



**Boy Scouts of America**  
**Bucks County Council**  
**Camp Kirby**  
**Cub Scout Shooting Sports Field Guide**  
Summer 2010

# Cub Scouts Academic and Sports Program

## **Table of Contents**

|   |    |
|---|----|
| Cub Scouts Academic and Sports Program .....                            | 2  |
| Table of Contents .....   | 2  |
| The Shooting Sports .....   | 3  |
| Program Overview .....  | 3  |
| BSA Shooting Sports Policies.....                                       | 4  |
| References .....  | 4  |
| The Shooting Sports Awards' Requirements .....                          | 5  |
| Archery Belt Loop Requirements that are completed at Camp .....         | 5  |
| Archery Sports Pin Requirements that may be completed at Camp.....      | 5  |
| All Archery Sports Pin Requirements .....                               | 5  |
| BB Shooting Belt Loop Requirements that are completed at Camp .....     | 6  |
| BB Shooting Sports Pin Requirements that may be completed at Camp ..... | 6  |
| All BB Shooting Sports Pin Requirements .....                           | 7  |
| Archery.....  | 8  |
| General Safety.....   | 8  |
| Range Tips.....   | 9  |
| Shooting Tips & Techniques .....  | 10 |
| Common Issues and Their Remedies .....                                  | 10 |
| The Origins and History Archery .....                                   | 12 |
| Egypt.....  | 14 |
| Mesopotamia.....  | 14 |
| Indian Subcontinent.....  | 14 |
| Eastern Asia .....  | 14 |
| North America .....   | 15 |
| Early European History.....   | 15 |
| Middle ages in Europe.....  | 15 |
| BB Shooting .....   | 16 |
| General Safety.....   | 16 |
| Firearm Terminology .....   | 16 |
| Civilian Shooting Fundamentals.....                                     | 17 |
| Ten Basic Firearm Safety Rules .....                                    | 17 |
| Learn Your Firearm .....  | 18 |
| Proper Sight Adjustment.....  | 19 |
| Proper Sighting Technique .....   | 19 |

|   |    |
|---|----|
| Breathing Control & Trigger Squeeze.....          | 19 |
| Marksmanship Fundamentals.....                    | 21 |
| Steady Position .....                             | 21 |
| Aiming .....                                      | 22 |
| Breath Control .....                              | 24 |
| The Origins and History of the BB Gun.....        | 25 |
| Shot Grows Smaller.....                           | 26 |
| Trouble Changes BBs Forever .....                 | 26 |
| The Eyes Had It.....                              | 27 |
| After World War II.....                           | 27 |
| Competition Improved the Breed.....               | 28 |
| The BB Had to Keep Pace .....                     | 29 |
| BBs Come of Age.....                              | 29 |
| Sources .....                                     | 29 |
| Appendix A: Archery Belt Loop & Pin.....          | 30 |
| Pro Archer Level.....                             | 34 |
| Archery Belt Loop Requirement Resources.....      | 35 |
| Appendix B: BB Gun Belt Loop & Pin.....           | 37 |
| Cub Scout Shooting Sports Award Certificate ..... | 41 |
| Appendix C: Credits, References and Links .....   | 44 |

## The Shooting Sports

### ***Program Overview***

Shooting sports are a fun and integral part of the Cub Scout Academics and Sports program. Most boys join Cub Scouting because of the outdoor activities. Boys in this age group have a natural curiosity about their surroundings, especially the world out-of-doors. Introducing these boys to the fun and adventure of Scouting in the outdoors will benefit them as they mature through the program. Their participation and enthusiasm will grow for continuing in the program into Boy Scouting and beyond.

A successful outdoor program that meets the goals of the Cub Scout program will ensure that all activities are appropriate for the target age group. Age-Appropriate Guidelines for Scouting Activities and the *Guide to Safe Scouting* are both available on the BSA Web site.

Shooting sports provide fun and adventure for boys. Archery and BB gun shooting teach skills, discipline, self-reliance, sportsmanship, and conservation, all of which are elements of good character valued by Scouters.

### ***BSA Shooting Sports Policies***

**Note: Archery and BB-gun shooting, is a camp program. Boys can earn archery and BB Gun recognition items only at council/district day camp, resident camp, or council-managed family camping programs**

**Archery and BB-gun programs are not permitted at den and pack activities.** However, leaders can help parents understand the importance of training and encourage attendance of boys at Cub Scout camps that offer this training.

To be a qualified and trained archery range supervisor, adults must take part in an archery supervisor training program conducted by the local council with the help of a National Camping School-certified field sports director or a National Archery Association (NAA) instructor.

Many Cub Scouts have BB guns or air rifles at home and will be exposed to some type of firearm while growing up. Parents should understand that safety is as necessary with BB guns and air rifles as it is in any other aspect of shooting. Training is essential in learning when to handle firearms, proper handling techniques, safety procedures as well as how to shoot well. Safe shooting habits, developed early, help provide the atmosphere for learning these skills.

**BB Gun-shooting sports are not an approved part of the Cub Scout program, except at Cub Scout day or resident camp.** At camp, boys might have an opportunity to take part in a BB-gun (rifle) safety and marksmanship program under the direction of a trained BB-gun range officer. These range officers must attend a three-hour training program conducted by a National Camping School-certified field sports director or National Rifle Association (NRA) instructor.

**The Archery and BB-gun belt loops and/or pins can only be awarded by a BSA range-trained shooting-sports director.**

### ***References***

[Age-Appropriate Guidelines for Scouting Activities](#), No. 18-260

[Guide to Safe Scouting](#) No. 34416

Shooting Sports for Cub Scouting, No. 13-550

## **The Shooting Sports Awards' Requirements**

### ***Archery Belt Loop Requirements that are completed at Camp***

Complete these three requirements by participating in the archery safety program at Cub Scout camp.:

1. Explain the rules for safe archery that you have learned in the district/council camp or activity you are attending with your leader or adult partner.
2. Demonstrate to your leader or adult partner good archery shooting techniques, including the stance and how to nock the arrow, establish the bow, draw, aim, release, follow-through and retrieve arrows.
3. Practice shooting at your district or council camp for the time allowed.

### ***Archery Sports Pin Requirements that may be completed at Camp***

1. Explain the parts of a bow and demonstrate how to string the bowstring in a proficient manner.

and/or

2. Demonstrate how to properly use archery equipment, including arm guards, finger tabs, and quivers and explain about proper clothing.

and/or

6. Draw to scale or set up an archery range.

and/or

9. Show how to put away and properly store archery equipment.

and/or

10. Tell five facts about an archer in history or literature.

### ***All Archery Sports Pin Requirements***

Earn the Archery belt loop, and complete five of the following requirements:

1. Explain the parts of a bow and demonstrate how to string the bowstring in a proficient manner.
2. Demonstrate how to properly use archery equipment, including arm guards, finger tabs, and quivers and explain about proper clothing.
3. Develop proficient shooting techniques by practicing for three hours.
4. Learn the correct scoring techniques for target archery.
5. Make a poster that emphasizes the four whistle codes.
6. Draw to scale or set up an archery range.
7. Shoot 30 arrows from a distance of 30 feet at a target and score at least 50 points, or shoot 30 arrows from a distance of 90 feet and score at least 30 points.
8. Help make a type of target for the camp archery range.
9. Show how to put away and properly store archery equipment.
10. Tell five facts about an archer in history or literature.

### ***BB Shooting Belt Loop Requirements that are completed at Camp***

**Complete these three requirements:**

1. Explain the rules for Safe BB gun shooting you have learned to your leader or adult partner.
2. Demonstrate to your leader or adult partner good BB gun shooting techniques, including eye dominance, shooting shoulder, breathing, sight alignment, trigger squeeze, follow through.
3. Practice shooting at your district or your council camp in the time allowed.

### ***BB Shooting Sports Pin Requirements that may be completed at Camp***

1. Explain the parts of a BB gun and demonstrate how to properly load the gun.

and/or

2. Demonstrate the shooting positions.

and/or

6. Draw to scale or set up a BB gun shooting range.

and/or

7. Show improvement in your shooting ability with an increase in scoring points.

and/or

10. Explain how to use the safety mechanism on a BB gun.

and/or

11. Tell five facts about the history of BB guns.

### ***All BB Shooting Sports Pin Requirements***

**Earn the BB Gun Shooting belt loop, and complete five of the following requirements by completing the camp BB gun safety program and qualifying with a minimum of 60 credits in firing activities *with a parent or adult partner*. A certified range officer must be present.**

1. Explain the parts of a BB gun and demonstrate how to properly load the gun.

2. Demonstrate the shooting positions.

3. Develop proficient shooting techniques by practicing for three hours.

4. Learn the correct scoring techniques for target BB gun shooting.

5. Make a poster that emphasizes the proper range commands.

6. Draw to scale or set up a BB gun shooting range.

7. Show improvement in your shooting ability with an increase in scoring points.

8. Help make a type of target for the camp BB gun shooting range.

9. Show how to put away and properly store BB gun shooting equipment after use.

10. Explain how to use the safety mechanism on a BB gun.

11. Tell five facts about the history of BB guns.

Councils may provide extra opportunities for a boy and his adult partner to continue qualifying for a pin after the council camp experience is over. However, a certified range officer must be present for shooting credits to be valid.

