







- Print your name, address, city, unit type & number, District, Council & Merit Badge legibly.

- for this merit badge on District's list.
- Your unit leader signs & dates.
- Read the merit badge pamphlet.

- Always meet with your counselor along with a buddy (a Scout, friend, or parent).

**Counselor's Section**

**Applicant's Section**

**Council Section**

**Information for Applicant**

- A merit badge application can be approved only by a registered merit badge counselor.
- You must have a buddy with you (Scout buddy system) at each meeting with the merit badge counselor.
- Turn in your approved application to your unit leader. You will be awarded the merit badge and certificate at a suitable occasion.

**Information for Counselor**

- Merit badge applications must be signed in advance by the applicant's unit leader.
- The Scout must have his buddy (Scout buddy system) in attendance at all instructional sessions.
- You may not change any requirement, but you may share your knowledge or experience that will make the counseling more interesting and valuable.

#34124A

No. and letter Requirement	1a	1b	1c	2a	2b	2c	3a	3b	4a
Initial Counselor	4b	4c	4d	4e	5a	5b	#2		
Approval Date	6/15								6/17
Letter Requirement									
Approval Date									

**APPLICATION FOR MERIT BADGE**

Name

Address

City

is a registered

- Boy Scout
- Varsity Scout
- Venturer

of Troop No.

Troop, team, crew, ship

District

Council

and is qualified to begin working for this merit badge

X

Date Signature of unit leader

34124A **BOY SCOUTS OF AMERICA**

2001 Boy Scouts of America

The applicant has personally appeared before me and demonstrated to my satisfaction that he has met all requirements for the (please print)

ARCHERY

Merit badge

Name of counselor

Address of counselor

City

Zip code

Telephone number of counselor

X Tom Smith 6/17/11  
Signature of counselor Date Completed

Checked and recorded: Date Initials

Certificate and badge presented Date

Applicant will turn in this portion to his unit leader for record posting.

**COUNSELOR'S RECORD**

Applicant

Troop Unit number

Troop, team, crew, ship

Merit Badge

Date completed \_\_\_\_\_

Remarks:

It is suggested that the counselor keep this record for at least 1 year in case any question is raised later in regard to this award.

**APPLICANT'S RECORD**

Name  Alex Smith

Has given me his completed application for the

Merit Badge

Completed on \_\_\_\_\_ by \_\_\_\_\_

Date

Signature of Counselor

Signature of Unit Leader

Note to Scout: Retain this copy for your permanent records.

**INSTRUCTIONS TO COUNSELOR:**

- Your Leader must verify that the counselor is registered & approved
- Never meet alone with a Scout.
- Verify all info & merit badge name.

- Call counselor for appointment.
- Print your name, address, & ph. #
- Date/initial requirements as done.

**INSTRUCTIONS TO UNIT:**

- A 2<sup>nd</sup> counselor can finish card.
- Note each name, address & phone.



# Fishing

## Merit Badge Workbook

This workbook can help you but you still need to read the merit badge pamphlet (book). No one can add or subtract from the Boy Scout Requirements #33216. Each Scout must do each requirement. Merit Badge Workbooks and more: [Online Resources](#). Send comments to the workbook developer: [craig@craiglincoln.com](mailto:craig@craiglincoln.com). Requirements revised: 2010, Workbook updated: 8/10.

Scout's Name: \_\_\_\_\_ Unit: \_\_\_\_\_

Counselor's Name: \_\_\_\_\_ Counselor's Ph #: \_\_\_\_\_

### 1. Do the following:

a. Discuss the prevention of and treatment for the following health concerns that could occur while fly-fishing, including cuts, scratches, put pressure, clean cloth, anti bacteria, see doctor if warm or pite red.

puncture wounds, caused by nail, take tetanus, put pressure (clean cloth), clean the wound, cover with bandage, allow air, change bandage

insect bites, long clothing, Hydrapartison, stay calm

hypothermia, loss of body heat, shivering, pale skin, blue skin, increased clumsiness, slurred speech.

dehydration, lack of water, really yellow urine

heat exhaustion, To much physical work

heatstroke, To hot wear you have heat exhaustion, Body can't cool, shade, Drink don't use alot of energy, and sunburn. Sunscreen, shade, skin peel

b. Explain how to remove a hook that has lodged in your arm. push it in and the yank it out

c. Name and explain five safety practices you should always follow while fly-fishing.

1. Trip ititer any - Telling when said were and how long

2. Wading - wade shoes

3. Boating - weather, repair kit, checks the lights

4. camp travel - front fishes back rows, flashlight

5. water crafts - life jacket

2. Discuss the differences between two types of fishing outfits. Type 1: Bait casting  
Type 2: Fly phishing Differences: rode and way there cast

Point out and identify the parts of several types of rods and reels. Explain how and when each would be used. Review with your counselor how to care for this equipment.

