and advice of those who used the original manual. *Shooting and Firearms Education*, based on the doctoral dissertation of Jack F. George, would not have been possible without the assistance and active co-operation of the New Hampshire State Departments of Fish and Game, and of Education. Many of these people have also advised and actively assisted in the preparation of the new guide. Particular acknowledgement is due G. E. Damon who contributed invaluable services as a special consultant and also the National Rifle Association and the Sporting Arms and Ammunition Manufacturers' Institute.

Much of the interest in shooting and hunting was stimulated by the Outdoor Education Project of the American Association for Health, Physical Education, and Recreation, a Department of the National Education Association. The project is a co-operative venture with the Associated Fishing Tackle Manufacturers, the Sporting Arms and Ammunition Manufacturers' Institute, and the Daisy Junior Safety Institute.

The Revision Committee was composed of individuals experienced in planning and conducting hunting and shooting education programs.

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*Carl A. Troester, Jr.*

**Carl A. Troester, Jr.**  
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*Physical Education, and Recreation*

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# SHOOTING AND HUNTING

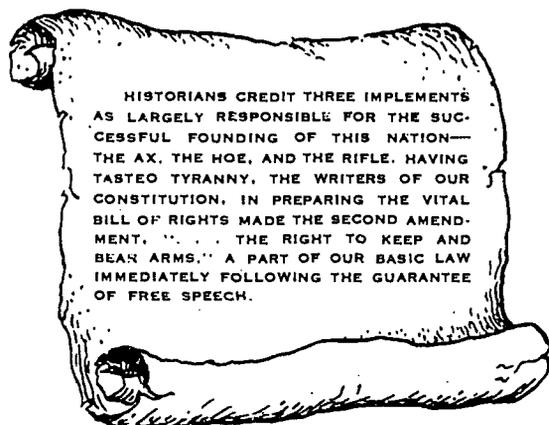
SHOOTING AND HUNTING have their roots in antiquity in the long history of man. Today, they are among the most popular outdoor sports as millions turn to the open spaces to find wholesome adventure through activities of their own choice.

The shift from rural to urban living has made it difficult for many to acquire both the necessary skills for such sports, and a true appreciation of their value as lifelong activities. A cardinal objective of education is to teach for the wise use of leisure, better termed creative education. Shooting and hunting should find their appropriate places in the curriculum of the community education system. Shooting is a satisfying skill in itself. Many, old and young alike, participate in a variety of shooting meets and games, quite apart from hunting.

In addition to the importance of skill and knowledge for correct gun handling and intelligent use of sporting arms, these sports offer many opportunities for teaching related subjects and activities. These include science, conservation, social studies, citizenship, health, and outdoor living. The study of velocity in physics, game management in biology, or property rights and landowner relationships in citizenship and social science, for instance, illustrate how shooting and hunting are related to other areas in the curriculum.

Concepts, attitudes, and behavior in conservation, citizenship, and health are more easily established through natural interests such as shooting and hunting. These wholesome and adventuresome outdoor sports also have significant implications for fitness; they may be a part of the physical education and recreation curriculum or taught through clubs, intramurals, adult education, or other school and community activities.

It is hoped that this guide will be helpful to teachers and leaders interested in providing instruction for shooting and hunting. The manual should, however, be supplemented and enriched by available references, facilities, and resources. Shooting and hunting, as important phases of outdoor education, should be included in the community's educational offering of leisure-related activities. Such a program will make it possible for additional millions to derive greater happiness from the outdoors.



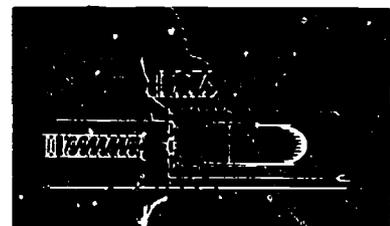
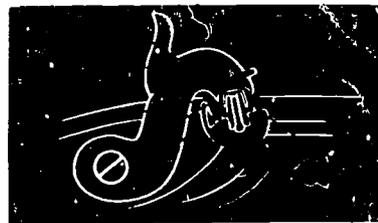
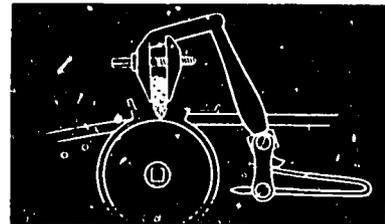
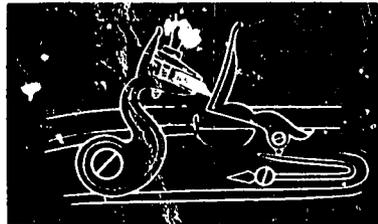
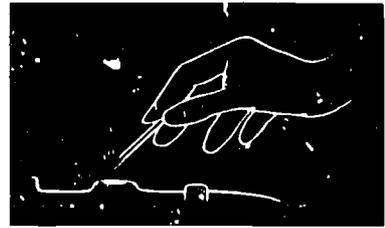
A handwritten signature in cursive script that reads "Julian W. Smith".

JULIAN W. SMITH  
*Director, AAHPER Outdoor  
Education Project*

NOT LONG AFTER MAN had discovered how to make powders that burned very quickly, he thought of burning them in a strong tube as a propellant. This tube, now called a gun, has changed principally in its strength and in the methods used to ignite the gunpowder.

Basic methods of igniting gunpowder have played important roles in American history—the hand cannon from the fourteenth century, the "Kentucky Rifle" in the days of the moving frontier, and the percussion cap in use during the Civil War. Today, the percussion cap is called a primer and is inserted in the cartridge case where it serves the same function, that of igniting gunpowder.

## GUNS THROUGH THE AGES



Ignition methods reproduced from *Gun-Fun with Safety* by G. E. Damon, Standard Publications, Inc., Huntington, W. Va. 1947.

# HOW TO USE THIS MANUAL

## PURPOSE

THIS MANUAL HAS BEEN CONSTRUCTED in a manner which will be of the greatest practical value to you as a teacher. The format has been established as objectively as possible in order to give you an over-all knowledge of shooting and hunting, as well as methods and practical suggestions for instruction. Its purpose is to help you show your students not only how to shoot, but also the *fun* of these outdoor sports. *Shooting and Hunting* does not replace the excellent texts already available, many of which are listed in this manual. It approaches the subject from the point of view of the instructor.

With *Shooting and Hunting* as your guide, you may take your students through all the phases of shooting and hunting education from their first acquaintance with guns to the shooting games and hunting experiences they will later enjoy on the range and in the field. If you are having fun while doing the instructing, your students will have more fun themselves, and derive more direct benefit from the activity.

## WHEN

Originally designed to teach boys and girls, grades 7-12, the knowledge and skills required for safe shooting and gun handling, this revised guide is applicable to the teaching of all age groups. It can be included in a class, club, shooting clinic, camp, summer school, and adult group activity. Many schools incorporate this instruction in their conservation and youth recreation programs. Others use it as an integral part of their junior gun club or regular physical education activities.

## WHERE

Most of the learning can take place in the classroom or gymnasium. Actual live fire in your program of instruction will require outdoor or indoor ranges. These may be constructed at reasonable cost. Many gun club ranges and public shooting facilities are available.

## WHO WILL TEACH

This guide will be particularly helpful for teachers, but it will enable any qualified instructor or interested parent to do a better job.

## NRA AND SAAMI WILL HELP YOU

The National Rifle Association and the Sporting Arms and Ammunition Manufacturers' Institute will help you in various ways. Both have literature; they may be able to locate instructors and direct you to shooting facilities; in certain areas they have field consultants.

Write to the National Rifle Association, 1600 Rhode Island Avenue, N.W., Washington 6, D. C.; and the Sporting Arms and Ammunition Manufacturers' Institute, Sportsmen's Service Bureau, 250 East 43rd Street, New York 17, New York.

### **WHERE TO FIND CONSULTANTS**

Make full use of the available experts in your area. Several states have trained consultants, as well as teachers, for their shooting education programs. Consultants may include state conservation officers, gun club members, rifle and pistol association members, law enforcement agents, and hobby gun collectors.

### **YOUR BASIC TEACHING AIDS**

Each section in this manual offers useful suggestions for class or group demonstrations. Inexpensive and easy-to-make teaching aids are described which will be especially useful for those clubs and institutions with limited budgets and facilities.

### **RECOMMENDATION**

Obtain parent's permission for the participation of students of high school age and younger.

## **TESTS**



# BASIC TEXTS AND LITERATURE

It is recommended that the following be used to supplement the material in this guide. Further information is given in the reference section.

*Gun-Fun with Safety.* A comprehensive full-length text by G. E. Damon which provides additional information written in simple terms for the beginning shooter.

*The Hunter's Encyclopedia.* Over 50 prominent writers have, between them, covered all the aspects of hunting in America.

The National Rifle Association has available the handbooks listed below. Prices are given in the reference section.

*Basic Rifle Marksmanship* with instructors guide supplement  
*Procedure for Organizing a Basic Rifle Course*

*Junior Rifle Handbook*

*Hunter Safety Handbook* with instructors guide to hunter safety course

*Illustrated Hunters Guide*

*Questions and Answers Handbook*

*Shooters Guide*

*Shooting the .22 Rifle*

*Shotgun Instruction*, Instructors supplement

*NRA Smallbore Rifle Rules*

The Sporting Arms and Ammunition Manufacturers' Institute have the following free leaflets and brochures.

*Shooting's Fun for Everyone*

*What Every Parent Should Know When a Boy or Girl Wants a Gun*

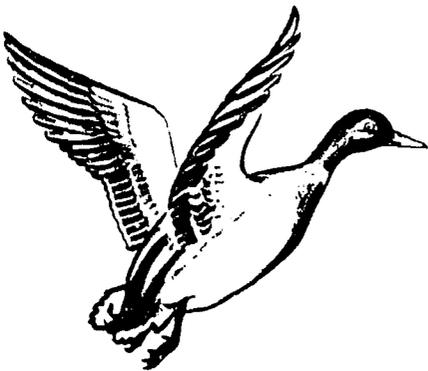
*Shotgun Sports*

*Ranger Targets*

*Ten Commandments of Shooting Safety*

*Handbook on Smallbore Rifle Shooting*

Many instructional and supplementary materials (including excellent charts) are also available from arms and ammunition manufacturers.



## FOR THE SHOOTING AND HUNTING INSTRUCTOR

- If you are not thoroughly familiar with the various types of firearms and ammunition, you can become better acquainted with them by contacting your local firearms dealer, gunsmith, conservation officer, or gun club member.
- Get outside help. Students listen to and believe specialists. Try to make sure that your experts can present their knowledge successfully—before you ask them.
- Use actual objects and situations as much as you can. Words are good, pictures are better, and there is no perfect substitute for the real thing. Demonstrate every skill. Practice beforehand to make sure of your demonstration. Use the diagrams in this book in an opaque projector and try the suggested easy-to-make teaching aids and games.
- Group work can be used to advantage as it is easier to examine equipment and material in small units. Teach the students to teach each other.
- Vary your approach. Above all, sell your subject. Teaching, selling, and showmanship have many things in common. Each one must have some degree of the other two in order to consistently get good results.

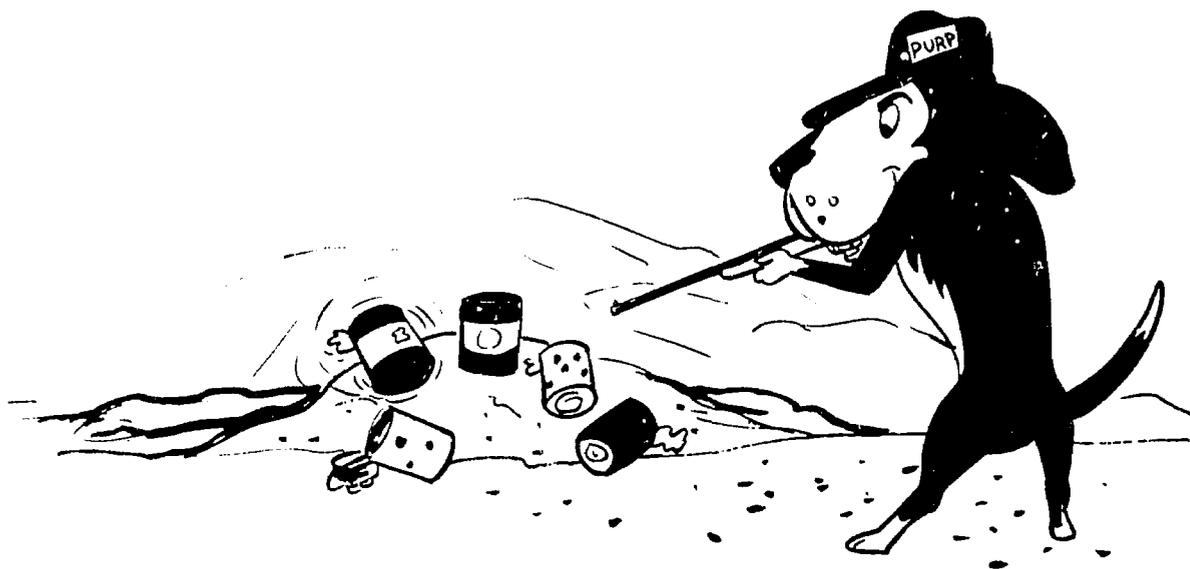
*and remember when handling firearms . . .*

- Guns for use in class demonstration should always be *safety-checked* in front of the class as well as before the demonstration. Ammunition *should not* be used when demonstrating guns indoors in any circumstances—except during actual range firing. It is a good idea to rack and lock all guns when ammunition is handled by the students, and to have *all* ammunition boxed and locked when guns are studied.
- Insist that *all range firing* be done under competent supervision; and, preferably, by National Rifle Association rules.
- Safety should be learned as an attitude—a natural and integral part of handling guns and not treated as a separate element in itself.



## TESTED TIPS





# SHOOTING IS FUN

THIS MANUAL HAS BEEN WRITTEN for you—you as a teacher and as a student. Its contents have been created by experts who are both teachers and shooters; they know how to have fun with guns and how to teach others.

The problem-solving experiences of many Outdoor Education Workshops are in this guide. Much of this experience was gained from teaching those who had never shot a gun. Many feared guns, and will never be afraid again. Many came with understandable misconceptions about guns and the ways in which they can be used for recreation; they have learned and are now teaching others to shoot with both safety and pleasure.

If the contents of this book must be aimed toward any one purpose, that purpose is:

### **Shooting Is Fun**

Prominent in the many-sided definition of the word, *fun*, are these three words:

**Amusement      Sport      Recreation**

We have our own definition too: "Fun is doing what you want to do when you want to do it." While we all have our own way of describing why we like to do what we do, all reasons can be justified, and shooting for fun has a place in every one of them.

*Action* is important to many. Quiet sports are not for this type who shun the hammock-in-the-shade approach to recreation. To them, the very sound of a gun adds pleasure, and they like to see targets fall down, come apart, and otherwise *do something* when they shoot.

*Accuracy* for many has its own pleasant reward. These people like target shooting, long distances, good equipment, and careful preparation. They are not against plinking tin cans for fun, but they are likely to try very hard *always* to hit the exact center of the tomato!

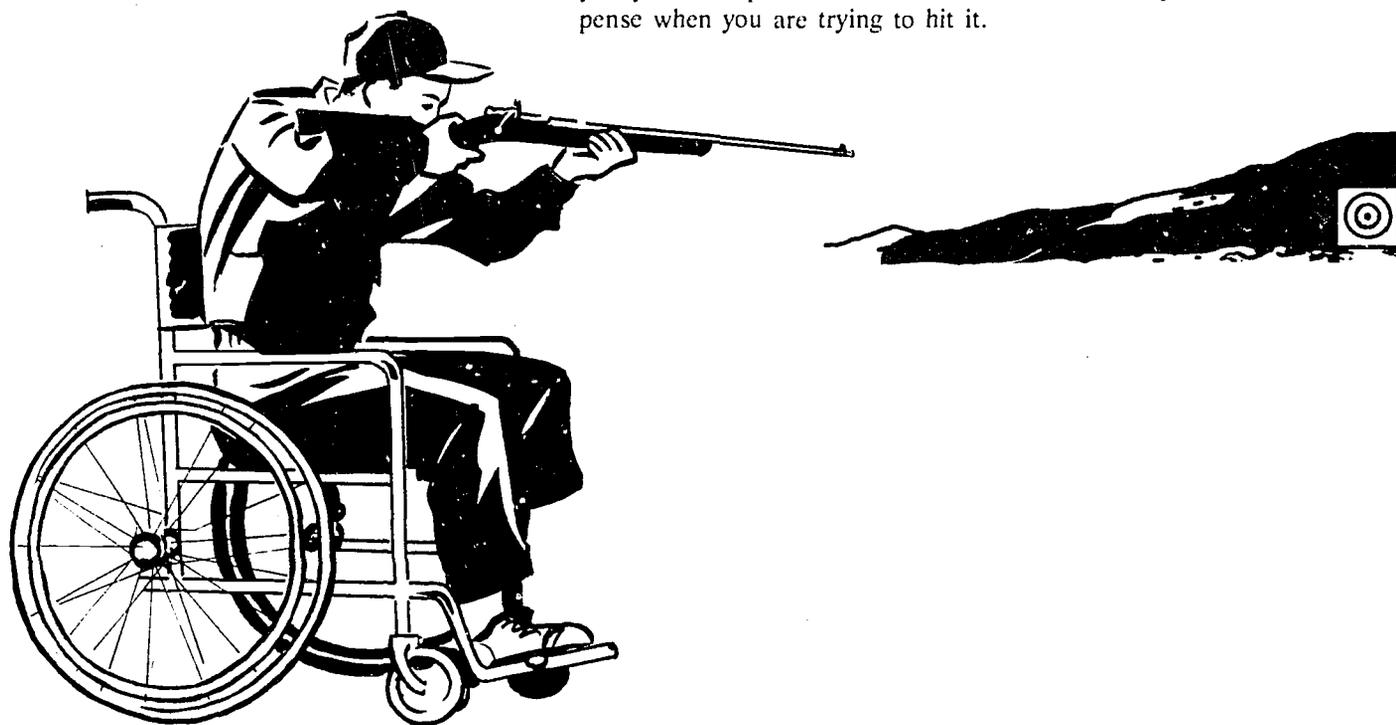




*Competition* is a basic part of our lives, in school, business, and recreation. In sports, competition is part of the pleasure that comes from the play itself. From football to bridge, from tennis to shooting, competition is the spice of everything we do. We even compete with ourselves to try to improve on our own past performances.

*Adventure* is, luckily, still a part of our education and recreation activities. Early in life we call it playing—cowboy, explorer, soldier, hunter, hero. Later, we may perhaps call it fun; but the striving for at least the simulation of adventure is still with us. Hunting for both food and sport is a satisfying answer for the several million sportsmen who buy annual hunting licenses in this country alone.

*Suspense* is a thrill that many enjoy, and shooting has plenty of it. Will that deer or rabbit ever come over the hill where you are waiting? Are those tiny dots in the sky ducks at last, or just imagination? Will that last shot score a ten and give you your first perfect score? Even a tin can will provide suspense when you are trying to hit it.

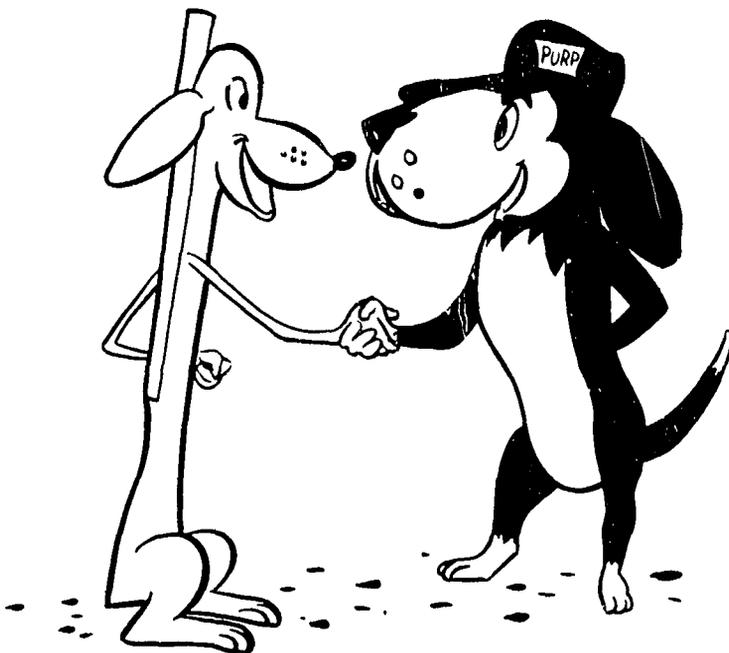




*Relaxation?* For many of us, recreation with moderate physical activity is attractive. Shooting is a favorite of this group as well. The noise element is very small when shooting a .22 rifle. Shooting in the prone position is conducive to ease and comfort, particularly when the breezes are mild and the sun is shining through the trees overhead.

Shooting as a sport is unique for other reasons. So much recreation is denied those who are physically handicapped, who are too short, too slow, or too light. Graduation day marks the end of many sports, and the ending is sudden. Shooting is a magic answer to the problem of lifelong recreation. The spectator can outshoot the captain of the football team. Girls can beat boys, and often do. You can shoot accurately and with pleasure despite the severest physical handicaps. You can shoot as long as you can see and have the strength to hold a gun over a rest. Even in its most peaceful meaning, shooting is the great equalizer.





# KNOW YOUR GUN

- Describe the chief differences between rifles and shotguns.
- Identify the various gun actions by name; describe and demonstrate their operation.
- Recognize the major parts of a modern gun.
- Know the correct methods for cleaning and storing guns.

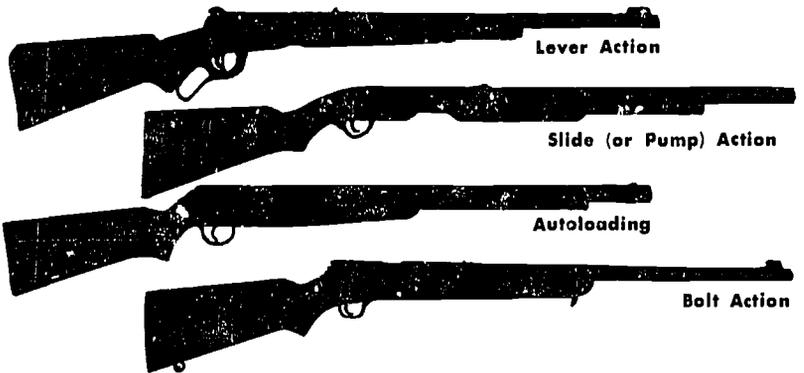


**L**IKE TOOLS, guns are made in many types and sizes for many different purposes. They can be divided into three main categories—shotguns, rifles, and handguns. This manual discusses only shotguns and rifles. Handguns are not recommended for the beginner, especially for the younger students. Being short barreled, they are harder to control and need greater care in handling.

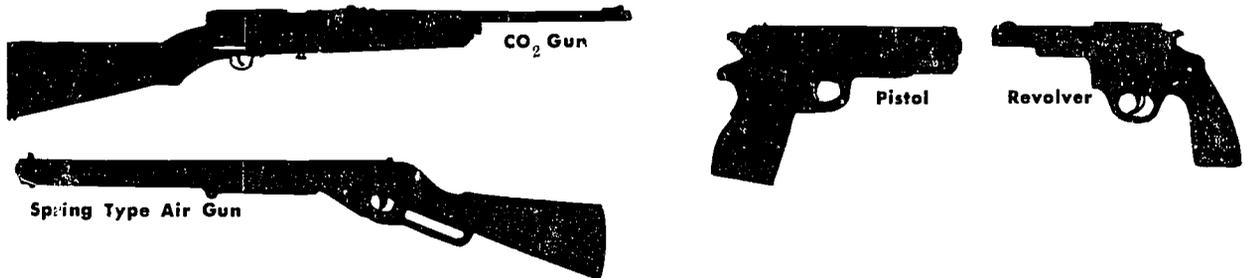
The spring type guns and CO<sub>2</sub> guns are growing in popularity, especially for training the younger age groups. They are effective in the school with limited facilities and restricted space.

# TYPES OF GUN

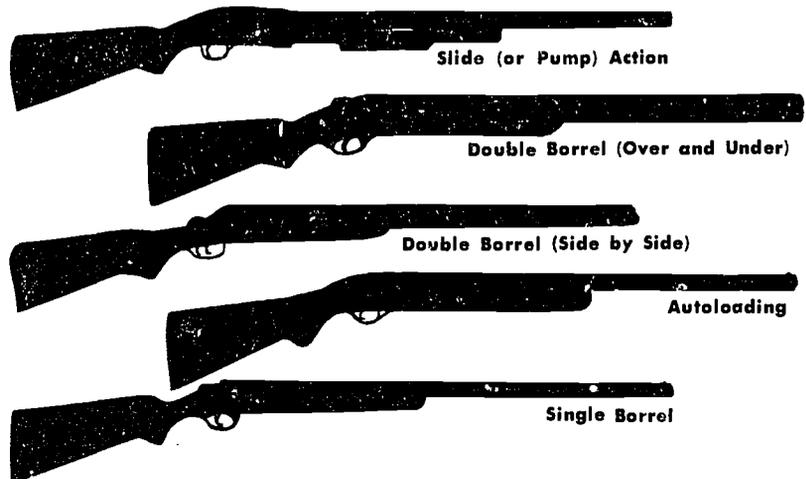
## Rifles

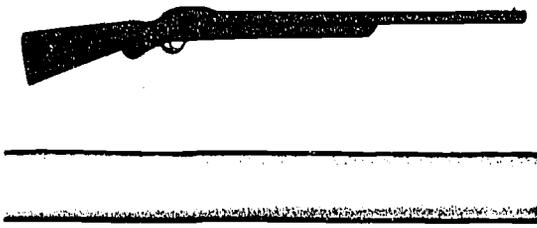


## Handguns

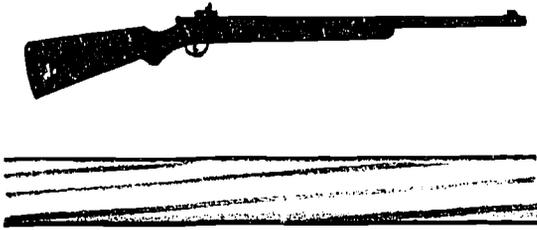


## Shotguns





The shotgun is exceptionally effective for moving targets at short ranges. The basic difference between a rifle and shotgun is found inside the barrel. To hit a flying target requires not only skill but many pellets or shot; and this is the reason for the large, "smoothbore" barrel of the shotgun. The large barrel allows the firing of a large number of shot at one time, and the smooth bore (inside barrel) helps them to stay reasonably close together.



Any gun which has spiral grooves cut into the bore of the barrel is called a rifle. This *rifling* causes the bullet to spin, giving it stability in flight and greater accuracy and range than is possible from a gun with a smooth barrel. A similar action is given by the player to a spiraling football.

## GUN PARTS

Since all firearms are basically alike, the names of parts closely resemble each other. Both rifles and shotguns are of similar construction and have three major sections or assembly groups: *action*, *stock*, and *barrel*.



Double Barrel  
(Side by Side)



Lever Action



Falling Block



Slide (or Pump)  
Action



Autoloading



Bolt Action

## ACTION

The *action* is the center or heart of the gun. It is the group of parts which load and fire the cartridge or shell and remove the fired case. Single-shot (and multiple-shot) guns use actions which operate on the principle of the *bolt*, the *lever*, and the *hinge*; and they are described by these names. Other multiple-shot actions are called *pump* and *autoloading*.

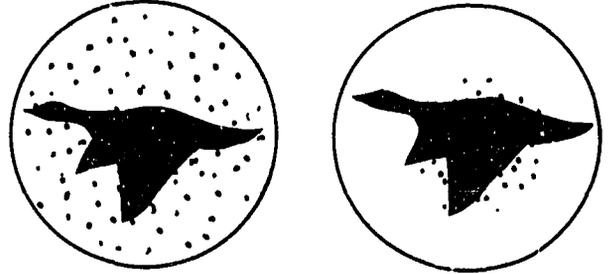
The bolt action rifle is most commonly used because it is both rugged and safe, and can be loaded easily—one shot at a time. It is the most popular action for target guns and for beginning training in gun handling and safety. Single-shot shotguns are most frequently of the hinge action type.

## BARREL

The *barrel* holds the cartridge or shell before firing and directs it toward the target. The rifle barrel differs from a shotgun barrel in two respects. The grooves, cut into the barrel, leave pro-

jecting spiral tracks called *lands*. These lands grip the bullet and give it its spinning action. The *caliber* of a rifle is normally determined by measuring the diameter of the bore from the top of the ridge of metal between rifling grooves to the top of the ridge opposite. Caliber is usually given in hundredths of an inch.

A shotgun barrel in good condition is almost as smooth and shiny as a mirror. The constriction of the barrel near the muzzle, termed the *choke*, is important in preventing shot from scattering widely and in permitting greater accuracy at longer distances. Full-choke barrels, for example, are best for long-distance shooting of waterfowl whereas barrels without choke (cylinder bore) are best for quick, close-range shooting. The modified choke is the most commonly used by the "one-gun" man. Shotguns are generally classified by *gauge*, the lower the gauge number, the larger the barrel. For example, a 12-gauge shotgun is one in which a round lead ball weighing 1/12 lb. will fit the barrel.