## Archery



### ***General Safety***

- NEVER point a bow and arrow at another person.
- NEVER shoot an arrow straight up into the air. You can hit another person or yourself.
- NEVER shoot an arrow off into the distance where you cannot see where it will land.  
If you can not see the target do not shoot.
- Only use archery equipment in places that are especially set up for target practice - such as indoor and outdoor target ranges. Targets should be set up to insure that no one can be accidentally hit by a stray arrow. Allow at least 20 yards behind the targets and a 30 degree 'cone of safety' on each side of the shooting lane. Try to place targets against a hill or rising terrain as a safety measure.
- If you are looking for a lost arrow behind a target, always leave your bow leaning against the target face so that it will be seen by other archers coming up. If possible, have one archer from your group stand in front of the target to prevent anyone from shooting.
- If you are shooting wooden arrows, check them regularly for cracks. If one is found cracked, break it immediately to insure that it will not be accidentally used. Shooting a cracked arrow can result in its breaking and causing painful injury to the shooter.
- Always use a bow-stringer for longbows and re-curve bows. This will reduce the possibility of damage to the bow and injury to the person.
- Check your bow regularly for cracks or twisting. If in doubt, have it checked by a professional before shooting it any more.
- Check the condition of your bowstring regularly. It's cheaper to install a new string than to replace the bow.

- Don't draw a bowstring back further than the length of the arrow for which it is intended. Overdrawing can break the bow and injure the shooter in the process. There is an old saying that a fully drawn bow is 7/8 broken!
- Don't draw the string back except with an arrow on it and, especially, don't release the bowstring with no arrow on it. Doing so is called dry firing and can damage the bow.
- At practice ranges, the only safe place is behind the shooting line. Never shoot an arrow until you are positive that no one is in front of you or behind the targets. Conversely, don't stand in front of a bow while it is being shot, even if you are to one side of the shooter.
- Wait for a verbal approval from the Range Captain or his designee before starting to shoot.
- Arrows should only be nocked on the shooting line and pointed in the direction of the targets.
- After you are done shooting, wait for the word: CLEAR from the Range Captain or his designee before going toward the targets to retrieve your arrows.
- WALK, don't run toward the targets. Remember that the arrows are sticking out and can injure you.
- When pulling arrows out of a target, stand to one side and insure that no one is directly behind you.
- If archers will be shooting concurrently at varying distances, stagger the targets, not the people. This goes back to the previous rule about having one shooting line and staying behind it.
- Carefully follow the instructions given by the Range Captain.

### ***Range Tips***

Wood re-curves - either one piece or takedown, which can be disassembled - are the best bows to use in a camp program. Re-curves have an indentation in the middle of the bow where an arrow rest is placed. At the ends of the bow, the limbs take a sharp turn - between 40 and 80 degrees - that yields greater power in a smaller form. They also have a hand grip, which makes the bow easier to handle and use.

Also, a smart archer never fails to use the proper safety equipment. Whenever shooting, make sure participants wear proper armguards and finger protectors. A bowstring can seriously injure an unprotected arm, and blisters will eventually appear without a finger guard.

## ***Shooting Tips & Techniques***

### **Common Issues and Their Remedies**

#### **Drawing back to different points**

The most common mistake campers make is not consistently drawing back to exactly the same point. There are two choices here: drawing under the chin or to the corner of the mouth. A good way to illustrate the latter is to grab the corner of your mouth like a hooked fish (although the correct form is to just place the index finger at the corner). For the former, have campers imagine the string is going to split their noses and tell them to draw back without moving their heads. Demonstrate that a properly anchored shot will land on the mark and a draw that is 1/4 inch off that point will land two to four rings away. A final technique is to bring the campers to the target with an arrow and move the arrow around the target face, demonstrating that small differences between anchor points on their faces translate to large ones on the actual target.

#### **Jerking the shot**

Another common mistake is to twang, or jerk, a shot, pulling the hand away from the face. When this problem occurs, the camper draws back to the appropriate spot, holds, and aims the shot - only to release the string with a twang. The proper method is to allow the string to slip off the fingers without moving the hand at all, or to have the hand fall back to the shoulder naturally. Demonstrate the disastrous effects of this mistake by sinking a shot in the bull's-eye and then purposely twanging a shot and having the arrow miss the mark or even the whole target. The proper method to hold and draw the string is to use three fingers. One finger rests on top of the arrow nock and the other two rest below, with the string on the tips of the fingers - no farther back than the fingertip mound. The instructor can demonstrate that holding the string farther back on the fingers results in an automatic twang as the fingers uncurl to release. Also, if campers squeeze the arrow between their fingers or curl their fingers around the string, the arrow will likely fall off the arrow rest.

#### **Incorrect position**

Campers often make the mistake of not standing sideways on the firing line; the correct position causes an arrow placed against the toes to point straight toward the bull's-eye. Demonstrate the importance of this position by dropping one foot back and having the shot land lower and to the left.

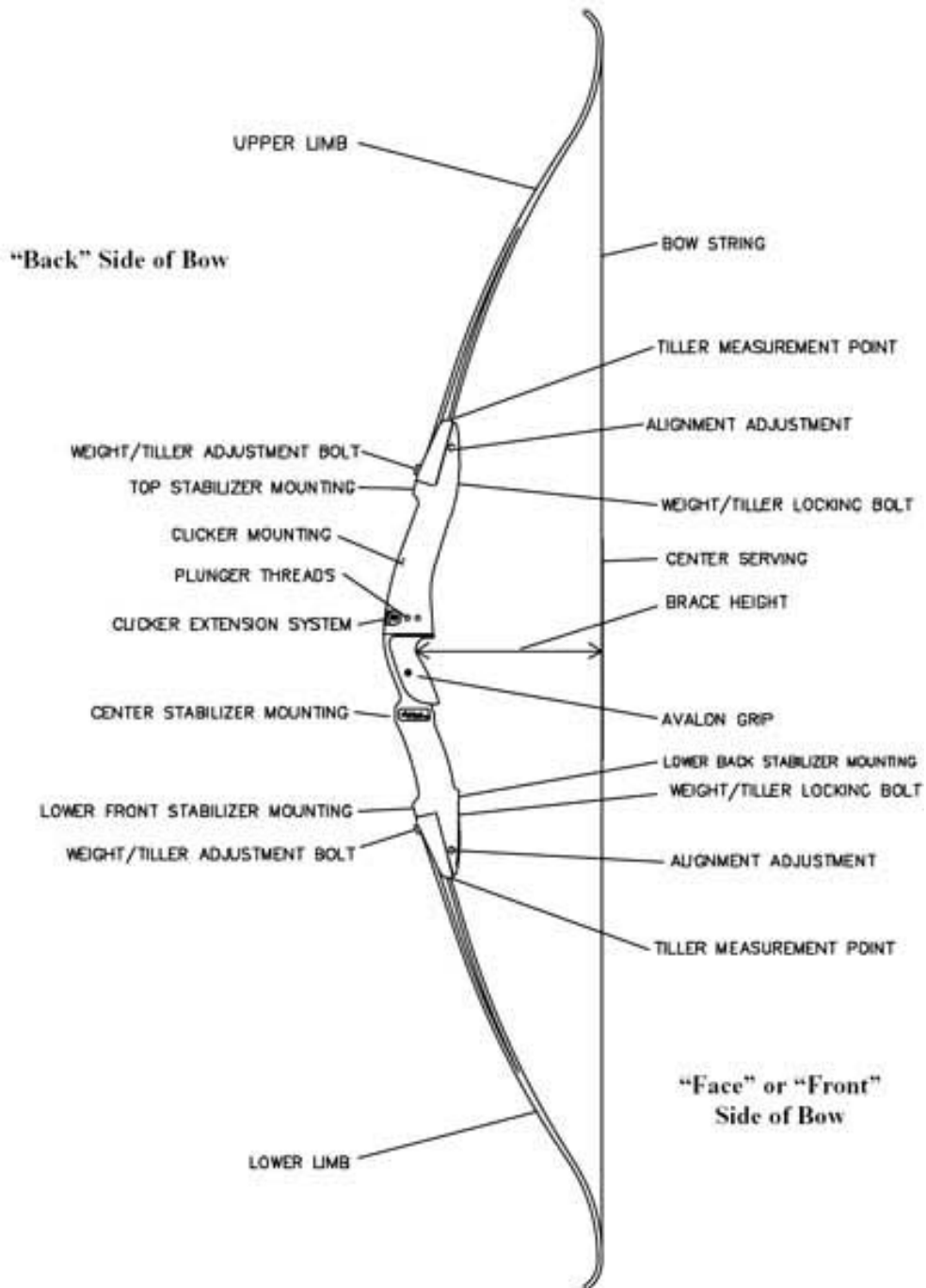
#### **Arrow tip movement**

Arrow tip movement at full draw is something to examine closely, especially with more advanced archers. Small body movements, such as squeezing the shoulder blades, will make the tip of the

arrow move back and forth from 1/4 inch to 2 inches. The result is a looser pattern of arrows on the target.

### **Helping campers be successful**

It often helps to coach campers by simply standing by them and saying aloud, "Draw ... hold ... aim ... clean release." However, this technique isn't very effective for groups.



