

Girl Handbook Supplement



This Handbook Supplement belongs to:

Name: _____

Troop #: _____

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AMERICAN HERITAGE GIRLS

*Building women of integrity through service to
God, family, community, and country.*

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AHG Shooting Sports Badge Advisory Committee:

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Hi Girls!

I hope you enjoy the new Badges and Sports Pins that are included in this volume – AHG’s first ever Girl Handbook Supplement. In addition, please note the newly revised flag ceremony that is best used in both your Troop and for community events.

It is my prayer that these new Badges and Sports Pins provide hours of adventure and fun while sharing the important message of God’s love. Whether you find a new hobby, a new friend, or even a vocation, may your time in AHG be a blessing!

Thank you for being a member of American Heritage Girls and striving to become a woman of integrity through service to God, family, community, and country.

I am wishing you God’s blessings as you seek to serve Him now and throughout your life.

Serving Him,

Patti Garibay
National Executive Director and Founder
American Heritage Girls, Inc.



Flag Etiquette



STANDARDS OF RESPECT

The Flag Code, which formalizes and unifies the traditional ways in which we give respect to the flag, also contains specific instructions on how the flag is not to be used. They are:

- The Flag should never be dipped to any person or thing. It is flown upside down only as a distress signal.
- The Flag should not be used as a drapery, or for covering a speaker's desk, draping a platform, or for any decoration in general. Bunting of blue, white and red stripes is available for these purposes. The blue stripe of the bunting should be on the top.
- The Flag should never be used for any advertising purpose. It should not be embroidered, printed or otherwise impressed on such articles as cushions, handkerchiefs, napkins, boxes, or anything intended to be discarded after temporary use. Advertising signs should not be attached to the staff or halyard.
- The Flag should not be used as part of a costume or athletic uniform, except that a flag patch may be used on the uniform of military personnel, fireman, policeman and members of patriotic organizations.
- The Flag should never have placed on it, or attached to it, any mark, insignia, letter, word, number, figure, or drawing of any kind.

- The Flag should never be used as a receptacle for receiving, holding, carrying, or delivering anything.

RAISING AND LOWERING THE FLAG

The Flag should be raised briskly and lowered slowly and ceremoniously. Ordinarily it should be displayed only between sunrise and sunset. It should be illuminated if displayed at night. The Flag of the United States of America is saluted as it is hoisted and lowered. The salute is held until the Flag is unsnapped from the halyard or through the last note of music, whichever is the longest.

When the Flag is lowered, no part of it should touch the ground or any other object; it should be received by waiting hands and arms. To store the Flag it should be folded neatly and ceremoniously. The Flag should be cleaned and mended when necessary.

DISPLAYING THE FLAG INDOORS

When on display, the Flag is accorded the place of honor, always positioned to its own right. Place it to the right of the speaker or staging area or sanctuary. Other flags should be to the left. The Flag of the United States of America should be at the center and at the highest point of the group when a number of flags of states, localities, or



societies are grouped for display. When one flag is used with the Flag of the United States of America and the staffs are crossed, the Flag of the United States is placed on its own right with its staff in front of the other flag. When displaying the Flag against a wall, vertically or horizontally, the Flag's union (stars) should be at the top, to the Flag's own right, and to the observer's left.

PARADING AND SALUTING THE FLAG

When carried in a procession, the flag should be to the right of the marchers. When other flags are carried, the Flag of the United States may be centered in front of the others or carried to their right. When the Flag passes in a procession, or when it is hoisted or lowered, all should face the Flag and salute.

To salute, all persons come to attention. Those in uniform give the appropriate formal salute. Citizens not in uniform salute by placing their right hand over the heart and men with head cover should remove it and hold it to left shoulder, hand over the heart. Members of organizations in formation salute upon command of the person in charge.

THE PLEDGE OF ALLEGIANCE AND NATIONAL ANTHEM

The Pledge of Allegiance should be rendered by standing at attention, facing the Flag, and saluting.

When the national anthem is played or sung, citizens not in uniform should stand at attention and salute by placing their hand over their heart at the first note and hold the salute through the last note. The salute is directed to the Flag, if displayed, otherwise to the music.

THE FLAG IN MOURNING

To place the Flag at half staff, hoist it to the peak for an instant and lower it to a position half way between the top and bottom of the staff. The Flag is to be raised again to the peak for a moment before it is lowered.

On Memorial Day the Flag is displayed at half staff until noon and at full staff from noon to sunset. The Flag is to be flown at half staff in mourning for designated, principal government Leaders and upon presidential or gubernatorial order.

When used to cover a casket, the Flag should be placed with the union at the head and over the left shoulder. It should not be lowered into the grave.

STANDARD ELEMENTS OF FLAG CEREMONIES

A flag ceremony may be done in any manner, as long as it is done in good taste and follows proper flag etiquette. One of the main reasons for doing a Flag Ceremony is to give you a way to express loyalty to your country. It may include as many girls as needed for the size of the flag, etc. Color guards do not take part in the ceremony (pledges, oaths, songs, or salute). They stand at attention through the proceedings.

When raising and lowering the flag on a flag pole- Raise the flag briskly, lower it slowly.

When to greet the flag (By salute or hand over heart):

- You see it raised or lowered
- You pass it or it passes you
- When reciting the Pledge of Allegiance
- During the National Anthem

How to carry the flag- Always carry the flag aloft and flying free. Never dip the flag for anything or anyone.

FLAG BEARER: The person who carries the flag - one flag per person. Hold the staff at a slight angle in front of the body, or hold the folded Flag in front of the body at waist level. The Flag Bearer stands silent and at attention throughout the ceremony and does not repeat the Pledge of Allegiance nor sing the National Anthem.

COLOR GUARD: They guard the honor of the flag and watch to see that the Flag does not touch the ground. They stand behind the Flag bearer or to each side if in a line of more than one flag. Two per flag is traditional, but any number may be used. They stand silent and at attention throughout the ceremony and do not repeat the Pledge of Allegiance nor sing the National Anthem.

COLOR GUARD COMMANDER: The designated girl who “calls out” the parts of the ceremony. Stands in front and to one side of audience.

Caller Commands:

“Color Guard, Attention.” (Flag Bearers stand abreast with the U.S. Flag Bearer on the right. The Color Guards for abreast or behind the Flag Bearers.)

“Troop, Attention.”

“Troop, Salute.”

“Audience, please rise.. Those not in uniform, please place your right hand over your heart. Please remove your hats.”

“Color Guard, Forward, March.”

(Wait for Color Guard to reach the front position.)

“Color Guard, Halt!”

“Color Guard, Advance the Colors!”

(The U.S. Flag Bearer crosses from the right side of the aisle to the leftmost flag stand, and faces the audience. Immediately after the U.S. flag passes the Troop Flag Bearer, the Troop flag crosses from the left side of the aisle to the rightmost flag stand, and faces the audience. The Color Guards follow the flag they are guarding and come to attention at the outside of the Flag Bearers, and facing the audience.)



POSTING THE COLORS

“Color Guard, Prepare to post the colors.” (The Flag Bearers hover the flag poles over the hole in the flag stands and waits for the command to post the colors.)

“Color Guard, Post the Colors.” (Both, or all, flags should be placed in the stands at the same time. There should be one thump. Immediately, the Flag Bearers grasp the flags with both hands and pulls flag out to both sides of the pole to display the flag for a silent count of about three seconds and then the Flag Bearers come back to the position of attention.)

“Color Guard, Salute.” (Color Guard holds salute until the Pledge is done.)

“Please recite the Pledge of Allegiance!”

“Ready, Two!” (All salutes are dropped.)

“AHG Sign!”
(Everyone, except Color Guard, makes the AHG Sign.)

RETIRING THE COLORS

“Color Guard, Attention. Troop, Attention”

“Audience, Please rise for the retiring of the Colors.”

“Color Guard, Forward March.” (Wait until the Color Guard reaches the front position before giving the next command.)

“Color Guard, Halt.”

“Color Guard, Advance.” (U.S. Flag Bearer crosses from the right side of the aisle to the leftmost flag stand, and faces the audience. Immediately after the U.S. flag bearer passes the Troop Flag Bearer, the Troop flag Bearer crosses from the left side of the aisle to the rightmost flag stand, and faces the audience. The U.S. flag Color Guard crosses from the right side of the aisle to the outside of the U.S. Flag Bearer, and the Troop flag Color Guard crosses from the left side of the aisle to the outside of the Troop flag Bearer. Both Color Guards face the audience.)

“Color Guard, Salute.” (The Color Guard renders honors to the Colors.)

“Color Guard, Prepare to Retire the Colors.”
(Flag Bearers take hold of their flags with their hand in correct position for carrying the flags, and waits for the next command.)

“Please join us in reciting American Heritage Girls Oath. I promise to love God, cherish my family, honor my country, and serve in my community.”

Please join us in reciting the American Heritage Girls Creed.

As an American Heritage Girl, I will be: Compassionate, Helpful, Honest, Loyal, Perseverant, Pure, Resourceful, Respectful, Responsible, Reverent.”

“Ready, Two!” (AHG Sign is dropped.)

“Color Guard, Reform.” (The Flag Bearers step out and the Color Guard follows them as they march back to the front position.)

“Color Guard, Forward, March.”

“Color Guard, Halt.”

“Please join in prayer...”

“Color Guard, Dismissed. Troop, At Ease.”

“Audience, Please be seated!”

“Retire the Colors.” (Both, or all, flags should be pulled out of the flag stands and brought up immediately, in a smooth motion, to the carry position.)

“Troop salute. Those not in uniform, please place your right hand over your heart.”

“Color Guard, Reform.” (Flag Bearers should always turn to their left when turning around in order for the U.S. flag to always be on its own right. Wait for Color Guard to return to formation at the front position.)

“Color Guard, Forward, March.” (Flag Bearers step out and the Color Guard follows behind as they march to the **rear of the audience.**)

“Color Guard, Halt.”

“Troop, Two.” (All salutes are dropped.)

“Please bow your heads and join in prayer....”

“Color Guard, Dismissed.” (No commands are given, but the flags should immediately be secured and placed back in storage, whether they are rolled on the poles or removed from the poles and folded.)

“Audience, thank you for joining us.”

(Flag bearers should immediately put the flags away before starting to play with the other girls)



Badge Achievement Record

Badge	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
HERITAGE FRONTIER															
Our Constitution															
<i>Our Constitution Cont'd</i>															
FAMILY LIVING FRONTIER															
Sustainable Living															
<i>Sustainable Living Cont'd</i>															
Together As A Family - TH															
Together As A Family - EX															
Together As A Family - PiPa															
ARTS FRONTIER															
Pen & Paper Arts															
<i>Pen & Paper Arts Cont'd</i>															
OUTDOOR SKILLS FRONTIER															
Archery															
Shooting Sports BB															
Shooting - Rifle - PiPa															
Shooting-Shotgun- PiPa															
Survival, Search, & Rescue															
<i>S,S, & R cont'd</i>															
Where In The World															
PERSONAL WELL-BEING FRONTIER															
Mission Minded															
<i>Mission Minded Cont'd</i>															
Public Speaking															
<i>Public Speaking cont'd</i>															
SCIENCE & TECHNOLOGY FRONTIER															
Architecture															
Freshwater & Marine Biology															
Robotics															
<i>Robotics Cont'd</i>															
Badge	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15



"The lines have fallen to me in pleasant places; indeed, my heritage is beautiful to me."
(NASB, Psalm 16:6)

AHG



Heritage Frontier
Our Constitution





OUR CONSTITUTION



Just as a foundation supports a building and the framework defines the walls, the Constitution of the United States of America is the foundational document that defines the structure of the government and the laws of the land. Not only does the Constitution outline the powers that the government has, but it also defines the rights of the people and declares that the government cannot take on powers that it has not been given. As a citizen, it is important to know Our Constitution, the rights you are guaranteed under it, its history, and how the process to change the Constitution works.