## STOCK

The *stock* serves as a handle so that the gun may be held comfortably and shot safely and accurately. The *forearm* (or fore-end) in front of the action, helps to support the gun while the *butt* is held against the shoulder. Wood is the traditional stock material. Synthetic materials are now being used on certain new models. Some stocks are made in two pieces with the forearm separate.



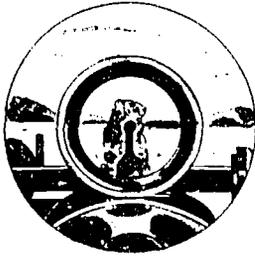
## SIGHTS

*Sights* will be dealt with in detail in a later section but, since they are very important attachments to rifles, the following is a brief description.

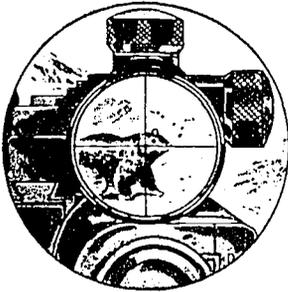
All rifle sights fall into three types: Open, peep (or aperture), and telescope.

*Open sights* are fast to use, rugged, and inexpensive. They are the least accurate because the shooter tries to focus his eye on three things at the same time—rear sight, front sight, and target. While adequate and desirable for some hunting and plinking purposes, open sights are not recommended for precision or competitive shooting.

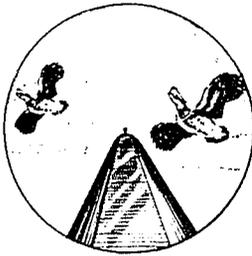




*Peep sights* involve an aperture rear sight through which the shooter looks, aligning front and rear sights with the target. Peep sights can be adjusted easily and more accurately than can open sights. The shooter's eye should focus on the front sight while maintaining alignment with the rear sight and the target. Peep sights sometimes include an aperture front sight; this is a great optical advantage for target shooting. Hunters now use the peep sight to a much greater extent, and tin can shooters are discovering its advantages.



*Telescope sights* are the most accurate. They can be adjusted precisely and are considered to be the finest target sights for certain types of competition. Optically, they pull the target to the shooter so that the eye needs to focus on one object only. Telescope sights gather more light and deliver it to the shooter's eye, allowing him to shoot in poor light. These sights may be purchased in many degrees of magnification and hunters use them successfully around the world. After a certain amount of practice, telescope sights are fast to use.



Sights are not nearly as important to the shotgun shooter. He is not trying to aim with the same pinpoint accuracy as the rifle shooter because the pellets in a shot charge spread as they fly through the air. Usually, the sight on a shotgun is a single round bead on top of the barrel near the muzzle. Some shotguns have a second smaller bead about halfway along the barrel. Special sights are available for shotguns used for both big game hunting and wing shooting.

## GUN SAFETIES

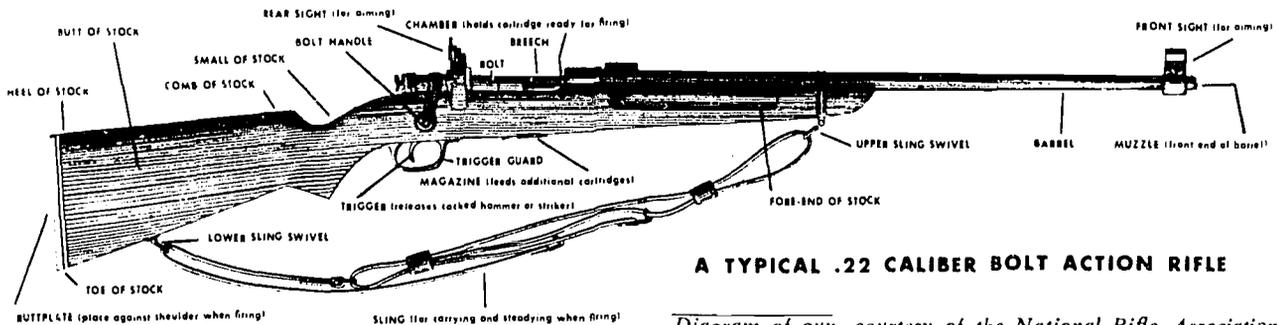
All rifles and shotguns are equipped with some type of safety device. It is found behind or ahead of the trigger, behind or to one side of the bolt, or protruding from the stock somewhere near the action.

Safeties are most important when hunting or just walking from one place to another. Organized shooting, such as a .22 rifle match, trap, or skeet, does not make use of the safety. Instead, the loading and shooting is rigidly and carefully controlled. The safety is used, however, during high power rifle matches, and the range command you hear is, "Load and lock." Safety devices do not guarantee safety. They may be broken or inoperable. Every shooter should remember to "treat every gun as if it were loaded." One should add, "as if the safety did not exist."



Beginners and experts alike shoot the .22 caliber rifle more than any other firearm. Its cartridge is both inexpensive and extremely accurate. There is very little recoil and the noise level is low. The basic skills learned in shooting the .22 rifle correctly and accurately can be adapted to the shooting of any other rifle, even the high-powered guns for field purposes.

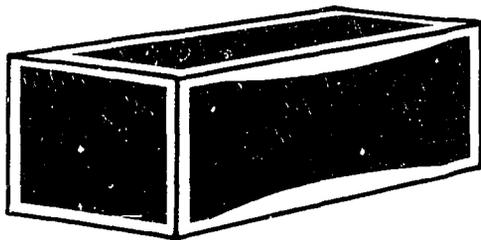
## .22 CALIBER RIFLE



It is most important to realize that the .22 is not a toy or a plaything. Its superb accuracy, *carelessly used*, can cause trouble. Bullets shot from .22's travel farther and hit harder than many think possible.

Look at the end flap of any box of .22 ammunition and read, RANGE—1 MILE. BE CAREFUL.

The rifle is named from a French word, *rifler*, which means to *scratch or file*—in other words, putting grooves (and lands) in the barrel of what was previously a smoothbore musket.



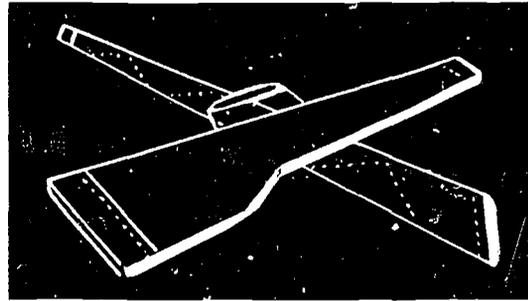
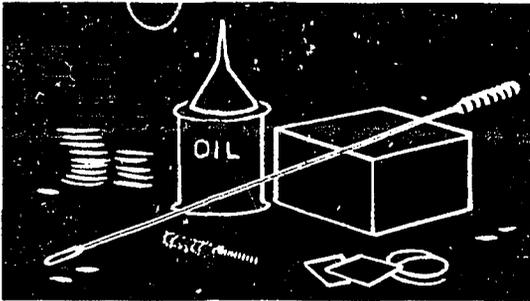
The .22 smoothbore rifle which shoots a shot cartridge is gaining popularity for inexpensive "scattergun" shooting. Absence of recoil, the little space required, and low cost make it an excellent choice for teaching the beginning wing shooter the principles of lead, swing, and follow-through. However, shooting the .22 smoothbore *accurately* is not as easy as it looks. The gun shoots with a smaller shot charge and a closer pattern than, for example, the 12-gauge shotgun.

## .22 SMOOTHBORE

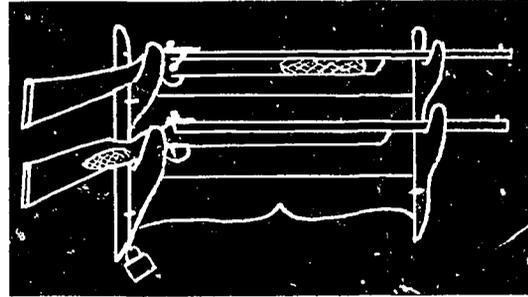
# GUN CARE AND STORAGE

A good gun is a masterpiece of fine craftsmanship. With proper care, well-made firearms will last indefinitely. Careless handling, abuse, and improper storage can convert a good gun into worthless, dangerous junk.

After shooting, modern guns need to be cleaned only if they have become dirty or wet, or if they are going to be stored. Modern ammunition no longer leaves salt residue to attract moisture. Oil, sparingly used, should be applied to all metal surfaces, particularly if the gun has not been taken out for



Remember that changes in temperature and humidity affect the gun.



several days; but it should not be squirted into the action. Too much oil in either the action or barrel can cause excessive pressures when firing, and extreme cold weather thickens the oil—a gun may not even fire. Wooden parts of a gun should not be coated with oil made for metal. Use an oily rag or piece of sheepskin to prevent external rust or corrosion from the acid left by fingerprints.

**Teach basic fundamentals only; no one is learning to become a gunsmith.**

When storing a gun, coat all surfaces, including the bore, with a light film of oil. Store the gun horizontally, if possible, in a safe, dry place open to circulating air. An airtight case may cause "sweating." Storage space should be locked and all ammunition should be stored and locked in a different place.

Beyond adjusting sights and carefully tightening occasional loose screws, guns should generally be left alone. Any precision instrument deserves expert, careful service when repair is needed.

- Make everything visual if possible—bring as many guns to class as you can, and use large charts to explain the component parts.
- Make sure *you* are handling them properly and safely (action open—muzzle in safe direction) so they may also learn by watching.
- Allow students to handle guns; supervise carefully.
- Work with students in pairs—coach and pupil method. One student demonstrates while his partner observes and corrects.
- Create a situation and have a student clean the firearm properly. (No oil need be used for demonstration.)

## TOPICS FOR DISCUSSION

- Why is it necessary to "know your gun" in order to be able to handle a firearm safely? List reasons.
- What is the function of the action when the bolt is closed?
- List the ways a gun may be defective.
- What is the purpose of the lands and grooves in the rifle barrel? Why are the lands wide and shallow in some guns, and deep and narrow in other? Is there any advantage in a right-hand or a left-hand twist?
- How is the caliber of a rifle determined?
- What is the purpose of "choke" in a shotgun? When, for example, would it be preferable to use a full choke and why?
- What are the origins of such words as "barrel," "matchlock," and "pistol"? Trace the derivations of the various shooting terms.
- Discuss the Second Amendment of the Constitution of the United States—*Right To Bear Arms*.
- Discuss your state and local laws.

## POINTERS FOR THE INSTRUCTOR

**Why action? Because absolutely nothing else in or on the gun moves when it fires (except the bullet or projectile).**

**The word, shot, comes from the Scotch word, gascoat, meaning a missile.**



# AMMUNITION

- Explain the construction of the various available types of ammunition.
- Identify by type and by caliber or gauge.
- Handle ammunition safely under classroom and shooting situations.
- Demonstrate and explain the safe transportation and storage of ammunition.



ALL AMMUNITION was once *loose*, which meant that all of the parts were either poured into or attached to the gun. The first improvement over this slow and unhandy system involved wrapping the powder and bullet in paper and sealing both ends. The paper became linen, leather, rubber, and finally a metal case. The primer, originally attached to the gun, became a part of the cartridge itself.

Modern ammunition is called one of two things: a cartridge or a shell. A shotgun shoots a shell; and rifles, pistols, and revolvers shoot cartridges. One might add that CO<sub>2</sub> gas-operated guns shoot pellets and spring type guns, or "air rifles," shoot BBs and pellets.

Rimfire and centerfire are the two types of rifle and pistol ammunition. Both have similar parts:

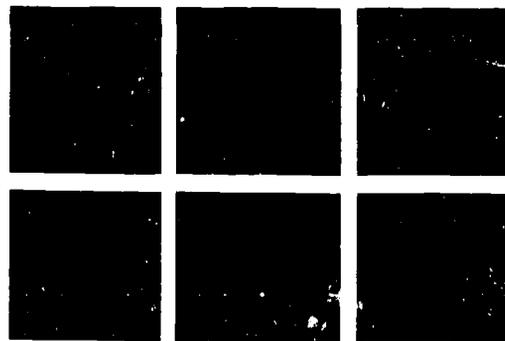
The *cartridge case*, made of copper or brass, holds the bullet at one end, the primer at the other, with the powder in the middle.

The *primer* explodes when hit sharply and sets fire to the powder. A rimfire cartridge has the priming mixture spread around the inside of the rim. Centerfire cartridges have a primer which fits a hole in the *head* of the case.

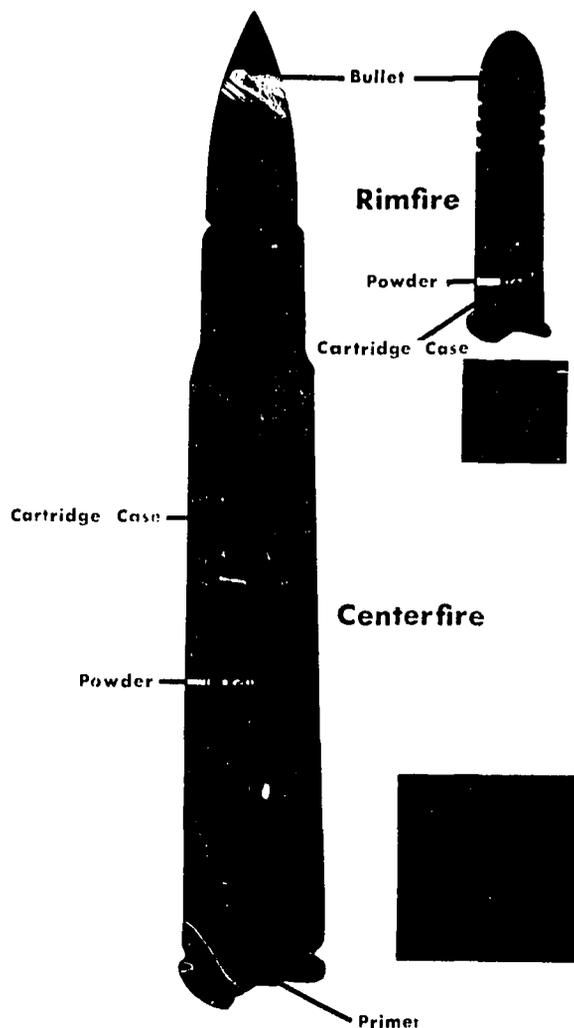
The *powder* is set on fire by the exploding primer. It burns rapidly within the cartridge case or shell and the expanding gas creates tremendous pressure—over 50,000 pounds per square inch in large calibers. Since the gas is blocked at the sides and rear, it follows the path of least resistance and pushes the bullet (or shot load) out of the barrel. The noise? The sound comes from air—rushing back to fill the vacuum left by the departing bullet and burning gas as they leave the barrel.

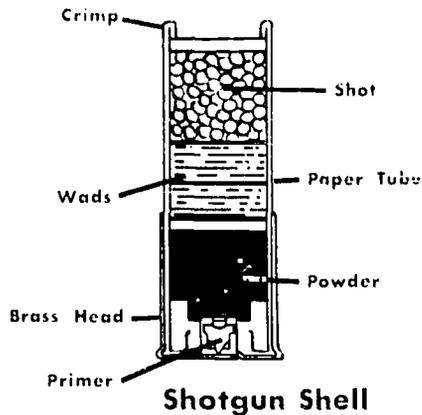
The *bullet* is often made of lead, as in the rimfire .22. In other calibers, it is made of combinations of lead and a harder jacket. Variations in size, shape, and composition all serve particular functions. Types of hollow point and soft point bullets, for example, are best suited for certain hunting conditions.

Some cartridges, both rimfire and centerfire, use the rim for extracting the empty case after firing. Others are called rimless and have a groove around the base to allow extraction.



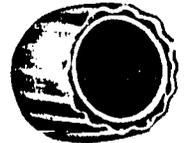
## CARTRIDGES





Shotgun Shell

Shotgun shells generally use a paper case, and have one or more wads between the powder and the shot or slug. Wads prevent the burning powder from deforming and passing by some of the shot when the shell is fired, and, in effect, serve as a piston driven by the expanding gases which forces the shot load out of the barrel tube.

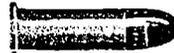


Rifled Slug

BUY THE  
RIGHT  
CARTRIDGE  
OR SHELL

Modern cartridges and shells can be identified by sight and by the markings on the base or head. The .22 rimfire cartridge usually has only the initial or trademark of the maker and is made in three sizes. All have the same bullet diameter:

- .22 short** Accurate. Short range.
- .22 long** Less accurate. A combination of the short bullet and the long rifle case.
- .22 long rifle** Very accurate. More powerful.



The manufacturers of ammunition are well aware of individual preferences among shooters. Every conceivable combination of cartridge size, powder, and bullet have been commercially tried and hundreds of combinations are on today's market.

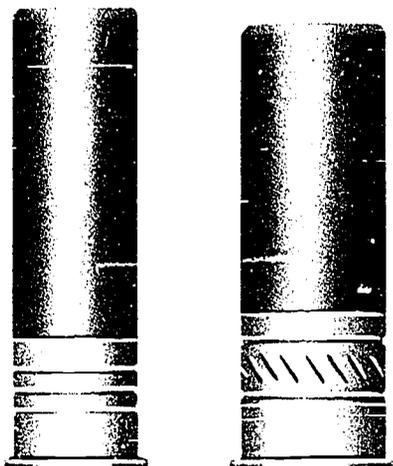
It is wise for beginning shooters to find the best loads by listening to local experts—they won't all agree, but a pattern of selection will be plain enough for the individual to begin making his own intelligent selections.

Many modern cartridges resemble each other closely, and a shooter must be absolutely sure that the ammunition he buys is made to shoot in his gun.

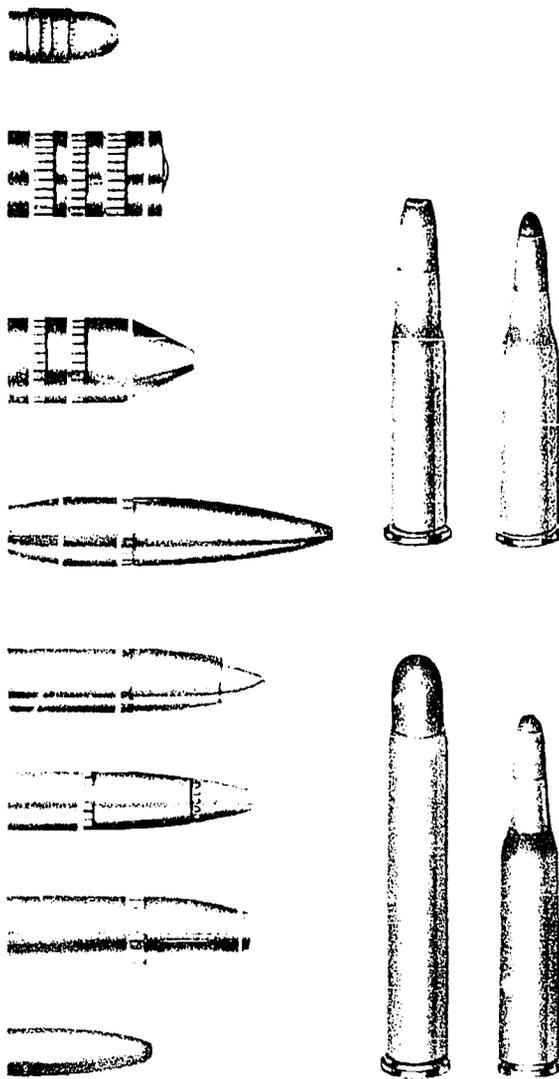
Shotgun gauges are fewer in number, but the varieties of case lengths, sizes of ball and shot, and loading differences make proper selection equally important to the shooter.

Shotgun shells are commonly loaded in cases from 2½ to 3 inches long. Trap and skeet loads are usually short and have a low metal base and small shot. At the other end of the scale, the long 3-inch cases have a high base and the heaviest magnum loads.

Long shells should not be used in shotguns chambered for short shells—both power and length must be right for each gun.

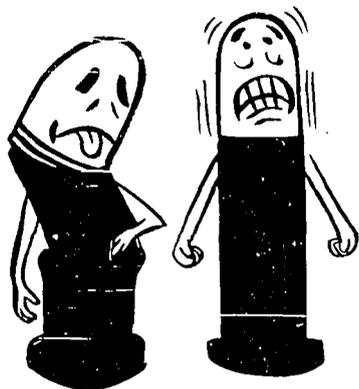


Many shooters own both 12- and 20-gauge shotguns. More than any other combination, this is the most dangerous. An old hunting coat can soon carry some shells of both sizes in one pocket. The 20-gauge shell will drop down a 12-gauge barrel and stop, out of sight, just ahead of the chamber. When the shooter puts a 12-gauge shell just behind and fires, he often becomes a statistic. The 20-gauge shell acts as a plug, causing the barrel to burst, often with tragic results.



**DANGER . . .**  
**THE .12 GAUGE**  
**.20 GAUGE**  
**MIXTURE**

# STORING AND TRANSPORTING AMMUNITION



Ammunition is best stored where it is cool, dry, clean, and not subject to blows from other objects. Its greatest enemies are prolonged heat and dampness. Heat increases both power and pressure, sometimes to the point of danger, and accuracy suffers. Damp storage produces poor accuracy, lower power, and sometimes no power at all.

Ammunition should be stored above ground level, if possible, and in the house. It should also be kept locked, as one little cartridge picked up by an inquisitive and ignorant visitor of *any* age, can become a link in a chain of events leading to an accident.

Fire is a hazard that is quite easily handled. Although ammunition may be destroyed in a fire, storage in a metal cabinet is adequate protection from the flying metal of any ruptured cases. A wooden cabinet would be safe if it had not already burned. A cartridge exploded by fire does not *shoot*. The weakest part, the case, bursts first and the pieces may travel several feet. They have little force and would be stopped by a corrugated cardboard box—unburned, of course. The bullet or shot load does not move with any damaging force.

Normal care is necessary when transporting ammunition; it should be packed tightly to prevent sudden movement and to keep the cases clean and dry.

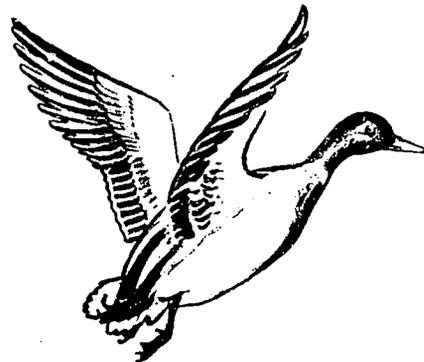


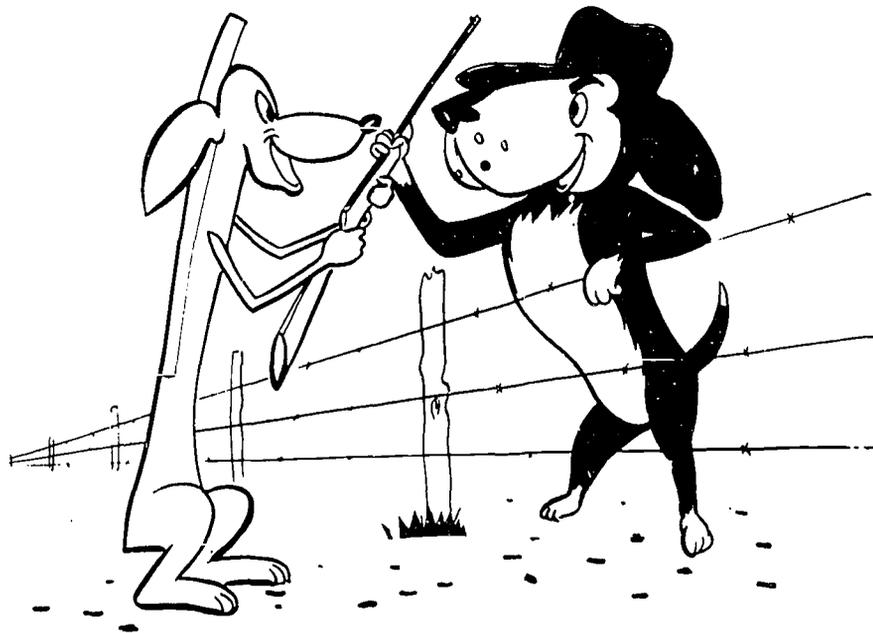
# POINTERS FOR THE INSTRUCTOR

- Make dummy ammunition for demonstrations which involve both gun and ammunition. Empties can often be used.
- Use large charts if possible to explain the component parts of ammunition.
- Demonstrate the effects of both solid and hollow point .22 bullets by shooting into cakes of soft laundry soap, placed lengthwise in front of a suitable backstop.
- Test .22 penetration by filling an apple crate with extra ends, spaced and nailed about 2 inches apart.
- Shoot into quart and five-quart oil cans filled with water to compare hitting power of various caliber bullets and types of bullets. Include a shotgun slug and a shot shell at close range.
- Collect fired and unfired cartridges for close examination by students.
- Demonstrate that primers explode and powder burns:  
    Explode the caps (used in a toy cap pistol) with a hammer.  
    Burn a small amount of smokeless powder in a pan.

## TOPICS FOR DISCUSSION

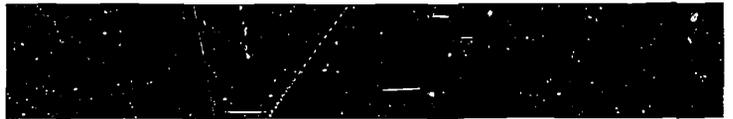
- Discuss trajectory, velocity, and energy as questions arise in class. If possible, the science teacher or another specialist should take part in the discussions.
- Gunpowder simply flares and burns out when lighted in an open container. Why does it drive a bullet so fast through the muzzle of a gun barrel?
- What are the chief causes of a ruptured gun barrel? What can be done to prevent this from occurring?
- What is the basic difference between a rimfire and center-fire cartridge? Why is there this difference?
- What type of cartridge would you use for the following: target shooting, hunting big game, small game, varmints? Why?





# SAFETY AND RANGE PROCEDURES

- Demonstrate safe gun handling in the classroom and on the rifle range.
- Explain why each safety rule is necessary.



## SAFETY WITH GUNS

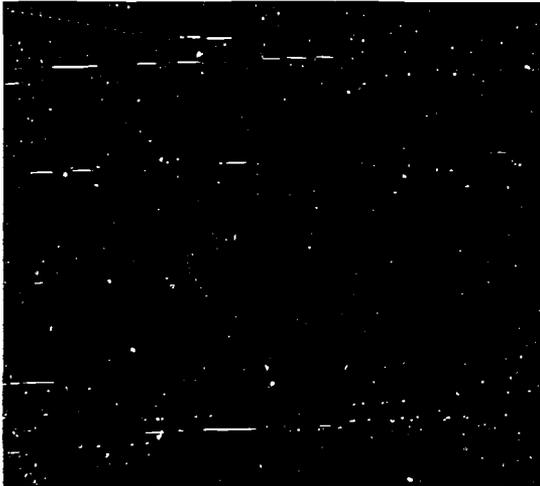
**A** GUN ON THE TABLE OR IN THE CLOSET is just as safe as an airplane in the hangar or an automobile in the garage. A gun cannot be dangerous *until a person* mishandles it. Safety with guns, like any other form of safety, depends upon the habits and training of the people who use them.

One thing has been proved. Obedience to the rules of safe gun handling and to rifle range commands has made shooting the safest organized school activity in this country. More people are injured each year on track cinders and around ping-pong tables than have ever been injured while shooting in school rifle clubs. Track and ping-pong are unusually safe sports.

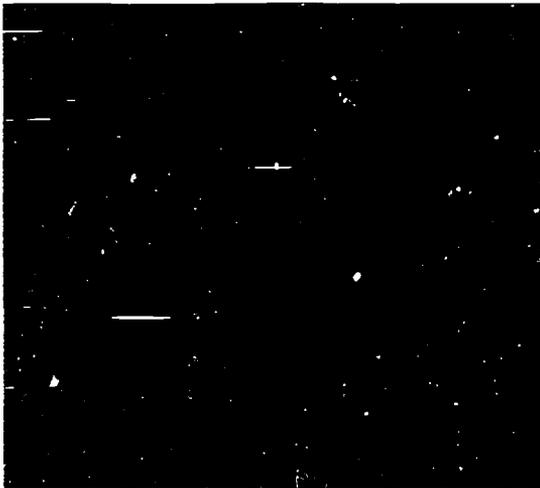
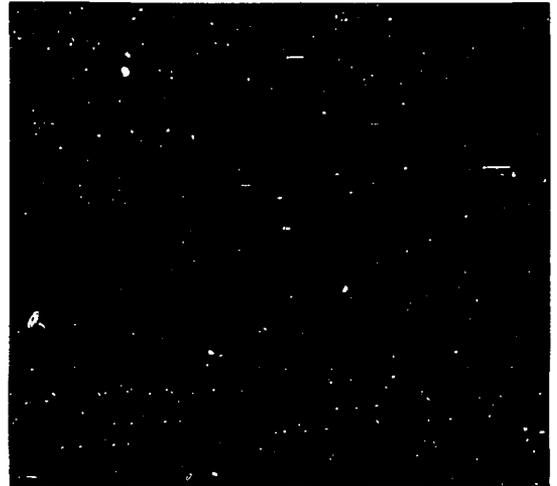
*Accidents don't just happen.* They are caused by ignorance or the disregard of safe practice. Horseplay, for example, is not and cannot be allowed in marksmanship classes, on the rifle range, or in the field. The following safety rules should be learned and practiced until they become automatic. They must be observed whenever guns are handled.