### ***The Origins and History Archery***

Projectile points are known from early in prehistory. The earlier examples were probably used on [spears](#) or on [atlatl](#) darts. Examination of the points alone does not allow the method of launching to be determined, and, as bows are normally made of perishable materials, it is possible that

bows were widely used long before the earliest surviving known examples. Bows eventually replaced the atlatl as the predominant means for launching sharp projectiles on all continents except Australia.

Classical civilizations fielded large numbers of archers in their armies; archery was an important military and hunting skill before the use of gunpowder. Arrows were especially destructive against unarmored masses and the use of archers often proved decisive. Mounted archers combined range with speed and mobility. Archery also figured prominently in the mythologies of many cultures.

The bow seems to have been invented by the late Paleolithic or early Mesolithic. The oldest indication for its use in Europe comes from the Stellmoor in the Ahrensburg valley north of Hamburg, Germany and date from the late Paleolithic Hamburgian culture (9000-8000 BC). The arrows were made of pine and consisted of a main shaft and a 15-20 centimeter (6-8 inches) long fore shaft with a flint point. There are no known definite earlier bows.

The oldest bows known so far come from the Holmegård swamp in Denmark. In the 1940s, two bows were found there. They are made of elm and have flat arms and a D-shaped midsection. The center section is biconvex. The complete bow is 1.50 m (5 ft) long. Bows of Holmegaard-type were in use until the Bronze Age; the convexity of the midsection has decreased with time.

Mesolithic pointed shafts have been found in England, Germany, Denmark, and Sweden. They were often rather long (up to 120 cm [4 ft]) and made of European hazel (*Corylus avellana*), wayfaring tree (*Viburnum lantana*) and other small woody shoots. Some still have flint arrowheads preserved; others have blunt wooden ends for hunting birds and small game. The ends show traces of fletching, which was fastened on with birch-tar.

Bows and arrows have been present in Egyptian culture since its pre-dynastic origins. The "Nine Bows" symbolize the various peoples that had been ruled over by the pharaoh since Egypt was united.

In the Levant, artifacts which may be arrow-shaft straighteners are known from the Natufian culture, (ca. 12,800-10,300 BP) onwards. The Khiamian and PPN A shouldered Khiam-points may well be arrowheads.

Classical civilizations, notably the Persians, Parthians, Indians, Koreans, Chinese, and Japanese fielded large numbers of archers in their armies. Arrows were destructive against massed

formations, and the use of archers often proved decisive. The Sanskrit term for archery, dhanurveda, came to refer to martial arts in general.

## **Egypt**

The ancient Egyptian people took to archery as early as 5000 years ago. Archery was widespread by the time of the earliest pharaohs and was practiced both for hunting and use in warfare. Archers with recurve bows and short spears, detail from the archers' frieze in Darius' palace in Susa. Siliceous glazed bricks, c. 510 BC.

Legendary figures from the tombs of Thebes are depicted giving "lessons in archery".

## **Mesopotamia**

The Assyrians and Babylonians extensively used the bow and arrow; the Old Testament has multiple references to archery as a skill identified with the ancient Hebrews.

The Chariot warriors of the Kassites relied heavily on the bow. The Nuzi texts detail the bows and the number of arrows assigned to the chariot crew. Archery was essential to the role of the light horse drawn chariot as a vehicle of warfare.

## **Indian Subcontinent**

The bow and arrow constituted the classical Indian weapon of warfare, from the Vedic period, until the advent of Islam. The Aryans used bows and arrows, often on war chariots. Some Rigvedic hymns lay emphasis on the use of the bow and arrow. Detailed accounts of training methodologies in early India concern archery, considered to be an essential martial skill in early India.

## **Eastern Asia**

Chinese use of archery dates back to the Shang dynasty. Shang army officer categories included the ya and shi (commanders), ma (chariot officers), and she (archery officers). The Chinese used war chariots with archers. The following Zhou dynasty saw contests of archery being held in the presence of nobility. By the end of the Zhou period, works on history, music, ritual, archery, and other topics were recorded on bamboo or wood.

In East Asia the ancient Korean civilizations were well-known for their archery skills and South Korea remains a particularly strong performer at Olympic archery competitions even to this day. Mounted archers were the main military force of most of the equestrian nomads from the Cimmerians to the Mongols.

## **North America**

Archery was widely known among the indigenous peoples of North America, from pre-Columbian times. An archery game was widely practiced among the tribes of the Southern US which involved shooting at a hoop rolled with a forked stick. Points were scored based on how the arrow landed. Tribesmen of the Great Plains became extremely adept at archery on horseback.

## **Early European History**

The people of Crete practiced archery and Cretan mercenary archers were in great demand. Crete was known for its unbroken tradition of archery. The Greek god Apollo is the god of archery, also of plague and the sun, metaphorically perceived as shooting invisible arrows, Artemis the goddess of wild places and hunting. Odysseus and other mythological figures are often depicted with a bow.

During the invasion of India, Alexander the Great personally took command of the shield-bearing guards, foot-companions, archers, Agrianians and horse-javelin-men and led them against their foes.

The early Romans had very few archers, if any. As their empire grew, they recruited auxiliary archers from other nations. Julius Caesar's armies in Gaul included Cretan archers, and Vercingetorix his enemy ordered "all the archers, of whom there was a very great number in Gaul, to be collected". By the 300s, archers with powerful composite bows were a regular part of Roman armies throughout the empire. After the fall of the western empire, the Romans came under severe pressure from the highly skilled mounted archers belonging to the Hun invaders, and later Eastern Roman armies relied heavily on mounted archery.

## **Middle ages in Europe**

During the Middle Ages, archery in warfare was not as prevalent and dominant in Western Europe as popular myth sometimes dictates. Archers were quite often the lowest-paid soldiers in an army or were conscripted from the peasantry. This was due to the cheap nature of the bow and arrow, as compared to the expense needed to equip a professional man-at-arms with good armor and a sword. Professional archers required a lifetime of training and expensive bows to be effective, and were thus generally rare in Europe. The bow was seldom used to decide battles and often viewed as a "lower class weapon" or as a toy, by the nobility. However, among the Vikings, even royalty such as Magnus Barelegs used archery effectively and the Muslims used

archery, presumably also in their numerous raiding expeditions all over the Western European seaboard, in the 9th and 10th centuries.

By the time of the Hundred Years' War, the English had learned how to employ massed archery as an instrument of tactical dominance, with their English longbows. Tournaments were sponsored, with prizes for winners, among other ways of encouraging archery. There was therefore much motivation and incentive to become an expert with the longbow and the various English kings were able to recruit thousands of archers per year.

