AIR RIFLE

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IL 4-H Air Rifle
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HOW TO USE THIS SUPPLEMENT

This is a supplement to the 4-H Rifle Project Book and Members Record Book that you have received. It is to be used in conjunction with that book. This supplement contains information specific to air guns that is not included in the project book, however, the project book contains information that can also be used with air rifle.

In your Rifle Project Book

Pages 1-11  GENERAL PROJECT GUIDELINES, GOALS AND OBJECTIVES
   Use your project book as you begin to set your goals and objectives. Remember to include air rifle activities as you plan and include it in your 4-H exhibit, community activity and posters.

Page 17  RIFLE TERMS
   Some of these terms apply to air gun while others do not. See page 15 of this supplement for terms used with air gun.

Page 22-23  SHOOTING POSITIONS
   Some shooting positions use a sling. See page 13 of the Air Rifle supplement.

Page 26  CLEANING A RIFLE
   These cleaning procedures are NOT for air rifle. Do not clean an air rifle without instruction from a knowledgeable coach.

Pages 27  STORAGE \ TRANSPORTATION
   Use this page with this supplement for air rifle.

Page 28-32  RECORDS \ EVALUATION
   Use these pages with the supplement for air rifle.
PARTS OF THE RIFLE

Crosman Challenger 2009 Sporter Air Rifle

Name the parts of an air rifle

1. _____________________________________________________________
2. _____________________________________________________________
3. _____________________________________________________________
4. _____________________________________________________________
5. _____________________________________________________________
6. _____________________________________________________________
7. _____________________________________________________________
8. _____________________________________________________________
9. _____________________________________________________________
10. _____________________________________________________________
11. _____________________________________________________________
12. _____________________________________________________________

What part of the air rifle has 3 functions: to open the loading port, charge the rifle and to cock the trigger? _____________________________________________________________

Circle that part on the diagram of the air rifle above.

Options:
- Trigger
- Front Sight
- Butt Plate
- Rail
- Muzzle
- Cheek piece
- Rear Sight
- Hand Stop
- Pistol Grip
- Loading Port
- Bolt
- Front Sight
DAISY 499 BB-GUN

BB Guns--Some BB guns are *muzzle loaders* ---you drop one BB down the barrel to load and then cock the lever to charge and set trigger.

Most rifles used in competition air rifle are bolt action but this is an exception.

SILHOUETTE AIR RIFLE

A silhouette air rifle is allowed to have a scope but open sights may be used.

What distances are shot in this sport?

1. ____________________
2. ____________________
3. ____________________
4. ____________________
AIR GUN SAFETY EQUIPMENT

HEARING PROTECTION
Is hearing protection necessary when shooting an air gun? ______________
Why? ___________________________________________________________________
________________________________________________________________________

SAFETY GLASSES
Are safety glasses necessary when shooting an air gun? ________________
Why? ___________________________________________________________________
________________________________________________________________________

SAFETY GLASSES
Why are clear safety glasses without the black frame recommended on an air gun range?
________________________________________________________________________

SAFETY RULES FOR AIR GUN
Are the safety rules for air gun the same as for other guns? YES  NO (circle)
Have you learned the rules for safe gun handling found on page 10 of your Rifle Book? If you have, take the test at the bottom of the page. If not, study and learn them. You will ALWAYS need to be able to DO them while on the firing line or handling a rifle.

There are some rules that apply specifically to air gun.
1. Air gun uses a safety device called a “Clear Barrel Indicator” or CBI.
   This device is usually made from Weed Wacker string. It is inserted in the breech and extends out the muzzle. Can you think of why one is needed and why it goes through the length of the barrel?
   ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________

2. Hygiene: Never put pellets or BBs in your mouth or put your hands in your mouth after handling them.
3. Be sure to wash with cold water and soap before eating or drinking.
4. The “Safety Related Practices” found on page 10 of your Rifle Book are true for air guns too.
**CO2 or Compressed Air**

Many of the rifles used today are one of these three kinds:

- An example of a rifle that uses a spring to compress the air would be a BB Gun or the model Daisy 753 where cocking the rifle compresses a charge of air and sets the trigger.

- An example of a CO2 rifle would be the Daisy 888 (or 887). A small amount of CO2 gas is used to push the pellet down the barrel. Opening the bolt charges the air and sets the trigger.

- Compressed air is the most commonly used form of air rifle. A small amount of pressurized air (such as from a scuba tank) is used to push the pellet down the barrel. Opening the bolt charges the rifle and sets the trigger.