“Let every person be subject to the governing authorities; for there is no authority except from God, and those authorities that exist have been instituted by God.” (New Revised Standard Version, Catholic Edition, Romans 13:1)



1. (T) Read the Constitution of the United States of America as signed on September 17, 1787 with your family, Unit, or Troop. Share at least one thing that you learned from the Constitution with the group.



2. (T) The Declaration of Independence is a foundational document upon which the Constitution was built. Memorize the 56 words at the heart of the Declaration, starting with “We hold these truths...” through “...consent of the governed.” Talk about what these words mean.



3. (T) Think about what an accomplishment it was for the signers of the Constitution to add their names to this founding document. How many signed the Constitution? Do you recognize any names of those that signed? Choose one signer of the Constitution to learn more about. Make a short video, monologue, skit, or puppet show from the point of view of one or more of the signers of the Constitution. Consider using a feather quill to sign your name just as the founding fathers did.



4. (T) What is the Bill of Rights? When was the Bill of Rights written? Why is it an important part of the Constitution? Learn a song or write your own song about the Bill of Rights. Include motions or visual aids to make the song fun and easy to learn and teach it to your Troop, Unit, family, or group of friends.

5. Make a booklet, short graphic novel, or other visual aid about what the First Amendment to the Constitution means for U.S. citizens.

6. Draw a picture (without wording) about why America’s Constitution is important to you based on the theme of the Constitution being America’s greatest strength.*

7. What are checks and balances? How are they a part of the Constitution? Write a poem about how the checks and balances of the U.S. Constitution protect our rights.*

_____ 8. Obtain and pass out at least ten copies of the Constitution to people who say they do not have a copy. Keep a copy for yourself, too! Share with your Troop, Troop Leader, or Unit Leader about your experience. (Free copies of the Constitution are easy to obtain from many organizations which support learning about the Constitution or may be printed at home from online sources – ask a parent or Leader for assistance.)

_____ 9. (E) If you did not earn this Badge as a Tenderheart, complete Requirements #1 and #2.



_____ 10. (E) Memorize the Preamble to the U.S. Constitution and recite it to your Troop, Unit, or other group. Share the importance of the Preamble, who wrote it, and what it does.



_____ 11. (E). There are seven articles in the Constitution, what does each one address? Choose any method to share this information with your Troop, Unit or family such as display boards, a speech, a skit, a puppet show, a game, or a song.



_____ 12. (E) What part of the Constitution makes up the Bill of Rights?

Invent a game to play with your Troop, Unit, family, and friends to help learn the Bill of Rights using symbols for the rights listed in the Bill of Rights and the Amendment number which contains that right.

OR

Using your own words, write the Bill of Rights in modern language and give an example of how it affects your life today.

_____ 13. (E) The U.S. Constitution when written was immediately amended by the addition of the Bill of Rights. Changing the Constitution or adding amendments requires great care and must be done using specific steps and processes. Which article in the Constitution addresses making changes to the Constitution? What is the process to add an amendment to the U.S. Constitution? How many Amendments to the Constitution are there today? Which Amendment gave women the right to vote? What does the word ratify mean? Have any amendments been repealed?

_____ 14. George Washington said, “A primary object should be the education of our youth in the science of government. In a republic, what species of knowledge can be equally important? And, what duty more pressing than communicating it to those who are to be the future guardians of the liberties of the country?” Did you know that it is a law (public law 108-447) in the United States as outlined in a joint resolution that September 17th is ‘citizenship day’ and the week that incorporates September 17th is Constitution Week? In fact, it is a requirement that students in schools with government funding study the Constitution during this week each year.

Take part in a Citizenship Day or Constitution Week activity.

OR If you do not have a school which includes this activity, start one at your school or Troop.

OR Write an article about Citizenship Day or Constitution Week for your local newspaper.

_____ 15. Learn about the Constitutional Convention of 1787. Recreate a discussion that the writers of the Constitution had about what to include in the Constitution. Recreate the discussions on at least

three items where there were different viewpoints. What were the different opinions and what caused the differences? What was the importance of their debates? What was required for the final document to be completed and signed?

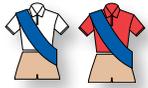


_____ 16. Write an essay 750-850 words long about how the U.S. Constitution Articles I-VII protect our rights. *

_____ 17. Take a photograph about what the U.S. Constitution means to you and its importance to you. Base the photo on the theme of the Constitution being America's greatest strength.*

_____ 18. Write an original song about religious freedom.*

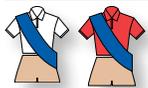
_____ 19. (Pi/Pa) If you did not earn this Badge as an Explorer, complete Requirements #9 and #10.



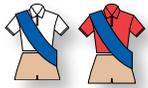
OR

If you did earn this Badge as an Explorer, take the time again to read the Constitution of the United States of America. You can do this individually, or plan a Constitution Reading Party!

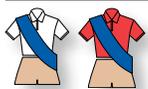
_____ 20. (Pi/Pa) Many people have jobs or positions that require them to take an oath to support and defend the Constitution of the United States. Find out who must take this oath. Interview someone that has taken this oath. Ask questions to learn more about why they took the oath, what the oath means to them, and why it is important. Ask them what you can do as a citizen that supports this oath. Be sure to thank them for their service and for taking the oath.



_____ 21. (Pi/Pa) Make a scrapbook, display board, electronic presentation, collage, or other presentation method using at least ten recent newspaper or magazine articles which demonstrate constitutional or unconstitutional issues or events. Label each with the part of the Constitution which addresses the issue.



_____ 22. (Pi/Pa) Compare your state constitution to the U.S. Constitution. How are they the same? Are there any common phrases in the two constitutions? How are they different? What rights belong to each based on the U.S. Constitution? Compose a survey of at least ten questions about your state constitution and the U.S. Constitution. Survey at least ten people and share the results. Teach a younger Unit or group what you learned about your state constitution and the answers to your survey.



_____ 23. (Pi/Pa) Public service announcements (PSAs) are made over radio and television stations. Learn what a PSA is, how they are sponsored, and what is required to make one for your local television or radio station. Make a one-minute video* or 30-second audio segment about why American citizens should know their U.S. Constitution. See if you can provide this as a PSA to be aired locally on radio or television, or share at a Troop meeting, local event or other group meeting.



_____ 24. The U.S. Constitution was based on many pieces of literature, teachings, and essays. These include the Holy Bible, the Magna Carta, several works by John Locke including "Two Treatises of Government", several works by Sir William Blackstone, several works by Charles de Montesquieu, and others. Choose at least two background pieces to investigate and discover what part(s) of the Constitution were most influenced by the work, the ideas of the author, and how it was used in the creation of the Constitution.



_____ 25. Visit the National Archives in Washington, D.C. Learn why the original U.S. Constitution is kept there. What other documents are kept at the Archives and why? What types of documents are kept at other National Archive locations? What types of documents are kept at Presidential Libraries? You may want to visit the National Archives website to learn more.

OR

Visit a National Archives location in another part of the country. Why is the original U.S. Constitution kept in the D.C. location? What documents are kept at the location you visit? What types of documents are kept at Presidential Libraries? You may want to visit the National Archives website to learn more.

OR

Visit a Presidential Library. Why is the original U.S. Constitution kept at the National Archives in Washington, D.C.? What types of documents are kept at a Presidential Library? What types of documents are kept at National Archive locations? You may want to visit the National Archives website to learn more.

_____ 26. Make a five- to ten-minute video about why the U.S. Constitution is relevant today. *

_____ 27. Attend a training academy or camp that teaches about the Constitution. **

_____ 28. Talk with someone who practices constitutional law. Discuss the role that the U.S. Constitution plays in their work. Ask them what they appreciate most about the U.S. Constitution. Find out what education and other requirements were needed to obtain their position. Ask questions about their daily work duties and what affects their work the most. What would they want more people to understand about the Constitution? What is their favorite Supreme Court decision which impacted constitutional law and why?

_____ 29. Challenges to laws often occur after the legislature has passed a law and expect it to be implemented. These challenges often make it all the way to the Supreme Court! What is the Supreme Court? What types of cases are heard before the Supreme Court? What are the steps to getting a case to the Supreme Court? Investigate two Supreme Court cases and tell what they were about, the majority decision, the dissenting opinion, and what part of the Constitution was involved. Who are the justices and how does a person become a Supreme Court justice? Who was the first female justice and in what year did she join the Supreme Court? Who is the Chief Justice today? Who was the first Chief Justice? How is a new Chief Justice chosen?

Additional Information:

*Requirements noted with an asterisk may meet yearly contest requirements with *Constituting America*. Visit www.constitutingamerica.org for complete details. Special thanks to *Constituting America* for providing content during the creation of this Badge.

**Some examples of camps for your family to research and approve are: *Torch of Freedom's Patriot Academy*, *TeenPact*, *YMCA Youth & Government*, *American Legion Auxiliary Girls State*, *Generation Joshua's iGovern*.

Leader's Signature (Tenderheart Level) *Date*

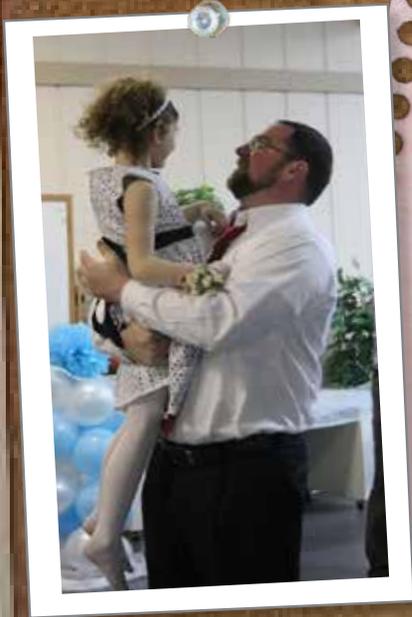
Leader's Signature (Explorer Level) *Date*

Leader's Signature (Pioneer or Patriot Level) *Date*



"So now you Gentiles are no longer strangers and foreigners. You are citizens along with all of God's holy people. You are members of God's family."
(NLT, Ephesians 2:19)

Family
Movie
Tonight!




Family Living Frontier
Sustainable Living
Together As A Family





SUSTAINABLE LIVING

For some people, sustainable living means stepping back into the past and living life like Americans did in pioneer days. To others, it means looking to the future and becoming more self-sufficient. Common to both groups is the realization that simplicity can mean hard work and great pleasure. Sustainable Living is about using the skills and resources that God has given us to be good stewards of our health, finances, and surroundings. It's about exploring basic survival skills our pioneer ancestors depended on while at the same time finding new technologies that are safe and efficient. Explore Sustainable Living and discover a life-style that takes time, commitment, and hard work, all while having fun.

Badges that supplement and provide additional skills for Sustainable Living include Sewing, Cooking, Home Care & Repair, Caring For My Environment, Fishing, Outdoor Cooking, Outdoor Skills, Horsemanship, and Gardening & Plant Science.



1. (T) How long can you hold your breath? How long can you sing one note? How much air will a balloon hold? To sustain means to support or hold up. Sustainable means to be able to continue something without using it all up. Together with your family or Unit, ask these questions and draw pictures or make a list of the answers: What do you think humans need to live comfortably and safely? Which of these things would need to be replaced occasionally? What would happen if they could not be replaced? Are there ways to make them last longer?



2. (T) Visit with a family that has a small farm. Help with chores such as feeding and caring for animals, harvesting fruits or vegetables, cleaning a barn, shelling beans, or other chores a girl your age could do. Take photos and make a "My Day at the Farm" scrapbook. Would you like to live on a farm? What things done on the farm with animals and gardening could you do at your home?