## **BB Shooting**



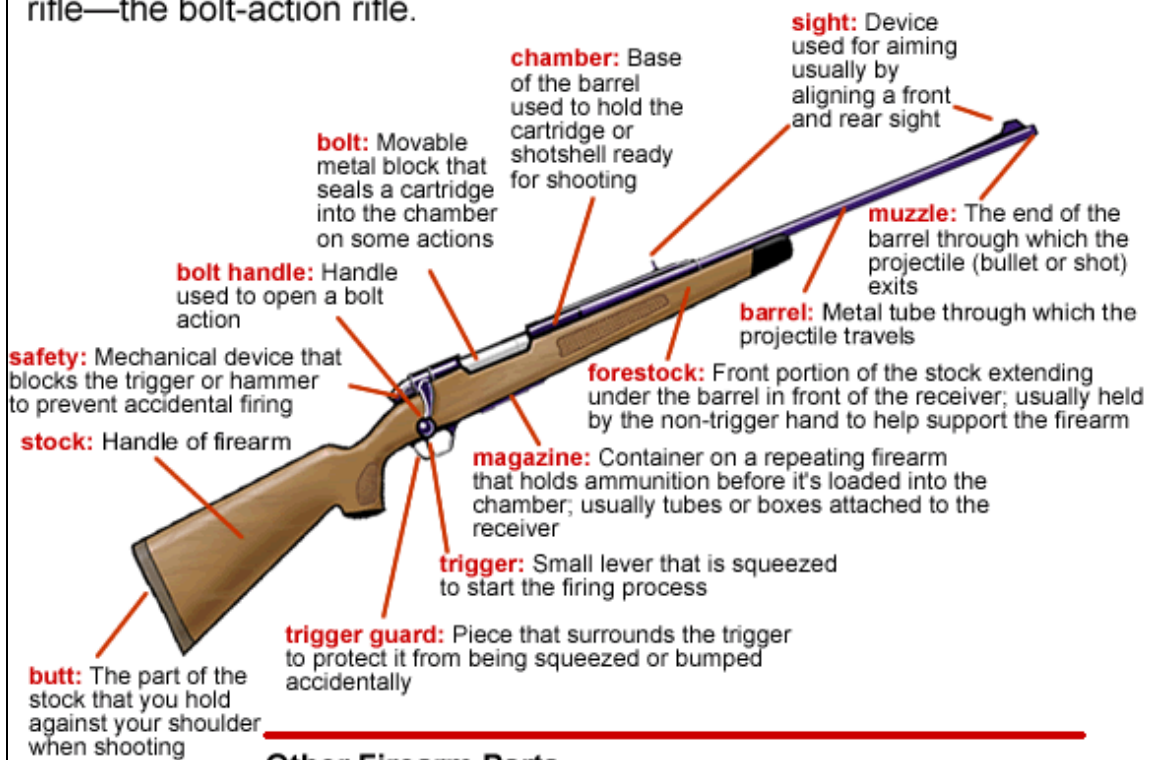
### ***General Safety***

- Handle all firearms as if they're loaded! Never assume they're unloaded. Double check it!
- Take charge of that muzzle! - Always point it in a safe direction.
- Identify your target! Don't rush. - Look for unmistakable, positive proof your shot will be safe. Make sure the area in front of and beyond your target is safe, too!
- Don't ride the trigger! - Don't put your finger on the trigger until you're ready to shoot.
- Keep the barrel and action clear! - Check for obstructions like mud or jammed cartridges. Only carry ammunition matching the caliber or gauge of the firearm you're using.
- Unload all firearms not in use! - It eliminates unintentional discharges and saves lives. Transport unloaded firearms in cases with the action open.
- Cross or climb safely! - Unload and place your firearm on the ground before crossing a fence, log or other obstacle, or climbing a tree. Retrieve it with your hand or hoist rope butt first.
- Check your backstop! - Shoot only when a safe and adequate backstop exists. Don't shoot at hard, flat surfaces; water; or a target on the horizon.
- Store firearms and ammunition separately! - Keep them locked and away from children or other inexperienced people.
- Don't mix guns with drugs or alcohol! - Never take or drink anything that impairs your senses either before or while you're shooting.

### ***Firearm Terminology***

## Parts of a Bolt-Action Rifle

Rifles, shotguns, and handguns have many similar parts. Shown here are the parts of a commonly used rifle—the bolt-action rifle.



---

### Other Firearm Parts

**bore:**

Inside of the firearm barrel through which the projectile travels when fired

**breech:**

Rear end of the barrel

**firing pin:**

A pin that strikes the primer of the cartridge, causing ignition

**receiver:**

Metal housing for the working parts of the action

## Civilian Shooting Fundamentals

The most important thing you can do during your quest to become an expert rifleman is to get the basics down solid. Learning the basic shooting techniques will put you way above the majority of shooters out there. Proper body position, breathing and trigger control is easily learned and goes far in improving your groups. Starting off with good habits is a lot easier than unlearning habits that have been ingrained over time.

### Ten Basic Firearm Safety Rules

Start with the ten basic firearm safety rules these rules hold true whether target shooting or on a combat patrol. If you learn and always follow these rules you will never have a shooting accident. Anytime you ignore these rules you are asking for trouble and should be aware of it. The rules are:

1. Treat every firearm as if it were loaded. Treat the firearm this way even if you checked it and know it is unloaded.
2. Immediately open the action and inspect the chamber of any firearm you are handed or pick up.
3. Always keep the muzzle pointed in a safe direction.
4. Keep guns unloaded when not in use.
5. Be sure the barrel is clear of obstructions, and that you're using the proper ammunition.
6. Be sure of your target and backstop. Know exactly what you're shooting at, and where the bullet will go if you miss before you pull the trigger.
7. Never shoot at a flat, hard surface. Never shoot a rifle or handgun at water. Rifle or pistol bullets can ricochet dangerously when fired at such unyielding surfaces. Bullets can "skip" long distances over water, and in a surprising variety of directions.
8. Never climb a tree or fence, or jump a ditch while holding a loaded gun. When you cross a ditch or fence, always open the action of your gun and make sure no cartridge is in the firing chamber.
9. Never point a gun at anything you don't want to shoot.
10. Keep your finger off the trigger until you are ready to fire.

### **Learn Your Firearm**

The next step in good marksmanship is to learn your firearm. How it functions, how to disassemble, clean, inspect and reassemble your firearm. If your firearm is new it more likely than not came with a manual that explains it (you should read the manual that comes with any new firearm). If you acquired it second hand search the internet you will be able to find the information you are looking for or post a message on a message board to obtain the information. Take the time to learn this information before you load the firearm for the first time, and if you are not sure of the procedure during the duration you own the firearm return to the manual and give yourself a refresher course.

## Proper Sight Adjustment

The next step that should be taken care of before you begin shooting at targets is to make sure that your rifle is properly sighted in. A surprising number of shooters neglect to make sure their sights are properly adjusted, and that their rifles "shoot where they're pointed." If you have the manual to the firearm the information on sighting in the rifle will be in there if you do not have it you can find the information on the web.

## Proper Sighting Technique

The first thing you need to concentrate on is proper sight alignment. With the **open iron sights** supplied on some rifles, you have three separate sighting elements to contend with: the rear sight, the front sight, and the target.

To aim with open sights,

- place your cheek snugly against the upper ridge of your rifle's butt stock and look through the V or U shaped notch of the rear sight
- elevate or lower the barrel slightly until the top portion of the front sight blade can be seen
- further adjust the sight picture until the front sight blade is centered in the rear-sighting notch, and the very top part of the front sight appears flush with the top surfaces of the rear sight on either side of the notch
- while maintaining this front sight-rear sight alignment, move the rifle until the front sight covers the target or sits just under it

Most target shooters like to see the bull's-eye, just above the front sight post. When the bull's-eye appears to sit atop the front sight in this manner, you're employing what's known as a "6-o'clock hold." **Peep sights**: To use this kind of sight, you simply look through the rear aperture or "peep," and place the front sight on or immediately under the target. You needn't concentrate on the rear sight at all; in fact it should appear as an indistinct blur. Your eye will automatically center the front sight at the strongest point of light, which falls at the exact center of the rear aperture.

## Breathing Control & Trigger Squeeze

Once you're familiar with your sights and the proper sight picture, it's time to refine your breathing and trigger control. This should be practiced while you're in the prone position with the rifle steadied by a rest (you can use a rolled up sleeping bag in a pinch)

From here on out I am going to assume you will learn on a rifle.

Set up your target and your shooting position for shooting from the prone (I like to lay on a shooting mat) set up your rifle rest (sleeping bag if you need to). Assume the prone position by lying on your stomach at a slight angle to the target. Right handed shooters should lie on a line with their head pointing to 2 o'clock on an imaginary clock face where the target is at the 12 o'clock position. Once you're down, spread your legs a comfortable distance apart and turn the inside of each foot toward the ground. Grab the rifle's fore end with the left hand, then allow the fore end to rest on the rest (rolled-up sleeping bag). Grab the pistol grip of the butt stock with your other hand, and allow that elbow to rest on the ground to one side. Pull the butt stock firmly into your shoulder and snug your cheek against the stock. The butt should be resting in the area formed by the juncture of your shooting arm and your upper chest-not on the muscle of your upper arm.

Adjust your position so the rifle's sights come into proper alignment with the target downrange, and stay there.. Adjust the rest (sleeping bag) until you can keep the sights on target with little or no effort on your part. The rifle should still be unloaded at this point. While maintaining the sights on target, place the index finger of the shooting hand on the trigger. Only the pad forward of the first joint should contact the trigger. A common mistake is to allow the trigger to rest against the first joint. This area of the finger lacks the sensitivity needed for proper trigger control.

Ensure the chamber is empty and the rifle is cocked. Disengage the safety. Now keep the sights in careful, continuous alignment with the target, and take a moderately deep breath. Apply a very slight amount of pressure to the trigger, and then exhale approximately half the air you've taken in. Hold the remainder of your breath while you slowly squeeze the trigger with the front pad of your index finger. When the trigger releases it should come as a surprise. If you find yourself anticipating the trigger break, you are likely flinching slightly or doing something else to move the sights momentarily off target. If you have someone with you, have him or her watch the muzzle of your rifle and tell you if it moves or jerks when the trigger breaks. There should be no movement when the trigger releases.

Don't underestimate the importance of this simple exercise. Without proper breathing and trigger control, there's no way you'll ever be an expert marksman. Too many people overlook these simple basics and then wonder why they shoot bad groups (all over the place)

Now it is time to load your rifle and repeat the above with a loaded firing firearm. When you are done if you are following the fundamentals you should be able to shoot three shots and the three should form a tight triangle. After you have mastered this exercise with the rest it is time to remove the rest and perform the same until you master the off hand. It may take some time and quite a few rounds to accomplish this but ingraining good shooting habits in the beginning can

lead to nothing but better things.

## ***Marksmanship Fundamentals***

The four key fundamentals –

- establish a steady position allowing observation of the target
- aim the rifle at the target by aligning the sight system
- fire the rifle without disturbing this alignment by improper breathing or during trigger squeeze.

These skills are known collectively as the four fundamentals. Applying these four fundamentals rapidly and consistently is the integrated act of firing.

### **Steady Position**

When a person approaches the firing line, he should assume a comfortable, steady firing position. The time and supervision each person has on the firing line are limited. They must learn how to establish a steady position during integrated act of dry-fire training. The firer is the best judge of the quality of his position. If he can hold the front sight post steady through the fall of the hammer, he has a good position.