Example of a Spinning Rod & Reel



How used: Throw with index finger  
When used: trotting still fishing with live bait  
Care: dragging

Example of a Salt Water Trolling Rod & Reel



Open ocean and salt lakes and big open level dragging clean, hist fish

Example of an Ice Fishing Rod & Reel



How used: cut hole in ice and put down  
When used: winter when lakes are frozen  
Care: transport with care

Example of a Fly Fishing Rod & Reel



using wait of line to project forward  
Fresh and Salt water  
Clean + transport with care

3. Demonstrate the proper use of two different types of fishing equipment. \_\_\_\_\_

4. Demonstrate how to tie the following knots: clinch, palomar, turle, blood loop (barrel knot), and double surgeon's loop. Explain how and when each knot is used.

clinch, \_\_\_\_\_

palomar, \_\_\_\_\_

turle, \_\_\_\_\_

blood loop (barrel knot), \_\_\_\_\_

and double surgeon's loop. \_\_\_\_\_

5. Name and Identify five Artificial Lures and explain how to fish with them. (Here are some examples)



Spinner



Spoon



Jigs



Plastic worms



Plugs

and five Natural Baits and explain how to fish with them:

Worms red worms, Garden worms, night crawlers

minnows Through Body or tail

cray fish when rough skin is shed

Frogs Through nose: shore line

Leaches Gray or Black NO red or Green

Explain why bait fish are not to be released. Because they can run the

6. Do the following:

Explain the importance of practicing Leave No Trace techniques. Discuss the positive effects of Leave No Trace on fishing resources. So the fish could be healthy and good to eat, keep all litter or trash out of lake.

b. Discuss the meaning and importance of catch and release. means that you catch and see, its not ur turn. and for sport plus fun.

Describe how to properly release a fish safely to the water. cut line as close to the fish and it'll be set free. dont put fingers in mouth or gills

7. Obtain and review a copy of the regulations affecting game fishing where you live. Explain why they were adopted and what you accomplish by following them. younger than 17 and blind - over and not blind must have license - protecting fish and ecosystems - set limits on fish catching

8. Explain what good outdoor sportsmanlike behavior is and how it relates to anglers. treat as your  
heritage, clean, be considerate to other  
fisher men. conservation minded

Tell how the Outdoor Code of the Boy Scouts of America relates to a fishing enthusiast, including the aspects of  
 littering, pick up trash and fishing gear

trespassing, don't fish there

courteous behavior, be nice to neighbors and scouts

and obeying fishing regulations. don't do not allowed.

9. Catch at least one fish. If regulations and health concerns permit, clean and cook a fish you have caught. Otherwise, acquire a fish and cook it. \_\_\_\_\_

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

**Boy Scouts of America:** ► [scouting.org](http://scouting.org) ► [Guide to Safe Scouting](#) ► [Age-Appropriate Guidelines](#) ► [Safe Swim Defense](#)  
 ► [Scout](#) ► [Tenderfoot](#) ► [Second Class](#) ► [First Class](#) ► [Rank Videos](#) ► [Safety Afloat](#)

**Boy Scout Merit Badge Workbooks:** [usscouts.org](http://usscouts.org) -or- [meritbadge.org](http://meritbadge.org) **Merit Badge Books:** [www.scoutstuff.org](http://www.scoutstuff.org)

### Requirement Resources

These resources and more are at: <http://meritbadge.org/wiki/index.php/Fishing>.

1: **First Aid:** See [http://meritbadge.org/wiki/index.php/First\\_Aid](http://meritbadge.org/wiki/index.php/First_Aid) for these links and more:

First Aid Videos: [Basics](#) - [Basics2](#) [Wilderness First Aid](#) [CPR Basics](#) [Venomous Snake Bite](#) [First Aid Kits](#)

Other First Aid Links: [Mayo Clinic First Aid Guide](#) [Class 1 Exam](#) [Class 3](#) [Warning Signs of Cancer](#) - [Heart Disease](#)

2: **Fishing equipment:** Cabela's: <http://www.cabelas.com/>

Bass Pro Shop: <http://www.basspro.com/>

3: **Fishing lessons online:** [ExpertVillage Fishing Videos](#)

► [Basics for Kids](#)

► [Advanced Fishing](#)

4. **Knots:** See <http://meritbadge.org/wiki/index.php/Pioneering> for these links and more:

Knot Videos: [Basics](#) - [Basics2](#) - [USScouts Knots](#) - [Animated knots](#) - [More Animated Knots](#) - [Still more](#)

Other Knot Links: [Knots](#) - [Sea Scout Knots](#) - [Ropers Knots Page](#) - [Climbing Knots](#) - [Fishing knots](#) - [Knots Index](#)

5: **Fishing Lures**

Cabela's: <http://www.cabelas.com/>

Bass Pro Shop: <http://www.basspro.com/>

6: **Leave No Trace** (see next page)

7: **Fishing Licenses and Laws for your state:** <http://www.takemefishing.org/fishing/license>

8: **Outdoor Code** (see next page)

9: **How to fillet a fish:** ► [http://www.expertvillage.com/video-series/2211\\_fillet-saltwater-fish.htm](http://www.expertvillage.com/video-series/2211_fillet-saltwater-fish.htm)

9: **Cooking:** See <http://meritbadge.org/wiki/index.php/Cooking> for these links and more:

Cooking Videos: [Food Selection](#) - [Food Quality](#) - [Stoves](#) - [Utensils](#) - [Water Purification](#) - [Leave No Trace](#)

Other Cooking links: [Leave No Trace](#) - [Cooking](#) - [Water Treatment](#) - [Stove Safety](#) - [Food Safety](#) - [Meal Ideas](#)