## COMMON SENSE SAFETY RULES

**Treat every gun as if it were loaded until you personally have proven otherwise.**



**Keep the muzzle pointed in a safe direction.**



**Always keep the action open until you are ready to fire.**



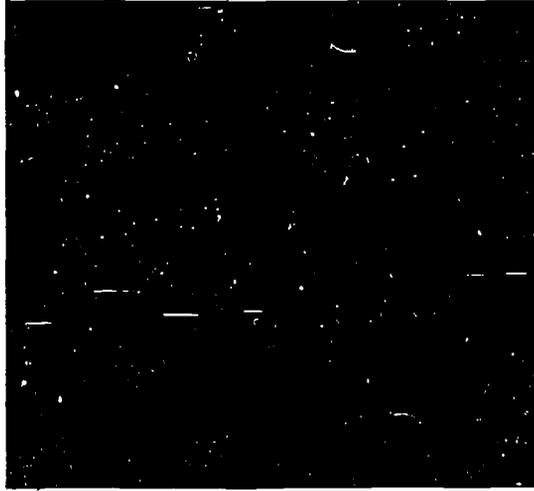
**Know your gun and ammunition.**

*up out down*

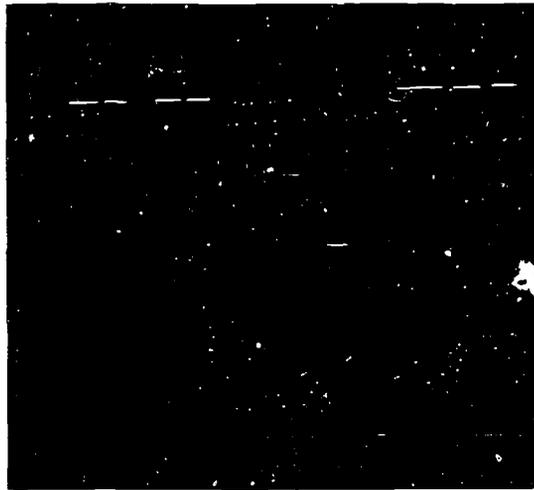
**Be sure of your backstop.**



**Be sure of your target.**



**Never mix alcohol and gunpowder.**



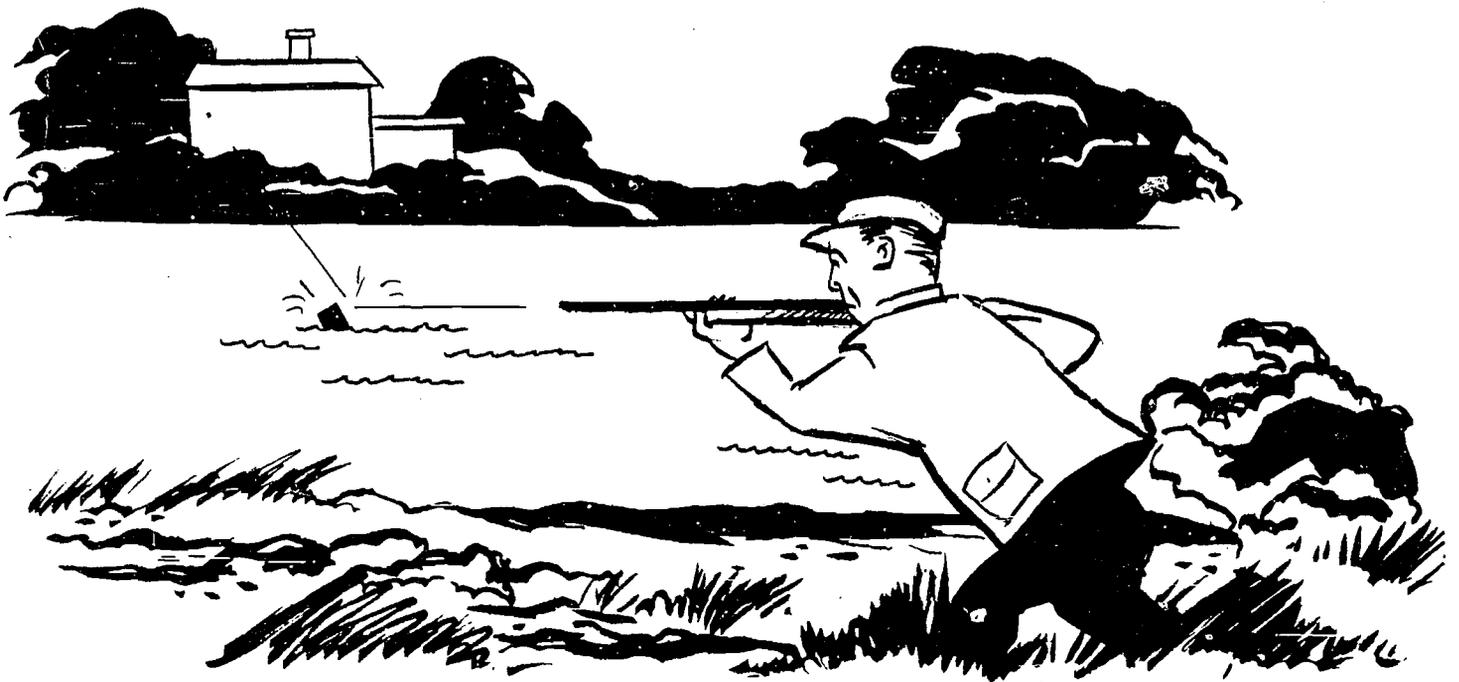
**Obey instantly all firing line commands.**

*Hunting safety is the same—only different.*

Every safety rule and behavior learned in this manual applies to both rifle ranges and to hunting—in fact, to the handling of guns in all circumstances. Hunting safety will be discussed in a later section. It is important to remember, however, that away from the range without a range officer controlling the situation, safety precautions during hunting, plinking, or informal shooting games have to be more individually interpreted. Students will load and unload without supervision. Just as the driver who has recently passed his test has to assume that not all his fellow-drivers know the rules of the road as well as he does, so the hunter has to take into account the safety habits of his companions. Walking, maybe stumbling and falling with a gun in hand, gives a new and important meaning to the safety device. The correct way to climb over fences, with or without a companion, has to be learned. The gun barrel may become blocked with snow, mud, or a piece of cornstalk and should be cleared *before* firing the next shot. A shooter should remember, too, such factors as the danger of a ricochet if shooting across water and the boomerang effect of a bullet if it hits a knot in a live tree trunk. The hunter has to be *very* sure of his target in the field. Part of another hunter's clothing can resemble a deer or rabbit at first glance. Everyone should always bear in mind:

*Safety when hunting has its very personal responsibilities.*

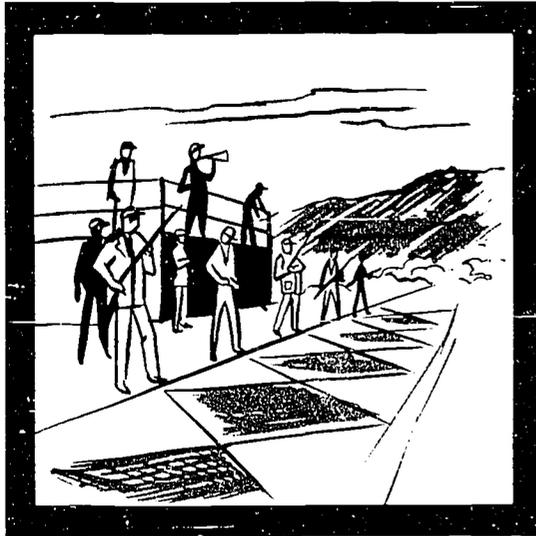
## HUNTING SAFETY



*p. 30 photos unreproducible*

# RANGE PROCEDURES

The following procedures have been adopted in almost all organized shooting. They have proved to be the safest approach to group shooting.



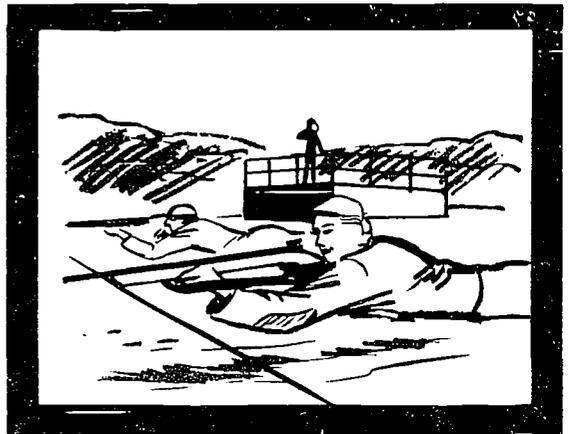
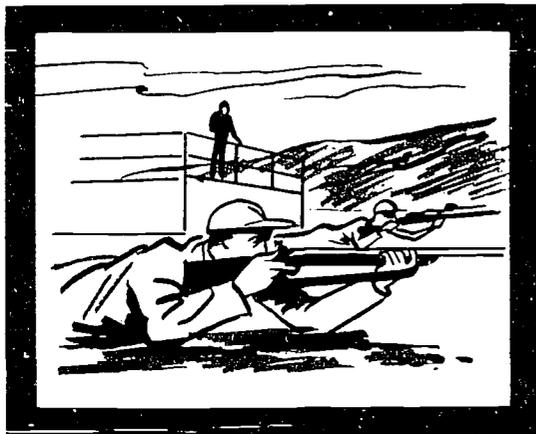
**FIRST (NEXT) RELAY ON THE FIRING LINE.** The first (or next) group of shooters takes its place on the firing line and gets ready to shoot. The shooters do not load—yet.



**READY ON THE RIGHT?** If someone is not ready on the right side of the firing line, he should say, "Not ready." The range officer will call out, "As you were," which rescinds any command just given.

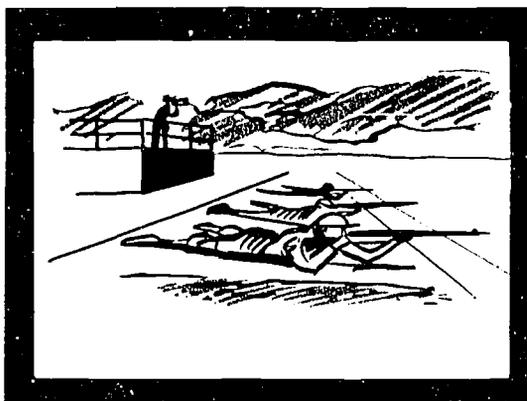
When the slow shooter is ready, the range officer will call again, **READY ON THE RIGHT?** followed by **READY ON THE LEFT?**

Everyone should by now be organized and ready to shoot.





**LOAD.** Now the guns are all pointed toward the targets and it is safe to load one round of ammunition.



**READY ON THE FIRING LINE.** This is the final preparatory command before the shooter begins to fire.



**COMMENCE FIRING.** If there is a time limit for shooting, this is the time to start the clock.

**CEASE FIRING.** Stop shooting immediately. This command usually means that time is up or that everyone is finished. It can also mean an emergency. Each shooter should stop the instant the command is given, even if he is in the middle of the trigger squeeze. Actions should be opened and guns unloaded. This command may be given by anyone on the firing line if the need arises.

When this relay has ceased firing, the other relays are called in turn to the firing line and the procedure is repeated.

If a situation ever arises which is unfamiliar or which cannot be readily cleared, **CALL THE RANGE OFFICER.** He must maintain control over the firing line and the entire range at all times. Anything unusual should be brought to his attention without delay.

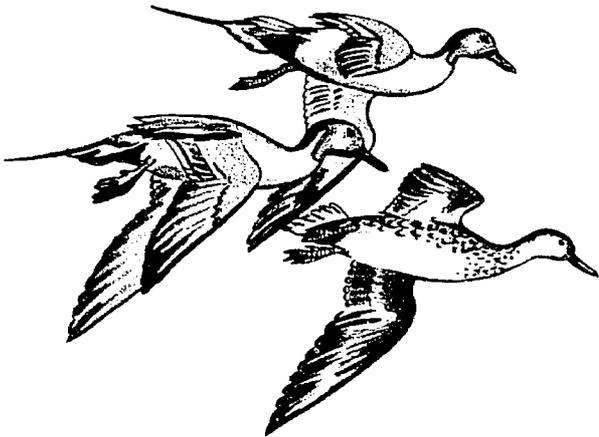


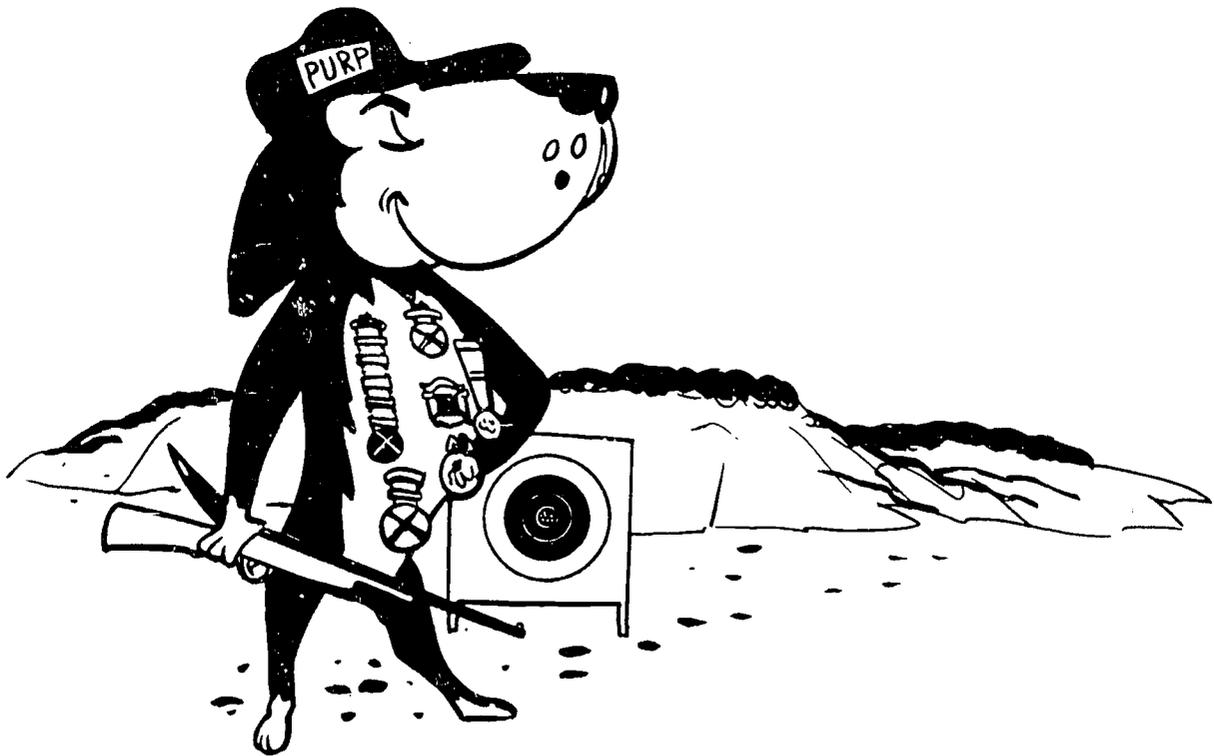
# POINTERS FOR THE INSTRUCTOR

- You are both diplomat and salesman. You are selling both safety and fun. Too much emphasis on one spoils the other in the learners' minds. Both factors must be "sold" correctly.
- Have students act out the safety rules.
- Violate several of the rules and ask the class to point out each violation.
- Emphasize the dangers of shooting at flat, hard surfaces and at water. A stone skipped on water is a good example.
- With a group of students acting as a relay, let them follow the range commands.

## TOPICS FOR DISCUSSION

- What are the methods of making a gun inoperative for class demonstration?
- How can we overcome the error of "I didn't know it was loaded!"?
- Why is a safety more important while hunting than on the firing range?
- How would a group of four hunters cross a fence while stalking game?
- What would you do on the firing range if, for example, you saw a dog approaching too near to the target area?
- What precautions are necessary in the home for gun and ammunition safety?





#### THE RIFLE

- Prove a good sight picture by demonstration.
- Demonstrate how to adjust sights correctly.
- Co-ordinate breathing, trigger squeeze, rhythm, and follow-through for best shooting results.
- Assume each shooting position—prone, sitting, kneeling, standing—correctly and easily according to individual physical characteristics.

#### THE SHOTGUN

- Demonstrate correct shooting position, aiming, and the principles of lead and swing-through.

## SHOOTING SKILLS

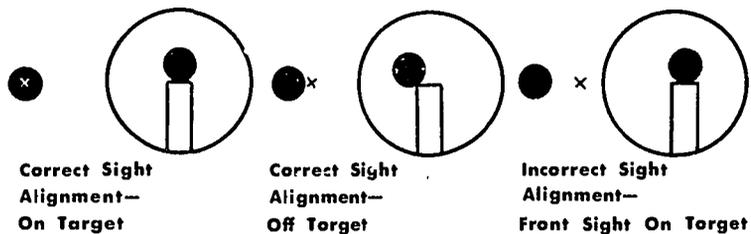


**S**HOOTING IS LIKE SWIMMING—it blends several abilities together to get good results. Since shooting is not much fun if there are more “misses” than “hits,” these abilities are necessary right from the start. Luckily, they are very easy to learn. If the shooter knows how to shoot well with a .22 caliber rifle in all positions at a fixed target, he will have mastered the fundamentals of good shooting—at anything with any kind of a gun.

## THE RIFLE

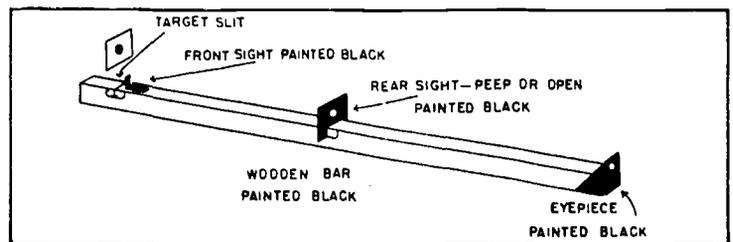
Learning the correct sight picture is the place to begin. All sight pictures are basically alike—the target, the front sight, and the rear sight should look the same every time. There are minor variations. The top of a post front sight, for example, should be directly under the target and centered in the rear sight hole or aperture. If the front and rear sights are incorrectly aligned, although the gun appears to be aimed at the center of the target, the shot will be much further off than if both sights are aligned and the gun itself is aiming slightly off the center of the target.

### SIGHT PICTURE

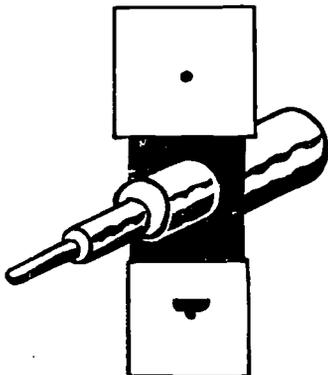


### SIGHTING BAR

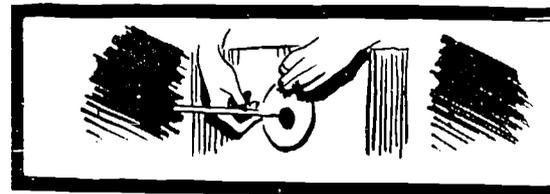
Early practice in sighting can be obtained easily and without firing. The *sighting bar*, consisting of a wooden bar with both



### PAIGE SIGHTING DEVICE



sight and target graphically represented, has been in use for many years, and it is easy to make. The *Paige Sighting Device* fits into the muzzle of the gun and uses the gun's sights. Both these devices provide a “target” which can be moved around by the student until he thinks that the sighting picture is perfect. The instructor can then check in each case for the correct sight picture. *Triangulation* is excellent practice. A gun with the

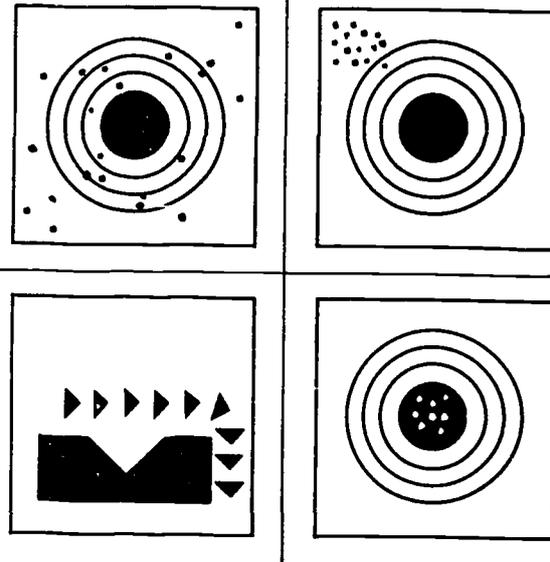


bolt removed is set on a firm rest with a student "shooter" behind it. A student acting as "marker" holds a movable "target" over a piece of white paper some distance from the "shooter." The "shooter," without touching the gun, sights on the "target" by giving directions to the "marker." When the sight picture is perfect, the "marker" makes a pencil dot on the paper through a hole in the "target." This is repeated twice more, the "marker" moving the target away and the "shooter" relaxing after each "shot" so that it is necessary to realign each time. The resulting dots are joined by straight lines; the smaller the triangle formed, the better the student is learning the basic principles of sighting accurately.

### SIGHT ADJUSTMENT

Sights should be adjusted only after the student has proved that he can shoot a very small group. Almost all rifles have adjustable sights. Target sights are often called micrometer sights because they are made with a positive adjustment device which allows for minute corrections. If the small group of shots are not bullseyes, the rear sight should be moved *in the direction in which the shooter wants the bullets to travel*. If he wants the group of shots to move up, the rear sight should be moved up. Lateral sight adjustments are commonly called "windage," whether the wind is blowing or not. Vertical adjustments are called corrections in elevation.

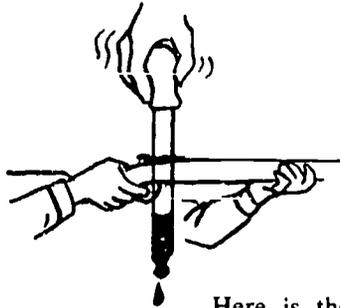
### TRIANGULATION



## BREATHING



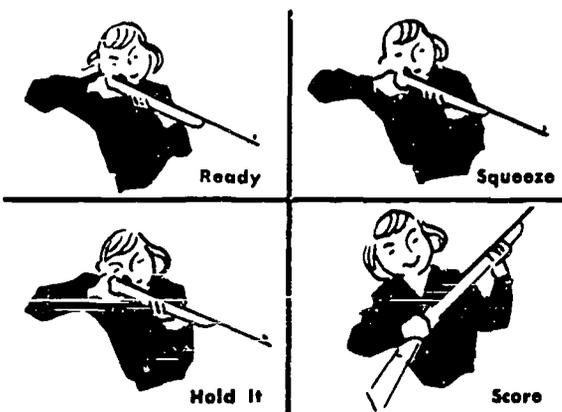
Breathing, even normally, will cause a rise and fall of the chest which will affect the gun muzzle. Unless the breath is controlled, it is impossible to shoot accurately in any position. Several deep breaths should be taken and most of the air exhaled, then the breath is held until after the shot has been fired (or the firing pin strikes in "dry fire" practice). If the shooter takes too long to fire, muscle tremors will begin. He should then take another deep breath and start over again. He may even feel it is necessary to take the gun out of his shoulder and rest for a few minutes.



## TRIGGER SQUEEZE

Here is the *almost-magic* answer to good shooting. The shooter should never know *exactly* when the gun will fire. The trigger squeeze is the heart of good shooting. It can make the difference between a good shooter and a poor one. Having realized by this time that his muscles and nerves are not made of iron, and that the sights are bound to stray away from the bullseye, the beginner knows that he cannot hold a good sight picture for any length of time. When his sight picture looks good, the shooter should gently squeeze the trigger until the rifle fires. With the beginner, the trigger squeeze should be continued, once begun, even though the rifle may drift off the target momentarily.

## FOLLOW-THROUGH



Follow-through in most sports is the natural thing to do but in shooting it has to be *learned*. After the gun fires, the shooter should continue to look at the target for at least *two or three seconds* before relaxing from the shooting position and reloading. The bullet can be deflected like a golf ball because the individual jerks his head, too anxious to see how well he has done. Follow-through provides the steadying influence that good shooting demands.

## RHYTHM

When the shooter has shown that he knows how to aim correctly, how to breathe, squeeze the trigger, and follow through, he must then develop rhythm. He must learn habit—how to do the same thing in exactly the same way at all times. Once the habit is established and the beginner achieves a smooth, regular cadence for the whole operation in slow fire, he will be able to move into rapid fire shooting without any appreciable effect on his scoring.



Load



Aim



Shoot



Load

Now add together the sum of all the things you have learned.



### CLOCK SYSTEM

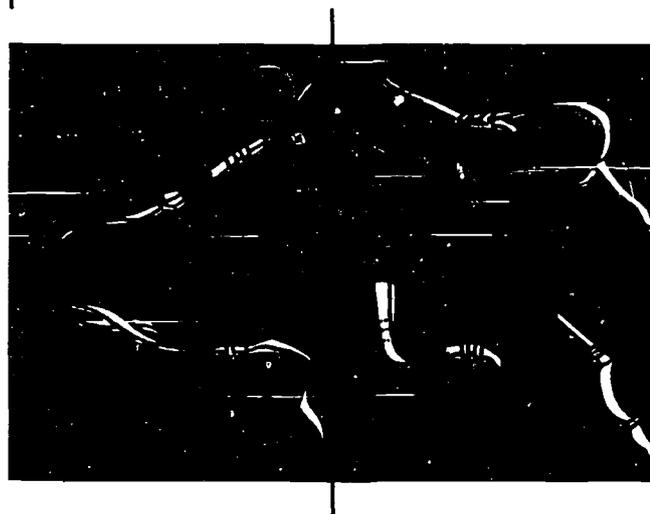
Now the shooter should be able to detect his own mistakes. He acquires the ability to describe the location of the hit on the target based on his sight picture at the time the gun is fired. Although this may sometimes be difficult for the new shooter, every shot should be called after it is fired. Target shooters use the *clock system* in order to understand one another when calling their shots. The 10-ring is in the middle of the clockface. For example, if the shooter touches the 7-ring a little high and to the right, he would say, "That was a seven at 2 o'clock." Straight up is 12 o'clock and straight left is 9 o'clock.

### CALLING THE SHOT

Of all the accessories designed to help rifle shooting, none is so important as the rifle sling. Just as the engineer uses the triangle design as the basic principle for the construction of bridges and buildings, so the shooter uses the sling for a more stable support for his rifle. The upper and lower parts of the left arm (in the case of a right-handed shooter) form two sides of the triangle and the sling, the third.

Without the sling, the arm muscles alone would be used to support the gun and fatigue would soon cause muscular tremors. With the sling properly adjusted, the long bones of the arm provide a sturdy prop for the rifle. This is important because bones do not tire—muscles do. The correct way to put on and use a sling should be studied carefully, especially in relation to the keepers holding the sling tight to the arm. Each student should experiment to find the best adjustment on the particular gun he is using. If the arm loop is given a half-turn to the right, the student should make sure that the sling is flat on the back of his hand. Correct use of the sling becomes automatic as the student gains experience.

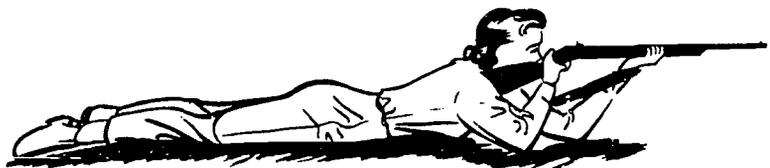
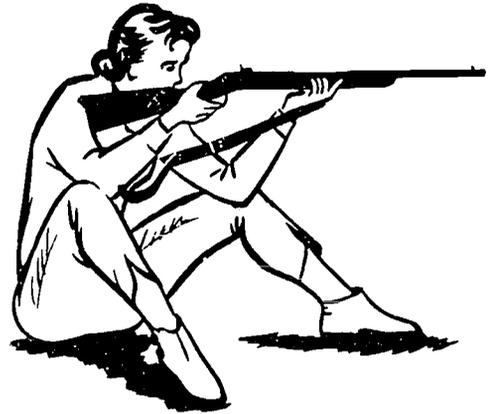
### USING A SLING



# SHOOTING POSITIONS

Good shooting form, like good form in golf, swimming, or tennis, may seem awkward and uncomfortable at first. Practice will help to loosen unexercised muscles and make the shooting positions more relaxed and easier to maintain. Although the fundamentals do not vary and should be learned in all positions, individual differences in body, size, and build should be taken into consideration. Each shooter should study and develop his own best firing positions.

Four shooting positions are commonly recognized and used by shooters. They offer different degrees of difficulty, and practice in each helps the plinker and the hunter as much as they do the target shooter.