The steady position elements:

- ***Non-firing Handgrip.*** The rifle hand guard rests on the heel of the hand in the V formed by the thumb and fingers. The grip of the non-firing hand is light.
- ***Rifle Butt Position.*** The butt of the rifle is placed in the pocket of the firing shoulder.
- This reduces the effect of recoil and helps ensure a steady position.
- ***Firing Handgrip.*** The firing hand grasps the pistol grip so it fits the V formed by the thumb and forefinger. The forefinger is placed on the trigger so the lay of the rifle is not disturbed when the trigger is squeezed. A slight rearward pressure is exerted by the remaining three fingers to ensure that the butt of the stock remains in the pocket of the shoulder, minimizing the effect of recoil.
- ***Firing Elbow Placement.*** The firing elbow is important in providing balance. Its exact location depends on the firing/fighting position used. Placement should allow shoulders to remain level.
- ***Non-firing Elbow.*** The non-firing elbow is positioned firmly under the rifle to allow a comfortable and stable position. When the soldier engages a wide sector of fire, moving targets, and targets at various elevations, his non-firing elbow should remain free from support.

- ***Cheek-to-Stock Weld.*** The stock weld should provide a natural line of sight through the center of the rear sight aperture to the front sight post and on to the target. The firer's neck should be relaxed, allowing his cheek to fall naturally onto the stock. Through dry-fire training, the person practices this position until he assumes the same cheek-to-stock weld each time he assumes a given position, which provides consistency in aiming. Proper eye relief is obtained when a person establishes a good cheek-to-stock weld. A small change in eye relief normally occurs each time that the firer assumes a different firing position. The person should begin by trying to touch the charging handle with his nose when assuming a firing position. This will aid the person in maintaining the same cheek-to-stock weld hold each time the weapon is aimed. The person should be mindful of how the nose touches the charging handle and should be consistent when doing so. This should be critiqued and reinforced during dry-fire training.
- ***Support.*** When artificial support (sandbags, logs, stumps) is available, it should be used to steady the position and support the rifle. If it is not available, then the bones, not the muscles, in the firer's upper body must support the rifle.
- ***Muscle Relaxation.*** If support is used properly, the person should be able to relax most of his muscles. Using artificial support or bones in the upper body as support allows him to relax and settle into position. Using muscles to support the rifle can cause it to move due to muscle fatigue.
- ***Natural Point of Aim.*** When the person first assumes his firing position, he orients his rifle in the general direction of his target. Then he adjusts his body to bring the rifle and sights exactly in line with the desired aiming point. When using proper support and consistent cheek to stock weld the person should have his rifle and sights aligned naturally on the target. When correct body-rifle-target alignment is achieved, the front sight post must be held on target, using muscular support and effort. As the rifle fires, muscles tend to relax, causing the front sight to move away from the target toward the natural point of aim. Adjusting this point to the desired point of aim eliminates this movement. When multiple target exposures are expected (or a sector of fire must be covered), the person adjusts his natural point of aim to the center of the expected target exposure area (or center of sector).

## Aiming

Having mastered the task of holding the rifle steady, the person must align the rifle with the target in exactly the same way for each firing. The firer is the final judge as to where his eye is focused. The instructor or trainer emphasizes this point by having the firer focus on the target and then

focus back on the front sight post. He checks the position of the firing eye to ensure it is in line with the rear sight aperture.

Aiming elements:

- **Rifle Sight Alignment.** Alignment of the rifle with the target is critical. It involves placing the tip of the front sight post in the center of the rear sight. Any alignment error between the front and rear sights repeats itself and multiples as the bullet travels.
- **Focus of the Eye.** A proper firing position places the eye directly in line with the center of the rear sight aperture. When the eye is focused on the front sight post, the natural ability of the eye to center objects in a circle and to seek the point of greatest light (center of the aperture) aid in providing correct sight alignment. For the average person firing at targets, the natural ability of the eye can accurately align the sights. Therefore, the firer can place the tip of the front sight post on the aiming point, but the eye must be focused on the tip of the front sight post. This causes the target to appear blurry, while the front sight post is seen clearly. Two reasons for focusing on the front sight post are:
  - Only a minor aiming error should occur since the error reflects only as much as the person fails to determine the target center. A greater aiming error can result if the front sight post is blurry due to focusing on the target or other objects.
  - Focusing on the tip of the front sight post aids the firer in maintaining proper sight alignment.
- **Sight Picture.** Once the person can correctly align his sights, he can obtain a sight picture. A correct sight picture has the target, front sight post, and rear sight aligned. The sight picture includes two basic elements: sight alignment and placement of the aiming point.
  - Placement of the aiming point varies, depending on the engagement range.
  - A technique to obtain a good sight picture is the side aiming technique. It involves positioning the front sight post to the side of the target in line with the vertical center of mass, keeping the sights aligned. The front sight post is moved horizontally until the target is directly centered on the front sight post.
- **Front Sight.** The front sight post is vital to proper firing and should be replaced when damaged. The post should be blackened anytime it is shiny since precise focusing on the tip of the front sight post cannot be done otherwise.
- **Aiming Practice.** Aiming practice is conducted before firing live rounds. During day firing, the firer should practice sight alignment and placement of the aiming point. Using training aids such as the M15A1 aiming card can do this.

## Breath Control

As the firer's skills improve and as timed or multiple targets are presented, he must learn to control his breath at any part of the breathing cycle. Two types of breath control techniques are practiced during dry fire. The coach/trainer ensures that the firer uses two breathing techniques and understands them by instructing him to exaggerate his breathing. The firer must be aware of the rifle's movement (while sighted on a target) as a result of breathing.

The first technique is used during zeroing (and when time is available to fire a shot). There is a moment of natural respiratory pause while breathing when most of the air has been exhaled from the lungs and before inhaling. Breathing should stop after most of the air has been exhaled during the normal breathing cycle. The shot must be fired before the person feels any discomfort.

The second breath control technique is employed during rapid fire (short-exposure targets). Using this technique, the person stops his breath when he is about to squeeze the trigger.

- **Trigger Squeeze.** A novice firer can learn to place the rifle in a steady position and to correctly aim at the target if he follows the basic principles. If the trigger is not properly squeezed, the rifle will be misaligned with the target at the moment of firing.
  - ***Rifle Movement.*** Trigger squeeze is important for two reasons: First, any sudden movement of the finger on the trigger can disturb the lay of the rifle and cause the shot to miss the target. Second, the precise instant of firing should be a surprise to the person. The person's natural reflex to compensate for the noise and slight punch in the shoulder can cause him to miss the target if he knows the exact instant the rifle will fire. The person usually tenses his shoulders when expecting the rifle to fire. It is difficult to detect since he does not realize he is flinching. When the hammer drops on a dummy round and does not fire, the person's natural reflexes demonstrate that he is improperly squeezing the trigger.
  - ***Trigger Finger.*** The trigger finger (index finger on the firing hand) is placed on the trigger between the first joint and the tip of the finger (not the extreme end) and adjusted depending on hand size, grip, and so on. The trigger finger must squeeze the trigger to the rear so the hammer falls without disturbing the lay of the rifle. When a live round is fired, it is difficult to see what effect trigger pull had on the lay of the rifle. It is important to experiment with many finger positions during dry-fire training to ensure the hammer is falling with little disturbance to the aiming process.
    - As the firer's skills increase with practice, he needs less time spent on trigger squeeze. Novice firers can take five seconds to perform an

- The coach/trainer observes the trigger squeeze, emphasizes the correct procedure, and checks the firer's applied pressure. He places his finger on the trigger and has the firer squeeze the trigger by applying pressure to the coach/trainer's finger. The coach/trainer ensures that the firer squeezes straight to the rear on the trigger avoiding a left or right twisting movement. The coach/trainer observes that the firer follows through and holds the trigger to the rear for approximately one second after the round has been fired. A steady position reduces disturbance of the rifle during trigger squeeze.
- Wobble area is the movement of the front sight around the aiming point when the rifle is in the steadiest position. From an unsupported position, the firer experiences a greater wobble area than from a supported position. If the front sight strays from the target during the firing process, pressure on the trigger should be held constant and resumed as soon as sighting is corrected. The position must provide for the smallest possible wobble area. From a supported position, there should be minimal wobble area and little reason to detect movement. If movement of the rifle causes the front sight to leave the target, more practice is needed. The firer should never try to quickly squeeze the trigger while the sight is on the target. The best firing performance results when the trigger is squeezed continuously, and the rifle is fired without disturbing its lay.

### ***The Origins and History of the BB Gun***

The airgun projectile we call a BB began in 1886 as common lead shotgun shot, sized BB or 0.180-inch diameter. It was selected for W.F. Markham's revolutionary new spring-piston gun that was made of maple wood and a minimum of metal parts. The probable inventor of the new airgun, George W. Sage, simply chose a commonly available projectile that produced good results in his creation.

One year later, Clarence Hamilton of .22 rimfire fame followed Markham by inventing an all-metal spring-piston airgun. When he demonstrated it to local businessman and founder of the Plymouth Iron Windmill Company, Lewis Cass Hough, the surprised man declared, in the vernacular of the day, "Boy, that's a daisy!" Hamilton's clever little gun was also made to shoot lead BB shot, and

Hough thought enough of it that he commissioned several hundred to be built for premiums when farmers bought his iron windmills. Production began in 1888.

Demand for the new airgun quickly outstripped windmill sales, and Plymouth Iron Windmill began making the BB guns to sell directly. They used Hough's original exclamation as the trade name. In 1895 the windmill company reincorporated as the Daisy Manufacturing Company and continues under that name today.