OR

Visit a living history museum which demonstrates farm life, gardening, and animal husbandry. Participate in any hands-on activities offered. Take photos and make a "My Day at the Farm" scrapbook. Would you like to have lived during this time period? What types of things could you do with animals or gardening at your home?



3. (T) Saving, or preserving, fruits and vegetables can provide your family with tasty and healthy food. Find a family friend that preserves fruits and vegetables and ask for samples, or obtain home-prepared items at a farmer's market or farm stand. Then, find the same type of item at the grocery store. Hold a family taste-testing to compare the home-preserved items with the store-bought items. What are the different ways food can be home-preserved?



4. (T) Power outages cause families to get very creative with basic needs. Suddenly you are living a little like your pioneer ancestors. With your family, make a booklet to prepare for sustaining your lives through an emergency like a power outage. What will you do:

- For clean water?
- For food (storing and preparing)?
- To stay warm or cool?
- For toilet and personal hygiene accommodations?
- To take care of pets and any livestock?
- For entertainment?

5. Locate a garden shop that supplies heirloom plants for spring planting. An heirloom plant is one from seeds that have not been scientifically changed and have been passed down for many generations. In the spring, plant a few heirloom vegetable plants in containers you have collected in the winter. Carefully tend and enjoy your plants, harvest the vegetables for your family, and also save some seeds from each type. Allow the seeds to dry thoroughly then store them in an airtight container in a cool place. Late next winter you will be able to start your own vegetable plants to share with others for their spring planting. Note: You do not have to wait for the second planting of your saved seeds to earn this Requirement.

6. Dehydrating fruits and vegetables is a great way to preserve them without adding extra sugar or salt. The keys to dehydrating are low heat, low humidity, and air flow. Fruits are safe to dry in the sun, but vegetables need to be dried in a dehydrator or oven. Try drying an apple. On a hot, dry, breezy day, carefully peel and core the apple, then slice into thin slices. Tie one end of a clean string between two trees or posts. Place the apple rings on the string, spacing at least two inches apart. Tie the other end of the string to the other tree or post. Lay a single layer of cheesecloth over the apple rings to keep insects and debris off. Let the sun, heat, and breeze create a tasty treat.



7. Try a pioneer day, or whole weekend, with your family without electricity! Use the plan you developed in Requirement #4. Take time afterwards to talk with your family about what worked well and what didn't. What will you need to adjust for your "no electricity" plan to be prepared for a real outage?

8. We live in a very blessed time and country. Anything we need is readily available, even toys. Children in earlier times and in some countries still today, entertain themselves with very creative toys made from common

materials they find; for instance, a ball made from plastic bags rolled together and tied with string. Pretend you have no toy then create one with materials others might throw away. Be safe with the materials you choose; if you are not sure, always ask an adult. Show your creation and how to play with it to your Unit and explain how you made it.

9. (E) Sustainable living means thinking ahead and using things wisely. This could mean planning for next year's food supply, preparing for an emergency, or even doing our part to assure there are energy resources for people in the next century! Make a chart, placing on one side a list of the things you use on a daily basis. On the other side, write down suggestions of how you could use these things more wisely. This may mean reusing, using less of, or not using something. Try some of your own suggestions for a week and tell your family or Leader how you did. Could you follow these suggestions for a longer period of time?



10. (E) Fresh fruits and vegetables are always tasty but there is a lot of rewarding work that must happen before they land on your plate! Many families are limited on space for large gardens but there are other ways to grow a bountiful harvest. Investigate each of these ways of gardening: container, vertical, roof-top, straw bale, hydroponic. Collect photos and information on these methods, plus any others you might discover, to create a presentation board to show your Unit. Discuss with your family which method may work at your home and give it a try with something tasty like tomato, lettuce, or pepper plants.



11. (E) With your Unit or family, find a good recipe and make a batch of jam, preserves, or jelly. What are the differences in these? Some of the easiest fruits to use are fresh peaches, strawberries, blueberries, and figs; for apple jelly, use apple juice. What food storage, sanitation, and preservation methods should be used? What is pectin and why is it important in this process?





12. (E) Creativity has led people throughout history to develop beautiful clothing and home accessories with what was available. Native Americans used animal hides for clothing and warm coverings. During the Great Depression when fabric was scarce and expensive, flour and meal sacks were used to create clothing, curtains, and bedding. Choose one of the activities below to explore:

- Search the library or internet for examples of quilts. What is the history of quilt-making? How are quilts constructed? What is the difference between hand-quilting and machine-quilting? What is a quilting bee? What is a fat quarter? Identify three quilt square patterns and create them from colored paper or with fabric. Use a pencil and mark a different stitch pattern on each of your squares.
- Search the library or internet for information on natural leather tanning. What is buckskin? What kinds of clothing and accessories can be made from leather? How can leather be decorated? Using a purchased kit, make and decorate a leather accessory.



13. Act as an investigative reporter and write a feature article for your Troop newsletter or community newspaper. Visit with someone who raises chickens in their yard. Why did they decide to have chickens? What kind of chickens do they have and how do they care for them? What kind of housing do they provide for the chickens? Ask them for an egg; compare this egg to one bought at a grocery store – don't forget to do a taste test! Include your observations in your article. Find out if there are regulations in your community about having chickens. Be sure to add interest to your article with photos.

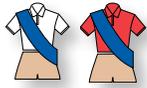
14. Hardiness zones show you which plants will grow best in different areas of the United States. In which zone do you live? When choosing plants to grow, there are other factors to consider. Choose five vegetables, two fruit trees, three herbs and two fruit brambles or vines, and create a chart addressing the following information on each. Print out or cut out photos of each kind of plant to add to your chart.

- Hardiness zone
- Space needed for growth
- Best soil type
- Sunlight needs
- Water needs
- Can it be grown in a container? What size?
- Time needed between planting and harvesting

15. Take a machine vacation! For one week do your own laundry, dishes and cleaning without the use of a machine of any sort. Challenge other members and Leaders of your Unit to do the same. After the week, share your experiences with one another. What differences did it make to your activity schedule? Do you think it conserved water or electricity? What did you use to accomplish these tasks?

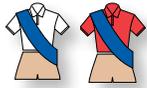
16. Using safe and natural materials that you find in field or forest create a basket or container. What can you safely store in your container? How long will your container last?

17. Plants and animals can be raised for food, but some are also raised for clothing or making textiles. Discover at least five types of plants or animals that are raised for this purpose. Take a shopping trip and find clothing made of all natural materials. What animals could small farms raise for hand-made clothing? What equipment would be needed? What skills would you need to learn to create fabric or yarn from these materials?



18. (Pi/Pa) Long term food storage that does not require refrigeration or freezing is a necessity in preserving a bountiful harvest, preparing for lean times, or for eating a healthier diet. Find out more on the following food preservation techniques and how to recognize the signs of food spoilage and the dangers associated with them. Then, try at least one of the methods.

- Drying – make jerky!
- Pickling – make some pickles or relish!
- Hot Water-Bath Canning – can some high-acid fruits or vegetables (pH less than 4.6)



19. (Pi/Pa) Honeybees are responsible for pollinating over one-third of the food we eat. Explore the world of beekeeping on one or more websites dedicated to this beneficial hobby. If possible, visit with a beekeeper. Develop a booklet or multi-media presentation for a younger level addressing the following:

- History of Beekeeping
- Queen, Worker and Drone behavior
- Beekeeping Equipment
- Managing Bees & Current Threats to Bee Populations
- Benefits of Bees



20. (Pi/Pa) Living in a self-sufficient, or sustainable, situation may require the use of alternative forms of energy. Wind, solar and geothermal forms of energy all have distinct advantages but all require special equipment to harness the benefits. What basic equipment is needed for each? Which form is the most popular at this time? How have each of these forms been used in the past? What aspects of each of these forms could you implement at your home at minimal cost? Are there regulations in your area that affect the use of alternative forms of energy? Share your findings with your family.



21. (Pi/Pa) Interview the owner(s) of a certified organic farm and compose an article for your Troop newsletter or community newspaper. Be led by your curiosity as you question and observe, but be sure to include the following:

- What is the definition of organic farming?
- What made this owner decide to pursue organic farming?
- What are the standards for organic farm certification?

OR

If you do not have access to an organic farm in your area, research the topic of organic farming and create a fact sheet on organic standards, certification, and benefits.

22. There are dozens of insects and animals that frequent our yards and gardens. Observe your family's surroundings for two seasons and make a list of visitors. You will need to schedule several times of day and different types of weather for your observations. Which creatures are harmful to the plant life in your garden/yard? Which are beneficial? How could you attract more beneficial and deter the harmful? Just for fun make a toad house or orange-peel bird feeder with a younger sibling, Tenderheart or Explorer.

23. Make a list of plants found in your garden or yard. Do they all get along well? Believe it or not there are plants that are more compatible with one another. This symbiotic, or companionable, relationship can make for healthier plants and a more fruitful harvest. Using photos create a companion planting chart for your family. What could you add to or rearrange in your garden or yard to have a healthier plant environment?

24. Old ideas are sometimes packaged with new names and better approaches as we grow in the understanding of our impact on the earth and technology becomes more accessible.



Explore the following: permaculture, SPIN farming, agro ecology, agroforestry. Are any of these techniques of stewardship utilized in your area? Are there practices in any of these that you could implement?

_____ 25. Water is important to all life. Create a multi-media presentation to share with your Troop, Unit or school class on the importance of viable and safe water sources, water conservation, and the uses of water driven energy sources in the United States. Compare the accessibility issues of water sources in the United States with the concerns in another country. What can you do to use water wisely? What can you do assist a ministry dedicated to providing safe water to another country?

_____ 26. Visit with a family farm or ranch that raises livestock. How is their lifestyle driven by the responsibilities of their farm? Spend a day or two assisting with the chores of farm/ranch life. Is this a lifestyle you would like to pursue? What would it mean to your educational and career goals to choose this path?

_____ 27. Our responsibilities, as citizens of earth and followers of Christ, extend beyond mankind to include everything He created. All we see in nature God place here for His glory and for us to nurture, to protect, and to preserve. God also called all of His creation to worship Him. The Bible even says if we don't worship Him, the rocks will shout for us! Take some time to reflect on our place as stewards, or caretakers, of His creation. Use the following scriptures to get started:

- Psalms 24:1
- John 1:3
- Isaiah 55:12-13
- I Chronicles 16:31-33
- Revelation 5:13
- Job 12: 7-10
- Genesis 1:26
- Psalms 115:16

Scripture also notes consequences for not doing our job in Isaiah 24:5-6 and Revelation 11:18. Talk with your Troop Shepherd or Unit Leader about what you think about this topic. Share your experience earning this Badge with a younger girl or Unit and help them earn a Requirement for this Badge.

Leader's Signature (Tenderheart Level)

Date

Leader's Signature (Explorer Level)

Date

Leader's Signature (Pioneer or Patriot Level)

Date





TOGETHER AS A FAMILY

Families can be scattered in many different directions with work, school, and activities. Purposefully taking time to be together may take careful planning or can suddenly take priority over all the other distractions of life. Both quantity and quality of family time are critical to the health of the family. God created the family. It is important to value our time together and to value each member individually. What better way to get to know and appreciate our family members than to spend fun time together? This Badge is designed to give your family, large or small, ideas for family fun that's as close as your back yard.

Note: This Badge is for you and your family and should not be considered a Troop activity. Requirements should be completed as a family with girls taking the lead on the Requirements. Also, the camping activity in this Badge does not replace the complete Camping Badge for Explorers, Pioneers, and Patriots.