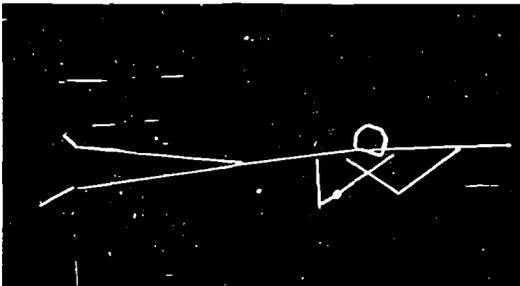


Since the prone position is the easiest to hold, the fundamentals of aiming, breathing, and trigger squeeze can be learned more readily. The shooter's body lies at an angle of 30-45 degrees to the line of aim. The legs are extended and spread for support, with the feet lying as flat to the ground as possible. The left elbow is under the barrel, as far under as the shooter can manage and still remain comfortable. The sling is tight enough to give support that can be felt. The whole body serves as a gun platform, although it is the hand on which the gun actually rests. The elbow should be used as a pivot until the gun can be held on the target without strain. This position should be kept as nearly as possible between shots.

## PRONE



**Bones should hold up the gun — not muscles.**



**Check: Line up sights on the target, close eyes, hold breath, and count five. If the sights are then off to right or left, move *entire body*. DO NOT MOVE ARMS ALONE OR SWING RIFLE TO GET ON TARGET.**

## SITTING

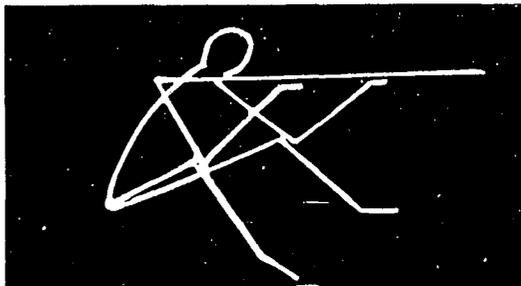


The strength and steadiness of the sitting position is derived from the tripod base the shooter forms with his body. The shooter faces half right again, leaning forward until his elbows are braced over his knees. The left elbow should be under the barrel as in the prone position, but the sling may have to be shortened. Variations in the foot position include crossing the ankles, crossing the legs, placing the feet together with soles touching, or spreading the legs and feet. They should all be tried. Due to differences in body structure, some positions will be more comfortable than others. The variations are permissible so long as the knees and thighs do not touch the ground.

In the sitting position (as in all cases) the eye should be as close to the rear sight as possible.



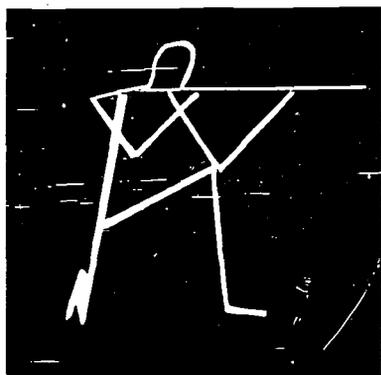
**Stack your bones for good support.**



The rear sight should be treated as a window to look through.

## KNEELING

The kneeling position is more difficult than either the prone or sitting positions and should not be attempted until the beginner can shoot well from the other two. The shooter should face half right again and get down on his right knee (for the right-handed shooter). He should sit on his heel or the inside of his right foot. The left elbow should be on, or just beyond, the left knee; and again, the elbow should be under the barrel. The right arm should be held as high as possible and still be comfortable. This position is difficult to maintain and there is a tendency to sway. Comfort may make considerable difference to shooting results. The sling may also have to be adjusted again.



Experiment to find the right place for your left hand.

Get a sight picture, relax, and then make yourself as comfortable as possible.

# STANDING



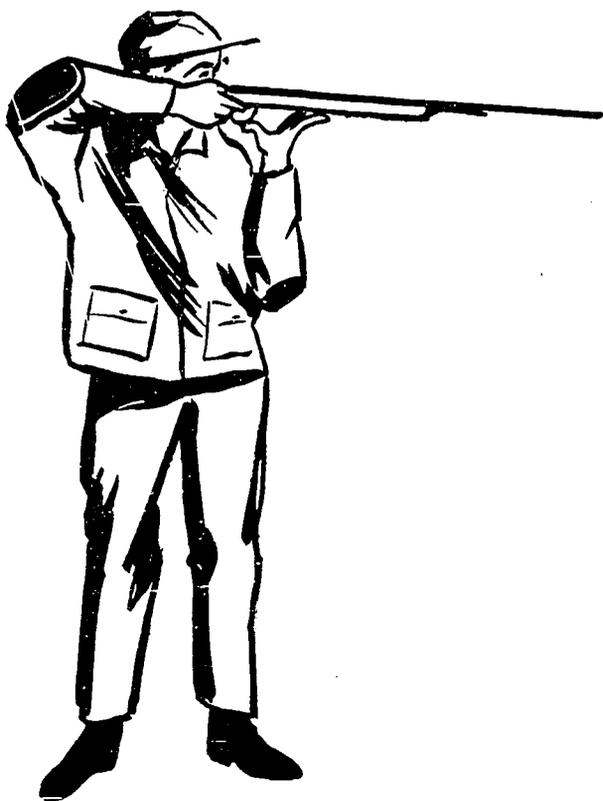
STANDARD  
MILITARY POSITION

Here is the supreme test of the students' mastery of shooting fundamentals. Body support is at a minimum. The barrel will appear to weave around even though there is no breeze; and breathing, sight picture, and trigger squeeze seem to take on a special significance. It is impossible to keep the barrel "rock steady." The problem is one of control—allowing the barrel to waver slowly and over as small an area as possible.

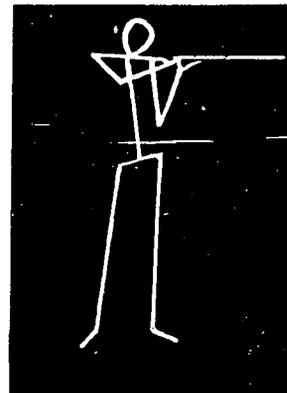
There are two basic positions—*Standing (standard military position)* and *NRA Standing*. Many variations of both these positions are used.

*Standing.* The shooter should stand almost facing the target with feet spread apart and knees straight but relaxed. The left hand is placed on the forearm of the stock and the elbow is directly under the gun. The left arm should not touch the body. The butt of the stock should be higher on the right shoulder than in the other positions and the right elbow, shoulder-high or higher.

*NRA Standing.* The shooter's left hand is allowed to slide back toward the trigger guard, and the gun rests on the thumb and fingers which form an inverted tripod. The upper left arm is against the body and the elbow is supported by the hip. The shooter's body is inclined further back in this position and the left hip is thrust forward to support the elbow.



NRA STANDING



Body balance is as important to a rifleman as it is to any other athlete.

The beginning shooter, after he has mastered the skills required for rifle target shooting, "forgets all he has learned" when shooting a shotgun. Mastery with the simplest and safest firearm, however, establishes a pattern of proper behavior and self-confidence essential to any form of shooting.

Shotgunning is a sport of motion and action. The targets are always speeding out of range or out of sight. Since the shotgun shoots a pattern of shot rather than a single bullet, it is pointed like a finger—not aimed. Neither is there a slow trigger squeeze because the shooter *pulls* the trigger when the barrel is pointed ahead of or in the path of the flying target.

### POSITION

The shooter's body faces toward the anticipated target area, the left foot (for the right-handed shooter) half a step ahead of the right, and the body leaning forward resting with more weight on the left foot. With the left hand extended on the gun's forearm, the shooter grips firmly enough to be able to swing his body and the shotgun in any direction. Remember that the left hand serves merely to support the shotgun; control and movement are functions of the right hand.

With the right arm hanging limp, the shooter raises or hunches his right shoulder. He should feel a *pocket* just inside the shoulder joint. This is where the stock will fit. The shoulder ought to be kept high. The student should follow some clay pigeons or other flying objects with an empty gun a few times, pulling the trigger as he keeps the barrel moving ahead of the target. The follow-through is the same as in golf—the shooter should continue with his swinging motion after the trigger has been pulled.

### LEAD

While the shot charge flies many times the speed of the moving target, it is still necessary to "lead" the target to get hits. The amount of "lead" required varies with the type of gun. For example, it will be necessary to take a closer hold on the target with the .22 smoothbore than with a larger gauge shotgun. The .22 shot shell has less range, a smaller amount of shot, and a smaller pattern.

### SWING-THROUGH

The simplest technique for hitting a flying target is called the "swing-through" method. It involves swinging past the target from behind and pulling the trigger when the shooter considers he has enough lead. The shooter should not pause—he should keep swinging the barrel. This is the method used by most good shots.

## SHOTGUN



An old English book on shotguns says it very well: "Start at the tail and wipe the feathers from the bird with the barrel. When you get ahead of his bill, pull the trigger without stopping the swing of the barrel."

do not copy



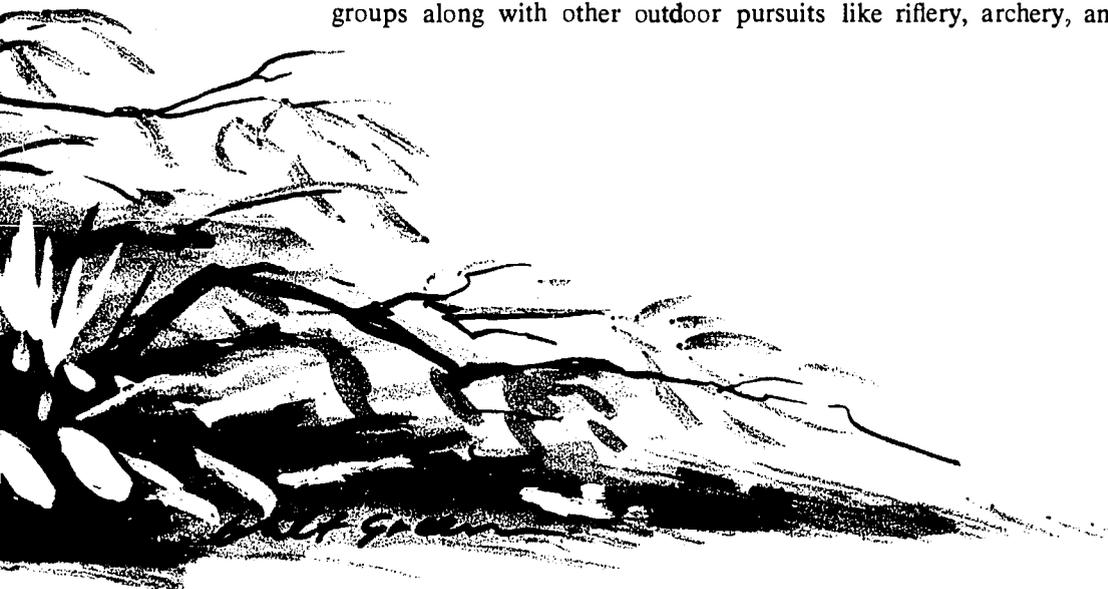
# SPECIAL PLEA FOR THE SHOTGUN

**S**HOTGUN SHOOTING is becoming increasingly important among young shooters as a skill sport. While rifle shooting may have received more attention, historically, as a means of protection and in the acquisition of game for food—in addition to its military significance—the shotgun today is the most widely used firearm in hunting. In shooting games and sports it attracts a large following of sportsmen. In many sections of the country, small game hunting with shotguns is the major outdoor activity thanks to good game management, good conservation practices, and bird stocking. The shotgun is still behind the door in many rural homes, kept in readiness for hunting sport or weasels in the hen house. Of the 25 million Americans who exercise their constitutional right to own firearms, at least 10 million are avid shotguns.

Consequently, there is a greater need than ever before for instruction in the use of shotguns in schools, colleges, and community agencies. While it may have been the general opinion that shotgun instruction and actual shooting are difficult to conduct, the opposite is generally the case. In its simplest form, little is needed by way of equipment and facilities. With an instructor and eager students, a few guns, a hand trap for throwing clay pigeons and an open field—a shotgun program can be initiated.

What could be more important, in some states especially, than shooting instruction in shotguns, where a large proportion of students and even faculty members “take off” for the open spaces when the season opens on small game? A lecture, a movie, or a demonstration is helpful, but is rather inadequate in educating young sportsmen who often represent a greater proportion of the student body than those on the school or college athletic teams!

The materials on shotgun instruction in the preceding pages should find their appropriate places in physical education and recreation activities, clubs, and special interest groups along with other outdoor pursuits like riflery, archery, and casting.

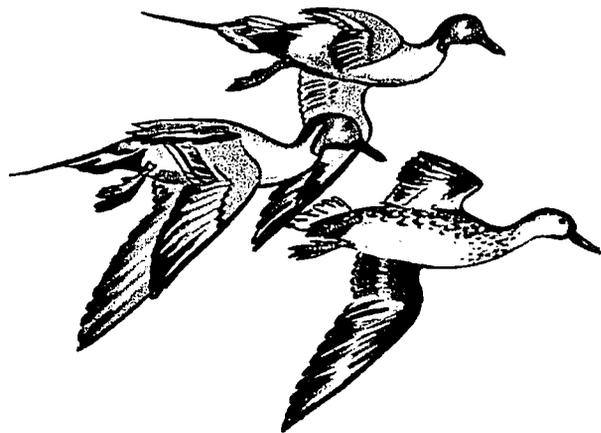


# POINTERS FOR THE INSTRUCTOR

- Demonstrate the effect of breathing by using a balloon in a box. Inflate the balloon and the box top will rise; deflate it and the top will fall.
- Practice trigger squeeze with a medicine dropper.
- Test steadiness of trigger control by balancing a coin on the front end of the barrel.
- Shoot at a blank piece of paper instead of a bullseye target. This will improve students' shot grouping.
- Assist students to assume correct positions, bearing in mind differences in physique. Point out features of correct positioning from the muzzle of the rifle to the feet.
- Show students how incorrect positioning lacks adequate support.
- Have students practice as many of the following with the shotgun as practicable:
  - Finger pointing (following target with finger).
  - Pattern shooting at a stationary target. The target may be a drawn or painted picture of a clay bird in flight and should be placed at a distance of 20 to 25 feet.
  - Dry firing at a moving target. This is to familiarize the student with lead and swing and the flight of the target.
  - Firing shots at a semi-stationary target such as a small pie tin on a string. The sound of a hit is clearly audible.

## TOPICS FOR DISCUSSION

- What are the reasons for learning to shoot with a .22 rifle rather than a high power rifle or a shotgun?
- Why are sights relatively unimportant on a shotgun and very important on a rifle?
- Which is more important—sight picture or sight alignment?
- What happens to your sight picture if you breathe while you are aiming?
- A shot high and out of the scoring rings is called "out at 3 o'clock." Is this correct?
- What do you think are the basic skills and physical abilities necessary for the "average" shooter? What makes the difference between an "average" and a "highly skilled" shooter?
- Which position is learned first? Why?
- Why is a sling desirable in target shooting?
- Why is the .22 smoothbore a useful beginner's firearm? What are the disadvantages?
- What are the main differences in the position of the shotgunner and the standing rifle shooter?





Depending on locality and need:

- Appreciate hunting both as sport and recreation.
- Relate range experience with rifle and shotgun to sports in the field.
- Identify game birds and animals and know local and federal game laws.
- Select the right types of gun and ammunition for local hunting conditions and learn how to handle them correctly.
- Know local hunting habits, local techniques, and how to care for game.

## GUNS IN THE FIELD

**O**VER FIFTEEN MILLION AMERICANS hunt every year, mostly in the fall and winter months; and when they cannot hunt, they talk about it—about duck blinds, deer stands, and beating through thickets, mucky swamps, or open land at all hours and in all weathers. Few men and women who know the pleasures of hunting are able to communicate their feelings to others; they are “felt and sensed,” not talked about in everyday language.

Thanks to the Nation's youth and our relatively recent emergence from frontier-pioneer days, most Americans still have an innate love of shooting and hunting. It was just yesterday when a gun, an ax, and a plow were tools of existence. Their skillful use is no less admired today than two hundred years ago.

## HUNTING FOR FOOD

Hunting means many things to many people but relatively few in this country hunt because they are hungry. Although hunting for food is an incidental that adds flavor and variety to the diet of the good—and lucky—hunter, each year many thousands of tons of venison are added to our food supply. This vast amount of meat would otherwise be lost through predators, starvation, and disease. Hunting, in other words, is sensible harvesting of a crop that would otherwise be lost. In many areas, animal reproduction outpaces its own food supply.

Far more wild creatures die from natural causes or from predators than from the gunfire of hunters.

In simplest terms, *hunting is competition* in which modern guns and ammunition are no guarantee of success. There is an abundance of personal testimony to the effect that deer, ducks, and rabbits are smarter than people!

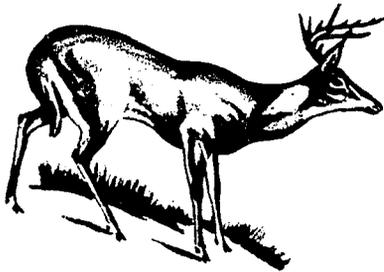
## WHAT GUN TO USE

Rifles and shotguns are the guns to use for hunting. The hunter can only shoot moving birds successfully with a shotgun, a practice enforced by federal and state laws. Big game requires the use of high power rifles, sometimes by legal insistence and always by the rules of humane commonsense.

One exception to this is the use of the shotgun rifled slug. A few areas specify buckshot. Most hunting legislation specifies the ammunition which must or must not be used rather than the type of gun.

The .22 rifle is suitable for hunting pests and varmints, and game animals such as rabbits and squirrels. Both safety and humane considerations prevent its use on game birds; many states specifically prohibit or restrict its use on large game.

American gun and ammunition companies are fairly well agreed on the selection of types, calibers, and gauges best suited for specific hunting purposes. Their literature is quite easily obtained and their advice is dependable.



*Physical characteristics* are important in gun selection. Are you tall, thin, short, stocky? Remember, the gun has to physically fit your body type. The sights must be suitable for your eyes, as well as for the light conditions you will find. Are you in good physical condition? A heavy gun might take too much fun out of a long walk or climb, yet a heavy gun might be more accurate.

*Mental characteristics* must be considered. Do you like to sit and let other hunters move the game past you, or would you get more pleasure out of covering lots of territory and finding your own game? Other things being equal, your choice of guns can well be different. Would you tend to snapshot immediately at a flying bird, or are you the type who waits for a second or two? Your choice of shotgun barrel lengths and choke would vary, and so might your selection of rifle sights when hunting rabbits.

*Where will you hunt?* The answer to this simple question is important since locale will affect your choice of firearms. The deer hunted in the Colorado Rockies may well have the same flavor as that found in the Florida swamps, yet the guns used will, in all probability, differ greatly. South Dakota duck hunting requires different types of guns and different techniques from waterfowling in the marshes of the coastlands. Find out the *most popular* gun types used where you will hunt; these will usually be the best for that area.

## STATE GAME LAWS

State game laws must be carefully studied and learned. They not only vary widely by states, but often within states. In addition to hunting seasons and allowable game animals, you will often find special sections describing the guns which will or will not be permitted, weather conditions which may temporarily suspend hunting, and special restrictions governing shooting on or near highways, buildings, boats, and named geographic areas. Some states list specific minimum and maximum ammunition limits, and most states limit in some way the use of fully automatic firearms (autoloading does not mean automatic), military-type ammunition, and carrying loaded guns in automobiles.

**What is the best gun for you?  
In selecting a gun personal characteristics should be taken into account.**



## SAFETY WHEN HUNTING

The *Ten Commandments of Shooting Safety*, listed on p. 94, and recommended by the Sporting Arms and Ammunition Manufacturers' Institute cover nearly every hunting situation. They must be practiced, however, with actual hunting situations in mind.

### FIELD SAFETY KNOWLEDGE

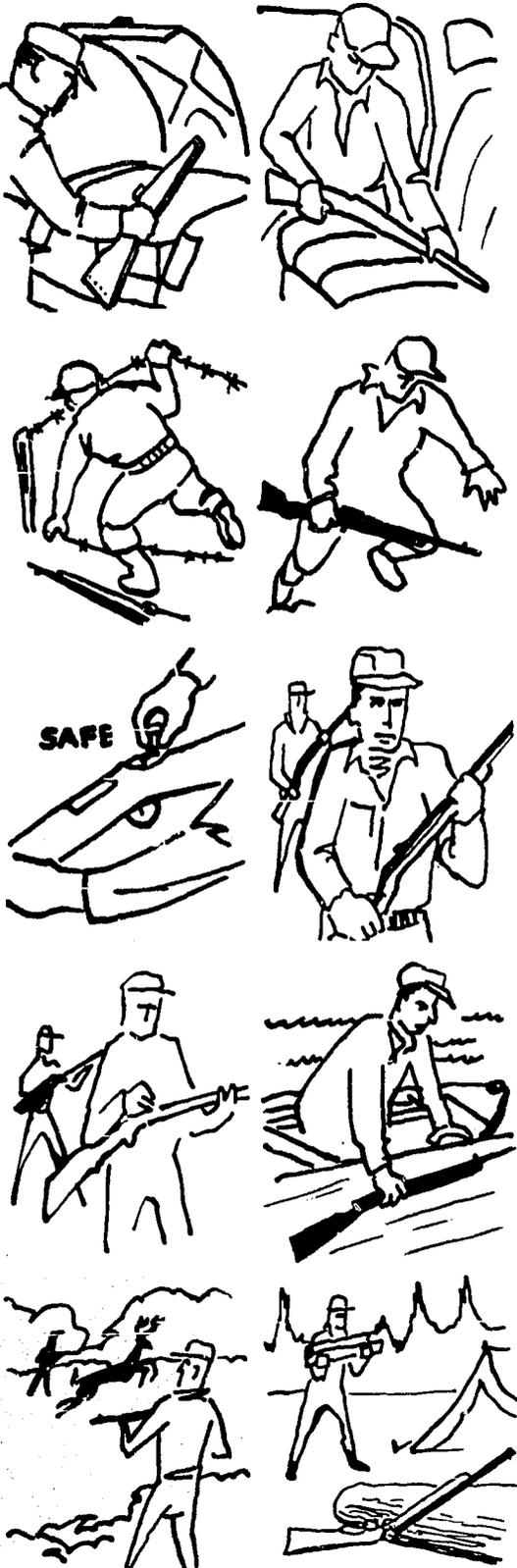
Students should know how to do the following things correctly.\*

- Take a gun out of a car, use it (simulated or actual use), and store it properly in the car again.
- Cross a fence holding a gun, both alone and with other hunters.
- Control the direction of the barrel when falling.
- Use the safety correctly before, during, and just after making a quick shot.
- Carry guns when walking with others in different formations.
- Load and unload guns correctly with several other people around.
- Place guns correctly when getting in or out of a boat.
- Know when to shoot and when not to shoot at moving game while hunting with others. An agreement about this before the hunting starts is very necessary.
- Put guns in a safe and handy place when stopping for lunch, taking a rest, or meeting and talking to other hunters.

**One excellent safety precaution seldom mentioned: KEEP YOUR TRIGGER FINGER OUT OF THE TRIGGER GUARD UNTIL YOUR SIGHTS ARE ON THE TARGET.**

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\* See the skills and knowledge tests on pages 78 and 80.



No teacher, no matter how skilled, can impart as much useful information in a classroom discussion as the students can find for themselves in books, magazines, and films. But the instructor can provide the guidelines to that leisure-time reading, and obtain additional information from outside resource people such as state game departments, local game wardens, biology—zoology instructors, the local community's rod and gun club, amateur naturalists, and zoo officials.

Schools and other organizations who do not have easy access to hunting facilities will find the "inconvenience" experienced in organizing a hunting program well worth the effort.

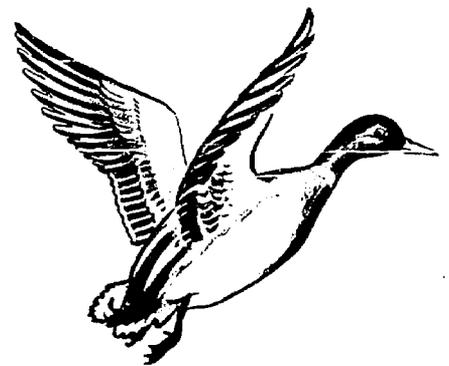
The instructor should not overlook all the other possibilities open to his school or club. The possibilities are virtually unlimited. The *how-when-where* factors hinge solely upon the initiative and imagination of the students and their instructor.

Any class discussions should be geared to the specific requirements of the group concerned. For instance, if time is limited, it is inappropriate to discuss at length how to set up a camp in the mountains or what to do when lost if the only local facilities for hunting are in relatively small park areas where conditions are strictly regulated by the state.

## SOME FURTHER SUGGESTIONS



**Actual field experience under instruction is the best teacher.**



# HUNTING LORE TOPICS

## Preparing for the Trip

Where to stay or camp; maps of the hunting area; equipment—compass, knives, matches, flashlight, camp stores, first-aid and snake-bite kits, tents, cooking utensils, food supplies, tarpaulins, hunting license, game law; contacts with state police and conservation officers concerning best game areas; identification cards; provision for hunting dogs; selection of guns and ammunition to be used; physical conditioning.

## What Clothing to Wear

What is a "well-dressed" hunter? What type of clothing to wear in a particular climate; dress for walking; proper fabrics in brush and swamp; thin layers of clothing vs. single heavy bulky garment; woolen vs. cotton garments; appropriate footwear that fits well—rubber and/or leather, high or low heeled shoes; new types of clothing such as insulated underwear; yellow vs. red clothing and their visibility under different light conditions; local laws governing color of outer clothing; similarity of flash of white handkerchief to buck's tail; danger of using black, white, or black and white plaid, and white-topped socks.

## Big Game

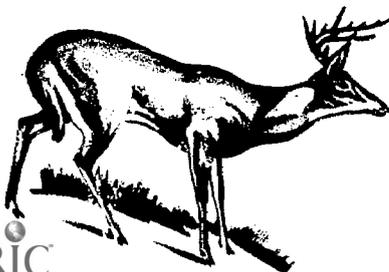
What hunting is permitted in the USA and in the particular state, when, where, and why; hunting terms: still-hunting, deer stands, "drives," etc.; stalking and trailing; animal behavior under differing conditions; judging distances; recommended calibers of ammunition and types of guns for various species of game; different types of rifle sights, recommendations and reasons; use of calls; the kill; trailing a wounded animal; field dressing of the game; preserving the trophy.

## Upland Game and Birds

What is permitted in a particular state, when, where and why; use and importance of trained gun dogs; shotgun types, gauges, and ammunition recommendations; use of calls; "flushing" techniques.

## Waterfowl

Study of flyways, migration, and feeding habits; when hunting is permitted in a particular region and why; importance of a retrieving dog; recommended shotgun types, gauges, and ammunition; methods of shooting—from blinds, using decoys, in "sneak" boats, pass shooting, pits in cornfields, etc.



REMEMBER YOUR  
TEN COMMANDMENTS  
OF SHOOTING SAFETY

# FOR CLASS DISCUSSION

## Hunting and Outdoor Manners

Honoring landowners' rights and interests *after* securing permission to hunt; different kinds of signs, gates, and fences—*leave them as you find them*; concern for stock; honoring another's turn to shoot; selecting "fields of fire;" carrying and transporting guns; hunting with another person's dog; when not to smoke and why; care against fire; sharing of game with landowner and hunter; observance of game laws and good sportsmanship.

## Weather

Influence upon hunting; wet and dry conditions in the woods and fields; appropriate clothing; keeping equipment dry; wind and scent; reading signs of weather and weather changes; weather's effect upon animal and bird behavior, securing weather report prior to extended trip; automobile equipment for snow, ice, and mud; erecting temporary weather stations at hunting camp.

## Light

Effect of light and shadow on sighting; light conditions in woods and open fields; light and shadow as game camouflage; how visibility varies under changing light conditions; how color values change with varying light; effectiveness of yellow outer clothing.

## Dogs

Breeds of dogs for various types of hunting; training and conditioning of dog; age to commence training; care during hunt; feeding; retrieving; companionship; calls and signals; field trails; shows during closed season; local legislation governing use of dogs while hunting.

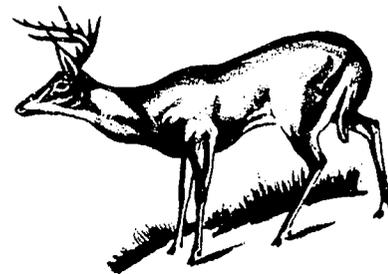
## Conservation

Problems facing conservationists in the United States; why conservation is important to the hunter and how he can help; vanishing species—contributing factors; balance between available forage and game demands; relationship between soil, water, forests, and wildlife; role of research and the activities sponsored by such organizations as the Wildlife Management Institute and the National Wildlife Federation; game farms and Ducks Unlimited.

## Lost Hunter ?

Full information on region from local sources; know prominent local landmarks, location of first-aid, fire, and weather posts, poisonous snakes, insects, and plants in the area; correct use of compass, landmarks, and regional maps; how to blaze a trail; basic rules of survival and essential equipment; matches and use of fire—fire prevention; what to do if lost or injured; how to build a temporary shelter; assisting others who are unable to care for themselves in the field; how to apply first aid under different emergency conditions.