### **Shot Grows Smaller**

Lead BB shot continued to be the projectile of choice until the beginning of the 20th century, when Daisy contracted to have its own proprietary lead shot made. The new shot was sized smaller, at 0.175 inches. Daisy could now control the uniformity of the shot. Even better, kids had to buy ammo from them instead of raiding their father's ammo supply.

The size reduction brought a small increase in velocity, which meant that smaller-diameter spring wire could be used and the guns would retain the same velocity while cocking more easily.

Other BB gun manufacturers went along with the new shot size because, by this time, Daisy was a 500-pound gorilla. Soon, everyone sold the smaller air rifle shot and the world forgot the old true BB-shot guns. But the name stuck!

### **Trouble Changes BBs Forever**

In the mid-1920s, Daisy began receiving returned BB guns with split shot tubes (the true barrel on a BB gun). The offending guns came mostly from the Minneapolis region, so Cass S. Hough, grandson of the founder, traveled to that city to learn the problem. What he discovered forever changed the BB-making business.

The American Ball Company of Minneapolis had noticed small boys rummaging through their discard pile of ball bearings to find steel balls that would fit their airguns. Company managers learned there was a strong market for airgun ammunition, so they began to manufacture steel BBs under the name Bulls Eye.

The ball bearing maker regarded BB shot as a non-precision item, so they didn't hold the tolerances of their Bulls Eye ammo very tight. Oversized steel balls being harder than the BB gun shot tubes would sometimes split the tube open or get stuck.

Daisy management initially felt that the steel BB posed no real threat, since their owner's manual clearly warned shooters to only use Daisy lead shot. But Cass Hough argued that the returns were increasing because steel shot was both cheaper and shot faster in their guns. Unless the company wanted a black eye for standing on its principles, they had better get with the program!

Hough convinced upper management, and in 1928 Daisy and American Ball penned an agreement whereby Daisy would be the exclusive distributor for Bulls Eye air rifle shot. Daisy got a share of the profits and American Ball was connected to worldwide distribution channels. Best of all, Daisy gained control of the specifications and ended the oversized ball problem. A decade later, Daisy bought American Ball, bringing the Bulls Eye brand in house.

### **The Eyes Had It**

Unfortunately, while the new steel BB solved some problems it also created some new ones. For starters, the swaged shot seat that tightly held a lead BB in the breech before firing no longer worked. A lead BB can be forced through a slight constriction, but a steel one cannot. A new hairspring BB holder had to be designed for the steel shot tube.

The top shot tube has a punched or swaged constriction (the round dimple) that serves to retain the lead BB before firing. It keeps the BB in place when the barrel is depressed. Bottom tube has a wire spring to serve the same purpose.

A greater problem was that steel rebounds from hard surfaces, where pure lead does not. Kids were getting hit hard enough in the face with BBs to pierce eyeballs! In addition to the new rebound accidents, the "BB gun wars" kids fought in those days before airsoft did not help the situation. Eye injuries from BB guns skyrocketed and the often-heard phrase, "You'll shoot your eye out!" was born.

Through these turbulent times, Daisy soldiered on, even staying solvent through the Great Depression. But when the country entered World War II, the production of BB guns and BBs halted. Daisy retooled for the war, and Cass Hough became a military pilot of some distinction. On September 27, 1942, over Bovington, England, while performing a power dive in a P38 Lightning from 43,000 feet, Hough became the first pilot in history to break the sound barrier!

### **After World War II**

The end of the war did not immediately restart America's peacetime economy. Wartime industry had to be phased out and plants and tools returned to their rightful owners. Certain materials

remained in critical shortage for several years. Companies like Daisy had to virtually remake themselves from the ground up. So steel BBs were off the market for quite a while.

Aluminum BBs were tried briefly as a substitute, but without the weight of steel, they exhibited the worst sort of instability, even at relatively slow velocities. Old stocks of lead air rifle shot were called upon for a time until the late 1940s, when factories got the steel flowing again.

When early steel shot was "headed" or chopped from steel wire, one or two flat spots remained after the BB was fully formed. This condition prevailed from the mid-1920s into the 1980s.

Through the 1970s, the major production problem with BBs was the way in which they were made. There were always one or two flat spots on the circumference of the sphere to disrupt flight. Because the guns of the time were also largely inaccurate, this was not a major factor, but that was about to change.

### **Competition Improved the Breed**

Daisy and the U.S. Jaycees started the International BB Gun Championships in 1965 to encourage shooting education for American youth. No BB guns at that time were capable of fine accuracy, so they took the best model they had and turned it into a match gun. The Daisy model 99 Champion eventually morphed into the model 299, Daisy's first example of a target BB gun.

Team coaches all over America worked together to improve the marginal accuracy offered by what was still basically a production gun with target sights. They traded tuning secrets until the kids began to have a chance of doing well, but Daisy had an ace up their corporate sleeve.

Daisy's Avanti Champion 499 BB gun is "The World's Most Accurate BB Gun." No other BB gun comes close!

In 1976 Daisy proudly unveiled the model 499 single-shot target gun. It was made specifically for competition. What a wonder it is! The muzzle-loaded gun is called "The World's Most Accurate BB Gun," and no one can justifiably challenge that claim. At the regulation distance of five meters (16.4 feet), it can shoot 10 shots into an aspirin-sized group offhand! At that distance, I've shot many 10-shot groups that stayed inside Roosevelt's head on a dime. If you miss the 9-ring with a 499, it's YOUR fault.

Ten shots from a 499 are incredibly tight. The 10-ring is the tiny circle at the center, and possible's have been recorded in competition!

## **The BB Had to Keep Pace**

The new gun warrants the finest ammo, and Daisy created it. No. 515 Precision Ground shot is to BB guns what MatchKings are to long-range shooters.

Initially, this stuff was such a challenge to make that Daisy restricted distribution to clubs and competitors. Supplies are still limited, but it's possible to get through Daisy's Special Market Programs. If you own a 499, you need it!

## **BBs Come of Age**

Today's standard BB is much improved. According to Daisy Marketing VP, Joe Murfin, BBs are still made on the same machinery as in the 1970s, but the flashing and plating operations are more uniform. Also, some procedures, such as shot sorting, have been improved. The result is a smoother BB with no flat spots.

The American BB gun has done as much as any military rifle to further the shooting sports. At its heart, the lowly BB has had an interesting life.

## **Sources**

[www.wikipedia.com](http://www.wikipedia.com)

[www.usscouts.org](http://www.usscouts.org)

US Army FM 23-9, Rifle Marksmanship, April 2003

# Appendix A: Archery Belt Loop & Pin

## Cub Scout Academics and Sports Workbook

- This workbook is not required but can help you with this award. Belt Loops and Pins may be earned more than once.
- Links to other workbooks and resources are at the end of this workbook: [Online Resources](#).
- Send comments to the workbook developer: [craig@craiglincoln.com](mailto:craig@craiglincoln.com). Workbook updated: February 2009.

Scout's Name: \_\_\_\_\_ Pack: \_\_\_\_\_

### Cub Scout Archery Belt Loop *(See the [Pin Requirements](#) below.)*

*Note: The Archery loop and pin can be awarded only by a certified Cub Scout Archery shooting director.*

*Archery, like BB-gun shooting, is a camp program. Boys can earn archery recognition items only at council/district day camp, resident camp, or council-managed family camping programs.*

*To be a qualified and trained archery range supervisor, adults must take part in an archery supervisor training program conducted by the local council with the help of a National Camping School-certified field sports director or a National Archery Association (NAA) instructor.*

*Although archery programs are not permitted at den and pack activities, leaders can help parents understand the importance of training and encourage attendance of boys at Cub Scout camps that offer this training.*

### Complete these three requirements:

1. Explain the rules for safe archery that you have learned in the district/council camp or activity you are attending with your leader or adult partner. List them:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

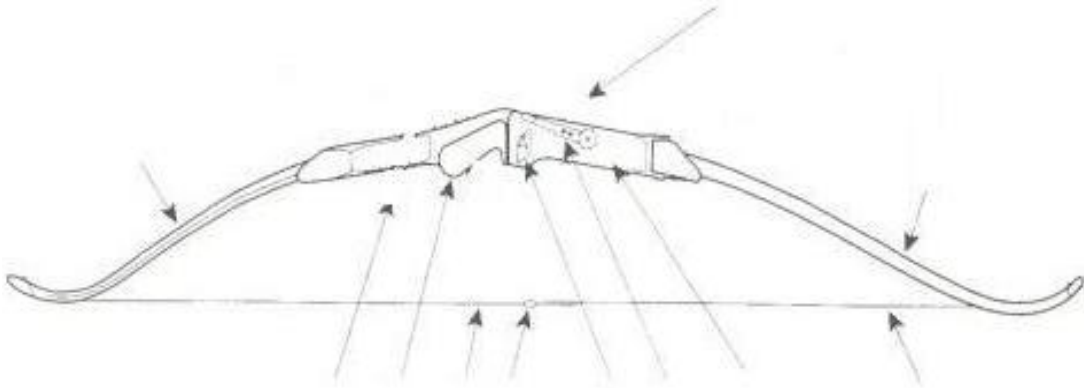
- \_\_\_\_\_
2. Demonstrate to your leader or adult partner good archery shooting techniques,
- including the stance \_\_\_\_\_
  - and how to nock the arrow, \_\_\_\_\_
  - establish the bow, \_\_\_\_\_
  - draw, \_\_\_\_\_
  - aim, \_\_\_\_\_
  - release, \_\_\_\_\_
  - follow-through \_\_\_\_\_
  - and retrieve arrows. \_\_\_\_\_
3. Practice shooting at your district or council camp for the time allowed.