### General Resources:

American Fisheries Society: <http://www.fisheries.org>

American Zoo and Aquarium Association: <http://www.aza.org>

American Sportfishing Assn.: <http://www.asafishing.org>

Future Fisherman Foundation: <http://www.futurefisherman.org>



## Wilderness Use Policy of the Boy Scouts of America

All privately or publicly owned backcountry land and designated wildernesses are included in the term "wilderness areas" in this policy. The Outdoor Code of the Boy Scouts of America and the principles of Leave No Trace apply to outdoor behavior generally, but for treks into wilderness areas, minimum-impact camping methods must be used. Within the outdoor program of the Boy Scouts of America, there are many different camping-skill levels. Camping practices that are appropriate for day outings, long-term Scout camp, or short-term unit camping might not apply to wilderness areas. Wherever they go, Scouts need to adopt attitudes and patterns of behavior that respect the rights of others, including future generations, to enjoy the outdoors.

- In wilderness areas, it is crucial to minimize human impact, particularly on fragile ecosystems such as mountains, lakes and streams, deserts, and seashores. Because our impact varies from one season of the year to the next, it becomes important for us to adjust to these changing conditions to avoid damaging the environment.
- The Boy Scouts of America emphasizes these practices for all troops, teams, and crews planning to use wilderness areas:
- Contact the landowner or land-managing agency (USDA Forest Service, National Park Service, Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, state and private agencies, etc.) well before an outing to learn the regulations for that area, including group size limits, to obtain required permits and current maps, and to discuss ways Scouts can fulfill the expectations of property owners or land managers.
- Obtain a tour permit (available through local council service centers), meet all of its conditions, and carry it during the trip.
- Review the appropriate BSA safety literature relating to planned activities. (See Safe Swim Defense, Safety Afloat, Climb On Safely, and Trek Safely.) Also see the Guide to Safe Scouting on the BSA Web site at <http://www.scouting.org/pubs/gss/toc.html> for more information on current BSA policies and procedures for ensuring safe activities, as well as the Fieldbook Web site at <http://www.bsafieldbook.org>.
- Match the ruggedness of high-adventure experiences to the skills, physical ability, and maturity of those taking part. Save rugged treks for older unit members who are more proficient and experienced in outdoor skills.
- Conduct pretrip training for your group that stresses proper wilderness behavior, rules, and skills for all of the conditions that may be encountered, including lightning, missing person, wildfire, high winds, flooding, and emergency medical situations.
- Participate in training in how to apply the principles of Leave No Trace, and be proficient and experienced in the leadership and skills required for treks into wilderness areas.
- Adhere to the principles of Leave No Trace.

### The Principles of Leave No Trace

1. Plan Ahead and Prepare
2. Travel and Camp on Durable Surfaces
3. Dispose of Waste Properly (Pack It In, Pack It Out)
4. Leave What You Find
5. Minimize Campfire Impacts
6. Respect Wildlife
7. Be Considerate of Other Visitors

### Outdoor Code

As an American, I will do my best to—

**Be clean in my outdoor manners.** I will treat the outdoors as a heritage. I will take care of it for myself and others. I will keep my trash and garbage out of lakes, streams, fields, woods, and roadways.

**Be careful with fire.** I will prevent wildfire. I will build my fires only when and where they are appropriate. When I have finished using a fire, I will make sure it is cold out. I will leave a clean fire ring, or remove all evidence of my fire.

**Be considerate in the outdoors.** I will treat public and private property with respect. I will follow the principles of Leave No Trace for all outdoor activities.

**Be conservation-minded.** I will learn about and practice good conservation of soil, waters, forests, minerals, grasslands, wildlife, and energy. I will urge others to do the same.

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Merit Badge Workbook

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

Izaak Walton League of America: <http://www.iwla.org>

National Oceanic and Atmospheric Administration Fisheries: <http://www.nmfs.noaa.gov>

Nat. Fish and Wildlife Foundation: <http://www.nfwf.org>

National Park Service: <http://nps.gov>

Trout Unlimited: <http://www.tu.org>

U.S. Fish and Wildlife Service: <http://www.fws.gov>

Print your name, address, city, unit type & number, District, Council & Merit Badge legibly.

for this merit badge on District's list.  
 Your unit leader signs & dates.  
 Read the merit badge pamphlet.

Always meet with your counselor along with a buddy (a Scout, friend, or parent).

**Counselor's Section**

**Applicant's Section**

**Council Section**

**Information for Applicant**

- A merit badge application can be approved only by a registered merit badge counselor.
- You must have a buddy with you (Scout buddy system) at each meeting with the merit badge counselor.
- Turn in your approved application to your unit leader. You will be awarded the merit badge and certificate at a suitable occasion.

**Information for Counselor**

- Merit badge applications must be signed in advance by the applicant's unit leader.
- The Scout must have his buddy (Scout buddy system) in attendance at all instructional sessions.
- You may not change any requirement, but you may share your knowledge or experience that will make the counseling more interesting and valuable.

#34124A

No. and letter	Requirement	Approval Date of	Initials of Counselor
1.		06/11	BL
2.		06/11	BL
3.			
4.			
5.		06/11	BL
6.		06/11	BL
7.		06/11	BL
8.		06/11	BL
9.			