## KNOW YOUR LOCAL LAWS



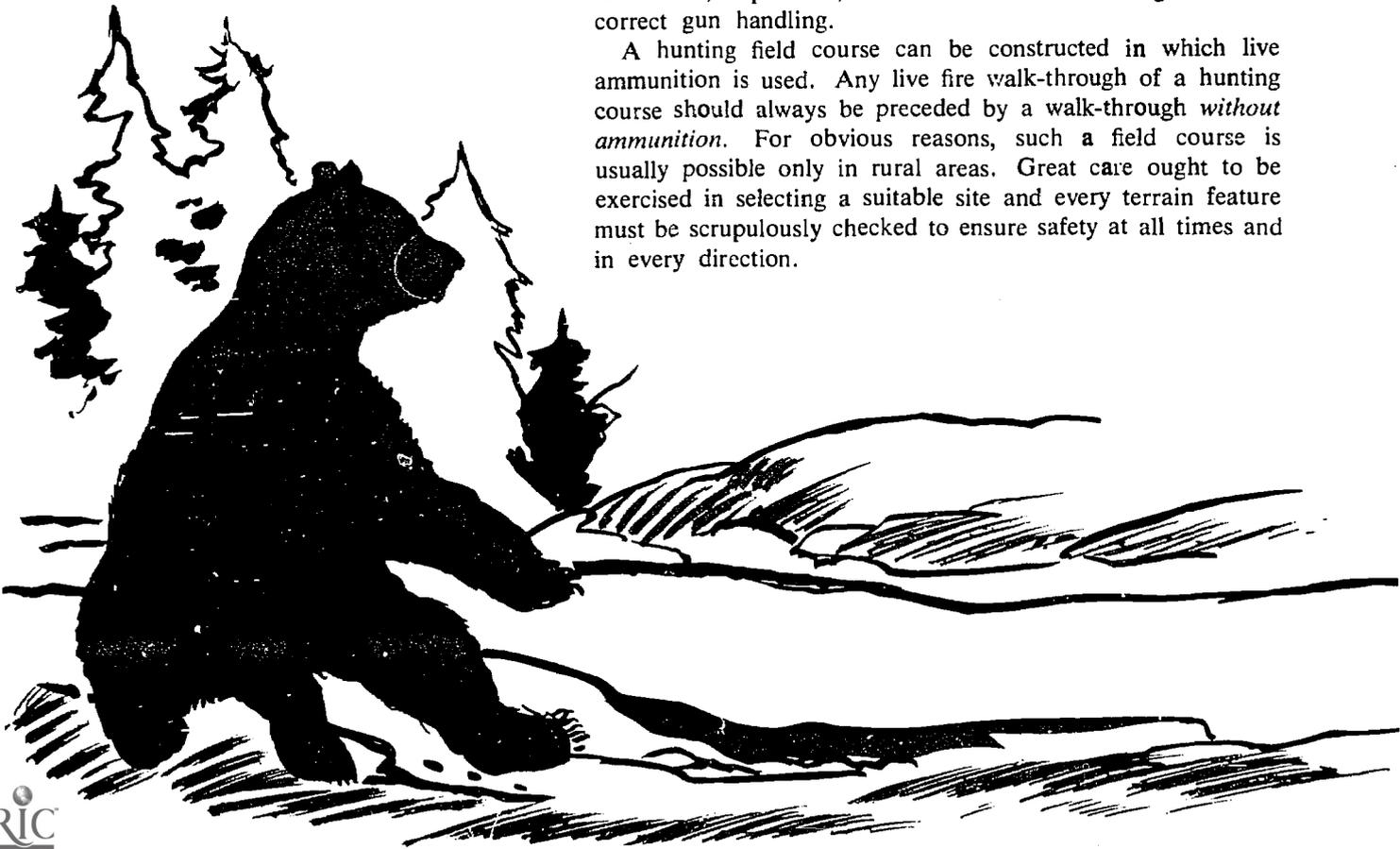
## A PRACTICAL FIELD COURSE

The desirability of setting up a demonstration "hunter course" cannot be overstated. With portable targets, it is feasible, even for a 2-3 day workshop. Such a course is ideally set up in a wooded area, and can be simulated in a city park or on a school campus. An interested and ingenious teacher will organize a course appropriate to available ground, and use situations and targets which reflect local game conditions.

The National Rifle Association has a copyrighted field course which is adaptable to many situations. This is described in detail on page 82. It may be set up in any type of terrain although some variation of ground is desirable: trees, high grass or brush, and a few rough spots add to the realism of the course. The size of the course is not prescribed, but it should be sufficiently large to build up a little suspense between points. The course itself consists of a series of obstacles which might be encountered in hunting. Fence rows, fallen trees, ditches, stream banks—all are located over parts of a semi-defined trail which the "hunter" will follow. Interspersed among the obstacles are game targets, some out in the open and others camouflaged. Some targets are mechanized so as to pop up unexpectedly as the student approaches. In certain places, a human figure is placed in the projected line of fire. The student's reaction to each target situation is observed and corrected if necessary.

Before taking the field course, the student should show that he knows how guns are transported in automobiles, removed from car seats or trunks, and checked for operating condition. He should, if possible, take the skill and knowledge tests for correct gun handling.

A hunting field course can be constructed in which live ammunition is used. Any live fire walk-through of a hunting course should always be preceded by a walk-through *without ammunition*. For obvious reasons, such a field course is usually possible only in rural areas. Great care ought to be exercised in selecting a suitable site and every terrain feature must be scrupulously checked to ensure safety at all times and in every direction.

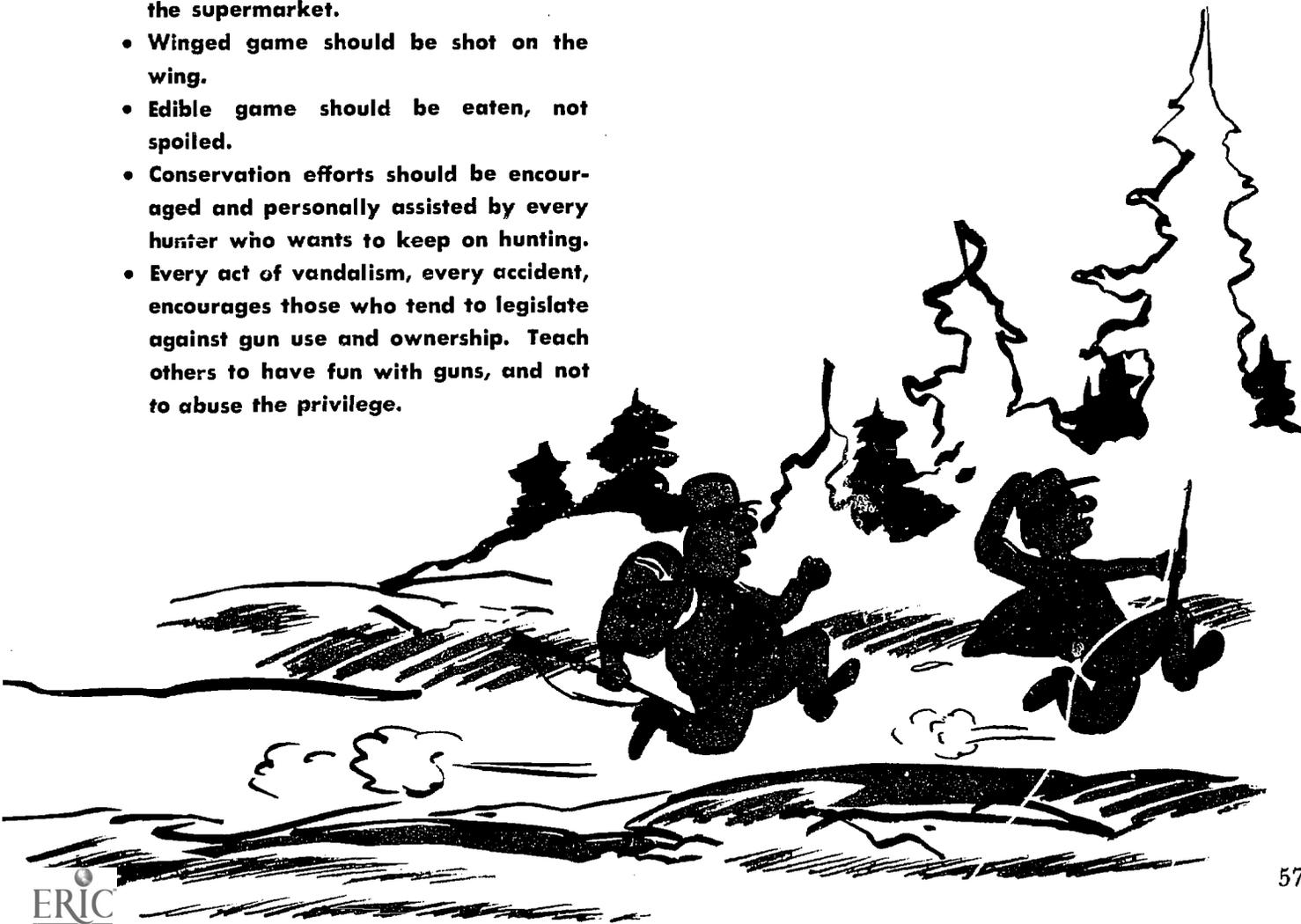


Almost anyone can buy a hunting license. You will hunt in areas where, it seems, everyone else also hunts. Many and sad are the tales of broken fences, open gates, wounded livestock, and angry farmers. Much legislation has been passed to eliminate or minimize the damage and ill will caused by those who confuse license with liberty.

A sportsman is a shooter who behaves in accordance with a code, much of which is self-imposed. It might be said this way:

- Game laws and limits protect our hunting. Observe them.
- Hunting is primarily a contest — a sport.
- For most hunters, meat is cheaper at the supermarket.
- Winged game should be shot on the wing.
- Edible game should be eaten, not spoiled.
- Conservation efforts should be encouraged and personally assisted by every hunter who wants to keep on hunting.
- Every act of vandalism, every accident, encourages those who tend to legislate against gun use and ownership. Teach others to have fun with guns, and not to abuse the privilege.

## A HUNTER'S CODE

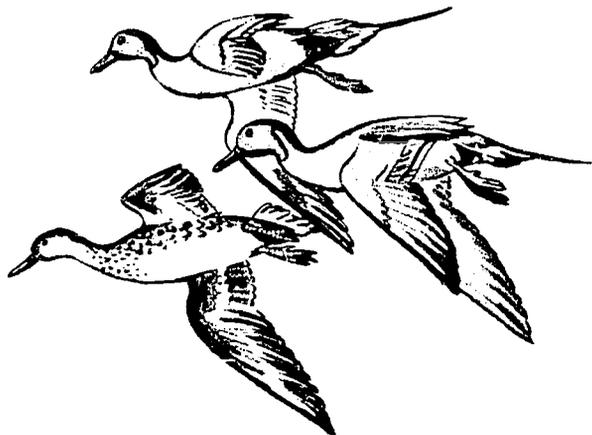


# POINTERS FOR THE INSTRUCTOR

- This unit should be of no determined length. Local needs and opportunities can make this section very short or make it the basis of the entire study.
- Get samples of everything possible: outdoor clothing, guns, ammunition types, accessories.
- Bring the outdoors indoors if necessary. Use chairs and tables to simulate fences, auto seats, and car trunks.
- Everyone should have a copy of state hunting laws.
- Demonstrate actively and often. This is an active unit. Get everyone to coach and help everyone else.
- Students can make their own cutouts for the practical field course when learning game identification.
- Use field trips whenever feasible. Be outdoors as much as possible.
- Arrange compass games such as "orienteering."\*
- Use good films as much as you can. Unless you have a great deal of time, stay away from water buffalo and elephants—any free film can be a temptation.

## TOPICS FOR DISCUSSION

- What is the most important consideration in determining how a hunter should carry his gun?
- Why should a hunter not depend wholly upon his gun's safety to prevent accidental firing?
- What is meant by "zoning the hunting area" and is it important?
- What types of firearms does your state require to hunt big game, small game, varmints, and waterfowl? Why?
- Why should every hunter be a good shot?
- Is it permissible to shoot into cover to flush game?
- From a color point of view, how can a hunter best distinguish himself while hunting?
- Is it possible that the non-hunter who is shot might be partially responsible for the shooting? Discuss several situations.
- If one hunter of a party becomes lost what should he do?
- Why should a hunter ask permission before hunting on a farmer's land?
- If illegal game is found in possession of a hunter, what are the possible consequences?
- What is the organization and purpose of the State Fish and Game Department?



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\* Kjellstrom, Bjorn. "Orienteering." *Journal of Health—Physical Education—Recreation*, November 1956.



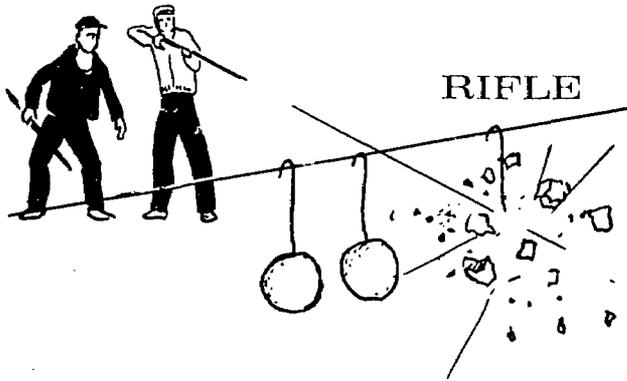
**N**OW THAT YOUR STUDENTS are familiar with guns and know how to use and handle them correctly, you are ready to have more fun, using imagination and a little ingenuity. Here are targets and games which will improve their skill and amuse them at the same time.

Most people like targets that “do something” when they are hit. Tin cans, small pieces of wood—anything that can be hung from a support or stood up and knocked over—are excellent plinking targets. Glass objects should not be used, as flying pieces of glass can hurt both the shooters and the bystanders. Many a good hunting dog and many a swimmer have been badly cut by stepping on broken glass caused by careless shooters. Crackers and cookies are inexpensive and can be attached with a pin on some safe background. Candy wafers (the large, thin kind) can be attached to any smooth surface by moistening one side slightly and pressing. Candies with center holes offer a tough challenge; use a small piece of tape to attach them to a target or piece of wood. Balloons are unusually interesting when suspended on a string; a breeze increases the difficulty and there will never by any argument about a “hit.” Playing cards at short range give your students a chance to show their skill. When they have succeeded in hitting all the spots, they can try shooting at the edges. This will be a real test of ability.

Air rifles and CO<sub>2</sub> guns will allow students to do a great deal of shooting in a small space. The more fragile types of targets break easily and moving targets can be hit with little practice because the pellet or BB can often be seen traveling through the air in bright light.

## MORE FUN WITH YOUR GUN

# INFORMAL SHOOTING GAMES



*The Thumbtack Special* increases both shooter and spectator interest. Push white tacks into the centers of indoor targets. Shoot standing. Everyone can easily see each tack disappear when hit. This makes a good individual or team contest.

*Mothballs a la Mode* involve short pieces of wire. Heat one end of each wire and insert in a mothball. Bend the other end and hang on a string across the backstop. The winner is the first to shatter his group of mothballs.

*Paper Animal Targets* can be purchased from sources listed at the end of this book. They are scaled to small size and the scoring is unique and fun. Life-sized animal targets are used for running-deer competition as well as for hunting practice.

*Wooden Blocks* are the favorite targets of champion and demonstration aerial shooters. When hit they break into several pieces. Cut them from 2 x 2 piece of pine or fir. Later, when more skilled, your students can shoot at the pieces, or stack them and pick them off one by one, starting at the top.

*Swinging Targets* can be made of many things. Try filling tin cans with water and suspending them on a string. When the can is empty try to hit the string.

*Old Golf Balls* make tricky targets. Be sure that the shooting area is well protected at the sides as well as at the back. Sink a screw or screw eye into a golf ball. Using .22 shorts, CO<sub>2</sub> pellets, or BBs, the target will keep a student busy all afternoon without wearing out the golf ball.

*Clay Pigeons* make fine targets for rifle and pistol, in addition to their many shotgun uses. Just set them up and smash them. The pieces provide more difficult targets. It is often possible to pick up thrown but unhit clay pigeons from the nearest trap or skeet club.

*Phonograph Records* make wonderful targets. Set up the records in sand or dirt so that the light shines through the hole. The hole the bullet makes will show instantly and help the shooter to correct his next shot. There is always the possibility that he will shoot through the center hole and the target will last this way for years!



Shotgun games need only a little imagination, plus a hand trap, and clay pigeons. Homemade tin can tossers have been invented by shooters who have access to an unlimited target supply. From the formalized trap and skeet layouts to informal shooting at something thrown through the air, shotgun shooting offers many possibilities for fun.

*Imitation Rabbits* are produced by having the trap throw clay pigeons fast and close to the ground. Trap shooters stand on the sunken trap house for this game. The same results can be produced with a hand trap properly manipulated.

*Walking Games* are easily created. The target is thrown from behind the shooter as he follows a path with a safe shooting area in front of him. The targets are thrown without warning the shooter. Two shooters can compete by agreeing to shoot only those targets thrown toward "their" side.

*One Deer, One Duck* makes a very showy demonstration, and may require more skill than is at first realized. Place a five-quart oil can full of water on hard, smooth ground. Place an empty quart can on top. Load a shotgun so that the first shot is a rifled slug and the second, a regular shotgun shell. If the shooter hits the big can in the middle with the slug, it will drive the small can high in the air and you shoot the second can on the fly with the shotshell.



## SHOTGUN



OTHER  
GOOD  
IDEAS

*Time Limits* put an added thrill into any shooting game. Shooting fast should be introduced only when the shooters are thoroughly indoctrinated with safe gun handling habits.

*Testing Ammunition* has always interested shooters. It is possible to find out the difference between solid and hollow point .22s by shooting each through a bar of soft laundry soap. Penetration tests are easily arranged with, for example, magazines stacked solidly on edge in a box,

Performance comparisons can also be roughly estimated by shooting different bullets into large oil cans full of water. The shooting distance should be at least thirty feet, and the backstop should be a safe one.

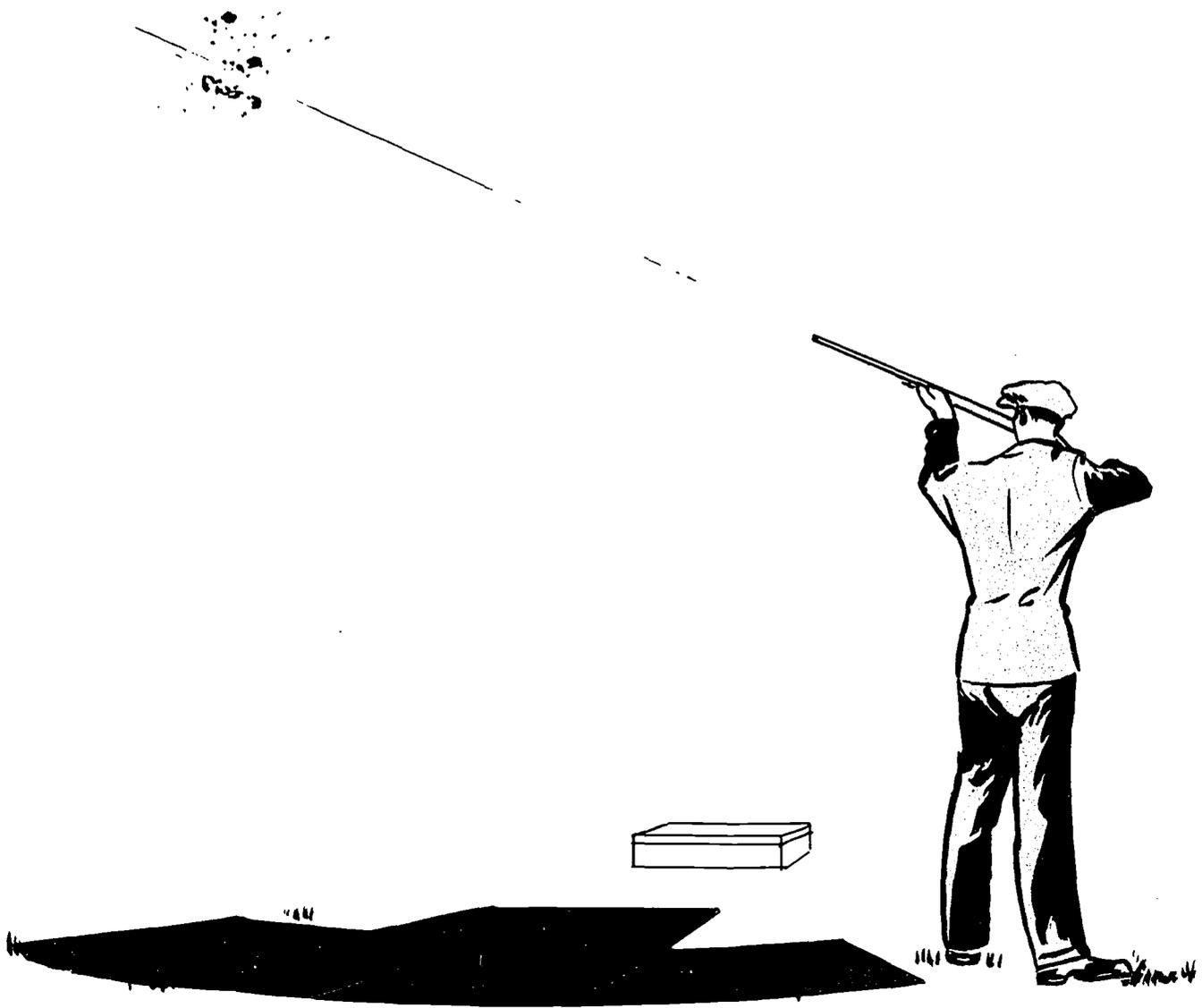
## ORGANIZED SHOOTING GAMES

The National Rifle Association can give the shooter information on local clubs affiliated with the NRA. There are many forms of target shooting competitions including postal matches, registered and approved tournaments, and less formal games arranged by the local clubs themselves.

Trap shooting and skeet shooting facilities are available throughout the country. There are formal matches and also the informal types of competition described in the previous section. These are two typical layouts for skeet and trap shooting. They are reproduced from *Shotgun Games*, available from the Sporting Arms and Ammunition Manufacturers' Institute.

- Trapshooting was well established in England as far back as 1750.
- In trapshooting, the shooter fires from five positions, 16 or more yards behind the trap.
- Targets are thrown at various angles unknown to the shooter.
- The birds travel approximately 50 yards. The average target is hit, on the rise, about 35 yards from the trapshooter.
- In competition, the trapshooter fires from each of the five stations, five shots from each station, 25 shots comprising a complete "round."

## TRAP SHOOTING

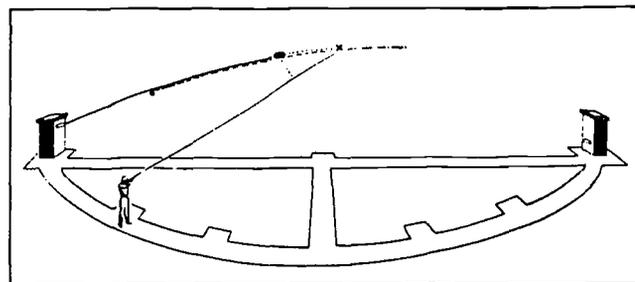
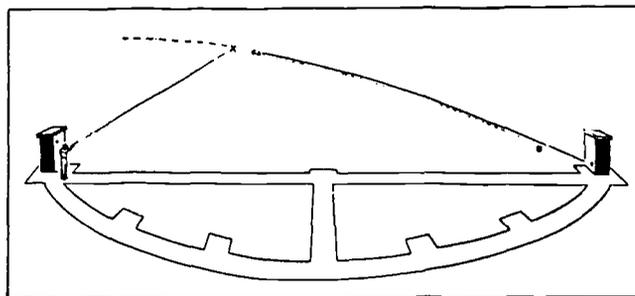


# SKEET SHOOTING

- To equalize shooting competition with field guns a group of sportsmen developed a program of shooting "round the clock," each shooter having the same series of shots. The game was called "Skeet," a word of Scandinavian origin meaning "to shoot."

## A ROUND OF SKEET

- A round of skeet for one shooter is 25 shots. The normal skeet squad consists of five men. Two targets are shot from each of the eight stations—one from the high house and one from the low house.
- Doubles are then shot from stations 1, 2, 6 and 7. The twenty-fifth is called the "optional" and is a repeat of the first miss. If the shooter breaks all 24, he can call for any target he chooses as his optional shot.



The first and natural thing to do after having learned a skill is to use it. Although shooting alone can be fun, shooting together with one's friends and neighbors is often a more satisfying occupation. Friendly rivalry and competitive shooting provide an added incentive to improve in performance. Whether the skills of shooting and gun safety are taught in organized classes such as physical education or through some recreational activity, a shooting club is a logical development in any school or agency.

Construction or leasing of range facilities is obviously more practical for a club than for individuals. Recognition and acceptance within the community is often accorded an organized group, whereas an individual shooting on his own may run into difficulties. A gun club can secure the same publicity outlets and communication with the public that is secured by other communal organizations. In unity there is strength, and in the unity of the shooting club which each shooter can help create there is good fellowship, better shooting sport, and more pleasant recreation.

## THE NEXT STEP

### JUNIOR RIFLE CLUBS

All that is necessary to form a junior rifle club is a group of ten or more boys and/or girls under 19 years of age and an adult group leader. Most clubs are organized under the auspices of schools, YMCA's, 4-H clubs, Sunday school classes, summer camps, or similar groups. Other clubs have been set up independently by local civic clubs or by several of the parents. In order to give purpose, guidance, and extended opportunities for participation to club members, affiliation with the National Rifle Association is recommended. When there are insufficient youngsters to charter a club, a junior rifle patrol with from three to nine members may be affiliated with the NRA.

## RIFLERY

### HOW TO ORGANIZE A CLUB OR PATROL

The first step toward organizing a junior rifle club or patrol is to write to the National Rifle Association, 1600 Rhode Island Avenue, N.W., Washington 6, D. C., and request the free junior club packet. A meeting of the interested boys and girls should be called. Parents should also be invited to attend for



Some of the NRA Junior Qualification Awards

parental support is essential to a successful club. The junior club program should be discussed with the youngsters and their parents and an adult advisory committee of at least five persons appointed. It should be pointed out that the whole junior program is planned to teach safety in handling firearms while the members of the club are earning awards for skill.

A second meeting should be scheduled when the club bylaws will be drafted, a club name selected, and the application for an NRA Charter completed. The next step is a meeting of the adult advisory committee at which time the person who will be the NRA-Certified Rifle Instructor is selected. (The Club Leader may also be the Club Instructor; otherwise, another adult may be appointed.)

#### ADVANTAGES OF NRA AFFILIATION

The entire cost of affiliating a junior rifle club with the NRA is only \$5.00 a year. Some of the services provided by the Association are:

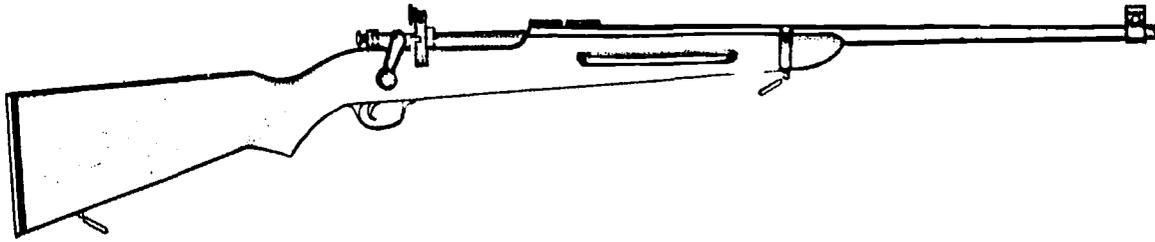
- Planned qualification courses
- Competitive shooting programs
- Training aids (manuals, charts, films)
- Medals and other awards
- Subscription to the *American Rifleman*
- and the *Club Newsletter*
- Copy of the *Junior Club Guide*
- Copies of the *Junior Rifle Handbook*
- Range Construction plans
- Personal assistance on the club's gun
- or shooting problems
- Official Charter

#### ENROLLMENT WITH THE DIRECTOR OF CIVILIAN MARKSMANSHIP

Every NRA junior club is eligible to enroll with the Army's Director of Civilian Marksmanship. It is then possible to purchase ammunition at a reduced price, and, by meeting certain other requirements, the club may also apply for a free issue (loan) of .22 caliber rifles.

#### INDIVIDUAL MEMBERSHIP IN THE NRA

Whether a girl or boy belongs to an affiliated NRA club or not, he may join the NRA as a Junior Member and receive his own subscription to *The American Rifleman* for



\$3.00 a year. This special rate applies only to those under eighteen years of age.

## SENIOR RIFLE CLUBS

Older students and adults can become members of the NRA and receive the magazine for \$5.00 a year. The organization of a college rifle club is a desirable procedure for college classes and activities where rifle shooting and instruction are offered. Such a plan affords opportunities for competition in riflery through meets and telegraphic or postal matches. Further information can be obtained by writing to the NRA's Headquarters.