**Cub Scout Archery Pin**

**Earn the Cub Scout Archery belt loop, and complete five of the following requirements:**

A certified range officer must be present.

- 1. Explain the parts of a bow and demonstrate how to string the bowstring in a proficient manner. Labels the parts on the picture below:



- 2. Demonstrate how to properly use archery equipment, including arm guards, finger tabs, and quivers and explain about proper clothing.

- 3. Develop proficient shooting techniques by practicing for three hours.

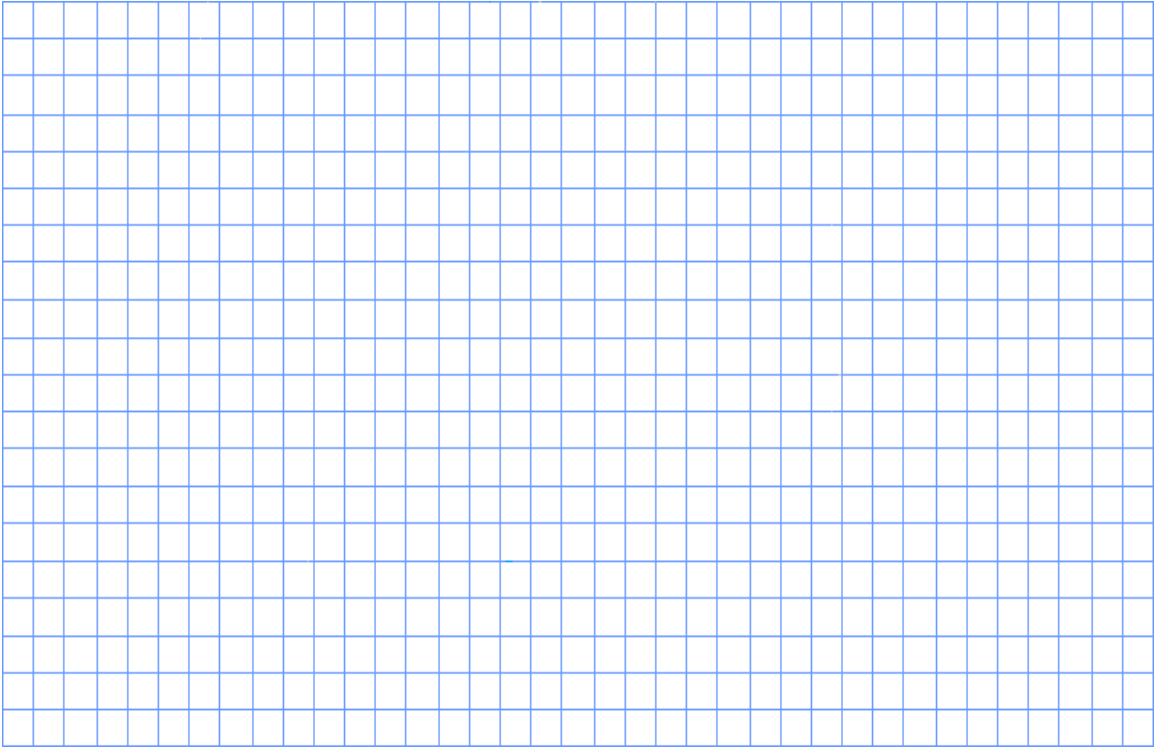
- \_\_\_\_\_
- \_\_\_\_\_

- 4. Learn the correct scoring techniques for target archery. List some points:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

- 5. Make a poster that emphasizes the four whistle codes.

6. Draw to scale or set up an archery range.



7. Shoot 30 arrows from a distance of 30 feet at a target and score at least 50 points, or shoot 30 arrow from a distance of 90 feet and score at least 30 points.

8. Help make a type of target for the camp archery range.

9. Show how to put away and properly store archery equipment.

10. Tell five facts about an archer in history or literature.

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

*Cub Scout Shooting Sports Award Certificate*

*In Cub Scout archery, the camp awards the certificate when the Cub Scout or Webelos Scout qualifies for the different levels of recognition. It is possible to earn four certificates if every level of marksmanship has been accomplished.*

Before firing the Pro Archer course, the camper is to complete the following:

1. Explain how to string your bow and explain the use of archery equipment.

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

2. Be able to list and discuss nine points in 'Shooting Techniques.'

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

**Pro Archer Level**

Shoot five groups (three arrows per group) trying to group each set within a circle the size of the nine-ring. (No specific score is required.)

Then fire for the Pro Archer score.

| Level of Recognition | Number of Arrows | Distance | Score |
|----------------------|------------------|----------|-------|
| Pro Archer           | 30               | 15 feet  | 30    |
| Archer I             | 30               | 20 feet  | 30    |
| Archer II            | 30               | 20 feet  | 50    |
| Archer III           | 30               | 20 feet  | 100   |

**Online Resources** *(Use any Internet resource with caution and only with your parent's or guardian's supervision.)*

**Cub Scout Advancement:** <http://usscouts.org/advance/cubscout/ranks.asp>

**Tiger:** <http://meritbadge.org/wiki/index.php?title=Tiger>

**Wolf:** <http://meritbadge.org/wiki/index.php?title=Wolf>

**Bear:** <http://meritbadge.org/wiki/index.php?title=Bear>

**Webelos:** <http://meritbadge.org/wiki/index.php?title=Webelos>

**Cub Scout Academics and Sports Workbooks:** ▶ [meritbadge.org](http://meritbadge.org) -or- ▶ [Academics](#) / [Sports](#)

**Webelos Activity Badge Workbooks:** ▶ [usscouts.org](http://usscouts.org) -or- ▶ [meritbadge.org](http://meritbadge.org)

**Boy Scouts of America:** <http://www.scouting.org/> ▶ [Guide to Safe Scouting](#) ▶ [Age-Appropriate Guidelines for Activities](#)

### Requirement Resources

These resources and much more are at: [http://meritbadge.org/wiki/index.php/Cub\\_Scout\\_Archery](http://meritbadge.org/wiki/index.php/Cub_Scout_Archery)

### **Archery Belt Loop Requirement Resources**

1. [Venturing Powderhorn](#) has similar Rules, Whistle Commands, Bow Diagrams, Stances, Explanations, etc.

[Encarta Encyclopedia: Archery](#) - [Archery Safety Rules](#) - [another source](#)

[Lesson Video: Safety](#) - [Lesson Video: More Safety](#)

2-3. [Lesson Video: Gear](#) - : [Lesson Video: Stance](#) - [Lesson Video: Release](#) - [Lesson Video: Scoring](#)

### **Archery Pin Requirement Resources**

1-5. [Venturing Powderhorn](#) has similar Rules, Whistle Commands, Bow Diagrams, Stances, Explanations, etc.

1. The blank bow diagram is in the [Cub Scout Archery Worksheet](#).
2. [Archery Equipment](#) - [Fletching](#) - [Quiver](#)
- 3, & 7. [Lesson Video: Gear](#) - [Lesson Video: Stance](#) - [Lesson Video: Release](#) - [Lesson Video: Scoring](#)
6. The graph paper you will need is in the [Cub Scout Archery Worksheet](#).
10. [Encarta Encyclopedia: Archery](#)

# Appendix B: BB Gun Belt Loop & Pin

## Cub Scout Academics and Sports Workbook

- This workbook is not required but can help you with this award. Belt Loops and Pins may be earned more than once.
- Links to other workbooks and resources are at the end of this workbook: [Online Resources](#).
- Send comments to the workbook developer: [craig@craiglincoln.com](mailto:craig@craiglincoln.com). Workbook updated: April 2008.