**APPLICATION FOR MERIT BADGE**

Name

---

Address

---

City   
 is a registered  
 Boy Scout  Varsity Scout  Venturer

of      Troop No.       
Troop, team, crew, ship

District

---

Council   
 and is qualified to begin working for this merit badge

---

Date      Signature of unit leader

34124A **BOY SCOUTS OF AMERICA**  
 2001 Boy Scouts of America

**COUNSELOR'S RECORD**

Applicant

Troop      Unit number       
Troop, team, crew, ship

Merit Badge

Date completed     

Remarks:

It is suggested that the counselor keep this record for at least 1 year in case any question is raised later in regard to this award.

**APPLICANT'S RECORD**

Name

Has given me his completed application for the

Merit Badge

Completed on      by       
 Date

      
 Signature of Counselor

      
 Signature of Unit Leader

Note to Scout: Retain this copy for your permanent records.

The applicant has personally appeared before me and demonstrated to my satisfaction that he has met all requirements for the (please print)

Merit badge

Name of counselor

Address of counselor

City Zip code

Telephone number of counselor

Signature of counselor Date Completed

Checked and recorded:            
 Date Initials

Certificate and badge presented       
 Date

Applicant will turn in this portion to his unit leader for record posting.

**INSTRUCTIONS TO COUNSELOR:**

- Your Leader must verify that the counselor is registered & approved
- Never meet alone with a Scout.
- Verify all info & merit badge name.

- Call counselor for appointment.
- Print your name, address, & ph. #
- Date/initial requirements as done.

**INSTRUCTIONS TO UNIT:**

- A 2<sup>nd</sup> counselor can finish card.
- Note each name, address & phone.





# Rifle Shooting

## Merit Badge Workbook

This workbook can help you but you still need to read the merit badge pamphlet (book). No one can add or subtract from the Boy Scout Requirements #33215. Merit Badge Workbooks and much more are below: [Online Resources](#).  
Workbook developer: [craig@craiglincoln.com](mailto:craig@craiglincoln.com). Requirements revised: 2001, Workbook updated: April 2008.

Scout's Name: \_\_\_\_\_ Unit: \_\_\_\_\_

Counselor's Name: \_\_\_\_\_ Counselor's Ph #: \_\_\_\_\_

### 1. Do the following:

- a. Explain why BB and pellet air guns must always be treated with the same respect as firearms. because BB and air guns can kill.
- b. Describe how you would react if a friend visiting your home asked to see your or your family's firearm(s). NO Because you'd never no it he or she will hurt someone. And they'll steal it.
- c. Explain the need for, and use and types of, eye and hearing protection. Ear plugs, headphones glasses because you'd never know if you'd react to you and go deaf.
- d. Give the main points of the laws for owning and using guns in your community and state. It would scare others and there's no open safe places
- e. Explain how hunting is related to the wise use of renewable wildlife resources. hunting helps by getting rid of too much of the same thing and keeps the food and ecosystem on a balance.
- f. Obtain a copy of the hunting laws for your state. Explain the main points of hunting laws in your state and give any special laws on the use of guns or ammunition. Different seasons for shooting. hunting can be all year round.

g. Identify and explain how you can join or be a part of shooting sports activities. Join shooting range, nrg, Quail hunting, rabbit hunting, Deer hunting,

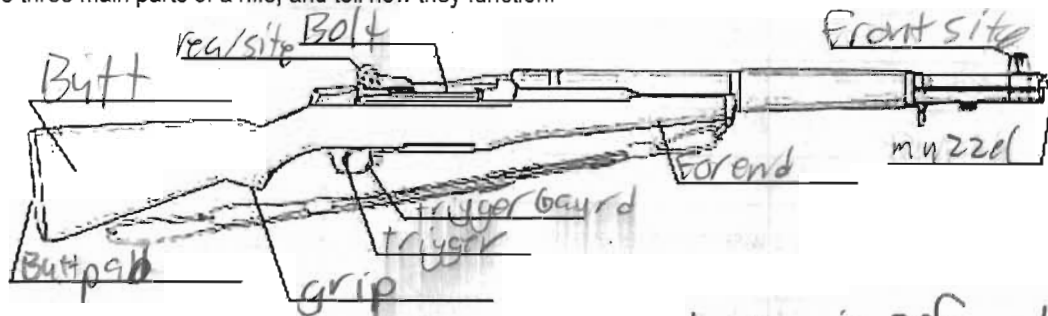
h. Explain to your counselor the proper hygienic guidelines used in shooting. Clean your shirt when your done shooting and wash your hands,

i. Give to your counselor a list of sources that you could contact for information on firearms and their use. Local leader, fishing game department, police department, library.