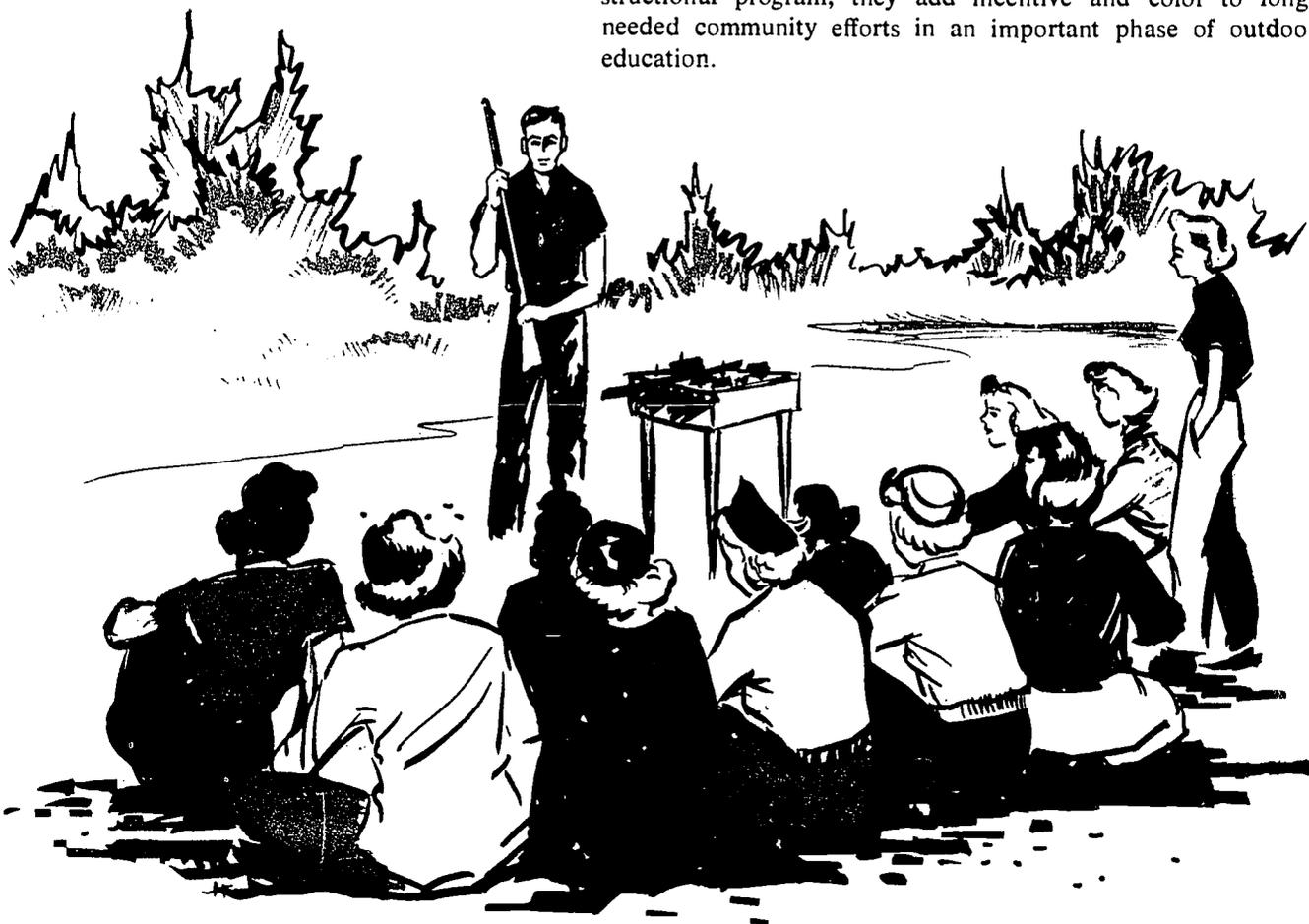
Shotgun instruction and use can be easily incorporated into group programs similar to those that teach riflery. After the students are proficient in the classroom, they may join, or form, shotgun clubs under the type of organization which, in many areas, sponsors the NRA Junior Rifle Clubs—sportsmen's clubs, conservation associations, 4-H clubs, youth groups, camps, etc. These groups often provide facilities and leadership for arranging competitive skeet and trap shooting or informal games.

Although school and community programs are the logical outlets for continuing with all forms of shooting, such organized programs should in no way replace the ideal situation—parents and children out shooting and hunting together. Unfortunately, however, many homes do not afford such opportunities, making it necessary for the community's educational agencies to provide a wide variety of programs for both children and adults.

## SHOTGUN ACTIVITIES

## SHOOTING CLINICS

A practical way of providing opportunities for the improvement of skills and participation in shooting is through clinics, both for leaders and for students. These clinics may be sponsored by schools, colleges, or other community agencies. Locally qualified NRA instructors, teachers, and consultants can be found near most communities and invited to take part in their programs. A clinic may include general instruction about guns, their use, safe handling with demonstrations, followed by shooting. A well-organized program may offer opportunities for shooting with .22 rifles, BB and CO<sub>2</sub> guns, and shotguns. This type of clinic is useful in the training of local leaders. Participants may be rotated through stations so that each participant has an opportunity to gain experience in the use of each type of firearm in turn. Clinics of this nature have been a part of regional and state outdoor workshops, but are equally appropriate for local use in preparation for the hunting season and for encouraging better marksmanship and safe handling of guns. Parents and community agency leaders, recognizing the value of a positive program for youth participation in shooting activities, have been enthusiastic about well-planned and carefully organized clinics. While short, but intensive, clinics should not be substituted for a thorough instructional program, they add incentive and color to long-needed community efforts in an important phase of outdoor education.

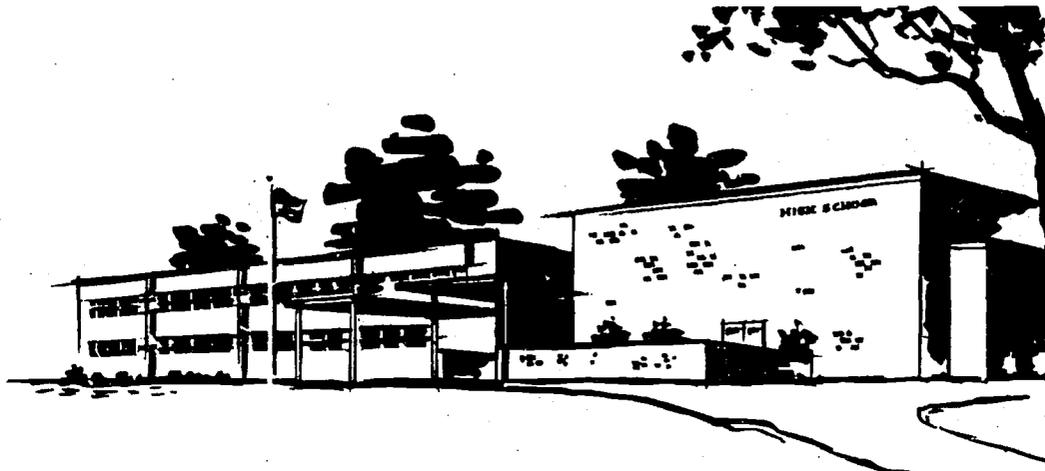


Shooting and hunting skills are usually taught in physical education classes, recreation courses and activities, or through clubs. There are, however, many aspects of these sports that are of interest and can give meaning to other phases of the curriculum. The "problem solving" approach to learning is not unique to shooting and hunting and is employed in good teaching generally. Widespread interest in these sports on the part of children and youth, as well as adults, can be used in the teaching of many other subjects.

The sciences such as chemistry and physics, for example, are readily related to shooting. Ballistics, the study of combustion and energy, powder analysis, steel-hardening tests, etc., provide excellent material for laboratory analysis. Such topics as trajectory and speed of bullets can enrich the mathematics class. The study of plant and animal life in the natural sciences gives insight and better understanding of the conditions the hunter will find in the field and a knowledge of the habitat and behavior of game animals and birds. Discussion of shooting and hunting questions also provides a practical approach to the often abstract and uninteresting concept of conservation. Game management can become a practical community problem and one in which youth can participate.

Social studies covers many aspects of shooting and hunting. The history and evolution of guns, cannon, and gunpowder are closely linked with the development of countries and civilizations. The gun has played an important role in the settling and development of our own country, especially the Far West.

## SHOOTING AND THE SCHOOL CURRICULUM



In geography, the student learns that various climates and regions of our country affect the development of animal life. In civic and government classes, laws and regulations dealing with hunting are important in the study of state and federal law. Hunter-landowner relationships and care of property can become vital and real parts of citizenship education. In many sections of the country, hunting is essential to the economy, and land use and management are paramount problems. Outdoor living and camping are essential experiences for many hunters. They should know how to select and use camp sites, how to cook outdoors and dress game.

Taxidermy, bird study, trailing, use of the compass, water safety, and first aid all relate to shooting and hunting, and should be included in appropriate places in the school curriculum. Construction of gun racks and making of gun stocks are popular activities in shop classes. Art, music, poetry, and literature include outdoor themes, many of which deal with hunting lore.



Anywhere where people live, somebody shoots for fun. In every part of this country, individuals with a love of shooting are having a good time. They may be shooting on their own land; they may know an area near town possibly in a park or camp, where shooting is both safe and fun. They may belong to a rifle or skeet club whose existence is unknown to many people. They may use basements under stores, or shoot in their own basements if it is legal and safe. Hundreds of rifle and pistol clubs have persuaded the city fathers to allow the use of space in public buildings, and other hundreds have found usable space in school buildings, even where it involved digging their own shooting area under an existing building. Better yet, when a new school building is contemplated, a shooting

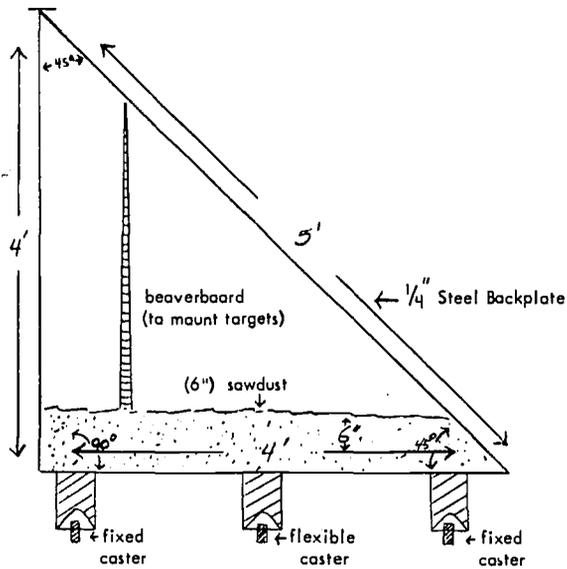
## FIRING RANGES



*Courtesy of the National Rifle Association*

range can be planned. Often, space otherwise wasted would provide an excellent site for a shooting range. A .22 caliber rifle can be shot safely where large calibers are dangerous.

Rifle ranges may be found in gymnasiums and auditoriums, with the bullet backstops just under the edge of the stage—beautifully covered for other occasions. Backstops are often built on wheels, so that they may be pushed into a storeroom just before a basketball game. A range can be created or a shotgun field set up with a little ingenuity by exploring all local possibilities.



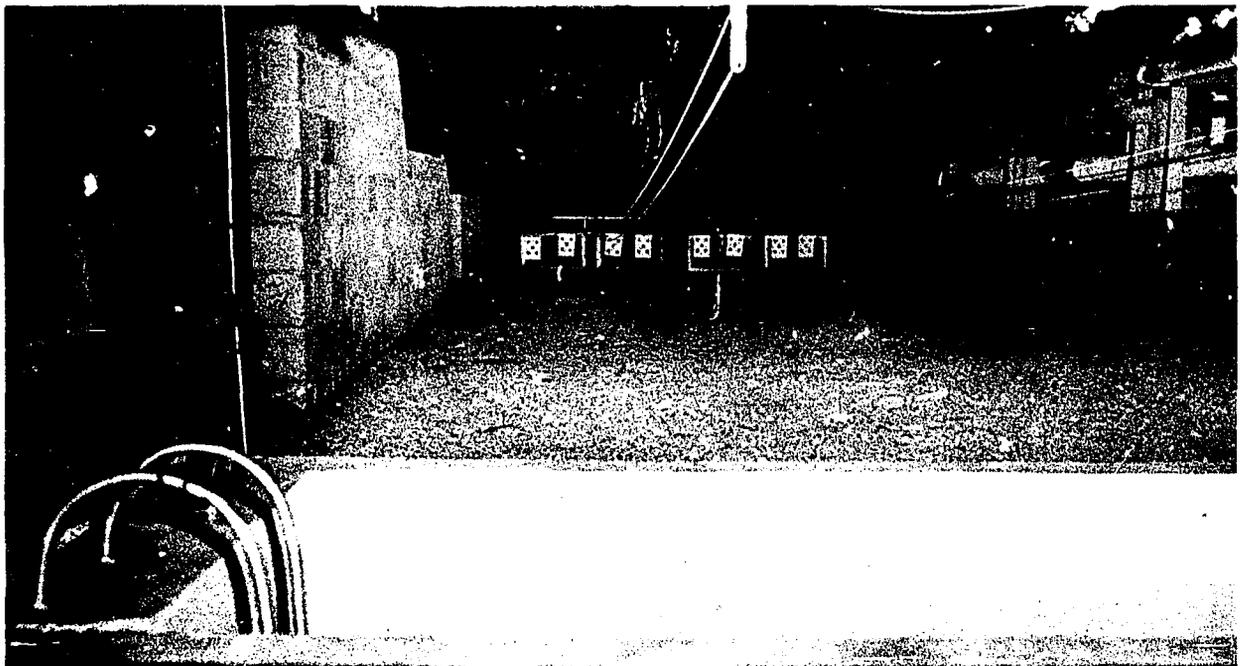
## INDOOR RANGES

Students will know about some wonderful sources of possible shooting places. Many a farmer whose land is posted against hunting will allow shooting under proper supervision. Often, all that is needed is to explain, secure permission, and invite him to shoot. It helps, too, if his children are in the class or group in which a shooting program is being planned. A point worthy of note if clay target shooting takes place on farm land—the pitch used in making the targets is toxic to hogs.

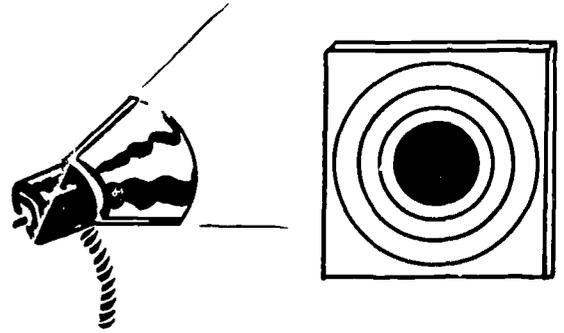
Many existing clubs shoot only one night a week, and for a little help with the light bill a ready-made range may be accessible, perhaps complete with expert assistance from club members.

A really safe shooting range depends far more on range control and discipline than on mechanical construction. There are some physical precautions that are always necessary: the back wall must be capable of stopping any wild shots that miss the backstop. Windows or doors must be protected with steel plate if it is possible for a wild shot to reach them. Doors in front of the firing line must be locked from the inside.

The most commonly used backstop is mild steel plate, one-fourth of an inch thick or more, placed just behind the targets at a 45-degree angle. Sawdust or sand will catch the bullet fragments that deflect down from the plate. Side plates which can be lighter prevent lead fragments from flying out at either end of the backstop. Wooden frames hold the plates, and targets can be clipped on a wooden bar or hung from clips on a light wire stretched across the backstop. Commercial backstops can be purchased in several sizes and the smaller types can be carried easily by one person.



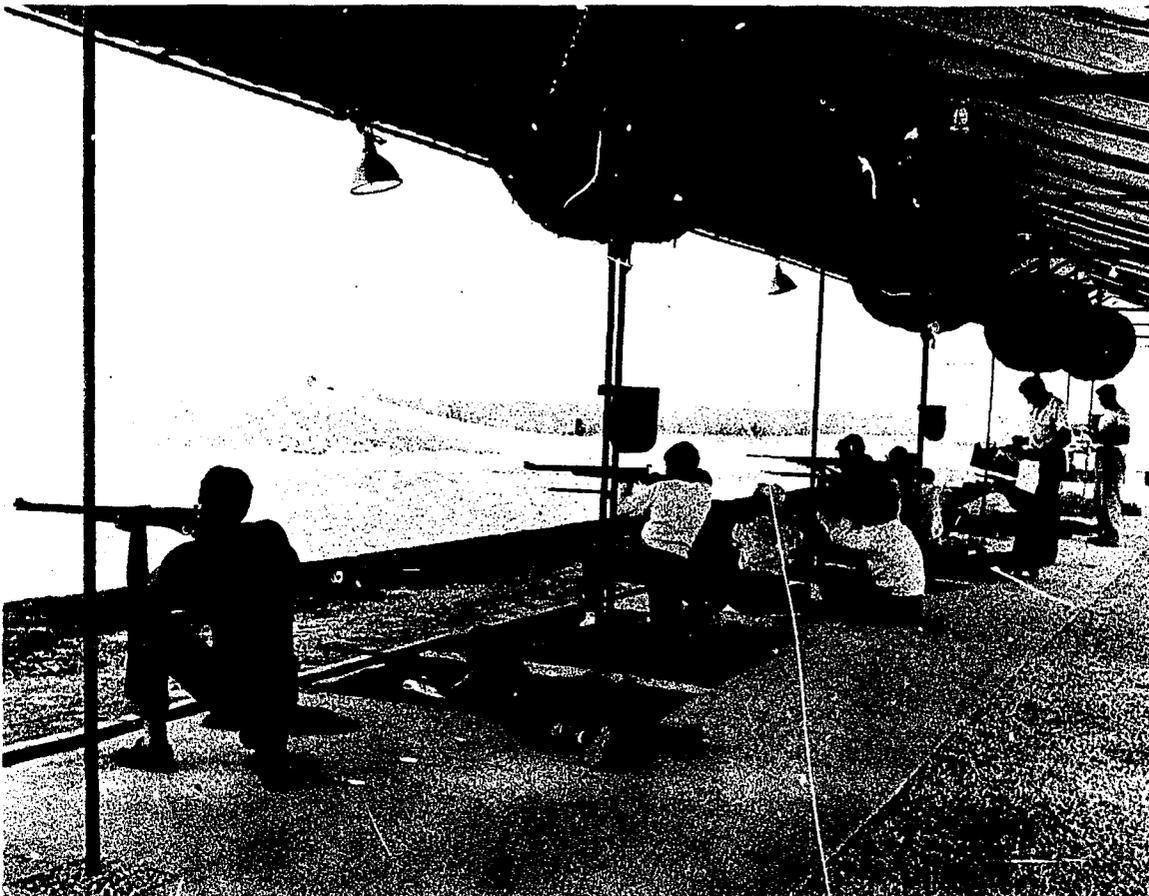
Lighting the targets requires a desk or clip-on lamp, a few feet in front and to the side of the target. A light can be hung from above. Most of the light in the room should be at the target. From these simple beginnings comes the progression towards scientific lighting, soundproofing, and carriers which bring the target back to the shooter. Modern indoor ranges have ventilation, permanent gun racks, locked storage space, separate rooms for instruction and visitors, and facilities for the convenience and comfort of those who use the range.



Outdoor target shooting requires little equipment or money. The main essential is a safe place to shoot.

The ideal backstop is a dirt hill, at least thirty feet high. There should be a complete absence of trees, stones, glass, and assorted junk. If possible, a vertical notch about ten feet high should cut across the bottom of the hill, just behind the targets, so that the hill will present a vertical surface to the shooter rather than a slope. The main object is to have the fired bullets

## OUTDOOR RANGES



land in dirt and stay there. Lacking a hill, a wooden crib can be built which holds sawdust or dirt. Occasional replacing of front boards and dirt will be necessary. Shooting is safe out in the open, but at least 1500 yards should be allowed clear of buildings, roads, livestock, and people.

The direction of fire should be north or northeast. This allows shooting at any time of the day with the sun on the targets and out of the shooters' eyes.

Target holders are easily built. Sink posts into the ground in front of the backstop and nail four crosspieces to the posts, two crosspieces for each row of targets. Shooting up the crosspieces can be avoided by spacing them to hold light target boards of plywood or pressed board. These not only hold the targets, but can be carried back to the firing line if they are fastened with clips or hung from nails. Spring-type clothespins are fine for holding targets against the boards.

The firing line should be level and dry. If possible, a raised firing line should be made with dirt and sod, or a wooden floor at least ten feet wide built. If the range is going to have much use, provision for putting up a roof later should be made. A floor with proper foundations makes a good beginning for a covered firing line later.

A ready line is important for efficiency and safety. Locate it about twenty feet to the rear of the firing line. A guard



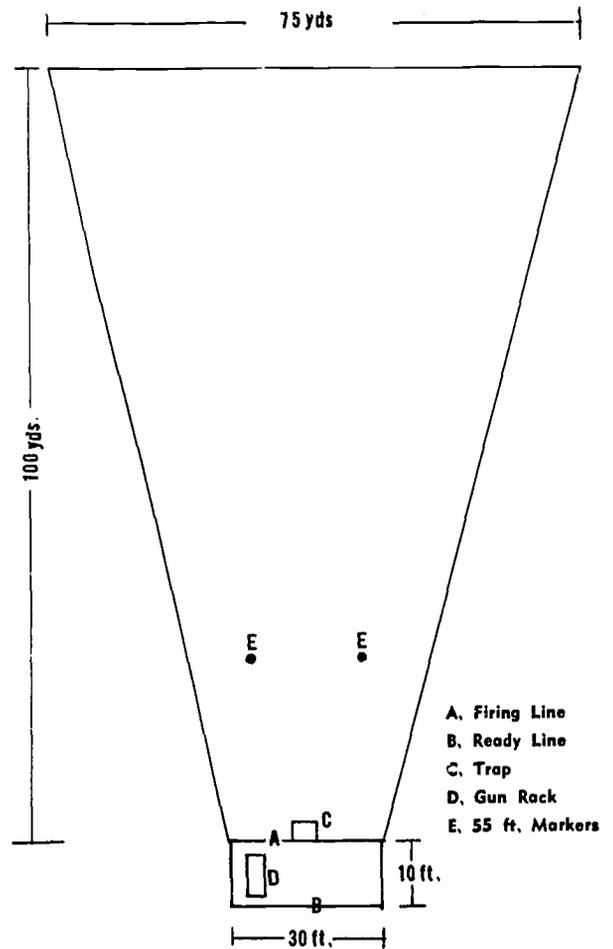
## .22 SMOOTHBORE RIFLE RANGE

rail helps, and so do the correct signs. Benches encourage those waiting to sit and learn from the shooters. Gun racks are an advantage here.

Improvements on these basic needs will be desirable when and if the outdoor range is used by many people, and for long periods of time. Sanitary facilities, good drinking water, a bench and chair for scoring targets—all these are needed for competitive shooting matches. A small clubhouse is the usual next step, complete with stove, storage space, and plenty of room to compare targets and invent new alibis.

The field for a .22 smoothbore rifle may be set up in any clear space about 100 yards square. Where possible, the background should be such that it highlights the "birds" in flight. For safety, the entire area should be fenced or posted to prevent accidental entry of animals or other people. This is particularly true if there are trees or brush along the edge of the field.

Shotguns, of course, require a larger area. The field should be at least 300 yards long, just to be *very* sure; and of considerable width to allow for the moving targets. The same safety considerations apply as for the .22 smoothbore rifle.



*Courtesy of the National Rifle Association*



# EQUIPMENT: DESCRIPTION

		<b>RIFLES</b>	Retail Price Range
BEGINNERS' RIFLES	.22 caliber rimfire, bolt action Single shot preferred Open or peep sights Sling not required Weight between 4 and 6 pounds		\$16.00 to \$25.00
INTERMEDIATE TARGET RIFLES	.22 caliber rimfire, bolt action Clip magazine Adjustable aperture sights Sling optional, many models equipped with sling swivels Weight between 5 and 7 pounds		\$30.00 to \$81.00
ADVANCED TARGET RIFLES	.22 caliber rimfire, bolt action Often single shot (or clip magazine with single shot platform) Micrometer peep sights Sling required, all models furnished with sling swivel or insert attachments for swivels Weight from 7 pounds up, depending upon type of barrel		\$50.00 to \$170.00
FIELD OR SPORTING RIFLES	.22 caliber rimfire repeating rifles, bolt, slide, lever, or autoloading action Clip magazine or tube-feed loading Open iron sights, usually with adjustment for elevation Sling optional, some models with sling swivels furnished Weight from 4½ pounds up		\$30.00 to \$70.00

(Price ranges are approximations only, made as of Spring 1960, for your guidance; prices are subject to change without notice.)

All .22 caliber rimfire rifles made by leading American gun makers fire standard .22 caliber rimfire cartridges as loaded by well-known United States ammunition companies. Many rifles will handle any of the three types of .22 rimfire ammunition (long rifle, longs, and shorts) interchangeably; some rifles are meant to fire one of these types only. Long rifle .22 caliber rimfire cartridges of standard velocity are always recommended for all target shooting. High velocity .22's are recommended for pest and small game hunting, but NO .22 should ever be used hunting game birds or waterfowl. Under most shooting conditions the long rifle .22 rimfire cartridge gives best results. Any .22 caliber rimfire cartridge may be used on indoor ranges having proper backstops. *It is well to remember that inferior equipment is more difficult to keep in good repair and may need frequent replacement.*

# AND SPECIFICATIONS

<b>SHOTGUNS</b>		Retail Price Range
BEGINNERS' SHOTGUNS	12, 16 or 20 gauge, single-shot, hinge or bolt action (special short stock models available)	\$25.00 to \$35.00
SHOTGUNS FOR MORE EXPERIENCED SHOOTERS	12, 16 or 20 gauge double barrel, hinge action, or any repeating shotgun with pump, bolt, or autoloading action	\$38.00 to \$100.00
FOR ADVANCED SHOTGUNNERS	same equipment as above except to add 28 and 410 gauge shotguns to the selections	\$70.00 to \$200.00

(Price ranges are approximations only, made as of Spring 1960, for your guidance; prices are subject to change without notice.)

In shotgunning, the age of the shooter has NO bearing upon the gauge selection. The shooter's size is the only determining factor. Absolute novices, small in build and stature, may sometimes do better using a 20-gauge gun at the start, but all experienced shotgun teachers recommend that the beginner start with the gun that "throws the MOST lead." It is said that nothing succeeds like success. A shotgunner gains skill and shooting ability almost in direct ratio to his confidence in his ability to hit targets, and nothing builds confidence like seeing targets shatter. More lead helps this take place.

The single-shot hinge action shotgun is best for training the novice. Guns with short stocks are required for young people who have not attained average adult height and proportions; your local sporting goods dealer will advise about obtaining this equipment.

Standard "Target Loads" in the proper gauge are recommended for all clay target shooting; consult your dealer for field load choices.

Shotguns may be used anywhere outdoors where a 300-yard safety zone is available. This distance may be reduced if the shooting is done against a cutbank, steep hillside, or thick woods, assuming all approach from the rear of the bank, hillside or woods is closed or observable.

## **.22 CALIBER SMOOTHBORE**

.22 caliber shot cartridges fired in smoothbore .22 caliber guns (no rifling) can provide good shooting sport and plenty of fun when used with miniature traps and clay targets. The ideal .22 smoothbore for student use is the single-shot bolt action; repeating smoothbore guns with slide actions are also available. For full details about miniature traps and targets, including prices, write to MOSKEETO, 2101 Harrison Street, Kansas City 8, Missouri.