“Children, obey your parents in the Lord, for this is right. ‘Honor your father and mother’—this is the first commandment with a promise: ‘so that it may be well with you and you may live long on the earth.’ And, fathers, do not provoke your children to anger, but bring them up in the discipline and instruction of the Lord.” (New Revised Standard Version, Catholic Edition (NRSVCE), Ephesians 6: 1 – 4)

To Earn:



Tenderhearts - choose one Requirement from each of the six categories plus one additional Requirement from any category.



Explorers - choose one Requirement from each of the six categories plus two additional Requirements choosing from any two categories. If you earned this Badge as a Tenderheart, complete different Requirements than those completed at that level.



Pioneers and Patriots - choose two Requirements from each of the six categories. You may repeat one Requirement per category if you completed this Badge at a lower level.

Badge may be earned once per Level. Note date next to Requirement when completed..

Together We Play

1. Learn two new backyard sports with a strange name and play them with your family. Try bocce, croquet, wiffleball, disc golf, kabaddi, sepak takraw, or another you discover that was played historically or is played today in another country. Learn and play two “old-fashioned” backyard sports like badminton, horseshoes, kickball, basketball-horse, lawn tennis, and volleyball.

2. Sign up as a family and participate in a fun-run, bowling league, bike race, swimming event, biathlon, triathlon, decathlon, or other sport-based event that is open to the entire family.



_____ 3. Invite your family to a “Block Party.” Pull out the connecting blocks, wooden blocks, and any other building toys for an evening of creative construction. Serve square and rectangular snacks. Take photos of the architectural achievements and make a family keepsake to remember the event.

_____ 4. Make a list of each family member’s favorite board game and choose a night to play one each week until the list runs out or you have played for at least six sessions. Save your favorite game for last.

_____ 5. Go fly a kite! Have your own flight adventure with homemade kites. Make a variety of kite types, discover kite flight science, and kite safety. Make at least one kite per family member. Then, enjoy an afternoon of high-flying fun with your family. For extra fun and discovery, experiment with different kite tails and kite construction materials.

Together We Serve

_____ 6. Bake cookies, cakes, pies, or a meal together and deliver as a family to an assisted living facility, to an older person in your community who may not have family close, to a family with a newborn, or to a family with unexpected needs where meals would be a blessing.

_____ 7. Participate in a one-day or longer service project you can do as a family.

_____ 8. Take one weekend a month for three months to “trade” chores among your family. What could you do that is normally done by another family member? What chore or responsibility do you think you have grown into and now want to try?

_____ 9. As a family, spend a day doing random acts of kindness in your community. Afterwards, talk about your favorite reactions and what ideas you might have for next time.

_____ 10. Is there someone in your community that would like to attend church but is unable to get there? As a service to them, give them a ride to church services and church activities for at least one month.

Together We Learn

_____ 11. Invite a family with a cultural background different from your family to have dinner with you. Ask them to talk about their family’s traditions for holidays, church, birthdays, and family time. What are the differences or similarities between your families?

_____ 12. Pretend the living room is a radio or television station and hold a family interview. Each member of the family takes their turn being interviewed by the rest. Consider videoing the interviews as a family historical record. Develop a list of questions ahead of time that everyone will agree to answer.

_____ 13. As a family, visit a historical site in your area. Take time while at the site to reflect on how families of that time in history may have dealt with the events of the time. Write an article with pictures or video to submit to programdepartment@ahgonline.org for possibly inclusion on the AHG girl website. Why should other families visit this historic site and what types of fun can they have while there?

_____ 14. Does your family really know what you do in AHG? Play charades with an AHG twist. Have contestants “act out” the names of AHG Badges and Sports Pins.

_____ 15. Understanding the different personalities that make up the members of your family can help you learn how to relate better and reduce conflict. The Meyers-Briggs Type Indicator (MBTI) is probably the most famous personality test. There are also some fun ways to look at personalities, like which character in Winnie-the-Pooh are you most like? Or, which animal best describes you: lion, butterfly, hermit crab, etc.? With an adult’s permission, have each family member take the same personality test – many can be



found free online. Discuss the results afterwards – were there any surprises or did you know each other pretty well? Did this help you discover more about a family member? Utilize this information next time there is a conflict to help resolve it. (Be careful not to over-generalize, use it as a label, or use in any negative way – remember that God made each one of us special and in His image!)

Together We Explore

- _____ 16. Camp out in the back yard or go to a nearby campground with just your family at least two different times. Each time, plan your meals and activities for an afternoon and overnight in the great outdoors, right out the back door! What did you learn to do better the second time?
- _____ 17. Pack a sack lunch and take a hike with the family at least two different times. You are the Trail Guide and should plan as you would for a Troop hike: food, hydration, safety plan, first aid kit, and trail route. Review the safety plan and basic safety rules with your family. Take along plant and bird identification books and plan time to enjoy the scenery.
- _____ 18. Make a list of all the wonderful family-friendly things to do in your community. Many areas have festivals and celebrations year-round. Local sports teams need fans. There may be cultural events like plays, concerts, and art exhibits to attend. A local store may offer an art or craft class. Some activities may be seasonal in nature. Plan a “staycation” (stay at home vacation) using your list. Complete at least five activities from your list.
- _____ 19. Have a cold weather cook-out with your family. String up some lights, build a campfire in the grill or fire pit and sing a few campfire songs. Learn a new campfire song and teach it to your family. Roast hotdogs or marshmallows, or enjoy a family cook-out favorite. Just like a summer cook-out but without the mosquitos! Be sure everyone is appropriately dressed and knows your family’s fire safety rules.
- _____ 20. Plan a picnic get-a-way with your family to a local neighborhood park, city park, county park, state park, or National park. What are the differences between these types of parks? Plan the menu and prepare the food, pack needed items for serving, eating, and clean-up. Plan at least one activity as part of the picnic fun!



Together We Connect

- _____ 21. Make invitations for the neighbors to join your family in a neighborhood chalk art show. Challenge each family to create beautiful works of art on the sidewalk in front of their home. Work with your family beforehand to create awards for the artwork: best in show, most beautiful, most colorful, zaniest, messiest, etc.
- _____ 22. Attend a Christian concert with your family and consider inviting another family to attend with you. Afterwards, ask each person to tell about their favorite song and what they enjoyed most about the event.
- _____ 23. Attend a ceremony or service at a Christian church you don’t regularly attend. Take time afterwards to talk with your family about the similarities and differences between your church and the one you visited. What does this experience help you understand about other families in your community?
- _____ 24. Challenge another family to a backyard silly games competition. Some ideas for games to play include sack races, tug-o-war, hopscotch, jumping rope, lawn ring-toss, cornhole, and ladderball. Have fun making up your own games and prizes.
- _____ 25. Have a themed dinner once a month for three months. Make invitations for each family member. Decorate and create themed foods. Themes could be based on a sporting event, a movie, or a different culture. Include all family members in the preparations.

Together We Love



- _____ 26. Spend an evening star gazing with your family. Use a star chart or mobile app to identify visible stars, planets and constellations. Read Psalm 8:3-4 and Psalm 147:4 as a family and pray together. See if you can name your own family constellation which unites your family in love.
- _____ 27. Plan an activity with each member of your family. Spend some great one-on-one time doing something they enjoy. Find out how they like to spend their family time and their quiet time.
- _____ 28. Invite a relative or family friend who doesn't attend church to go with you to a special church event. Introduce them to your church friends and make them feel welcome. Encourage them to come again to a regular service.
- _____ 29. Make a list of older relatives, neighbors, and friends and make handmade cards to send them. Include scriptures on God's love and remind them how they have been important in your life.
- _____ 30. Create a family time capsule. Have each family member place a current photo of themselves, something they made, a card with their favorite Bible verses, and what they think God may have them doing in two years. Add other items that are meaningful at the present including a note from each family member on what they love about the other members of the family. Do not add food items. If possible, make a DVD of the family creating the time capsule and place it inside as well. Place your time capsule in a cool, dark place in your house and put an "open on this date" note on the refrigerator; two years is a suggested time period. Notes: You do not have to wait until the time capsule is opened to earn this Requirement. Do not include food items. Burying the time capsule is not recommended as contents end up soggy unless you have a perfectly sealed container.

Level	Requirements Completed (list numbers)	Awarded?
Tenderheart		
Explorer		
Pioneer or Patriot		

Leader's Signature (Tenderheart Level)

Date

Leader's Signature (Explorer Level)

Date

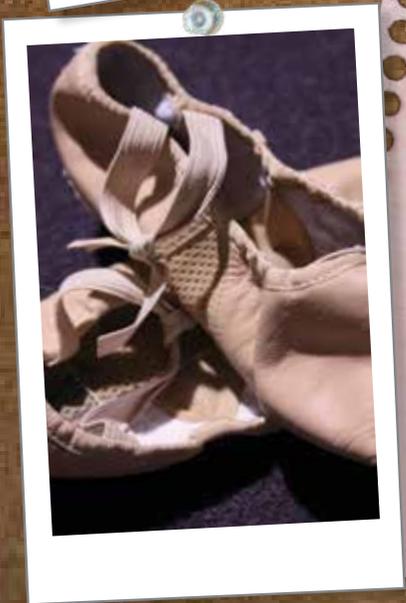
Leader's Signature (Pioneer or Patriot Level)

Date



"Sing to the Lord with grateful praise; make music to our God on the harp." (NIV, Psalm 147:7)

Painting Class
Sat. 2pm



Arts Frontier

Pen & Paper Arts






PEN & PAPER ARTS

Something as simple as a piece of paper or a pen may surprise you with how many versatile projects it can create. Art techniques with pen and paper include cut paper traditions from many cultures, creative printing designs, decorative handwriting, doodling, handmade paper, papier-mâché, folded paper, cut paper, and more. Famous artists are known for their works in paper, how about you?

"Make it your goal to live a quiet life, minding your own business and working with your hands, just as we instructed you before." (New Living Translation, 1 Thessalonians 4:11)



1. (T) What is a mosaic? Find pictures of at least five mosaics or seek out mosaics at a museum or other sites around your town. Create a paper mosaic with at least five colors of paper; make it at least 8 ½ inches by 11 inches in size. Tear or cut the colored paper into pieces and glue them to a paper base. Your mosaic may be a recognizable picture or a random pattern.



2. (T) Stamping and stenciling are common and fun decorating techniques. Try stamping with vegetables: With the help of an adult or older girl, carefully slice a potato, a carrot, and another vegetable into circles, ovals, or its natural shape. Use the slices to print designs on colored paper using craft paint. Experiment with making the shapes into animals, people, or other designs by stamping or adding colored pen markings after stamping. How is stamping different from stenciling?



3. (T) Describe papier-mâché to your parent or Leader. Papier-mâché objects can be sturdy and lightweight. Using a four-inch balloon as a base and tissue paper with white glue (slightly watered down) as your medium, make a simple animal sculpture. When the sculpture is dry, have an adult carefully insert a pin into the sculpture to deflate the balloon. Paint your sculpture any way you wish.



4. (T) For as long as there has been paper, there has been paper cutting or kirigami. Using scissors, folded paper, and a bit of investigation, make a paper snowflake, paper flower, paper chain of dolls, and a star.

5. Make a set of six greeting cards or stationary with matching envelopes using purchased rubber stamps or a stencil and colored ink. Use these to write to pen pals, friends, or relatives that live far away from you. Be sure to also use your best handwriting!

6. Watch a video or search an internet site with an adult on the history and process of making paper. What was used to write on or draw on before paper? Who made the first paper? From what materials can paper be made? How can you and your family recycle paper?

7. Draw with nature! Use a stick as a pen (stylus). Use a leaf or piece of bark for your paper. Try three different "inks" made from berries, soil/clay, or flowers. Display your work at a Troop meeting and be prepared to explain how you created your work.