2. Do ONE of the following options:

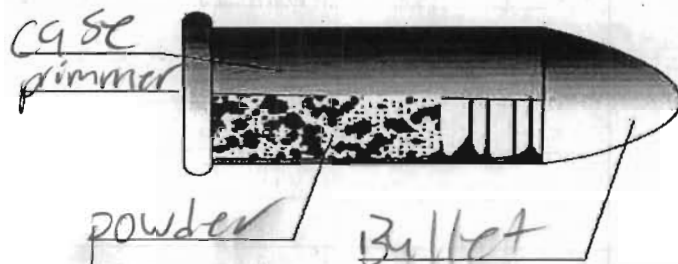
OPTION A --- RIFLE SHOOTING (Modern Cartridge Type)

a. Identify the three main parts of a rifle, and tell how they function.



b. Identify and demonstrate the three fundamental rules for safe gun handling. 1. gun in safe direction  
2. never always fire your gun when your ready to fire  
3. Pull trigger when ready

c. Identify the two types of cartridges, their parts, and how they function.



d. Explain to your counselor what a misfire, pin hits primer nothing happens.

hangfire, gas hits slowly and fires 10 sec. later.

and squib fire are, NOT enough powder and it hits the primer.

and explain the procedures to follow in response to each. wait 30 seconds

e. Identify and demonstrate the five fundamentals of shooting a rifle safely. breath control How you sit, aiming trigger control, follow through.

f. Identify and explain each rule for safe shooting. Gun down range/safe position Dont have finger on trigger till ready to fire. keep gun unloaded till ready to use it.

g. Demonstrate the knowledge, skills, and attitude necessary to safely shoot a rifle from the bench rest position or supported prone position while using the five fundamentals of rifle shooting.

h. Identify the basic safety rules for cleaning a rifle, and identify the materials needed

cleaning rod bore oil cloth gunoil

i. Demonstrate how to clean a rifle properly and safely.

j. Discuss what points you would consider in selecting a rifle size, what your hunting your size

k. Using a .22 caliber rimfire rifle and shooting from a bench rest or supported prone position at 50 feet, fire five groups (three shots per group) that can be covered by a quarter. Using these targets, explain how to adjust sights to zero.

l. Adjust sights to center the group on the target and fire five groups (five shots per group)\*. According to the target used, each shot in the group must meet the following minimum score:

1. A-32 targets - 9                      Score: \_\_\_\_\_

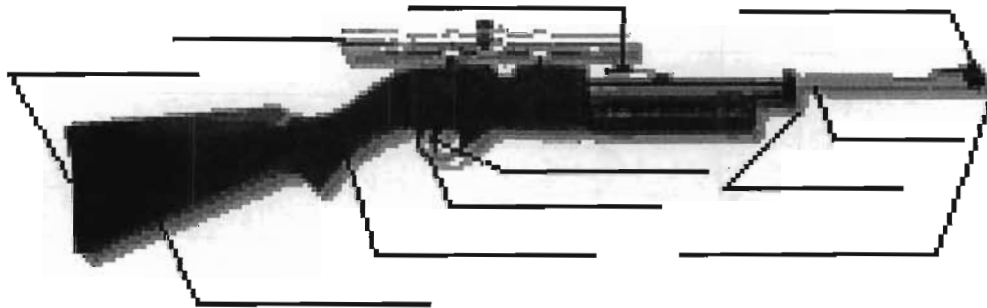
2. A-17 or TQ-1 targets - 7,              Score: \_\_\_\_\_

3. A-36 targets - 5.                      Score: \_\_\_\_\_

**\* Note: It is not always practical to adjust the sights (i.e. when using a borrowed fixed-sight rifle). For requirement 2l, you may demonstrate your ability to use the shooting fundamentals by shooting five shot groups (five shots per group) in which all shots can be covered by a quarter and then explain how to adjust the sights to zero the rifle.**

**OPTION B --- AIR RIFLE SHOOTING (BB or Pellet)**

a. Identify the three main parts of an air rifle, and tell how they function.



b. Identify and demonstrate the three fundamental rules for handling a rifle safely. \_\_\_\_\_

\_\_\_\_\_

c. Identify the two most common types of air rifle ammunition.

d. Identify and demonstrate the five fundamentals of shooting a rifle. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

e. Identify and explain each rule for shooting an air rifle safely. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

f. Demonstrate the knowledge, skills and attitude necessary to safely shoot a target from the bench rest position or supported prone position while using the five fundamentals of rifle shooting.



g. Identify the basic safety rules for cleaning an air rifle, and identify the materials needed. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

h. Demonstrate how to clean an air rifle safely. \_\_\_\_\_

i. Discuss what points you would consider in selecting an air rifle. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

j. Using a BB gun or pellet air rifle and shooting from a bench rest or supported prone position at 15 feet for BB guns or 33 feet for air rifles, fire five groups (three shots per group) that can be covered by a quarter.

k. Adjust sights to center the group on the target and fire five groups (five shots per group). According to the target used, each shot in the group must meet the following minimum score:

1. BB rifle at 15 feet or 5 meters using TQ - 5 targets - 8. Score: \_\_\_\_\_

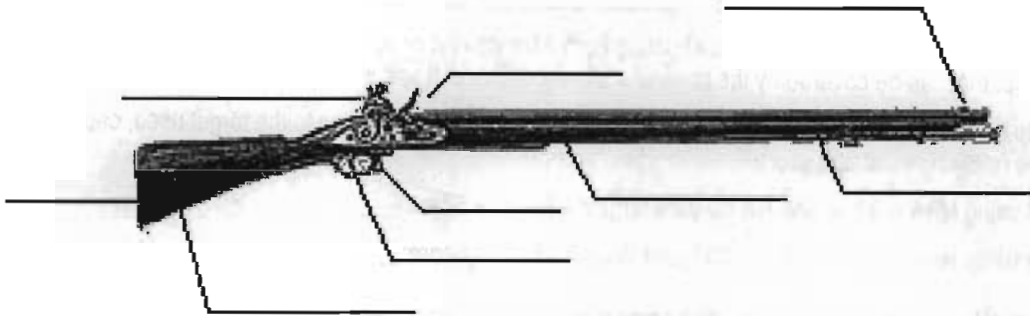
2. Pellet air rifle at 25 feet using TQ - 5 target - 8, at 33 feet or 10 meters using AR-1 targets - 6. Score: \_\_\_\_\_

**OPTION C --- MUZZLE - LOADING RIFLE SHOOTING**

a. Discuss a brief history of the development of muzzle-loading rifles. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

b. Identify principal parts of percussion and flintlock rifles and discuss how they function.



c. Demonstrate and discuss the safe handling rules of muzzle-loading rifles. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

d. Identify the various grades of black powder and their proper use. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

e. Discuss proper safety procedures pertaining to black powder use and storage. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

f. Discuss proper components of a load. \_\_\_\_\_

\_\_\_\_\_

g. Identify proper procedures and accessories used for loading a muzzle-loading rifle. \_\_\_\_\_

\_\_\_\_\_

h. Demonstrate the knowledge, skills, and attitude necessary to safely shoot a muzzle-loading rifle on a range, including range procedures.

i. Shoot a target with a muzzle-loading rifle using the five fundamentals of firing the shot.

j. Identify the materials needed to clean a muzzle-loading rifle safely. Using these materials, demonstrate how to clean a muzzle loading rifle safely.

\_\_\_\_\_

k. Identify the causes of a muzzle-loading rifle's failing to fire and explain or demonstrate proper correction procedures. \_\_\_\_\_

\_\_\_\_\_

l. Discuss what points you would consider in selecting a muzzle-loading rifle. \_\_\_\_\_

\_\_\_\_\_

m. Using a muzzle-loading rifle of any caliber and shooting from a bench rest or supported prone position, fire three groups (three shots per group, that can be covered by the base of a standard-size soft drink can).

n. Center the group on the target and fire three groups (five shots per group). According to the target used, each shot in the group must meet the following minimum score:

1. at 25 yards using NRA A-23 or NMLRA 50-yard targets - 7;      Score: \_\_\_\_\_

2. at 50 yards using NRA A-25 or NMLRA 100 yard targets - 7.      Score: \_\_\_\_\_

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

**Boy Scouts of America:** ▶ [scouting.org](http://scouting.org) ▶ [Guide to Safe Scouting](#) ▶ [Age-Appropriate Guidelines](#) ▶ [Safe Swim Defense](#)  
▶ [Scout](#) ▶ [Tenderfoot](#) ▶ [Second Class](#) ▶ [First Class](#) ▶ [Rank Videos](#) ▶ [Safety Afloat](#)

**Boy Scout Merit Badge Workbooks:** [usscouts.org](http://usscouts.org) -or- [meritbadge.org](http://meritbadge.org)      **Merit Badge Books:** [www.scoutstuff.org](http://www.scoutstuff.org)

▶ [Leave No Trace](#) ▶ [Outdoor Code](#) ▶ [Wilderness Use Policy](#) ▶ [Youth Protection Training](#)

[ExpertVillage First Aid Videos](#) ▶ [Make a First Aid Kit](#) ▶ [Basics](#) ▶ [Basics2](#) ▶ [CPR Basics](#) ▶ [Venomous Snake Bite](#)

[ExpertVillage.com Lesson Videos:](#) ▶ [Loading & Cleaning](#) ▶ [All About Target Shooting](#)

Alco Target Company: <http://www.alcotarget.com>

Little Sales Company: <http://www.michaelsoforegon.com>

National Rifle Association: <http://www.nra.org>

National Target Company: <http://www.nationaltarget.com>

U.S. Target Company: <http://www.ustargetonline.com>

**MERIT BADGE APPLICATION INSTRUCTIONS TO SCOUT:**

**Press F1 for help for any blank.**

Print your name, address, city, unit type & number, District, Council & Merit Badge legibly.

for this merit badge on District's list.  
 Your unit leader signs & dates.  
 Read the merit badge pamphlet.

Always meet with your counselor along with a buddy (a Scout, friend, or parent).

**Counselor's Section**

**Applicant's Section**

**Council Section**

**Information for Applicant**

- A merit badge application can be approved only by a registered merit badge counselor.
- You must have a buddy with you (Scout buddy system) at each meeting with the merit badge counselor.
- Turn in your approved application to your unit leader. You will be awarded the merit badge and certificate at a suitable occasion.

**Information for Counselor**

- Merit badge applications must be signed in advance by the applicant's unit leader.
- The Scout must have his buddy (Scout buddy system) in attendance at all instructional sessions.
- You may not change any requirement, but you may share your knowledge or experience that will make the counseling more interesting and valuable.