SKILL	INSTRUCTIONS TO THE STUDENT	STUDENT RESPONSE
1. <i>Identification</i> (a) shotgun shell (b) center fire cartridge (c) rimfire cartridge.	"Here are three pieces of ammunition. What kinds are they?"	All three must be correctly identified to pass.
2. <i>Safety. Operating the safety on the .22 rifle.</i>	"Here is a .22 rifle. Explain the operation of the safety device by working it."	Correct knowledge of <i>on</i> and <i>off</i> position of the safety.
3. <i>Procedure after picking up a gun. Gun should not be loaded. Action should be closed.</i>	"Pick up that gun. Show me what your first action is when you pick up a gun."	Student must execute <i>two maneuvers</i> to pass: (a) open action (b) inspect the chamber.
4. <i>Handing a gun to another individual. Gun should have action closed.</i>	"Pick up that gun and hand it to me."	Student must execute <i>three maneuvers</i> to pass: (a) open the action (b) inspect the chamber (c) point muzzle in a safe direction when handing gun.
5. <i>Hunting in twos.</i> (a) hunting partner on the left of a student (b) hunting partner on right of student.	"You are hunting with another person. This chair will represent your hunting partner. How would you carry your gun in this situation?" (Repeat for right side.)	Students must execute both maneuvers correctly to pass. In both cases the muzzle must be pointed away from hunting partner, down and ahead, up, or to outside.
6. <i>Hunting in threes.</i>  7. <i>Crossing fence.</i> a. over or through b. under. Hand gun to student, safety off and action <i>closed</i> . Simulate fence by use of two 2 x 4's, one over backs of chairs, the other across seats of chairs—chairs six feet apart.	"You are bird hunting with two friends. These two chairs represent your hunting partners. You are in the middle. Show me how you would carry your gun in this situation."  "You are hunting alone and you come to a fence you wish to cross. With this .22 rifle, show me how you would: a. go over or through the fence b. go under the fence."	Gun must be pointed up and ahead, down and ahead, or up slightly off the vertical line (forearm and pistol grip).  Student must execute both maneuvers correctly to pass. (a) Over or through the fence—place gun down in a safe manner, action open. Proceed over fence at a reasonably safe distance from the gun. (b) Under the fence—same.
8. <i>Crossing over a stone wall.</i> Hand gun to student—safety off and action <i>closed</i> . Simulate stone wall by placing two chairs upside down, side by side.	"You are hunting alone and wish to cross over a stone wall. Show me how you would do this."	Gun must be placed down on the ground or against the stone wall in a safe position—action open. Student climbs over stone wall at a reasonably safe distance from the gun, and retrieves gun in a safe manner.
9. <i>Running when hunting.</i> Gun in student's hand at time of question.	"Your hunting partner is hurt about 200 yards away. You must run fast to assist him. Show me what you would do."	Open action; unload; place gun on ground; run to friend.
10. <i>Removing gun from an automobile.</i> Gun should be lying across seats of chairs, action <i>closed</i> . Equipment should be set up as follows: Two chairs facing two other chairs, front edge of the seats together. This will simulate the back seat or luggage compartment of a car. Ideal situation—actual back seat or back end of car.	"These chairs represent the back seat or luggage compartment of an automobile. Remove that gun from that position. There are no occupants in the car."	Student must execute two maneuvers correctly to pass: a. gun must be removed carefully <i>stock first</i> b. open <i>action</i> and inspect chamber.
11. <i>Placing gun in an automobile.</i> Same equipment set-up as item No. 10. Hand gun to student—action <i>closed</i> .	"These chairs represent the back seat or luggage compartment of an automobile. Place this gun in the compartment. There are no occupants in the car."	Student must execute two maneuvers correctly to pass: a. open action and inspect the chamber b. place gun carefully in car—muzzle first.
12. <i>Simulated loading.</i> Three or four chairs in a group. Testee should be approximately six feet from chairs.	"These chairs represent your hunting companions. You are all ready to start hunting. Make believe you are loading your gun."	Student must execute all maneuvers correctly to pass. Gun must be pointed in a safe direction—away from chairs—muzzle down. Simulate loading—put safety on.

NOTE: Student fails if he goes over or under the fence while holding gun or does not open action.

NOTE: Some state laws have explicit regulations describing how a firearm should be placed in an automobile. Bear your own state laws in mind when giving this test.

# KNOWLEDGE TEST

## DURATION

40 minutes

## DIRECTIONS

Duplicate sample knowledge test given below, omitting the correct answers, indicated by (x) in the appropriate space.

### SAMPLE STUDENT ANSWER FORM

NAME \_\_\_\_\_ AGE \_\_\_\_\_ GRADE \_\_\_\_\_ SEX \_\_\_\_\_  
LAST FIRST MIDDLE

SCHOOL \_\_\_\_\_  
NAME ADDRESS

Have you had previous instruction? YES..... NO..... From whom? .....

Have you ever hunted? YES..... NO..... If so, for how long? ..... (approx. no. of years)

Do you ever do any target shooting of any kind—plinking tin cans, target range, etc.? YES..... NO.....

## INSTRUCTIONS

This is a multiple choice and matching type test.

In each of the statements below, there are several possible choices. Only one answer will make the statement correct. Mark the best answer by placing a  in front of the appropriate phrase.

Example:

The safe hunter

- shoots at sound in the brush
- shoots at color in the brush
- positively identifies target in the brush

The third phrase is correct—indicated by  in the box before it.

Read each question carefully.

1. You are in the middle of a hunting party, three abreast. Your gun should be
  - pointed to the left
  - pointed to the right
  - pointed ahead
2. You are in the middle of a single file hunting party of three people. Your gun should be
  - over your shoulder
  - pointed to the left or right
  - pointed down and ahead
3. In removing the gun from the back seat of a car
  - the barrel should come out first
  - the stock should come out first
4. While hunting, the gun safety should be pushed off
  - just before firing
  - several minutes before firing
  - any time before firing
5. You are bird hunting, three abreast. A flushed bird flies back over your head
  - man on left shoots at bird
  - man on right shoots at bird
  - nobody shoots at bird
6. A safe hunter when stumbling or falling
  - throws his gun so as not to fall on it
  - holds onto gun to control muzzle
  - keeps hand on safety
7. Your companion has fallen and called for help
  - you run to him with gun in hand
  - drop your gun down and run to help
  - unload, place gun on ground, run to friend.
8. A good hunter, on picking up a gun, will first
  - look to see if the safety is on
  - open the action and check the chamber
  - test fire in a safe place
9. Any gun can be safely carried in a car or boat if
  - it is unloaded before being put in
  - the safety is put on
  - the gun is carried vertically so any accidental discharge would go up in the air
10. At normal game ranges a shotgun is
  - not as dangerous as a rifle because it will not shoot as far
  - just as dangerous as a rifle because most accidents happen at short ranges
  - less dangerous than a rifle because it will not penetrate as far
11. When a shell is fired, the powder
  - burns
  - explodes
  - expands
12. By acting as though every gun is loaded until you personally examine it, you are
  - acting like a "sissy"
  - showing that you have sense enough to handle firearms
  - unnecessarily delaying your shooting
13. The primary purpose of the shotgun is to
  - enable the charge to cover a wide area
  - kill big game
14. The breech of the gun is
  - the front end of the barrel
  - the rear end of the barrel
  - the pump action of the gun
15. The action of the gun
  - contains the barrel
  - contains the firing pin
  - does not contact the shell
16. The safety on a gun is
  - a positive way of preventing the gun from being fired
  - of no value at all
  - is used supplementary to good gun handling
17. It is well known that some calibers of rifle cartridges are so nearly identical in measurements that they can actually be placed in the chamber of a rifle designed for another cartridge. Would you say that this
  - would produce inaccurate results
  - would make little or no difference if the cartridge fits well enough to fire
  - would be dangerous due to the possibility of creating excessive chamber pressure for a particular gun
18. The safety on a bolt action rifle is usually located
  - near the trigger guard
  - near the rear of the bolt
  - inside the trigger guard
19. The half-cock safety is located on a gun with
  - an outside hammer
  - an inside hammer
  - a bolt action

20. The safest gun is one  
 with the safety on  
 with the action open  
 pointed in a safe direction
21. The basic rule for sight adjustment is always  
 to find out from some older shooter what the proper sight setting is for that particular day  
 to take as many sighting shots as possible  
 to move the rear sight in the direction that you want your hits to move
22. Under the Federal Migratory Bird Act, a hunter may use  
 a rifle, .22 caliber or larger, to shoot at waterfowl a long way off  
 any shotgun  
 a shotgun capable of firing not more than three shells before reloading
23. A spirally grooved barrel is usually associated  
 with a magnum shotgun  
 with a rifle  
 with BB guns
24. After cleaning a gun  
 it should be heavily oiled  
 rags should be placed in muzzle to keep out moisture  
 it should be lightly oiled

25. The sear on a gun is directly related to  
 the barrel  
 the trigger  
 the cartridge
26. The wearing of the sear may cause  
 a hair trigger  
 less head space  
 a blow-back
27. When you have the correct sight picture you see  
 the top of the front sight in the exact center of the rear aperture with the bullseye squarely on top of the front sight  
 the bullseye exactly in the center of the rear aperture and balanced on top of the front sight  
 the front sight exactly centered in the center of the bullseye
28. "Zeroing in" refers to  
 shooting 5 rounds in the bullseye  
 adjusting sights of gun for accurate shooting  
 the positions of the sights when the gun came from the factory

In the two columns below, you will find phrases or words in Column 2 which are closely related to phrases or words in Column 1. On the line in front of the numbers in Column 1, place the letter of the phrase or word in Column 2 which is most appropriate.

.....F..... 29. Loading

.....D..... 30. "Leading"

.....E..... 31. Gauges

.....C..... 32. Making a gun inoperative

.....K..... 33. Lands and grooves

M or I..... 34. Closed action

.....H..... 35. High base shell

O or B..... 36. Causes of guns blowing up

.....J..... 37. Ricochet

.....G..... 38. Low base shell

- A. To speed the bullet through the barrel  
 B. Bullet slightly larger than required gauge  
 C. Removing the firing pin  
 D. Aiming or swinging ahead of a moving target  
 E. Bore diameter  
 F. Muzzle pointed away from hunting companions  
 G. Light load  
 H. Heavy load  
 I. Prevents escaping gases  
 J. Glancing bullet  
 K. Spiral grooving in barrel  
 L. Will fit the chamber better  
 M. Safety should be on  
 N. Too much use  
 O. Obstruction in barrel

Please follow directions as in questions 29-38.

.....P..... 39. .22 rifle maximum range

.....E..... 40. High power rifle—maximum range

.....G..... 41. Range firing

.....L..... 42. Trigger squeeze

.....D..... 43. Treat every gun as though it were loaded

.....I..... 44. Vital hunting equipment

.....A..... 45. Good hunter-landowner relationships

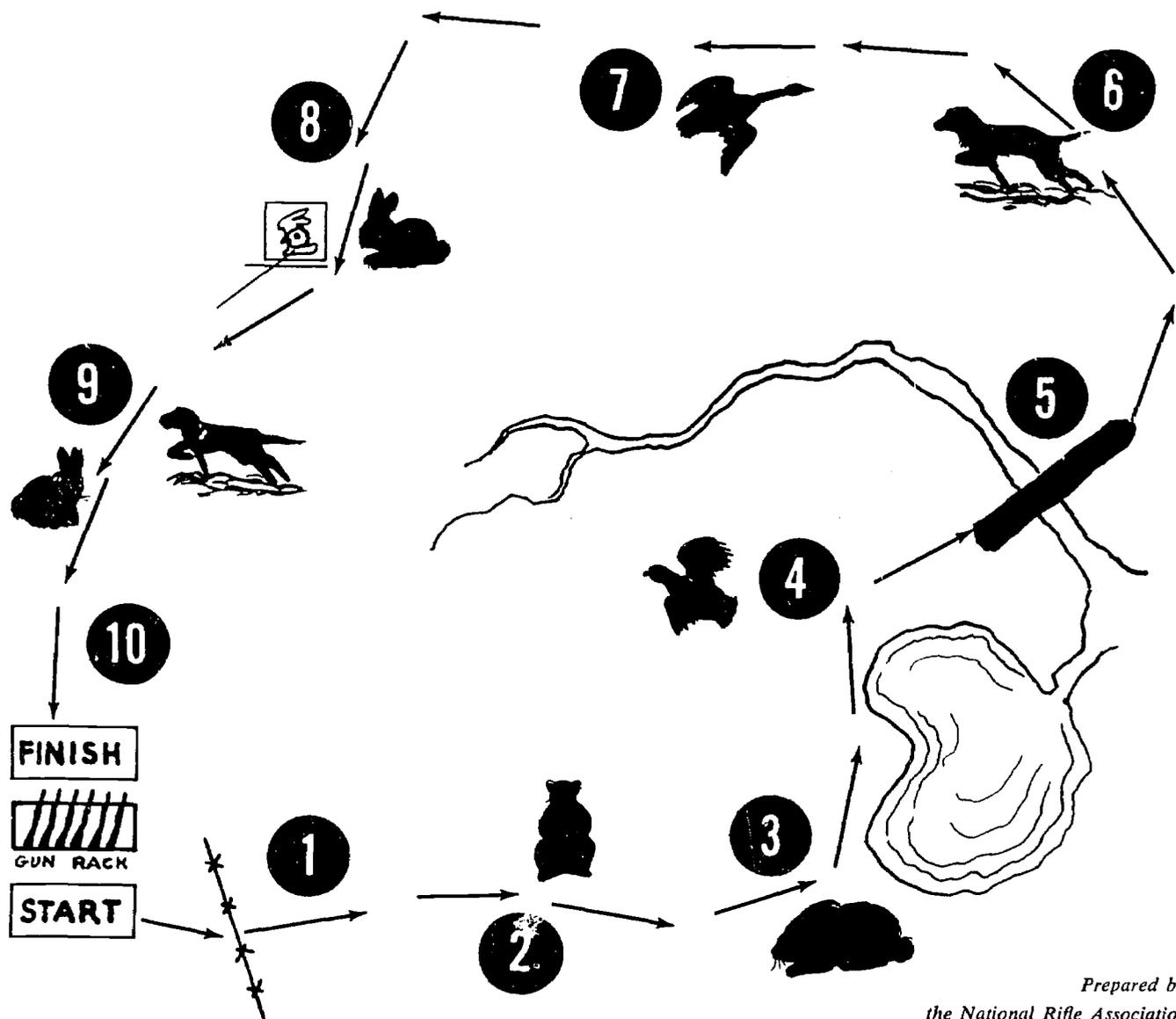
.....J..... 46. Basic cause of accidents

.....F..... 47. White topped socks or white handkerchief

.....M..... 48. Safe carry when walking last in line

- A. Asking permission to hunt  
 B. Pistol grip and forearm  
 C. Poor ammunition  
 D. Basic rule of safety  
 E. Three miles  
 F. "Flag" of a deer  
 G. Strict discipline necessary  
 H. ½ mile  
 I. Compass  
 J. Carelessness  
 K. Perform in a fast manner  
 L. Important for accurate shooting  
 M. Gun over shoulder  
 N. Five miles  
 O. Warm underwear  
 P. One mile

# FIELD DEMONSTRATION AREA



Prepared by  
the National Rifle Association

## Start Rifle in Rack

Open bolt to make sure rifle is not loaded. Do not point at anyone. Close bolt before starting. Safety should be on.

## 1 Cross Fence

Demonstrate safe techniques shown in lesson outline and skill test. Simulate unloading rifle by opening bolt.

## 2 Pop-up Target—Woodchuck

If companions are in safe zone, "shooter" may "fire."

## 3 Pop-up Target—Rabbit

Should not fire because of water surface—possible ricochet in background.

## 4 Stationary Target—Legal Bird

If companions are in safe zone, "shooter" may "fire."

## 5 Walk the Log

"Unload" for safety. Open bolt. (If this obstacle is not possible, use some other situation where footing is a problem.)

## 6 Stationary Target—Dog

Part of learning to see outdoors. Camouflage dog in brush or grass so it isn't easy to distinguish. "Shooter" should obviously not "fire."

## 7 Stationary Target—Illegal Bird

This is a recognition problem. The target should not be easy to see. The "shooter" of course should not "fire."

## 8 Pop-up Target—Rabbit

No "firing" because of building in the background.

## 9 Stationary Targets—Dog and Rabbit

Targets are set so that dog would be endangered by shot at rabbit. Neither should be easy to see.

## 10 Finish—Rifle Rack

Check proper safety precautions in storing rifle. Action open.

**Scoring** A suggested scoring system would be 8 points per station (10 in all) and the remaining 20 points for safety throughout the route.

# HOME SAFETY FIREARMS CHECKLIST

Prepared by the National Rifle Association

NOTE: The questions which follow have been framed in such a way that the answers to all should be "yes" to insure safe conditions. It is suggested that a checklist be filled out for each gun in the home.

- Type of gun  rifle  shotgun  revolver  pistol  other (give type) .....
- Caliber..... Type of action..... Use .....  
HUNTING, TARGET, PROTECTION, COLLECTION
- Is it unloaded? .....
- Is the ammunition stored in a separate place? .....
- Is the ammunition locked up? .....
- Is the ammunition in a box which identifies it quickly and accurately? .....
- Are the wooden parts of the gun in good condition? .....
- Are *all* metal parts of the gun free of rust? .....
- Are *all* metal parts of the gun (especially the bore) free of heavy grease? .....
- Is the bore unobstructed? .....
- Does the action work freely? .....
- Does the trigger work freely? .....
- Does the trigger require 3 pounds or more of force to fire the gun? .....
- Is the gun stored in a rack or case? .....
- Is the gun stored in such a way that children cannot get it? .....
- Have the users of the gun had Firearms Safety Training? .....

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## POINTERS FOR INSTRUCTOR

- Only two or three students should go through the area at one time.
- *No one* should be ahead of the "shooter." The instructor should *follow* the students.
- Pop-up targets can be operated from behind the students by using a long string or wire.
- Do not ignore other advantages of test besides hunter safety such as ability to see and recognize camouflaged objects quickly and accurately.
- Even paper drawings fastened to thin masonite or heavy cardboard and made durable with a plastic spray, shellac, or varnish will suffice if nothing else is available.

# GLOSSARY

## A

**Action**—The parts assembly which loads, fires, and unloads a gun.

**Air Gun**—The projectile is propelled by a charge of compressed air. Most types can also be called spring guns.

## B

**Backing target**—A blank piece of target paper placed behind the target to determine if all shots in the target come from the same firing point or if two or more shots were fired in the same hole.

**Ball**—Originally a globular missile for an engine of war, such as a catapult. Now a military term for bullets used against personnel.

**Ballistics**—The science of projectiles.

**Bedding**—The parts of a gunstock which are cut away to hold the metal parts of a gun.

**Bluing**—The chemical process which darkens the color of steel to protect the metal and lessen reflection.

**Buckshot**—Shot of the larger sizes.

**Bull gun**—A target rifle with an exceptionally heavy barrel.

**Bullseye**—The round black center of a typical paper target.

## C

**Cannelure**—A groove around a jacketed bullet into which the lip of the cartridge case is crimped. A grease groove in lead bullets.

**Cant**—The lateral tipping of a gun while it is being aimed.

**Checkering**—A multi-diamond pattern cut into the grip and forearm. Is decorative and provides a better grip.

**Cheek Piece**—A raised area on the side of the stock, against which the shooter's face can fit with comfort.

**Click**—A unit of movement in a micrometer rear sight.

**Clip**—A holder for cartridges. *See Magazine.*

**Corrosion**—The eating away of the metal in firearms; the deterioration of the bore due to rusting or the action of salts deposited from the *cap* or powder.

**Cross fire**—Shot fired by a shooter on someone else's target.

## D

**Doping**—Estimating the effect of the wind, light changes, and mirage for making sight corrections.

**Dry firing**—Aiming and squeezing the trigger of an unloaded gun. When done at length, a fired cartridge case or dummy cartridge should be in the chamber to cushion the firing pin.

## E

**Ejector**—The mechanism which throws a cartridge or empty case from the gun.

**Erosion**—The wearing away of the bore by friction from bullets, shot, or powder gases.

**Extractor**—The part of the action which draws the cartridge or shell from the chamber.

## F

**Firing pin**—The part of the action which strikes the primer.

**Floating barrel**—A barrel is said to "float" when it does not touch the fore part of the stock.

**Flyer**—A bullet hole well out of a group on the target.

**Fouling**—Any residue left in the bore, chamber, or action after the gun has been fired.

**Fouling shots**—Warming shots to heat a cold barrel.

## G

**Group**—A series of shots fired at a target with a constant point of aim and sight setting.

## H

**Hammer**—The part of the action which drives the firing pin.

**Hang-fire**—Ignition which is not instantaneous. Rare.

**Hasty sling**—A quick method of wrapping the sling around the arm without using the arm loop.

**High power**—Generally designates centerfire cartridges.

## K

**Keyhole**—The irregular hole made in a target by a bullet which has lost stability and is tumbling end over end.

## L

**Leading**—Any lead deposit left in the barrel by bullets or shot.

**Line of sight**—The straight line from the eye through the sights to the target or point of aim.

## M

**Magazine**—Part of firearm which holds extra cartridges. *See Clip.*

**Mat**—Used for comfort and cleanliness while shooting prone, sitting, and kneeling.

**Mirage**—Distortion of an image by heat waves. Observing the direction in which waves are "running" may aid in doping the wind.

**Mushroom**—Popular term for soft point or hollow point bullets which can expand upon impact.

**Muzzle velocity**—The speed of a bullet as it leaves the muzzle.

## N

**NRA**—National Rifle Association, 1600 Rhode Island Ave., N.W., Washington 6, D. C. The official national body which promotes and supervises rifle and pistol shooting competitions.

**NSSA**—National Skeet Shooting Association, 3911 Oak Lawn Ave., Dallas, Texas. The parent organization promoting skeet shooting.

## P

**Patch**—A piece of cloth used in cleaning the bore. Also, the identifying insignia worn by many shooters on shooting jackets.

**Pattern**—The distribution of shot fired from a shotgun, measured at 40 yards within a circle 30 inches in diameter.

**Pinwheel**—A shot placed in the exact center of a target bullseye.

**Pistol**—Firearm designed to be held and used with one hand.

**Pitting**—Visibly corroded areas in the bore.

**Plinking**—A coined word for informal shooting.

**Possible**—The formal target shooter's perfect score: all possible points have been made.

## R

**Revolver**—A pistol having a revolving cylinder as a cartridge container.

**Round**—One cartridge.

## S

**SAAMI**—Sporting Arms and Ammunition Manufacturers' Institute, 250 E. 43rd St., New York 17.

**Safety**—The part of the action designed to prevent discharge by blocking the hammer, sear, or trigger.

**Sear**—The part of the action which releases the hammer when the trigger is pressed.

**Shooting glove**—A sheepskin or padded leather glove which protects the left hand of a rifleman using a tight sling.

**Sighting shots**—Practice shots, to align or check the sights.

**Smallbore**—Common term applied to .22 caliber rifles.

**Spotting scope**—A small telescope used to observe hits on a target from the firing point.

**String**—The series of shots fired by a shooter during one session on the firing line.

## T

**Target carrier**—A device which moves the target back and forth between the shooter and the backstop.

**Trajectory**—The path described by a bullet from muzzle to target.

**Trigger weight**—A certified weight suspended from the trigger to test the pull. Rifle triggers must support a weight of three pounds.

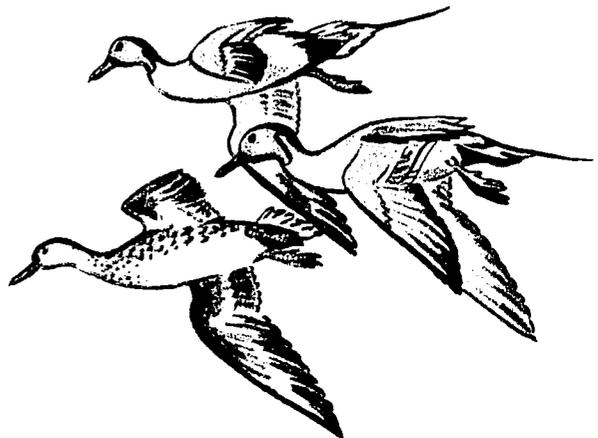
**Twist**—Rifling measurement, usually in terms of the number of turns or fractions of turns to the inch of barrel length.

## X

**X-ring**—The small dotted circle within the 10-ring of some rifle match targets.

## Z

**Zero**—The gun's sight adjustment which causes the bullet to hit the exact center of the target at a given range.



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- CHAPEL, CHARLES EDWARD. *Boy's Book of Rifles*. New York: Coward-McCann. \$3.75. For boys and girls between 12 and 19 years and their parents. A wealth of concrete information for the young shooter.
- COLBY, C. B. *First Rifle*. New York: Coward-McCann, 1954. 48 p. Illus. \$2.00. Basic information to introduce the young, new shooter to his first rifle. The fundamentals of safety and marksmanship are emphasized.

NATIONAL RIFLE ASSOCIATION. *Basic Rifle Marksmanship*. Washington, D. C.: the Association, 1956. 25¢. Practical how-to-do-it information. *Instructor's Guide*, giving full outline of basic course, 25¢.

NATIONAL RIFLE ASSOCIATION. *How To Shoot a Rifle*. Washington, D. C.: the Association, 1948. 62 p. \$1.00. For the beginner or the master. All technical terms, techniques, and rules are clearly explained.

NATIONAL RIFLE ASSOCIATION. *Junior Rifle Handbook*. Revised edition. Washington, D. C.: the Association, 1959. 25¢. Information about the NRA junior program with short instruction course.

NATIONAL RIFLE ASSOCIATION. *Rifle Instruction Wall Charts*. Washington, D. C.: the Association. \$2.00. Six charts showing safety rules, positions, sight picture, etc.

NATIONAL RIFLE ASSOCIATION. *Shooting the .22 Rifle*. Washington, D. C.: the Association, 1952. 75 p. Illus. 75¢. Covers fundamentals of outdoor and indoor shooting, wind, and mirage.

SHARPE, PHILLIP B. *Rifle in America*. New York: Funk & Wagnalls Co., 1958. 975 p. Illus. \$17.50. New up-to-date edition. History and technical description of every rifle commercially manufactured in America from the earliest times.

SPORTING ARMS AND AMMUNITION MANUFACTURERS' INSTITUTE. *Handbook on Small Bore Rifle Shooting*. New York: the Institute, 1959, 80 p. 25¢. Principles of good rifle marksmanship.

WHELEN, TOWNSEND, editor. *The Ultimate in Rifle Precision*. Fifth edition revised. Harrisburg, Pa.: The Stackpole Co., 1958. 320 p. illus. \$7.95. Explains the tools, techniques, and regulations of bench rest shooting.

## Shotguns

- ELLIOTT, RUSS. *Your Shotgun vs. You*. Kansas City, Mo.: Brown-White-Towell Press, 1955. 116 p. \$2.75. Written in an easy, informal style on safety, gun selection, shooting technique, shooting psychology, and teaching others.
- HOLLAND, RAY P. *Scattergunning*. New York: Alfred A. Knopf, 1951. \$5.75. On hunting the feathered game of North America.
- KEITH, ELMER. *Shotguns*. Harrisburg, Pa.: The Stackpole Co., 1950. 307 p. Illus. \$5.00. One of the finest and by far most complete books on shotguns in recent years.
- NATIONAL RIFLE ASSOCIATION. *NRA 22 Shotgun Instruction*, Instructor Supplement. Washington, D. C.: the Association, 1958. 7p. 10¢. Gives concise information on equipment needed, and outlines techniques and procedures for the instructor.
- NATIONAL RIFLE ASSOCIATION. *NRA 22 Shotgun Qualification Course*. Washington, D. C.: the Association. Folder. Free. Sketches the range, discusses equipment and where to get it, outlines procedure and ratings, and includes application for the awards.
- SPORTING ARMS AND AMMUNITION MANUFACTURERS' INSTITUTE. *Shotgun Sports*. Revised. New York: the Institute, 1959. 24 p. Free. Introduction to all phases of shotgunning.

## GENERAL

- AMBER, JOHN T., editor. *Gun Digest*. Fourteenth edition. Chicago: Gun Digest Co., 1960. Illus. \$2.95. Includes sections on rifles, handguns, shotguns, foreign firearms, special articles, listing of gun books.
- AMERICAN ASSOCIATION FOR HEALTH, PHYSICAL EDUCATION, AND RECREATION. *Outdoor Education*. Washington, D. C.: the Association, 1956. 32 p. 75¢. Practical examples of interesting activities and projects.
- AMERICAN ASSOCIATION FOR HEALTH, PHYSICAL EDUCATION, AND RECREATION. *Physical Education for High School Students*. Revised edition. Washington, D. C.: the Association, 1955. Chapter 14, "Riflery," p. 176-89. Illus. \$3.00.
- DAMON, G. E. *Gun-Fun with Safety*. Special Teaching Aids, 3408 N. Potomac St., Arlington 13, Va. 1947. 206 p. \$6.00. This book has few equals as a reference book for all beginning phases of arms, ammunition, and shooting.
- JANES, E. C. *A Boy and His Gun*. New York: A. S. Barnes & Co., 1951. 207 p. Illus. \$3.50. An introduction to guns and hunting for the young nimrod.
- NATIONAL RIFLE ASSOCIATION. *The Gun Law Problem*. Washington, D. C.: the Association, 1958. 16 p. Free. A full discussion of legislation affecting firearms.
- NATIONAL RIFLE ASSOCIATION. *Questions and Answers Handbook*. Washington, D. C.: the Association, 1959. 46 p. Illus. \$2.50. Reprints from *The American Rifleman* of 150 questions and answers on firearms and shooting problems.
- NATIONAL RIFLE ASSOCIATION. *Shooters Guide*. Washington, D. C.: the Association, 1959. 72 p. Illus. \$3.00. Forty selected articles from *The American Rifleman* covering basic subjects of interest to gun enthusiasts.
- RILING, RAY. *Guns and Shooting, A Bibliography*. New York: Greenberg, 1951. 434 p. Illus. \$15.00. A selected listing of books and printed material on arms and ammunition from 1420 to 1950. Available only from the author or the NRA Library Service.
- SMITH, W. H. B. *Small Arms of the World*. Fifth edition revised and enlarged. Harrisburg, Pa.: Military Service Publishing Co., 1957. 768 p. Illus. \$12.50. Shows how to load, strip, and operate all small arms of all nations.
- SPORTING ARMS AND AMMUNITION MANUFACTURERS' INSTITUTE. *Shooting's Fun for Everyone*. New York: the Institute. 20 p. Free. Covers the why, where, when, and how of riflery for boys and girls.
- SPORTING ARMS AND AMMUNITION MANUFACTURERS' INSTITUTE. *10 Commandments of Shooting Safety*. New York: the Institute. Free.
- SPORTING ARMS AND AMMUNITION MANUFACTURERS' INSTITUTE. *What Every Parent Should Know When a Boy or Girl Want a Gun*. 8 p. Free. Straightforward answers to parents' 15 most frequent questions.