8. What is a font? What is calligraphy? Different styles of writing can be fun to learn and also make words appear beautiful to the eye, just as they can sound beautiful to the ear. Learn to write in cursive. Practice the alphabet, and then write your favorite quote in cursive. Cut out the quote and paste to decorative paper. Place it in a frame as a gift to yourself or someone special.



9. (E) Discover the art of origami. Where did this art form originate? Find three simple origami patterns and practice making the objects. Teach someone else how to make the objects and together try making at least one more complicated origami object.



10. (E) Discover how to make handmade paper using recycled materials. Make at least five sheets of handmade paper with colored threads, yarn, colored confetti, dried flowers, etc. mixed in. Use the dried sheets to write letters or make greeting cards for five special people.



11. (E) Investigate the history of writing. Why would ancient peoples need to write? How many different alphabets can you identify? Discover the following writing forms; then, choose two to recreate and share with your Troop:

- a. Cuneiform in clay like the Sumerians
- b. Hieroglyphs on paper like the Egyptians
- c. Carving in soapstone like the Greeks and Romans
- d. Brush and ink on paper like the Chinese and Japanese
- e. Charcoal on paper like the Native Americans



12. (E) Paper comes in several forms. Make a mask, mobile, flower, or other three dimensional object using a variety of paper materials such as cardboard, newspaper, facial tissue, construction paper, wrapping paper, paper tubes, or magazine pages.



13. (E) Visit a paper arts booth at a craft show, a paper arts store, or studio and interview the artist. Ask questions about materials used and how they go about showing and selling their work. Investigate a famous paper artist, their techniques, materials, and the time period and culture in which they worked. Create a work of paper art in the style of that artist.

14. Stamps can be negative or positive designs - learn what this means and plan at least one of each to make. After reviewing basic knife safety carve the designs into the face of a sliced vegetable. Make a stencil out of card stock or thin plastic to compliment your stamp designs. Make two or more natural inks to use. Create at least two completed projects utilizing the stamps, stencil, and inks.

15. Paper products are manufactured using many techniques. Learn how paper is made commercially. Visit an industrial paper factory OR take a virtual tour on line OR watch a documentary on industrial paper making. What types of materials are used for making and coating paper? What are the environmental concerns with the papermaking process, including forest management techniques, use of natural resources and pollution controls? What is the process for recycling paper goods? What are the differences between a pulp mill, paper mill, container or box plant, and a paper recycling facility?



16. Explore the world of the graphic artist. Visit a college graphic arts department or independent studio and ask about the different techniques and technologies of graphic design. How have computers and design software changed the work of graphic artists? Design your own personal/family logo and your own alphabet font. Incorporate your logo or font into a flyer, sign, business card, or calling card.

17. Decorate with paper! With the basic supplies of paper, scissors, and a little internet or library searching for patterns, create four decorative pieces such as hand-fans and paper lanterns. Discover how to make paper flowers and create enough for a bouquet or table centerpieces. Plan these decorations for a party, Troop activity, community service project, or multi-family event.



18. (Pi/Pa) Discover the art of illuminated manuscripts and calligraphy. View a video on the Book of Kells, Book of Hours, Aberdeen Bestiary or other manuscript from the Middle Ages. Using a calligraphy pen and ink, practice a calligraphy font, writing out the whole alphabet and the numbers 0-9. Practice writing your whole name. Write a Bible verse or inspirational quote with at least 10 words and make a colorful decorative border for a finished piece creating your own illuminated art work.

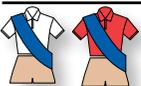


19. (Pi/Pa) Paper arts techniques are found in many cultures and are used for many reasons, including many practical applications. Investigate two of the following paper techniques including what it is called and how it was used in a particular culture or time period; if it has applications to mathematics, engineering, or science; and if there are famous artists associated with the technique. Choose art techniques that you have not previously studied or practiced. Make at least three paper art objects from each of the two techniques chosen.

- a. Paper Folding
- b. Paper Cutting
- c. Paper Molding
- d. Paper Layering
- e. Paper Stitching



20. (Pi/Pa) Experiment with suminagashi techniques on paper. Try two different mediums such as alcohol inks, acrylic paints, food coloring, and nail polish. Use finished paper pieces to cover a book, picture frame, box, or other object.



21. (Pi/Pa) Investigate the origins of printmaking. How did it change academics and the arts? What are the basic tools for printmaking? How is printmaking used commercially? Make a textured collage out of cardboard, lace, and other textured material no thicker than about 1/8", cover with Modge Podge or similar product and allow to dry. Roll with ink and make prints onto paper, pressing the paper with a clean roller.



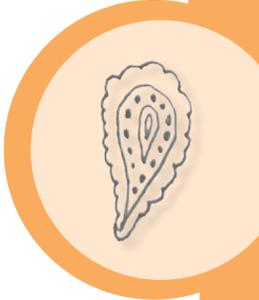
22. (Pi/Pa) Weaving is an age-old method of creating textiles and practical use containers. The patterns can be simple or complex. Learn a simple pattern to weave paper. Create a basket and placemats using rolled paper tubes and flat fold strips. Teach basic paper weaving techniques to your Unit.

OR

Learn the technique of quilling and create a framed piece of art work and a three-dimensional object. Search out the history of quilling and share photos of historical pieces with your Unit. Teach basic quilling techniques to your Unit.

23. Use papier-mâché to build a finished (painted) prop for a play or skit. Why would a papier-mâché object be more practical than a "real" object? What techniques would be different for larger papier-mâché? Interview someone who works in theatre productions and ask about the use of papier-mâché. Would any other industry or arts use papier-mâché? Identify a famous papier-mâché artist and read about their work.

- _____ 24. Create a display board of a paper art technique with instructions to use in teaching a group of younger girls. Create at least five examples to show along with the instruction display board to demonstrate your competence in the technique and as inspiration for the learners. Be sure to choose an art technique suitable to the age of your group.
- _____ 25. Search the internet for printable three-dimensional paper crafts (sometimes referred to as foldables.) Choose four to print and construct.
- _____ 26. Discover techniques for making paper jewelry. Make two items: one to keep and one to share.
- _____ 27. Silhouette portraits are wonderful keepsakes. View a video on how to create silhouette art then give it a try with several different models, human and non-human. Place your favorite in a frame and present to a family member or friend.
- _____ 28. Visit a library or bookstore and pick up four different books from different time periods. Examine their construction and answer the following questions for each book:
- What materials were used to construct it?
 - How was it put together?
 - What is the organization of the book?
 - Does the appearance of the book affect your desire to read it?
 - Would the construction of the book be impacted by the culture/time period in which it was made?



Write down your observations and use them for reference in the next step: investigate the technique of bookbinding and create your own book to use as a journal or share as a gift.

Leader's Signature (Tenderheart Level)	Date
Leader's Signature (Explorer Level)	Date
Leader's Signature (Pioneer or Patriot Level)	Date



"It is like what happens when someone plants a mustard seed in a garden. The seed grows as big as a tree, and birds nest in its branches."
(CEV, Luke 13:19)

Campout
this
weekend




Outdoor Skills Frontier
Archery
Shooting Sports
Survival, Search, & Rescue
Where in the World?






ARCHERY

The bow and arrow have played an important part in human history. In ancient times, archery proved an efficient method of hunting for food. Today the sports of target archery and bow hunting are practiced and enjoyed around the world. The Requirements of this Badge will introduce you to the rules, terms, and skills of target archery.

1. (T) Learn the safety rules of archery and be able to explain why each is important.



2. (T) Be able to name the parts of a bow and an arrow. Make a poster or diagram showing these parts or demonstrate your knowledge to your Leader or another adult.



3. (T) Demonstrate the proper use of an arm guard, finger tab, and quiver. Explain why each of these pieces of equipment are important to the archer.



4. (T) Under the supervision of an experienced adult archer:

- Understand the archery range commands and obey all rules
- Shoot at least 10 arrows at a target
- Learn and be able to demonstrate the correct way to pull your arrows out of a target



5. Read a book about a famous archer (historical, Biblical, mythological, fictional.) Create a 3-D replica of a scene from the book. Display this for a younger Unit, your Troop, or family. Tell about the book and the scene you have depicted.

6. What archery-related events are held in the Olympics? Are these summer or winter Olympic events? Attend an archery competition. OR Watch an archery competition on television.

7. Archery has been used throughout history. Visit an historical museum in your area to discover how archery was used, by whom, and what materials were used to make bows and arrows. If possible, find out if there are good places to search for arrowheads in your area and see if you can find one!

8. (E) Learn the safety rules of archery (including range commands) and be able to explain why each is important.



9. (E) Be able to name the parts of a bow and an arrow. Make a poster or diagram showing these parts or demonstrate your knowledge to your Leader or another adult.





10. (E) Demonstrate the proper use of an arm guard, finger tab, and quiver. Explain why each of these pieces of equipment are important to the archer.



11. (E) Under the supervision of an experienced adult archer:

- Learn and be able to demonstrate the proper steps (9-12) of a good shooting method
- Shoot at least 20 arrows at a target
- Learn and be able to demonstrate the correct way to pull your arrows out of a target

12. There are many different types of bows. Two of the most popular are the “compound” and the “recurve.” Learn why they are given these names. What are the differences between them? Which one is also called an Olympic bow? Which one is more powerful? Present this information to your Troop, Unit, or family.

13. There are different types of targets for different types of archery. For example, there are field targets, hunter targets, and standard target – archery targets. Learn what a standard target looks like. Draw one and/or color one in and number the rings correctly. Make sure your color rings are in the correct order.

14. Learn the difference between field archery and target archery. How are the targets and format different? Present your findings to your Troop, Unit, or family.



15. (Pi/Pa) If you did not earn this Badge at the Explorer level, complete Requirements #1-#3. In addition, under the supervision of an adult experienced archer:

- Learn how to string a bow
- Learn and be able to demonstrate the proper steps (9-12) of a good shooting method
- Shoot at least 60 arrows at a target
- Correctly score your arrows using a score sheet
- Learn and be able to demonstrate the proper way to pull your arrows out of the target



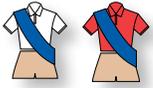
16. (Pi/Pa) A range is an indoor or outdoor area set up with targets for target archery. Learn and be able to explain the basic rules of the archery range. It is extremely important to know the range whistle commands and be familiar with the range procedures. Practice these with your Troop or Unit, quizzing each other until you are sure you know them completely.



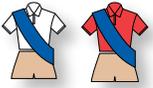
17. (Pi/Pa) The following are terms commonly used in the sport of archery. Find out their definitions and be able to explain each one:

- Anchor Point
- Compound Bow
- Sight (Bow Sight)
- Nock
- Draw
- Draw Weight
- End
- Fletching or Vane
- Limb
- Round
- Recurve Bow
- Release

- Rest
- Stabilizer
- Shooting Line
- Cat Whisker
- Sight Pin
- String Wax
- Crossbow



18. (Pi/Pa) Help someone new to archery to learn the safety rules and how to correctly hold a bow and arrow. Be sure to familiarize yourself with all of the information before you present it.



19. (Pi/Pa) Research the state and local laws in your area that address the use and regulation of archery equipment. Share your findings with your Unit or family.

20. Participate in or attend an organized archery tournament.

21. What is the World Archery Foundation (formerly FITA)?
What is the format of Olympic archery competition?

22. Some archery equipment is quite technical and can be expensive. Proper care and maintenance of equipment is very important. Explain how a bow should be stored, transported, and maintained. Do arrows need any special care? What tools does an archer need?

23. Find out if there is an archery club in your area. Check the National Archery Association website under JOAD (Junior Olympic Archery Development). In the JOAD program, qualify as Yeoman, Junior Bowman, and Bowman.