Scout's Name: \_\_\_\_\_ Pack: \_\_\_\_\_

### Cub Scout BB-Gun Shooting Belt Loop *(See the [Pin Requirements](#) below.)*

*Note: The BB shooting loop and pin can be awarded only by a certified Cub Scout BB gun shooting director at a BSA approved camp.*

*Many Cub Scouts have BB guns or air rifles at home and will be exposed to some type of firearm while growing up. Parents should understand that safety is as necessary with BB guns and air rifles as it is in any other aspect of shooting. Training is essential in learning how to shoot well, and safe shooting habits developed early help provide the atmosphere for learning these skills.*

*Gun-shooting sports are not an approved part of the Cub Scout program, except at Cub Scout day or resident camp. At camp, boys might have an opportunity to take part in a BB-gun (rifle) safety and marksmanship program under the direction of a trained BB-gun range officer. These range officers must attend a three-hour training program conducted by a National Camping School-certified field sports director or National Rifle Association (NRA) instructor.*

*Although **gun-shooting sports are not permitted as den and pack activities**, leaders can help parents understand the importance of training and encourage attendance of boys at Cub Scout day camps that offer this training.*

### Complete these three requirements:

1. Explain the rules for Safe BB gun shooting you have learned to your leader or adult partner.
  - \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

2. Demonstrate to your leader or adult partner good BB gun shooting techniques,

- including eye dominance, \_\_\_\_\_
- shooting shoulder, \_\_\_\_\_
- breathing, \_\_\_\_\_
- sight alignment, \_\_\_\_\_
- trigger squeeze, \_\_\_\_\_
- follow through. \_\_\_\_\_

3. Practice shooting at your district or your council camp in the time allowed.

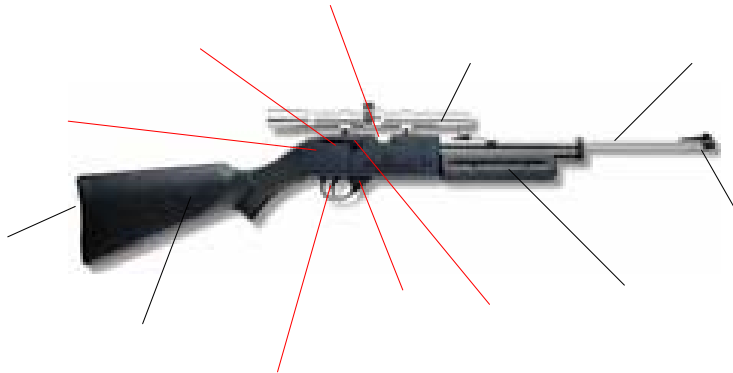
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

**Cub Scout BB-Gun Shooting Pin**

*A certified range officer must be present.*

**Earn the Cub Scout BB-Gun Shooting belt loop, and complete five of the following requirements:**

- 1. Explain the parts of a BB gun



and demonstrate how to properly load the gun.

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

- 2. Demonstrate the shooting positions.

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_

3. Develop proficient shooting techniques by practicing for three hours.

- \_\_\_\_\_

- \_\_\_\_\_

- \_\_\_\_\_

4. Learn the correct scoring techniques for target BB gun shooting.

- \_\_\_\_\_

- \_\_\_\_\_

- \_\_\_\_\_

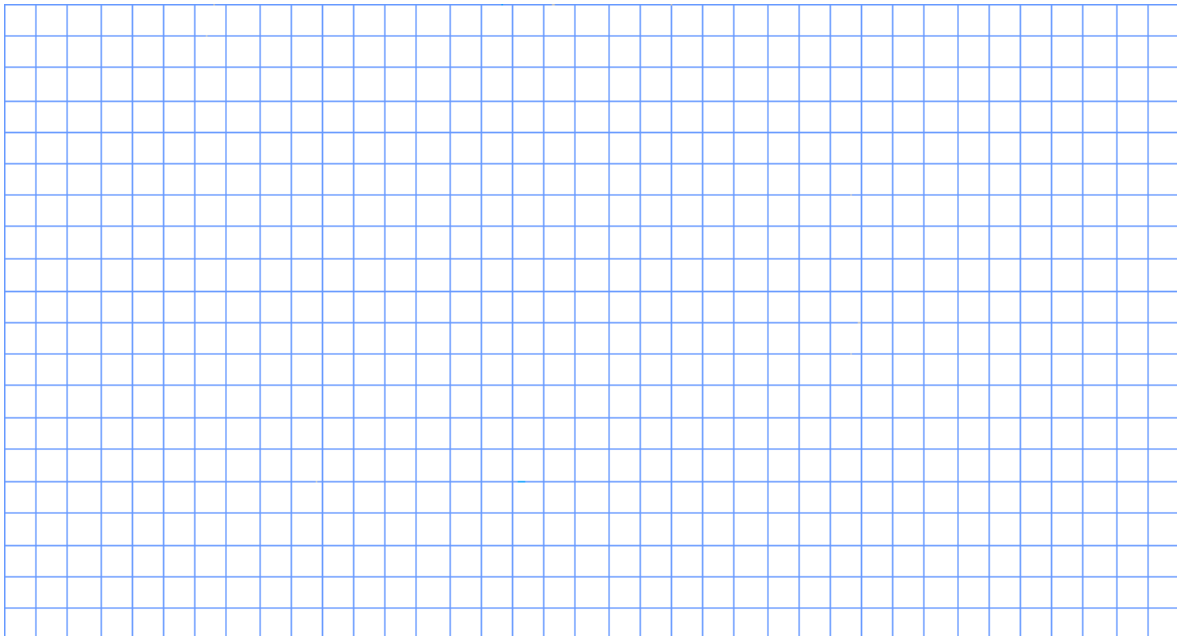
5. Make a poster that emphasizes the proper range commands.

- \_\_\_\_\_

- \_\_\_\_\_

- \_\_\_\_\_

6. Draw to scale or set up a BB gun shooting range.



7. Show improvement in your shooting ability with an increase in scoring points.

8. Help make a type of target for the camp BB gun shooting range.

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

9. Show how to put away and properly store BB gun shooting equipment after use.

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

10. Explain how to use the safety mechanism on a BB gun.

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

11. Tell five facts about the history of BB guns.

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

***Cub Scout Shooting Sports Award Certificate***

*Councils may provide extra opportunities for a boy and his adult partner to continue qualifying for a pin after the council camp experience is over. However, a certified range officer must be present for shooting credits to be valid.*

*Certificates may be awarded to the Cub Scout or Webelos Scout at any time he achieves a level of marksmanship. It is possible to earn five certificates if every level of marksmanship has been accomplished.*

**Score Requirements for BB Gun Recognition Certificate**

|  |   |
|--|---|
|  | Before completing the Pro Marksman requirements below, the following criteria |
|--|---|

|                 | must be met:<br><b>Instruction:</b> Complete a basic BB gun marksmanship safety course. <b>Shooting:</b> Fire five groups of shots (three shots per group) that can be covered by a quarter, and then adjust the BB gun sights so that the group is centered on a bull's eye. (No specific score is required.) Then fire the Marksmanship levels shown below. |            |                                |   |                                       |
|-----------------|---|------------|--------------------------------|---|---------------------------------------|
| Marksman Level  | Target  | Position   | Number of Bull's eyes Required | Number of Shots Required per Bull's eye | Minimum Score required per Shot       |
| Pro Marksman    | TQ-40   | Bench rest | 5                              | 5                                       | 8                                     |
| Marksman Levels | Target  | Position   | Number of Bull's eyes Required | Number of Shots Required per Bull's eye | Minimum Score required per Bull's eye |
| Marksman I      | TQ-40   | Standing   | 10                             | 5                                       | 20                                    |
| Marksman II     | TQ-40   | Prone      | 10                             | 5                                       | 35                                    |
| Marksman III    | TQ-40   | Kneeling   | 10                             | 5                                       | 25                                    |
| Marksman IV     | TQ-40   | Sitting    | 10                             | 5                                       | 30                                    |

**Online Resources** *(Use any Internet resource with caution and only with your parent's or guardian's supervision.)*

**Cub Scout Advancement:** <http://usscouts.org/advance/cubscout/ranks.asp>

**Tiger:** <http://meritbadge.org/wiki/index.php?title=Tiger>      **Wolf:**

<http://meritbadge.org/wiki/index.php?title=Wolf>

**Bear:** <http://meritbadge.org/wiki/index.php?title=Bear>      **Webelos:**

<http://meritbadge.org/wiki/index.php?title=Webelos>

**Cub Scout Academics and Sports Workbooks:** ▶ [meritbadge.org](http://meritbadge.org) -or- ▶ [Academics](#) / [Sports](#)

**Webelos Activity Badge Workbooks:** ▶ [usscouts.org](http://usscouts.org) -or- ▶ [meritbadge.org](http://meritbadge.org)

**Boy Scouts of America:** <http://www.scouting.org/> ▶ [Guide to Safe Scouting](#) ▶ [Age-Appropriate Guidelines for Activities](#)

**BB-Gun History, Safe Use, etc.:** [http://en.wikipedia.org/wiki/BB\\_gun](http://en.wikipedia.org/wiki/BB_gun)

BB-Gun Safety: <http://www.adventuresinairguns.com/BBgunsafety.html>

## Appendix C: Credits, References and Links

Michigan Hunter Safety Rifle Diagram

[http://www.hunter-ed.com/mi/course/ch2\\_parts\\_bolt\\_action\\_rifle.htm](http://www.hunter-ed.com/mi/course/ch2_parts_bolt_action_rifle.htm)

Pennsylvania Hunter Safety

<http://www.pgc.state.pa.us/pgc/cwp/view.asp?a=461&q=153086>

Shooting Fundamentals

<http://www.alpharubicon.com/leo/shootingbasicsbrian.htm>

FM 3-22.9

History of Archery

[http://en.wikipedia.org/wiki/History\\_of\\_archery](http://en.wikipedia.org/wiki/History_of_archery)

Shooting Techniques

[http://findarticles.com/p/articles/mi\\_m1249/is\\_n2\\_v70/ai\\_19352250](http://findarticles.com/p/articles/mi_m1249/is_n2_v70/ai_19352250)

[http://www.visionrealization.com/Resources/Camp\\_Activities/Archery.pdf](http://www.visionrealization.com/Resources/Camp_Activities/Archery.pdf)