## GUN COLLECTING AND HISTORY

- CHAPEL, CHARLES EDWARD. *Gun Collector's Handbook of Values*. Fourth edition. New York: Coward-McCann, 1958. 400 p. Illus. \$10.00. Up-to-date prices, detailed descriptions, and illustration of 3000 antique and semi-modern firearms with values assigned for good and fine condition.
- GLUCKMAN, ARCAD. *United States Muskets, Rifles and Carbines*. Harrisburg, Pa.: The Stackpole Co., 1948. 508 p. \$8.50. A compilation of the essential data concerning all military long arms made in the U. S., those manufactured by private concerns as well as those produced by government arsenals.
- HATCH, ALDEN. *Remington Arms in American History*. New York: Rinehart & Co., 1956. 359 p. Illus. \$6.50. A highly readable and carefully documented history of America's oldest arms and ammunition manufacturer—complete with illustrations and descriptions of all the guns it ever made.
- NATIONAL RIFLE ASSOCIATION. *Gun Collectors Handbook*. Washington, D. C.: the Association, 1959. 48 p. Illus. \$2.50. These 22 articles reprinted from *The American Rifleman* cover many of the aspects of gun collecting. The specialist and beginning collector alike will find much useful and interesting information.
- PARSONS, JOHN E. *The First Winchester*. New York: William Morrow & Co., 1955. 207 p. Illus. \$5.00. The highly interesting and carefully documented story of early Winchester arms with emphasis on the 1866 repeating rifle. Reveals formerly unpublished facts.
- SERVEN, JAMES E. *Colt Firearms: 1836-1958*. Santa Ana, Calif.: the Author, 1958. 387 p. Illus. \$15.00. The most comprehensive work ever published on Colt weapons. Includes development and history of Colt firearms as well as the Colt's place in the history of America.

## GUNSMITHING

- HOWE, JAMES V. *The Modern Gunsmith*. Revised edition in 2 volumes. New York: Funk & Wagnalls Co., 1954. 900 p. Illus. \$15.00. The most practical detailed information and working plans for the professional and amateur, but of more value to the well-equipped shop.
- McFARLAND, HAROLD E. *Gunsmithing Simplified*. Washington, D. C.: Sportsman's Press, 1950. 302 p. Illus. \$6.95. Complete information on where to get tools and how to get discounts; modernizing sporting rifles; converting military rifles, handguns, shotguns; chambering, carving, stockmaking, trigger adjustments; how to make tools and small parts, plus many short cuts.

## HUNTING

- ANDERSON, LUTHER A. *How to Hunt Deer and Small Game*. New York: The Ronald Press Co., 1959. 140 p. Illus. \$3.50. Information on firearms to use, training dogs, field dressing, camping, gun safety.
- ALLEN, DURWARD L. *Pheasants in North America*. Harrisburg, Pa.: The Stackpole Co., 1956. 490 p. Illus. \$7.50. Answers practically all questions concerning this popular game bird.
- BROWN, PETE. *Guns and Hunting*. New York: A. S. Barnes & Co., 1955. 244 p. Illus. \$1.95. Informal presentation of gun and hunting information by gun editor of *Sports Afield*.
- CAMP, RAYMOND R. *Game Cookery in America and Europe*. New York: Coward-McCann, Inc., 1958. 252 p. \$4.95. Contains a wealth of detailed recipes for preparation of all major game birds and mammals.
- CAMP, RAYMOND R., editor. *The Hunter's Encyclopedia*. Harrisburg, Pa.: The Stackpole Co., 1943. Illus. \$17.50. Prominent writers cover every subject associated with hunting in America.
- DAVIS, HENRY P., editor. *Modern Dog Encyclopedia*. Harrisburg, Pa.: The Stackpole Co., 1956. 638 p. Illus. \$10.00.
- HELMERICKS, CONSTANCE. *Hunting in North America*. Harrisburg, Pa.: The Stackpole Co., 1957. 298 p. Illus. \$5.00. Covers a wide range of subjects of interest to every hunter.
- KJELLSTROM, BJORN. *Be Expert with Map and Compass—The Orienteering Handbook*. New York: American Orienteering Service, 1955. 135 p. \$2.00. The authority on the subject. How to enjoy learning to find one's way about the countryside.
- KORTRIGHT, F. H. *The Ducks, Geese and Swans of North America*. Harrisburg, Pa.: The Stackpole Co., 1942. 476 p. Illus. \$6.50. A reference-identification for waterfowl with description, life story, range, names.
- MOXON, P. R. A. *Gundogs: Training and Field Trials*. New York: British Book Center, 1952. 223 p. Illus. \$3.75.
- NATIONAL RIFLE ASSOCIATION. *Hunter Safety Instructor's Guide*. Washington, D. C.: the Association, 1956. 25¢. How to conduct an NRA Hunter Safety Course.
- NATIONAL RIFLE ASSOCIATION. *Hunter's Manual*. Washington, D. C.: the Association. 75¢. Covers varmint shooting, small and big game, woodcraft, guns, hunting sights, scopes, estimating range.
- NATIONAL RIFLE ASSOCIATION. *Illustrated Hunters Guide*. Washington, D. C.: the Association, ready 1960. \$3.00. Selected articles from *The American Rifleman* on how to hunt animals and birds throughout the United States.
- NATIONAL RIFLE ASSOCIATION. *NRA Hunter Safety Handbook*. Washington, D. C.: the Association, 1956. 10¢. Textbook for students.
- ORMOND, CLYDE. *Hunting Our Medium Size Game*. Harrisburg, Pa.: The Stackpole Co., 1958. 219 p. \$5.00. Includes information of the highest order.
- POPOWSKI, BERT. *Calling All Game*. Harrisburg, Pa.: The Stackpole Co., 1952. 306 p. Illus. \$4.95. Hunting tips on decoying and calling upland game, waterfowl, squirrel, deer, antelope, turkey, elk, and moose.
- POPOWSKI, BERT. *Calling All Varmints*. Harrisburg, Pa.: The Stackpole Co., 1952. 306 p. \$4.95. Clear discussion of this year-round sport.
- SELL, FRANCIS E. *Small Game Hunting*. Harrisburg, Pa.: The Stackpole Co., 1955. 158 p. Illus. \$5.00. A how-to-do-it book by an experienced hunter who demonstrates how the stalk, arms and ammunition, and type of shots for small game correspond to big game hunting.
- SHARP, HAL. *Sportsman's Digest of Hunting*. New York: Sterling Publishing Co., 1954. 247 p. Illus. \$1.50. Short cuts to the art of hunting, fishing, and outdoor life.

## OUTDOOR LIVING AND SURVIVAL

- ANGIER, BRADFORD. *Living Off the Country*. Harrisburg, Pa.: The Stackpole Co., 1956. 241 p. Illus. \$5.00. Information on how to survive if lost in the woods: finding food, water, and shelter; determining direction from the stars; emergency first aid; plus other vital facts.
- CRAIGHEAD, FRANK C., and CRAIGHEAD, JOHN J. *How To Survive on Land and Sea*. Annapolis, Md.: United States Naval Academy, 1951. 340 p. Illus. \$4.00. Treats survival information as global woodlore, a practical science which better enables a person to obtain food, make fire, secure shelter and water, and travel safely for long distances over varied terrain.
- HAMMETT, CATHERINE T. *Camp Program Book*. New York: National Recreation Association, 1951. 380 p. Illus. \$5.00. A practical and authoritative guide on camping.
- JAEGER, ELLSWORTH. *Wildwood Wisdom*. New York: Macmillan Co., 1945. 491 p. Illus. \$3.95. A classic for anyone entering the woods.
- JAEGER, ELLSWORTH. *Woodsmoke*. New York: Macmillan Co., 1953. 228 p. Illus. \$2.95. The ideal companion for the hunter in the woods.
- KIMBLE, GEORGE H. T. *Our American Weather*. New York: McGraw Hill Book Co., 1955. 322 p. Illus. \$4.75.

MASON, BERNARD. *Woodsmanship*. New York: A. S. Barnes & Co., 1954. 90 p. Illus. \$1.75. A help to the hunter in the field, this book is rich in the lore of the woods.

U. S. DEPARTMENT OF COMMERCE. *Kit of Materials on Weather*. Education Series. Washington, D. C.: the Department, Weather Bureau. Free to teachers.

YATES, RAYMOND. *The Weather for a Hobby*. Revised edition. New York: Dodd Meade and Co., 1956. 181 p. \$3.00.

WHELEN, TOWNSEND, and ANGIER, BRADFORD. *On Your Own in the Wilderness*. Harrisburg, Pa.: The Stackpole Co., 1958. 324 p. Illus. \$5.00. Covers all phases of camping and travel in primitive areas.

## RANGES

The National Rifle Association, 1600 Rhode Island Avenue, N.W., Washington 6, D. C., offers the following publications on range plans and construction:

*Bench Rest Construction*. 10¢. Illustrates two types: one heavy and permanent, the other, lighter and portable.

*Construction of Indoor Rifle and Pistol Ranges*. \$1.00. Discusses site selection, safety, space requirements, bullet-stops, bullet-protecting plates, target carrier systems, lighting and ventilation, noise control, and range equipment. Includes a list of sources of equipment and materials.

*High Power Rifle Range Plans*. 75¢. Gives over-all range dimensions and construction details, including dimensions of firing line covers, new scoring systems, and plans for an underground 100-yard test range.

*International-Type Silhouette Frames and Portable Shooting Booth*. 20¢. Construction details for making the five-frame silhouette turning targets, one for use both indoors and outdoors at 25 meters and the other reduced for 50-foot indoor competition. The booth is a folding unit of wood and cloth for use in adapting for international-type matches.

*Outdoor Pistol Range Plans*. 50¢. Drawings of 3 plot plans for a 20-target pistol range complete with turning targets.

*Outdoor Smallbore Rifle Range Plans*. 50¢. A suggested layout of club house and outdoor range for shooting at 50 yards, 50 meters, and 100 yards. Includes a plan for the universal outdoor smallbore rifle target frame and for a lighting system for night shooting.

*Range Construction—Part-Time & Special*. \$1.00. Contains articles on all phases of construction.

*Universal Outdoor Smallbore Rifle Target Frame*. 10¢.

*You Can Have a Place To Shoot*. 25¢ each. Suggests ways to get a site and make a range, including fund raising and public relations.

The Sporting Arms and Ammunition Manufacturers' Institute, 250 E. 43rd St., New York 17, New York, can supply information on trap and skeet layouts if there is no local agency available. The National Rifle Association gives a sketch of the shooting field for a .22 Smallbore Rifle in its folder, *22 Shotgun Qualification Course*.

## RULES

NATIONAL RIFLE ASSOCIATION. *NRA Rule Books*. Washington, D. C.: the Association. 25¢ each. These pocket-size booklets contain all the official NRA rules and regulations governing competitive shooting. There are three editions: Pistol, Smallbore Rifle, and High Power Rifle.

## SIGHTS

HENSON, TRUMAN. *Binoculars, Telescopes and Telescopic Sights*. Philadelphia: Chilton Book Div., 1954. 515 p. Illus. \$9.50. A new book that gives the nontechnical reader a clear idea of how these instruments work. Includes descriptions of current models and explains how to clean and repair optical instruments.

NATIONAL RIFLE ASSOCIATION. *Scope Sights*. Washington, D. C.: the Association. 75¢. Covers target scopes, small and big game scopes, and the shotgun scope. Tells how to take care of scope sights.

# PERIODICALS

The following periodicals are well-known among many that regularly carry articles of interest to the general reader concerning shooting and hunting:

*American Field*, weekly (\$6.00 a year). American Field Publishing Co., 222 W. Adams St., Chicago 6, Ill.

*American Rifleman*, monthly (\$4.00 a year). National Rifle Association of America, Inc., 1600 Rhode Island Ave., Washington 6, D. C.

*Field & Stream*, monthly (\$3.50 a year). Henry Holt & Co., 383 Madison Avenue, New York 17, N. Y.

*Outdoor Life*, monthly (\$3.40 a year). Popular Science Pub. Co., 353 Fourth Ave., New York 10, N. Y.

*Southern Outdoors*, monthly (\$3.00 a year). 310 Buckhead Avenue, N.E., Atlanta 5, Georgia.

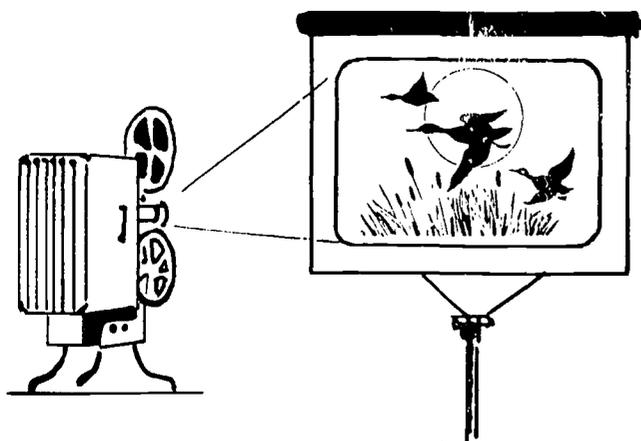
*Sports Afield*, monthly (\$3.50 a year). Hearst Magazines, Inc., 959 Eighth Ave., New York 19, N. Y.

*Sports Illustrated*, weekly (\$7.50 a year). 9 Rockefeller Plaza, New York 20, N. Y.

*Sports Review*, quarterly. Elbak Publishing Co., 185 N. Wabash Ave., Chicago, Ill.

# TRAINING AIDS

## VISUAL AIDS



### FILMS

**BOBWHITE ON THE WING.** 19 min., sound, b&w, color. Tennessee Game and Fish Commission, Cordell Hull Bldg., Room 228, Nashville, Tenn. 1958. Free loan and purchase.

Tennessee Charlie reflects on the life cycle of the bobwhite. Shows hunters in the field as they seek quail.

**THE CANADA GOOSE.** Ducks Unlimited, 165 Broadway, New York 6, N. Y. att: Larry Durkin. Charge made for rental.

**COTTONTAIL.** 53 min., sound, color. Missouri Conservation Commission, Monroe Bldg., Jefferson City, Mo., att: Dan Saults. 1955. Purchase: \$390.

Depicts the rabbit as a link in nature's chain of life; a creature preyed upon by almost every meat-eater, including man and his pets. Follows a rabbit family through a cycle of the seasons.

**FARMER AND THE SPORTSMAN—PARTNERS IN WILDLIFE.** 28 min., sound, color. Boyd Film Co., 1595 Selby Ave., St. Paul 4, Minn. 1957. Free loan. (Produced by Production Films for Red Shoe Co.)

Shows revolution in basic farming practice brought about by soil conservation. Shows building of wildlife habitat on marginal lands, and depicts a proud father teaching his son proper gun handling and on-the-farm hunting courtesies.

State game and conservation commissions have fine films on wildlife and related conservation topics. These agencies will help arrange showings of their own films plus pictures which they distribute for other organizations. Generally this service is provided without cost. Sometimes viewers are asked to pay postage or express charges.

Some of the leading American gun and ammunition makers offer excellent free films on hunting and shooting. Many industrial and commercial firms also sponsor pictures on various outdoor subjects. Information about titles, content, and showings can be obtained from local dealers or from the companies directly. Addresses of the arms and ammunitions manufacturers are given on page 93.

It is recommended that film requests be written on the letterhead of the school, club, or organization by which the pictures are to be shown. When possible, an estimate should be given of the audience for which a picture is being requested. Film requests should be submitted three or more weeks in advance, clearly specifying the preferred showing date plus one or two alternate showing dates.

**LOST HUNTER.** 22 min., sound, b&w, color. Film Originals, 6536 Robertson Drive, Boise, Idaho. 1953. Purchase: \$100 (b&w), \$170 (color).

The story of a man who, while hunting, became lost. Tells why he got lost, the mistakes he made, the things he did right, and how he was found.

**MEANING OF CONSERVATION.** 11 min., sound, b&w, color. Coronet Instructional Films, 653 E. South Water St., Chicago 1, Ill. 1954. Purchase: \$55 (b&w), \$100 (color).

Summarizes the history of the use of our country's natural resources and shows some of the reasons for the conservation movement. Shows what is being done to maintain our country's resources and natural beauty by limiting hunting and fishing, building dams to control floods, planting trees, and developing new farming methods. Suggests how each of us may help in the conservation program.

**MIKE.** Ducks Unlimited, 165 Broadway, New York 6, N. Y., att: Larry Durkin. Charge made for rental. A film on dog training.

**NORTH TO THE WAVIES.** Ducks Unlimited, 165 Broadway, New York 6, N. Y., att: Larry Durkin. Charge made for rental.

**OLD FASHIONED DEER CAMP.** 11 min., sound, b&w, color. Van Coevering Productions, 6150 Commerce Rd., Orchard Lake, Mich. 1958. \$50 (b&w), \$119 (color).

Tells of a group of deer hunters who have pitched their tent for 35 years in the same spot along the Lower Tahquamenon River in Michigan's Upper Peninsula. Shows the deer hunt from start to finish.

**OUT OF THE NORTH.** American Motors Corp., Detroit, Michigan.

**SHOOTING SAFETY.** 25 min. (13 min. version also available), 16 mm, sound, color. Sportsmen's Service Bureau, 250 E. 43rd St., New York 17, N. Y. Postage only.

Excellent advice on all phases of gun handling. Good for public relations on Junior Shooting Safety Program as well as for instruction.

**SPEAKING OF HOUNDS.** 27 min., sound, color. Gaines Dog Research Center, 250 Park Ave., New York 17, N. Y. 1958. Free loan.

Features the work of bloodhounds, coonhounds, basset hounds, beagles, and foxhounds in actual hunting scenes with sound recorded in the field at time of shooting.

**TOMORROW WE HUNT.** 13½ min., sound, color. New Hampshire Fish and Game Dept., 34 Bridge Street, Concord, N. H., att: John Dodge. 1955. Purchase: \$75.00; service charge: \$1.00. (Note: several state fish and game departments have purchased copies; check yours.)

Stresses hunting safety through shooting education and documents the introduction of gun training in the public schools in a typical community.

**TRIGGER HAPPY HARRY.** 20 min., sound, color. National Rifle Association, 1600 Rhode Island Avenue, N.W., Washington 6, D. C. Service charge: \$1.85.

Every adult and youngster should see this film. Not only is it good entertainment but it also features safety training while hunting, plinking, and on the range. This is an exceptionally good film and entirely suitable for any audience.

**TRUE LIFE ADVENTURE (SERIES).** Walt Disney Productions, 16 mm. Division, Burbank, Calif. Rental fee.

**WITH DOG AND GUN.** 27 min., sound, color. Gaines Dog Research Center, 250 Park Ave., New York 17, N. Y. 1955. Free loan.

Shows the work of the various types of gun dogs—pointing breeds, retrievers and spaniels—in actual hunting scenes, with special emphasis on their value in game conservation.

## A Reminder for Everyone

Nearly all free films available are 16 mm in full sound and color. 16 mm sound films can only be shown on sound motion picture equipment in good condition. *Never attempt to show sound film on silent equipment.* If an instruction sheet accompanies a film, it should be read carefully before projection and its directions and requests complied with fully. By so doing continued free film circulation will be possible.

## FILMSTRIPS

**BUILDING AND USING A CAMPFIRE.** 43 frames, color, sound (33⅓ rpm disc recording, 15 min.). Athletic Institute, 209 State St., Chicago 4, Ill. 1957. Purchase: \$9.00, rental: \$1.50.

Shows how to build several types of campfires, and how to use them to bake, broil, and fry outdoor meals. Includes the teepee fire, log-cabin fire, hunter-trapper fire, reflector fire. Also shows how to prepare utensils for cooking, and how to make and use trench candles.

**THE GUN.** 31 frames, color. The National Rifle Association, 1600 Rhode Island Ave., N.W., Washington 6, D. C. 1950. Purchase: \$5.00.

A new firearm safety filmstrip complete with Instructor's Guide.

**RIFLE SHOOTING—IN THE PRONE POSITION.** 30 frames, color. The National Rifle Association, 1600 Rhode Island Ave., N.W., Washington 6, D. C. Summer 1960.

A new filmstrip, with Instructor's Guide.

**WILDLIFE: A CONSERVATION LESSON.** 29 frames, silent with captions, b&w. Visual Education Consultants, Inc., 2066 Helen St., Madison 4, Wis. 1953. Purchase: \$3.50 with script.

Correlated with the publication of *Water, Woods, Wildlife* by the University of Wisconsin and the Wisconsin Soil Conservation Commission. Prepared as a conservation lesson to show why wildlife is important to people and the part wildlife conservation plays in soil conservation.

## CHARTS

**GUN SAFETY TEACHING CARTOONS.** Twelve 8 in. x 10 in. charts. Special Teaching Aids, 3408 N. Potomac St., Arlington 13, Va. \$2.00.

A cartoon approach to the basic principles of gun safety which will appeal to adults and children alike.

RIFLE INSTRUCTION WALL CHARTS. The National Rifle Association, 1600 Rhode Island Ave., N.W., Washington 6, D. C. \$2.00.

Six charts showing safety rules, positions, sight pictures, etc.

Other charts depicting gun actions, ammunition and

its components, and some phases of shooting techniques, are sometimes available from the arms and ammunition makers. Inquiries may be made to the Sportsmen's Service Bureau, 250 East 43rd St., New York 17, N. Y. regarding chart and poster materials on shooting sports.

## EQUIPMENT

### SIGHTING DEVICES

*Paige Sighting Device* is a handy, easy way to teach correct sighting. Fits both .22 and .30 caliber guns. Available from the National Rifle Association, 1600 Rhode Island Ave., N.W., Washington 6, D. C. \$1.00.

Some reputable gun sight manufacturers may offer sighting charts on request.

Bureau, 250 East 43rd St., New York 17, N. Y. Ranger targets are always furnished free; they should never be charged for.

### RIFLE TARGETS

#### OFFICIAL TARGETS

A list of official NRA target manufacturers is available from the National Rifle Association, 1600 Rhode Island Ave., N.W., Washington 6, D. C., and from local dealers. All such targets should bear the NRA official insignia.

#### RANGER TARGETS

These free targets are ideal for the beginning riflery program. Local gun and ammunition retail stores usually can furnish them, or write to Sportsmen's Service

#### GAME AND NOVELTY TARGETS

Game silhouette and novelty targets may sometimes be obtained from the leading American ammunition loading companies without charge. Inquire of their local dealers. The National Rifle Association also has information on interesting new ideas for game targets. Targets are available from the following companies:

New Trenton Targets, 6930 Colerain Avenue, Cincinnati 24, Ohio.

Pacific Coast Target Company, P. O. Box 429, Redwood City, Calif.

Peninsula Lithograph Company, P. O. Box 427, Redwood City, Calif.

Scars, Roebuck and Company.

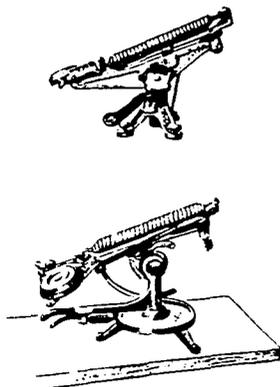
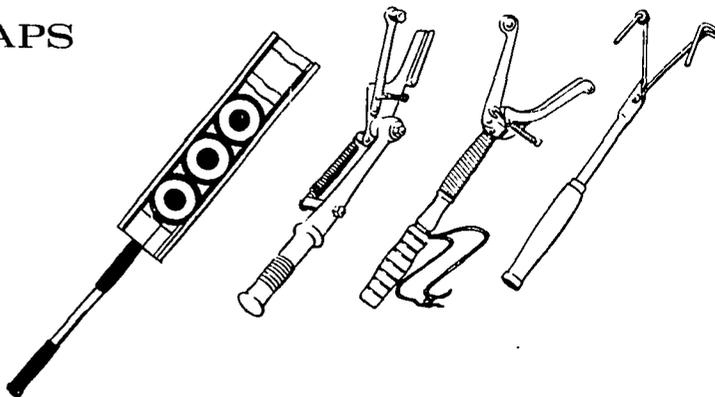
Stoeger Arms Corporation, 48-18 Court Square, Long Island City 1, N. Y.

**CLASS PROJECT: MAKE SHOTGUN TARGETS FROM WOOD BLOCKS; SAME TARGETS ALSO SERVE WELL FOR RIFLE SHOOTING.**

## THE IDEAL SCHOOL SPORT

### SHOTGUN TARGETS AND TRAPS

In hand-trap shooting the thrower can pit his skill as a "pitcher" against the shooting prowess of the gunner. When two shooters are competing against each other in a hand-trap contest, very often, the better pitcher, by his guile and ability to throw tricky targets, will beat the better shooter.



#### PRACTICE TRAPS

For further information about practice traps, ask wherever guns or ammunition are sold, or write to: **SPORTSMEN'S SERVICE BUREAU**, 250 East 43rd Street, New York, 17, New York.

**SHOTGUN SAFETY ZONE—300 yards in any direction of probable fire.**

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## SPORTING ARMS AND AMMUNITION MANUFACTURERS' INSTITUTE

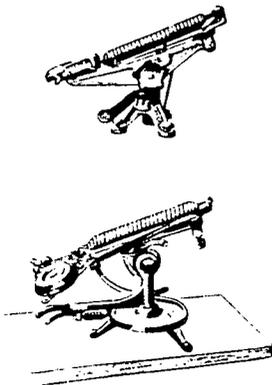
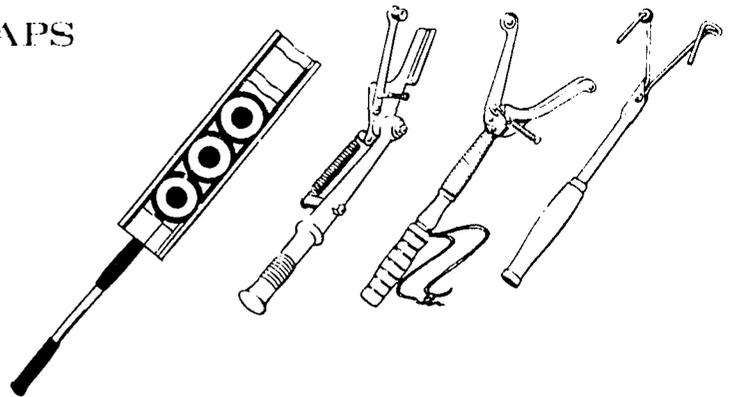
E. I. du PONT de NEMOURS & CO., INC., Wilmington 98, Delaware • FEDERAL CARTRIDGE CORPORATION, Minneapolis 2, Minnesota • HERCULES POWDER COMPANY, Wilmington 99, Delaware • THE HIGH STANDARD MANUFACTURING CORP., Hamden 14, Connecticut • ITHACA GUN COMPANY, INC., Ithaca, New York • O. F. MOSSBERG & SONS, INC., New Haven 5, Connecticut • PETERS CARTRIDGE DIVISION, Remington Arms Company, Inc., Bridgeport 2, Connecticut • REMINGTON ARMS COMPANY, INC., Bridgeport 2, Connecticut • SAVAGE ARMS CORPORATION, Chicopee Falls, Massachusetts • WINCHESTER-WESTERN DIVISION, Olin Mathieson Chemical Corporation—Winchester Repeating Arms Company Plant, New Haven 4, Connecticut; Western & Winchester Ammunition Works, East Alton, Illinois.

**CLASS PROJECT: MAKE SHOTGUN TARGETS FROM WOOD BLOCKS; SAME TARGETS ALSO SERVE WELL FOR RIFLE SHOOTING.**

## THE IDEAL SCHOOL SPORT

### SHOTGUN TARGETS AND TRAPS

In hand-trap shooting the thrower can pit his skill as a "pitcher" against the shooting prowess of the gunner. When two shooters are competing against each other in a hand-trap contest, very often, the better pitcher, by his guile and ability to throw tricky targets, will beat the better shooter.



#### PRACTICE TRAPS

For further information about practice traps, ask wherever guns or ammunition are sold, or write to: **SPORTSMEN'S SERVICE BUREAU**, 250 East 43rd Street, New York, 17, New York.

**SHOTGUN SAFETY ZONE—300 yards**  
in any direction of probable fire.

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## SPORTING ARMS AND AMMUNITION MANUFACTURERS' INSTITUTE

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# THE TEN COMMANDMENTS OF SAFETY

1. TREAT EVERY GUN WITH THE RESPECT DUE A LOADED GUN.
2. WATCH THAT MUZZLE! Carry your gun safely; keep safety on until ready to shoot.
3. UNLOAD GUNS WHEN NOT IN USE, take down; or have actions open; guns should be carried in cases to shooting area.
4. BE SURE BARREL IS CLEAR OF OBSTRUCTIONS, and that you have ammunition only of the proper size for the gun you carry.
5. BE SURE OF TARGET BEFORE YOU PULL TRIGGER; know identifying features of game you hunt.
6. NEVER POINT A GUN AT ANYTHING YOU DO NOT WANT TO SHOOT; avoid all horseplay.
7. NEVER CLIMB A TREE OR FENCE OR JUMP A DITCH WITH A LOADED GUN; never pull a gun toward you by the muzzle.
8. NEVER SHOOT A BULLET AT A FLAT, HARD SURFACE OR WATER; at target practice be sure your backstop is adequate.
9. STORE GUNS AND AMMUNITION SEPARATELY, beyond reach of children.
10. AVOID ALCOHOLIC BEVERAGES before or during shooting.