24. Use creative ways to set up at least three field targets (for example, through tires, into buckets, or to make a bell ring). Shoot at least 15 arrows at each different target.



_____	Leader's Signature (Tenderheart Level)	_____	Date
_____	Leader's Signature (Explorer Level)	_____	Date
_____	Leader's Signature (Pioneer or Patriot Level)	_____	Date



SHOOTING SPORTS

Firearms have played an essential part of our survival in North America. Even before the United States existed explorers and settlers used primitive firearms to hunt for food and to defend themselves against attack. Later, when thirteen independent colonies united to oppose the tyranny of the world's most powerful empire, firearms would be used to defend the independence of a band new nation.

For these reasons Americans have a constitutional right to possess firearms. The Founding Fathers of the United States wrote these works into the 2nd Amendment of the Bill of Rights to the United States Constitution:

"A well-regulated militia being necessary to the security of a free state, the right of the people to keep and bear arms shall not be infringed."

Like our ancestors, Americans possess firearms for protection, for hunting, and for target practice. Millions of people participate in shooting sports using BB guns, shotguns, rifles, or pistols, in competition or just for fun. The Requirements of this Badge will teach you firearms safety, and an understanding of how firearms work. You will also learn to shoot at targets and set up competitions in your own Troop.

How to earn the Shooting Sports Badge:

- Tenderhearts may complete the BB guns section to earn the Badge.
- Explorers may complete the BB gun and CO2 Pellet Rifles section to earn the Badge.
- Pioneers and Patriots may earn the BB gun and CO2 Pellet Rifles, Rifle, or Shotgun section to earn the Badge. Note that the Rifle and Shotgun sections have pre-requisites from the BB gun section.

BB Guns and CO2 Pellet Rifles

All of the Requirements that involve the handling of BB guns or pellet rifles must be done under the supervision of a parent, guardian, or adult that has the permission of your parent or guardian. Eye protection must be worn for every activity that involves shooting a BB gun or pellet rifle.

Tenderhearts – BB Guns Only



1. (T) Learn the rules for what to do if you find a gun. Watch the "Learn Gun Safety with Eddie Eagle" DVD. Recite, to an adult, the four rules about what to do when you find a gun. Be able to explain what the rules mean. Eddie Eagle program materials are available through the National Rifle Association.



2. (T) As a Unit or Troop, watch and discuss a safe gun handling video.



3. (T) Based on what is learned from the video, pass a safe BB gun handling demonstration for your Unit Leader.

Complete one of the following two optional Requirements.

_____ 4. Set up your own BB gun plinking game. (See appendix for details)

_____ 5. Participate in a Troop BB gun Target Shoot. (See appendix for details)

Explorers

_____ 6. (E) If you did not earn this Badge as a Tenderheart, complete Requirements #1-3.



_____ 7. (E) Identify the basic parts of a BB gun to a parent, guardian, or Unit Leader. (See appendix for details)



_____ 8. (E) Demonstrate knowledge of cleaning a BB gun to a parent, guardian, or Unit Leader. (See appendix for details)



_____ 9. (E) Range Commands: learn the proper terms that keep people safe on a shooting range. These terms are utilized all over the country. Using them while learning how to shoot is good practice for being a safe shooter on any range. (See appendix for details)



Complete two of the following five optional Requirements.

_____ 10. Set up your own BB gun plinking game. (See appendix for details)

_____ 11. Make your own targets for a Troop BB gun /pellet rifle Target Shoot. (See appendix for details)

_____ 12. Participate in a BB gun /pellet rifle marksmanship competition. (See appendix for details)

_____ 13. Make a five-minute presentation about any aspect of shooting and present to your Unit or Troop. For example: attending a shooting event; visiting a sporting goods store or sports show. **Or** Discuss some aspect of the history of firearms in American such as prior to the formation of the United States, during the American Revolution, the settling of the west, or during the Civil War.

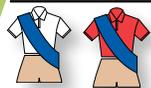
Pioneers and Patriots

_____ 14. (Pi/Pa) If you did not earn this Badge as an Explorer, complete Requirements #6-9.



_____ 15. (Pi/Pa) Describe the difference between a rifle and a shotgun to a parent, guardian, or Unit Leader. (See appendix for details)





16. (Pi/Pa) Visit a local shooting club or public range with a parent or with your Unit. Find out the types of recreational shooting opportunities that are available there. To find a facility visit www.wheretoshoot.org or contact the U.S. Sportsmen's Alliance at (614) 888-4868 for assistance in locating a sportsmen's club that has shooting facilities.

Complete three of the following four optional Requirements.

17. Make a ten-minute presentation about women and the shooting sports. Choose from women in American history or female Olympic athletes. Present your findings to your Unit or Troop.

18. Set up your own BB gun plinking game. (See appendix for details)

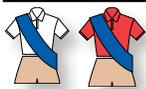
19. Participate in a Troop BB gun /pellet rifle Target Shoot. (See appendix for details)

20. Participate in a BB gun /pellet rifle marksmanship competition. (See appendix for details)

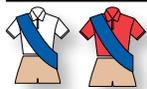
Rifles

This portion of the Shooting Sports Badge may be completed by Pioneers and Patriots only. All of the Requirements that involve the handling of firearms must be done under the supervision of a parent, guardian, or adult that has the permission of your parent or guardian. ALL shooting as a Troop activity must be led by a NRA Certified instructor. Eye and ear protection must be worn for every activity that involves shooting a rifle. Only use 22 rim fire rifles.

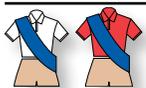
1. (Pi/Pa) Complete the BB gun /pellet rifle Requirements at the Pi/Pa Level. Having completed the BB gun /pellet rifle Requirements as an Explorer fulfills this Requirement.



2. (Pi/Pa) Learn the different types of rifles (lever action, bolt action, semi-automatic, etc.) Talk to an employee at a local gun store or sporting goods store that sells firearms about gun purchasing requirements and hunting license requirements. Share your findings with a parent, guardian, or Unit Leader.



3. (Pi/Pa) Demonstrate knowledge of cleaning a rifle to a parent, guardian, or Unit Leaders. (See appendix for details)



4. (Pi/Pa) Describe the components of a rifle round to a parent, guardian, or Unit Leader. (See appendix for details)

Complete three of the following five optional Requirements.

5. Interview someone who works in a job that involves firearms (sporting goods store, gun range instructor, police officer, member of the armed forces, etc.) Create a ten-minute presentation to share with your Unit or Troop.

6. Describe how sights and scopes function to a parent, guardian, or Unit Leader. (See appendix for details)

7. Learn and explain the sequence of firing a shot to a parent, guardian, or Unit Leader. (See appendix for details)

8. Demonstrate proficiency at prone shooting at a distance of at least 50 feet. This optional Requirement should only

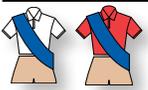
_____ be completed on a rifle range using a recommended NRA official small bore rifle target (TQ-3/1). Total your score on the target after firing ten times. A score of 75 or higher is proficient.

9. Demonstrate proficiency at standing (offhand) shooting at a distance of at least 50 feet. The optional Requirement should only be completed on a rifle range using a recommended NRA official small bore rifle target (TQ-3/1). Total your score on the target after firing ten times. A score of 45 or higher is proficient.

Shotguns

This portion of the Shooting Sports Badge may be completed by Pioneers and Patriots only. All of the Requirements that involve the handling of firearms must be done under the supervision of a parent, guardian, or adult that has the permission of your parent or guardian. ALL shooting as a Troop activity must be led by a NRA Certified instructor. Eye and ear protection must be worn for every activity that involves shooting a shotgun.

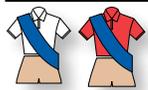
1. (Pi/Pa) Complete the BB gun Requirements at the Pi/Pa Level. Having completed the BB gun Requirements as an Explorer fulfills this Requirement.



2. (Pi/Pa) Learn the different types of shotguns (pump action, over-under, side-by-side, semi-automatic). Talk to an employee at a local gun store or sporting goods store that sells firearms about gun purchasing requirements and hunting license requirements. Share your findings with a parent, guardian, or Unit Leader.



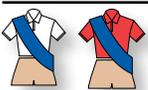
3. (Pi/Pa) Demonstrate knowledge of cleaning a shotgun to a parent, guardian, or Unit Leaders. (See appendix for details)



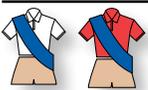
4. (Pi/Pa) Research the different gauges of a shotgun and different sizes of shot. Report your findings to a parent, guardian, or Unit Leader. (See appendix for details)



5. (Pi/Pa) Describe the components of a shotgun shell to a parent, guardian, or Unit Leader. (See appendix for details)



6. (Pi/Pa) To a parent, guardian, or Unit Leader, explain a shotgun pattern and the reason for shotgun chokes. Describe the four basic chokes from tightest to widest pattern.



Complete three of the following four optional Requirements.

7. Interview someone who works in a job that involves firearms (sporting goods store, gun range instructor, police officer, member of the armed forces, etc.) Create a ten-minute presentation to share with your Unit or Troop.

8. Shoot a round of trap (25 birds). To locate trap ranges in your area go to www.wheretoshoot.org or contact the U.S. Sportsmen's Alliance at (614) 888-4868 for assistance.

9. Shoot a round of skeet (25 birds). To locate trap ranges in your area go to www.wheretoshoot.org



_____ or contact the U.S. Sportsmen’s Alliance at (614) 888-4868 for assistance.

10. Shoot a round of 5-stand (25 birds) or a round of sporting clays (50 birds). To locate trap ranges in your area go to www.wheretoshoot.org or contact the U.S. Sportsmen’s Alliance at (614) 888-4868 for assistance.



Leader’s Signature (Tenderheart Level) Date

Leader’s Signature (Explorer Level) Date

Leader’s Signature (Pioneer or Patriot Level) Date



SURVIVAL, SEARCH, & RESCUE

Getting out and exploring nature, hiking, skiing, boating, fishing, and other wilderness adventures can be fun and exhilarating. Learning survival skills provides confidence during unforeseen events. Search & Rescue (SAR) skills include searching for, offering aid to, and getting provisions to those that become lost or injured while away from home. Natural disasters such as floods, tornadoes or hurricanes can also create the need for those trained in Search & Rescue.

“God is our refuge and strength, a very present help in trouble.” (King James Version, Psalm 46:1)

-
1. (T) Discuss how the buddy system helps keep you safe and can prevent you from getting lost.



-
2. (T) What are the “Ten Essentials” for survival? Make up a fun way to remember them like a song, poem, or game.



-
3. (T) Review what you would pack in a backpack when going out for an excursion that might allow you to stay safe, not get lost, and not need to be rescued. Practice getting these items together and placing them in your backpack, hiking pack, or fanny pack. What might you take out or add to your “go pack” depending on where you plan to go?



-
4. (T) Learn the difference between searching for someone and rescuing someone. What might you have to do differently if you are searching vs. rescuing? What different items might you need in searching vs. rescuing someone?



-
5. (T) There are many types of specialized rescue teams: Coastal Rescue, Ocean Rescue, Mountain Rescue, Air Rescue, Animal Rescue, Natural Disaster Rescue, and more. Learn more about two of these including the equipment and training needed. What specific situations might someone that lives in your area run into, causing them to get lost or need rescuing? Review ways to avoid these situations.



-
6. Use a compass to point you in the direction of North, South, East, and West. How might a compass help you if you are lost? What natural guide points (buildings, mountains, ocean, etc.) do you have in your town? Which direction do they indicate from your house and from the center of your town? Know the direction of the sunrise and sunset in relation to your house and which direction that indicates.

-
7. Role play with your Troop “getting lost” in different settings. What can you do to help rescuers find you? What could you use from your items collected in Requirement #3 to help?