The rifles using CO2 or Compressed air are known as Pre-Charged rifles. They have a tube that holds air and is refillable from a main tank. Each rifle comes with its own adapter to attach to the main tank. Because of the pressures of these tanks, only qualified personnel should handle refilling procedures.

What type of air gun do you shoot? ______________________________________________________

Can you tell if an air gun is loaded or unloaded by looking at the breech of the rifle? **YES**  **NO**

What device do we use to make sure there is nothing in the barrel? __________________________
BASIC EQUIPMENT – 3P SPORTER

**SHOOTING MAT**
Used in the Prone position. The non-slip black surfaces help you to hold the position.

**SHOOTING GLOVE**
You only need one- on the hand that is your non-shooting hand. (On your left hand if you are a right hand shooter)

**KNEELING ROLL**
The kneeling roll is used to support your ankle while in the kneeling position.

**HAND STOP**
The round knob attaches to the rail on the rifle while the detach ring goes on the sling.

**SPORTER SLING**
This is a web material but a sling may be leather or other materials. The loop at the end is for your arm and the detach ring can be seen. Adjustments are made with the buckles.

**STANDS**
A rifle rest stand (left) and a spotting scope stand
Rifle rest stand is used (1) In the standing position to rest the rifle on between shots (2) has a pellet holder
A spotting scope stand allows a spotting scope to be in prone, standing or kneeling positions.

**SPOTTING SCOPE**
This goes on the stand and allows you to see where your shots are going.
FUNDAMENTALS

What order are these executed in taking one excellent shot? Number 1-5

TRIGGER CONTROL __________

BREATH CONTROL __________

HOLD CONTROL __________

AIMING __________

FOLLOW THROUGH __________

Aiming: Sight alignment and sight picture.

Hold Control: Minimize movement while holding the position

Breath Control: pause breathing while activating the trigger

Trigger Control: Pressing the trigger straight back without disturbing the sight picture and then holding still after the shot is fired—called Follow Through—then gently releasing the trigger forward to complete the shot.
Name three objects in sight alignment

1. ___________________________________________________________
2. ___________________________________________________________
3. ___________________________________________________________

The sight picture includes what other object?

4. ___________________________________________________________
**SIGHT TERMS**

What is a ‘group”? _____________________________

Once you can shoot a group, it is time to move that group to the center of the target. To do this demands that you know which way to turn your sight knobs. The marks are usually found on the knobs.

Windage: right and left movement

Elevation: up and down movement

With American made rifles (Daisy, Crossman and other sporter rifles), the windage knob is marked with an R and an arrow showing which direction to turn. Move the group **RIGHT** by moving the knob in the direction of the R arrow. (see example above). Turning the opposite direction will move the group **LEFT**.

The Elevation knob is marked with **UP** and an arrow. Turn the direction of the arrow to move the group **up**. Turning the opposite direction takes the shot group down. (see the example above)
KNOWING YOUR SIGHTS

EXPERIMENT – DONE IN PRONE

1. Shoot a group of at least 3 shots touching
2. Click your sights Right 6 clicks. Shoot another group
3. Click your sights Down 6 clicks. Shoot another group
4. Click your sight Left 6 clicks. Shoot another group
5. Click your sight Right 6 clicks. Shoot another group.

What shape does your group form if you draw a line between each one? _____________________

Did you end up where you started when you fired the final group? ________________________

Look at how far your sights moved with 6 clicks. Is that one ring on a target? _____________

Do you need more or fewer clicks to move one ring? ________________________________
USING A SLING

What 3 positions are fired in Sporter Air Rifle?
1. __________________________
2. __________________________
3. __________________________

What is the other position also fired in BB Gun?
4. __________________________

Which positions use a sling? (circle)

<table>
<thead>
<tr>
<th>PRONE</th>
<th>STANDING</th>
</tr>
</thead>
<tbody>
<tr>
<td>KNEELING</td>
<td>SITTING</td>
</tr>
</tbody>
</table>

The purpose of the sling is to support the weight of the rifle. The sling attaches to the upper arm of the shooter and the rifle, wraps around the back of the support hand and is fairly tight. This allows for greater stability.

This shows the HIGH sling position on the upper arm. It is found just below the deltoid muscle and above the bicep. The LOW sling position is just above the elbow. (not shown). Use the High position if possible.

Notice
- How the sling forms a straight line to the arm.
- How the sling wraps smoothly around the hand and wrist.
- That the sling is not so tight as to cut off circulation.
- That the sling supports the weight of the rifle without gripping the for-end.
- Adjusting the length is made with the strap and buckle.
AIR GUN FILLING

1. Never point the barrel at your head or face when attempting to look at the air level in your cylinder. REMOVE THE CYLINDER TO CHECK THE AIR LEVEL or carefully view from the side.