#34124A

No. and letter	Requirement	Approval Date of	Initial	Counselor	No. and letter	Requirement	Approval Date of	Initial	Counselor	No. and letter	Requirement	Approval Date of	Initial	Counselor	No. and letter	Requirement	Approval Date of	Initial	Counselor	No. and letter	Requirement	Approval Date of	Initial	Counselor

**APPLICATION FOR MERIT BADGE**

Name [ ] [ ] [ ] [ ]

Address [ ] [ ] [ ] [ ]

City [ ] [ ] [ ] [ ]

is a registered

Boy Scout  Varsity Scout  Venturer

of  Troop No. [ ] [ ] [ ] [ ]

Troop, team, crew, ship

District [ ] [ ] [ ] [ ]

Council [ ] [ ] [ ] [ ]

and is qualified to begin working for this merit badge

Date  X  Signature of unit leader

34124A **BOY SCOUTS OF AMERICA**  
2001 Boy Scouts of America

**COUNSELOR'S RECORD**

Applicant [ ] [ ] [ ] [ ]

[ ] [ ] [ ] [ ]

[ ] [ ] [ ] [ ]

Troop Unit number [ ] [ ] [ ] [ ]   
Troop, team, crew, ship

[ ] [ ] [ ] [ ]

Merit Badge

Date completed \_\_\_\_\_

Remarks:

It is suggested that the counselor keep this record for at least 1 year in case any question is raised later in regard to this award.

**APPLICANT'S RECORD**

Name [ ] [ ] [ ] [ ]

[ ] [ ] [ ] [ ]

[ ] [ ] [ ] [ ]

Has given me his completed application for the

[ ] [ ] [ ] [ ]  
Merit Badge

Completed on \_\_\_\_\_ by \_\_\_\_\_  
Date

Signature of Counselor

Signature of Unit Leader

Note to Scout: Retain this copy for your permanent records.

The applicant has personally appeared before me and demonstrated to my satisfaction that he has met all requirements for the (please print)

[ ] [ ] [ ] [ ]

Merit badge

[ ] [ ] [ ] [ ]

Name of counselor

[ ] [ ] [ ] [ ]

Address of counselor

[ ] [ ] [ ] [ ]

City

[ ] [ ] [ ] [ ]

Zip code

[ ] [ ] [ ] [ ]

Telephone number of counselor

X

Signature of counselor

Date Completed

Checked and recorded:

Date

Initials

Certificate and badge presented

Date

**Applicant will turn in this portion to his unit leader for record posting.**

**INSTRUCTIONS TO COUNSELOR:**

- Your Leader must verify that the counselor is registered & approved
- Never meet alone with a Scout.
- Verify all info & merit badge name.

Call counselor for appointment.

- Print your name, address, & ph. #
- Date/initial requirements as done.

**INSTRUCTIONS TO UNIT:**

- A 2<sup>nd</sup> counselor can finish card.
- Note each name, address & phone.





# Environmental Science

## Merit Badge Workbook

This workbook can help you but you still need to read the merit badge pamphlet (book). No one can add or subtract from the Boy Scout Requirements #33215. Merit Badge Workbooks and much more are below: [Online Resources](#).

Worksheet developer: [craig@craiglincoln.com](mailto:craig@craiglincoln.com). Requirements revised: 2006, Workbook updated: April 2008.

Scout's Name: Alex Smith Unit: 655

Counselor's Name: \_\_\_\_\_ Counselor's Ph #: \_\_\_\_\_

### 1. Make a timeline of the history of environmental science in America.

1500	1600	1700	1800	1900	2000
Indians clear land for game land over use	Passed laws to cut trees 6 months year restrict deer hunting		Forest land organization Yellowstone made national park	Congress, park city national park service multiple use Sustained yield act	Bureau land management Earth Day

Identify the contribution made by the Boy Scouts of America to environmental science.

Include dates, names of people or organizations, and important events.

1902	Ernest	To preserve the Indians
1904	William	To protect migratory birds
1905	Daniel Beard	wrote book
1910	William D Boyce	Founder of B.S.A

### 2. Define the following terms:

population, The number of a group of a species

community, a group of species

ecosystem, living & nonliving factors & relationship

biosphere, The place where we live

symbiosis, relationships

niche, The role of a species in a community

habitat, ~~The role of a species in~~

conservation, to conserve

threatened species, were there going to die

endangered species, were there 5% left

extinction NOT living all dead

pollution prevention, methods used to prevent pollution

brownfield, a section of land that is contaminated by poison.

ozone, 3 oxygen molecules that runs on gasoline & Electricity.

watershed, A region draining into a river, river system or other body of water.

airshed, an area that shares the same air due to geographic weather patterns and climate

nonpoint source, source of pollution that can't be traced to a single point

hybrid vehicle, a vehicle that runs on gasoline & Electricity.

fuel cell, converts a gas into Electricity & water

3. Do ONE activity in EACH of the following categories (using the activities in this pamphlet as the bases for planning and carrying out your projects):

#### A. Ecology

1. Conduct an experiment to find out how living things respond to changes in their environments. Discuss your observations with your counselor. -OR-
2. Conduct an experiment illustrating the greenhouse effect. Keep a journal of your data and observations. Discuss your conclusions with your counselor. -OR-

3. Discuss what is an ecosystem. Tell how it is maintained in nature and how it survives.

an Eco system is of nonliving & living Factors & relationships in the wilderness it is the circle of life and its where animals either work together or fight against each other.