OR

With an adult, take trips as you give directions from your house to three different locations in your area in the car, by bike, or walking. Also, give directions to return home from three different locations in your town and successfully execute the trips.



_____ 8. Visit a fire department, police department, or other emergency response team to learn about how they prepare for situations that involve search and rescue. How do they coordinate with other emergency response teams? How do they practice or conduct practice drills to prepare?

_____ 9. (E) If you did not earn this Badge as a Tenderheart, complete Requirements #1 - #5.



_____ 10. (E) How could weather changes in your area affect your possibility of getting lost or injured? What can you do to prepare for these types of weather? Know at least two different methods for obtaining a weather report in your area. Prepare a weather report for a trip and provide the information to the adult in charge of the outing.



_____ 11. (E) Learn what a “backcountry trip plan” is. How might this help you if you become lost or injured? Next time you go on an outdoors hike, bike outing, or other trip, write out a trip plan and leave it with a responsible adult. Discuss the importance of leaving a “backcountry trip plan” with a younger girl or Unit.



_____ 12. (E) Compare the items you planned for your “go pack” (in Requirement #3) to those kept in a searcher’s/ rescuer’s “Ready Pack” or “24-Hour Pack”. How do these packs relate to the “Ten Essentials” for survival? In your back yard or on a camping trip, use your “go pack” items exclusively for at least 4 hours. What changes did you decide to make, if any, based on this experience? Don’t forget to replace any depleted items.



_____ 13. How does a compass work? Learn how to use a compass to follow a heading. How do you find a heading from one location to another on a map? Use your compass to find headings from one local feature to another or from one point to another on a map.

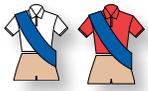
_____ 14. How do Search & Rescue teams use the following to help locate or rescue subjects: Helicopter? Dogs? Trackers? Eye-witness reports? Avalanche beacons? Personal Locator Beacons (PLB)? Emergency Position Indicating Radio Beacons (EPIRB)? Emergency Locator Transmitter (ELT)?

_____ 15. Learn what wilderness or urban locations you have in your area that may have a high likelihood of some one becoming lost or in need of rescuing. What rescue teams would be called for those locations? What wildlife, insects, or other obstacles might be encountered and how should you respond?

_____ 16. Weather conditions and terrain present additional hurdles when you and others need protection and care while outdoors. Describe or put together a comparison chart of how to remain calm and not panic in the following situations: Mountains (cold & snowy); Forest (damp & dark); Desert (hot & dry); Plains (windy); Ocean, Lake or River (exposure to sun & water).

_____ 17. (Pi/Pa) If you did not earn this Badge as an Explorer, complete Requirements #9-#12. You may work with a younger girl or Unit as you complete these Requirements, helping them to earn them as well.

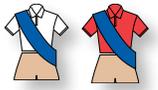




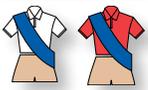
18. (Pi/Pa) Improvise a natural shelter and spend a night in your shelter, either in your back yard or on a camping trip. Use your “go pack” items (from Requirement #3) exclusively for at least eight hours. What changes did you decide to make based on this experience? Don’t forget to replace any depleted supplies.



19. (Pi/Pa) Investigate ways to find water, collect water, and methods to treat water. Learn at least five ways to signal for help. Make a personal resource booklet that includes basic information you want to remember about items such as first aid, water sources, food sources, wildlife, insects, shelters, etc.



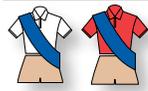
20. (Pi/Pa) Identify the difference between a subject’s PLS (Point Last Seen) and LKP (Last Known Point). Does a person’s PLS and LKP change? How will these affect where, how, and when you search?



21. (Pi/Pa) Explain the differences between wilderness, urban, and water SAR (Search & Rescue). Who has the authority for SAR in your area? Identify the different SAR teams in your area. What are their fields of expertise? How are these teams activated? Interview a member of one of these teams. What kind of training must they go through? Are there any that really interest you? Discuss what you have learned with a younger Unit.



22. (Pi/Pa) Complete a hypothetical tabletop search incident with your Unit. Develop an Incident Action Plan (IAP) to handle the scenario presented to you. How will your search differ depending on the lost subject (i.e. a child vs. an adult)? Think about how you will handle these: When will you search? Where will you search? How will you conduct the search?



23. (Pi/Pa) Utilize a map, compass, and GPS to identify your location in the wilderness or other outdoor location. Find your closest coordinates or features on a map and your coordinates on a GPS. Be able to relay your location to someone who would be coming to help you or find you if you were lost.

24. What is a “hasty search”? What is the role of an “Incident Commander”? As a Unit or with other Pi/Pa Units, complete a mock hasty search in either an urban or wilderness environment. Cover the following topics prior to the search and carry them out during the “mission”: gathering vital information on your subject, scene safety, containment of the search area, evidence identification preservation, using the paths most likely traveled by your subject, communications with your Incident Command, and locating your subject. Hold a team debriefing to discuss what was successful and unsuccessful. How will you improve next time? Did this training help change the way you engage in wilderness/urban activities?

25. Complete ICS-100, Introduction to Incident Command System (FEMA online module, IS-100.B)

26. Read “Introduction to Search and Rescue (ISAR)” and pass the SARTECH III online exam. This is through the National Association of Search and Rescue (NASAR), available online. These require payment for the book and exam. There is unofficial and official online testing, the differences being a certification and cost. This is a precursor to SARTECH II which many SAR groups require their members to have.

27. After completing the other Badge Requirements, observe a real SAR incident or training from



_____ the _____ perspective of the Incident Commander or Management Team.

_____ 28. Become certified in one of the following: Wilderness First Aid (WFA), Wilderness First Responder (WFR), Community Emergency Response Team (CERT), First Responder, or Outdoor Emergency Care (OEC).

_____ 29. Create & present a training seminar to your Troop on Search & Rescue. This should include slides, video, or hands-on demonstrations. Some topics to consider covering: the ins & outs of SAR; how SAR functions in your local area; how do you prepare yourself so that you don't become a subject yourself; how do you increase your chances of being found when people are searching for you; how do local SAR units conduct searches; what professional or volunteer opportunities in your area exist for young adults.



Leader's Signature (Tenderheart Level) Date

Leader's Signature (Explorer Level) Date

Leader's Signature (Pioneer or Patriot Level) Date



WHERE IN THE WORLD?

From stars to maps to satellites, people have been dependent on various navigation techniques to find their way around this great planet. Two fantastic activities have grown out of the necessity for “getting from point A to point B.” Geocaching and Orienteering have emerged as wonderful, family-friendly sports for our modern era. Geocaching has been called the hobby that uses multi-billion dollar satellites to find plastic containers filled with treasures. Orienteering has turned map and compass knowledge into a competitive sport combining racing and navigation. Find your way around this Badge and enjoy the thrill of the hunt in the direction called fun.

Please note that many of the requirements involving Geocaching refer to information available through www.geocaching.com, a family-friendly website that is the primary informational site for this hobby. Permission has been granted by Groundspeak, Inc. to refer AHG members to the [geocaching.com](http://www.geocaching.com) website. Free registration to this site is required to access positions (coordinates) of geocaches around the world. Girls should seek adult permission before joining the [geocaching.com](http://www.geocaching.com) community and should always geocache with adult supervision.



1. (T) A ‘cache’ is a hidden container of treasures or supplies. Geocaching uses handheld Global Positioning System (GPS) units and smart phone apps to find hidden ‘caches’ in your neighborhood, in the city, or out on the trails. The ‘caches’ are containers in a range of sizes that may be camouflaged to blend into their surroundings. Most containers include a log book and a pen and may contain an assortment of ‘swag’ to trade. Watch the Geocaching 101 introductory videos found at www.geocaching.com/guide/ then search for and define the following terms: geocache, swag, trackable, logbook, BYOP.



2. (T) Geocaching has rules of etiquette and safety that all must follow in order to keep the game fun and perpetual. Share with your Troop, Unit or family these rules called the *Geocachers’ Creed* found at www.geocreed.info . What other safety rules should you follow when geocaching?



3. (T) Visit the *Hide and Seek* page of www.geocaching.com and search for geocaches that are hidden in your area or an area you may want to visit. Once the list comes up, scroll through and look at the details of the list. Tell your Unit or family what information is on this list about the geocaches in the area. Click on “Map this Location” at the top of the list; print out or have an adult print out the map for you to share with your Unit.



4. (T) Orienteering involves using a map and compass. On a printed map of your neighborhood, mark three points (places) close by and label each with a number. Draw connecting lines from one point to the next. On a separate piece of paper, draw three columns and label as *Point Number*, *Direction* and *Steps*; this will be your *Control Description*. Stand at the first point and using your compass and the position of your surroundings, determine the direction *North*. Draw a compass rose on your map with the compass directions (North, South, East and West) labeled. Using your compass and map, determine the direction of your second point and add this to your Control Description. Count the number of steps it takes to get to the next point and write this on your Control Description. Fill in the same information for your third point. To test how well you oriented your map, give someone your Control Description, a compass and the placement of your first point and see if they can locate your other two points. Congratulations! You’ve just created your first Orienteering Course.





5. (T) Orienteering has become an exciting sport for many youth. With an adult, search an orienteering website to find if competitions are held in your area. Attend a competition, if possible. What equipment is needed to compete? What age groups compete? Where can competitions be held?

6. Have a parent or guardian register your family with the www.geocaching.com website. You'll need to create your own special geocaching handle (user name). Once registered, visit the *Hide and Seek* page and search for geocaches that are hidden in your area. Using a hand-held GPS or smart phone app, find a geocache, sign the log book, and log your find on the [geocaching.com](http://www.geocaching.com) website.

7. The ancient Greek geographer Ptolemy created a grid system and listed the coordinates for places throughout the known world, but it was not until the Middle Ages that the latitudinal and longitudinal system was developed and used. Show your parent or Leader the lines of latitude and longitude on a globe or map. Locate the identifying numbers of the latitudinal and longitudinal lines closest to where you live.

8. Put together a geocache supply kit to take with you when you geocache. Include the following: pen or pencil, tweezers, a few pieces of swag, replacement log sheets, small trash bags to pick up trash on your way to and from a geocache, and a small, basic first aid kit. Also, consider adding items to repair broken caches, such as duct tape, small plastic baggies with zip closures, and zip-ties. What other things may be needed on a geocaching adventure in the woods? In a city? In your neighborhood? In the dark?

9. (E) If you did not earn the Badge as a Tenderheart, complete Requirement #1 and include the following terms in your definitions: DNF, FTF, multi-cache, travel bug, TFTC, TNLN.

OR

If you did earn this Badge as a Tenderheart, search for and define the following: DNF, FTF, multi-cache, travel bug, TFTC, TNLN.



10. (E) Make a booklet about the *Geocachers' Creed* (www.geocreed.info) you can take with you on your adventures. Explain to a Leader or adult the importance of following the *Geocachers' Creed*, *Leave No Trace*, and basic safety rules when you are geocaching.

11. (E) Have a parent or guardian register your family (or a Leader may register your Troop) with the www.geocaching.com website. You'll need to create your own special geocaching handle (user name). Once registered, visit the *Hide and Seek* page and search for geocaches that are hidden in your area. Using a hand-held GPS or smart phone app, find two or more geocaches, sign the log book, and log your find on the [geocaching.com](http://www.geocaching.com) website; trade swag if you wish. Remember if you take a travel bug or coin, you should deposit it in another geocache as soon as possible.



12. (E) Build an orienteering course as described in Requirement #4 increasing to five controls (points) on your Control Description. Invite two or more friends to bring along their compasses and attempt your course. Place a different colored marker or crayon at each control; each participant can mark their Course Description with the appropriate marker or crayon as they reach each control. You will need to supply the Control Description and a map for each participant.