2. When removing from the rifle\pistol, turn in one direction until fully removed. DO NOT REVERSE DIRECTION.

3. Immediately check the cylinder for the O-ring. (it may still be in the rifle)

4. Check condition of O-ring whenever you remove the cylinder from the rifle\pistol. Look for nicks or flat spots.

5. Replace damaged or worn O-rings.

6. When inserting the cylinder back into the rifle, always make sure you have the O-ring on the cylinder. When putting the cylinder back on, also turn in one direction until fully installed.

7. HAND TIGHTEN ONLY. Do NOT use a wrench to tighten cylinder when installing on the rifle\pistol.

8. Do NOT attempt to fill any cylinder yourself. Have your adapter with you and ask a coach for help.

9. Keep dirt out of air openings on the cylinder and on the rifle\pistol.

10. Some air guns do not have a removable cylinder. They are filled by taking the rifle to the main tank.
GLOSSARY OF TERMS

**Adapter:** Used in attaching a cylinder to the main tank in order to recharge the cylinder. Each make and model of rifle has a unique adapter.

**Cylinder:** A tube on the rifle, usually located under the barrel, that holds CO2 gas or Compressed air in a pre-charged air gun.

**Dry Fire:** releasing the trigger without discharging gas or air. Not all rifles are capable of dry firing with the cylinder attached.

**Sighting Shots (Sighters):** Shots fired at a sighter bull’s-eye for the purpose of establishing a good position, finding the center of the bull’s eye with that position by making adjustments to your position or to the rifle sights.

**CBI:** a Clear Barrel Indicator is a plastic string such as a “weed whacker” string that can be inserted in the breech and extend out the barrel to insure that the air rifle is unloaded.

RANGE COMMANDS

**Start:** This tells competitors that they may air and fire at their targets.

**Stop:** This tells competitors that everyone must immediately stop firing. No one is authorized to shoot unless given permission by the range officer. If your rifle is loaded when the STOP command is given, raise your hand and the Range Officer will tell you what to do.

**Make the Line Clear:** Each competitor is to open his action, insert his CBI (clear barrel indicator) and put the rifle on the floor or bench. This command usually follows the STOP command and is given after all rifles have discharged any loaded pellet or BB.

**The Line is Clear:** The range officer states this as he looks at each rifle to insure they all have the actions open and CBI inserted. At this time, should anyone see a rifle that is not clear, he should bring it to the attention of the Range Officer.

**Go Forward and Change Targets:** No one goes over the firing line until this command is given by the Range Officer. At that time, competitors may go forward of the firing line and take down fired targets and hang the next targets to be fired. NO ONE IS TO HANDLE FIREARMS WHILE ANYONE IS DOWNRANGE.

**Cease Fire:** Anyone who sees an unsafe situation on the firing line or on the range may call out CEASE FIRE. Each competitor is to STOP. Do not Fire! Do not unload, do not put your finger on the trigger and keep the rifle pointed in a safe direction. Listen for instructions from the Range Officer.

When calling out a CEASE FIRE command, call out loudly and clearly. You may need to say it more than once to get everyone’s attention.

**Target:** Each competitor has his own target frame. Each target frame will hold at least one target card. Each target card may have one or several bull’s-eyes, sometimes called targets. Make sure your target is in front of a safe backstop. Shooting at any object other than your own target is forbidden.

**Backstop:** The area behind the targets that insures the projectile (bullet, pellet or BB) will stop. This may be a dirt berm, a wall, a trap or other devise that is designed to be adequate for that range. Different types of shooting require different backstops.
RULE BOOKS- ALL RIFLE DISCIPLINES

CMP Rimfire Sporter Rifle
Targets
http://www.thecmp.org/Clubs/Targets.htm
The match
http://www.thecmp.org/Competitions/Rimfire.htm
Range commands and running a match

NRA Silhouette Rifle Rules
AIR RIFLE AND SMALLBORE RIFLE
http://www.nrahq.org/compete/nra-rule-books.asp
Download in PDF format.

NATIONAL STANDARD RULES FOR sporter air rifle
3P AND INTERNATIONAL
http://www.thecmp.org/3P/Rules.pdf
TARGETS

Air Rifle 3P and International - AR5-10

Rimfire Sporter Air Rifle – 25 and 50yds

Reduced to 50ft
For prone \ kneel

Reduced to 50ft
For Standing

Silhouette Air Rifle Targets