#### B. Air Pollution

1. Perform an experiment to test for particulates that contribute to air pollution. Discuss your findings with your counselor. -OR-
2. Record the trips taken, mileage, and fuel consumption of a family car for seven days, and calculate how many miles per gallon the car gets. Determine whether any trips could have been combined ("chained") rather than taken out and back. Using the idea of trip chaining, determine how many miles and gallons of gas could have been saved in those seven days. -OR-
3. Explain what is acid rain. In your explanation, tell how it affects plants and the environment and the steps society can take to help reduce its effects.

acid rain is caused by clouds that industry gases. It'll mix with the acid that's already in the clouds. Which is where it turns to acid rain goes to the lake kills fish and goes again.

#### C. Water Pollution

1. Conduct an experiment to show how living things react to thermal pollution. Discuss your observations with your counselor. -OR-
2. Conduct an experiment to identify the methods that could be used to mediate (reduce) the effects of an oil spill on waterfowl. Discuss your results with your counselor. -OR-







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Non-plant species type	Number	Non-plant species type	Number

**-OR b)** Make at least three visits to each of the two study areas (for a total of six visits), staying for at least 20 minutes each time, to observe the living and nonliving parts of the ecosystem. Space each visit far enough apart that there are readily apparent differences in the observations. Keep a journal that includes the differences you observe. Then, write a short report that adequately addresses your observations, including how the differences of the study areas might relate to the differences noted, and discuss this with your counselor.

**Visit 1 Date:** 6/14/11 **Time Started:** 9:00 **Time Ended:** 9:20

Observations of living parts: Fish, crabs, trees, insects, squirrel

Observations of nonliving parts: Water, dirt, sticks, soil, rocks

Differences noted: \_\_\_\_\_

**Visit 2 Date:** 6/15/11 **Time Started:** 9:00 **Time Ended:** 9:20

Observations of living parts: \_\_\_\_\_

Observations of nonliving parts: \_\_\_\_\_

Differences noted: \_\_\_\_\_

**Visit 3 Date:** 6/16/11 **Time Started:** 9:00 **Time Ended:** 9:20

Observations of living parts: \_\_\_\_\_

Observations of nonliving parts: \_\_\_\_\_

Differences noted: \_\_\_\_\_

Then, write a short report that adequately addresses your observations, including how the differences of the study areas might relate to the differences noted, and discuss this with your counselor. \_\_\_\_\_

I went to the zipline area and lake. The zipline had trees, rocks, twigs, animals, the lake had water, crawfish, fish, logs, moss.

5. Using the construction project provided or a plan you create on your own, identify the items that would need to be included in an environmental impact statement for the project planned. look at endangered & threatened species, control erosion with shower & plant lock

Grasses, make snakes part of amusement parks.

6. Find out about three career opportunities in environmental science.

environmental scientists: tests with environment.

Soil tester - test soil for hazards

Fish and Game Dep. - Give permits and stockfish

Pick one and find out the education, training, and experience required for this profession. Farmer

education no real education but can be taught by parents - FFA (Future Farmers Education)

experience - harvesting crops, take care of animals.

Discuss this with your counselor, and explain why this profession might interest you. \_\_\_\_\_

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

**Boy Scouts of America:** ▶ [scouting.org](http://scouting.org) ▶ [Guide to Safe Scouting](#) ▶ [Age-Appropriate Guidelines](#) ▶ [Safe Swim Defense](#)  
▶ [Scout](#) ▶ [Tenderfoot](#) ▶ [Second Class](#) ▶ [First Class](#) ▶ [Rank Videos](#) ▶ [Safety Afloat](#)

**Boy Scout Merit Badge Workbooks:** [usscouts.org](http://usscouts.org) -or- [meritbadge.org](http://meritbadge.org) **Merit Badge Books:** [www.scoutstuff.org](http://www.scoutstuff.org)

Advocacy Organizations: <http://www.saveourevironment.org> Earth 911: <http://www.earth911.org>

Endangered Species: <http://endangered.fws.gov>

Environmental Protection Agency: <http://www.epa.gov>

Keep America Beautiful: <http://www.kab.org>

Leave No Trace Center: <http://www.LNT.org>

Nat. Climatic Data Center: <http://wf.ncdc.noaa.gov/oa/ncdc.html>

Nat. Park Service: <http://www.nps.gov>

Nat. Fish and Wildlife Foundation: <http://www.nfwf.org>

Sierra Club: <http://www.sierraclub.org>

Natural Resources Cons. Service: <http://www.nrcs.usda.gov>

U.S. Fish and Wildlife Service: <http://www.fws.gov>

Society of American Foresters: <http://www.safnet.org>

Wildlife Conservation Society: <http://wcs.org>

USDA Forest Service: <http://www.fs.fed.us>

World Wildlife Fund: <http://www.worldwildlife.org>





The Mount Graham Red Squirrel is an endangered species. It lives in the Pinaleño mountains of Arizona. The Mount Graham red squirrel is nothing like the regular red squirrel. This squirrel is much smaller and tinier, measuring up to 8 inches in length. Females and males share the same features.