13. (E) There are several different types of orienteering events. Investigate the following and describe these to your Unit or other small group of your peers: line orienteering, motala, night orienteering, relay orienteering, score orienteering, string orienteering, trivia orienteering. Participate in an orienteering event for your age level.

14. Geocaching is a great way to enhance learning about God's wonderful creation. These kinds of geocaches are called 'earthcaches'. Earthcaches are a special geological location people can visit to learn about a unique feature of the Earth. Find one earthcache (listed at www.geocaching.com), take a photo, and share about your find with your Troop, Unit, or family.

15. Create a *string orienteering* or *line orienteering* course for your Troop's Tenderheart Unit. Arrange a time with the Unit Leader for a Tenderheart Unit to complete your course or work with another small group of younger students to complete the course.

16. Explore the [geocaching.com](http://www.geocaching.com) website for geocaches in a different state from where you live. Click on "Map the Location" at the top of the list and determine the following: Are there more geocaches near cities or in rural areas? Are there multi-caches? Explore a different country and discover the same information. Share your findings with your Unit.

17. What is the history of geocaching? How does a GPS assist in geocaching? What are coordinates? How is the GPS and coordinate system used in communication, transportation, and other technologies? Do you have ideas where this technology would be useful? Create a presentation about this topic and present to a group.

18. (Pi/Pa) If you did not earn this Badge as an Explorer, complete Requirement #11. Review the *Geocachers' Creed* (www.geocreed.info), *Leave No Trace*, and basic safety rules before setting out. Search for and log ten geocaches. Remember the experience of not finding a geocache can be just as exciting as a find. Share your geocaching adventures with your Unit.



OR

If you did earn this Badge as an Explorer, review the *Geocachers' Creed* (www.geocreed.info), *Leave No Trace*, and basic safety rules before setting out. Search for and log an additional eight geocaches. Share your geocaching adventures with your Unit.

19. (Pi/Pa) Explore all the links and information found at www.geocaching.com/guide/ in the *Geocaching 101* pages. Hold a geocaching workshop for Explorers and members of your Unit who may want to know more about geocaching. Include parents and Leaders in the workshop, as girls will need adult supervision when geocaching.



20. (Pi/Pa) The ancient Greek geographer Ptolemy created a grid system and listed the coordinates for places throughout the known world, but it was not until the Middle Ages that the latitudinal and longitudinal system was developed and used. Define: meridian, parallels, degrees, minutes, and seconds. Find the absolute location (latitude and longitude) of your home, Troop meeting place and at least one other place on earth.



21. (Pi/Pa) Create a visual presentation (i.e. presentation board, PowerPoint, video) on the different types of orienteering formats, courses, and maps. Share this presentation with your Troop and be prepared to answer questions.



22. (Pi/Pa) Participate in a local or regional orienteering event. This could also be an event created by your Unit. The event should follow proper orienteering procedures.



23. Assemble and place a geocache, registering it with www.geocaching.com. Remember to be



_____ prepared to maintain the geocache. Challenge your Troop members to find your geocache.

24. Find at least one of each of these types of traditional and specialized geocaches: nano, small, _____ large, multi-cache, puzzle cache. Take along someone who has never been geocaching before to share what you know about this fun activity.

25. Invite a professional who uses the same types of equipment used in geocaching and orienteer- _____ ing in their job to visit your Troop or Unit. Their job may require skills such as: attention to detail, perseverance, geography skills, teamwork, computer skills, and more. Ask them to share the importance of GPS, coordinate systems, maps, or compasses in their work.

26. There are other types of “finds” that utilize GPS coordinates. Investigate waymarking, bench- _____ marking, letterboxing, and geodashing. Discuss your findings with your geocaching friends.

27. Participate in a CITO (Cache In, Trash Out), Event Cache or Mega-Event Cache. Take a lot of _____ photos, and then explain the event to your Troop.



Leader’s Signature (Tenderheart Level) Date

Leader’s Signature (Explorer Level) Date

Leader’s Signature (Pioneer or Patriot Level) Date



"You should be known for the beauty that comes from within, the unfading beauty of a gentle and quiet spirit, which is so precious to God."
(NLT, 1 Peter 3:4)

Jesus Loves Me!



Personal Well-Being Frontier
Mission Minded
Public Speaking





MISSION MINDED

Christians represent Christ in the world. Some may be prayer warriors from their own homes, some may serve in their communities, some in their own country, and some may venture out to unreached people groups in the most remote corners of the world. All are important parts of the mission to love others and share the love of Jesus.

“Then Jesus came to them and said, “All authority in heaven and on earth has been given to me. Therefore go and make disciples of all nations, baptizing them in the name of the Father and of the Son and of the Holy Spirit, and teaching them to obey everything I have commanded you. And surely I am with you always, to the very end of the age.” (New International Version, Matthew 28:18-20)



1. (T) **MISSIONS & PRAYER:** Prayer warriors are the life-support line for all missionaries, church workers, and mission organizations. Find out if your church supports a missionary or learn about a missions outreach ministry, and become a prayer warrior for them. Hang a picture of them, a sign about the organization, or map with the location marked where they serve so you can see it daily. Pray for them for one month.



2. (TH) **MISSIONS IN MY COMMUNITY:** Make a list of five different Christian organizations in your community that are serving the poor, the needy, any special people groups, or sharing God’s love using sports, music, medicine, or other method. What is the same about each of them? What is different? Did you see a need in your community that needs to be filled? Share your list and your idea for what might be needed in your community with your Troop Leader, parent or church leader.



3. (TH) **MISSIONS IN MY COUNTRY:** Our own culture can be invisible to us until we visit another group of people with a culture different from ours. Some things that make up a culture are the languages, rules, norms, beliefs, tools, art, music, symbols, and traditions. Do you recognize people with different cultures living in America? Make a picture collage or other display of things that you think describe the culture of America. What would you need to learn, wear, or do to fit into a different culture group, even within your own country?



4. (TH) **MISSIONS AROUND THE WORLD:** Read a book about a missionary who went away from home to another country. What was special about the way they showed Jesus’ love to people? What was hard about their experiences? What did they have to learn once they reached that country? What would going to that country be like today?

5. Sometimes being a missionary might mean learning to speak a different language. Some mission organizations translate the Bible into other languages so that people can read the Bible in their native tongue. How many languages are there in the world today? Learn your favorite prayer, Bible verse, or Christian song in a language you do not already know. Teach this to others in your Unit or to a friend – remember to know what it means and translate it for them. Now is also a great time to get started becoming fluent in another language!

6. Missionaries to overseas countries love to tell about their experiences. Pretend you are a grown-up missionary visiting with your Unit and share the following information. Of course, you’ll have to look up some of this information unless you really have been in the mission field!

- What is the name of the continent, country and city/area?
- What language did you have to learn to communicate with the people?
- What did you take with you from home?

- d. What was the first thing you did when you arrived?
- e. How did you dress? What did you eat?
- f. How did you serve the people there?

7. The message of the love of Jesus Christ is not only shared at church. Most missionaries will tell you that the most effective tool for communicating this message is through showing people love through service. Ask if anyone in your church or Troop has been on a short mission trip that involved medical care, building construction, or food distribution. Invite them to share their experience with your Unit. Ask them how service gave them the opportunity to share the love of Christ. Did the experience have an impact on their life? Participate in a collection or packing project to help prepare items for a medical, construction, food, or other distribution mission.



8. (EX) **MISSIONS & PRAYER:** The power of prayer paves the way and prepares areas for God's work to be done. Choose a place where people live, work, study, or play where you can walk around the area safely. This may be your neighborhood, school, apartment building, mall, or other location close to you. For one month, at least once per week, take time to walk your planned route and pray. Pray for each house, apartment, locker, store, or area you pass.



9. (EX) **MISSIONS IN MY COMMUNITY:** Opportunities to share the love of Christ in your community are everywhere. Investigate the options in your community for six of the following scenarios. Are the needs being met by Christian organizations? Why or why not? Visit or call two of them and find out how they got started, how they run their organization, how it is funded, if they utilize volunteers, and what you or others in the community can do to support them. Add your findings to your Troop's idea list for service projects.

- a. A poor family that needs food
- b. A homeless person who is cold
- c. An orphan or children who need temporary family care
- d. An elderly person without family nearby to take them to the doctor
- e. An immigrant family new to the area needing help to learn English
- f. A college student looking to find friends or a job
- g. An addict looking to break a bad habit
- h. A veteran seeking help with benefits
- i. A person with disabilities that needs job skills
- j. A widow that is lonely
- k. An elementary school kid whose parents work after school
- l. A teenager that just wants to have fun and stay out of trouble
- m. A family that just lost their home to a fire
- n. A mom with little children



10. (EX) **MISSIONS IN MY COUNTRY:** Different regions of the country have unique cultures or areas where people have specific needs. Investigate a mission organization that focuses on a region, people group, or outreach within the country. What is the mission of the organization? How long have they been in existence? Write a newspaper article or prepare a presentation to share about the organization, a success story for that organization, and the future outlook for the work they do and the people they serve. Be sure to share what skills or qualifications they are looking for in people that may want to work for them or volunteer. Share your presentation or article with your Troop, local newspaper, church newsletter, or other group.



11. (EX) **MISSIONS AROUND THE WORLD:** Christians in the United States are not the only missionaries in the world. Many other nations send missionaries into their own countries as well as into other countries. What is the 2nd largest country that sends missionaries? Where do they send missionaries? List at least two other countries that have missionaries and missionary organizations. Do any countries send missionaries to the United States? Why or why not? Write a letter of encouragement to a missionary or mission organization in another country. What is the most interesting thing you learned about their mission work? Share this information with your Unit or other group.





12. (EX) There are both rewards and risks involved with being a missionary. The risks will be different based on where you are serving and for how long. What are the differences between short-term, long-term and career missionaries? How are mission trips funded? Interview someone who is a career missionary or has taken a short-term mission trip. Ask questions about the risks, rewards, funding, and the impact on their life and those they served.

13. In Matthew 28:19 Jesus gave what is call the Great Commission. The word “commission” can be broken into two parts: com and mission. The prefix “com” means together and “mission” means an important task. After reading Matthew 28:19 consider how people take on Jesus’ important task and work together. Work with members of your Unit to create and implement a plan to share about Jesus through art, writing, drama, or service to a group of younger children.

14. There are physical, educational, and emotional preparations missionaries must undergo before entering the mission field. Assist an older girl or adult prepare for a mission trip away from home by prayer, collecting and packing needed items, making craft kits, or other requested assistance.

15. Create a game or craft to tell a Bible story to children. Practice at least two times with a younger Unit or group.

16. Read a biography of a missionary. Visit your Troop, Unit, younger Unit, or other small group portraying that missionary and tell about your life.



17. (PiPa) **MISSIONS & PRAYER:** Prayer vigils can be individual or involve a larger group of people all praying for one purpose. A prayer vigil may be held inside or outside, bring awareness to a cause, or be held as a show of support before or after an event. Prayer vigils may last 1-2 hours, overnight, or even longer (some Sisters of Perpetual Adoration have been praying continually for decades!). Plan and hold a prayer vigil for something that you are passionate about; it may be a missionary family, a people group, something happening in your area, or other cause. Invite your Troop, church, community, or a few friends to join you in this endeavor.



18. (PiPa) **MISSIONS IN MY COMMUNITY:** Every day you interact with people: your family, friends, those where you shop, work, go to church, do business, or just hang out. Make a web of influence chart. Starting in the center of a large piece of paper, make a circle labeled, “Me.” Brainstorm all of the places you go or people with whom you interact. Draw lines to circles and label with the names of the groups you are involved with or places you go (church, school, work, bank, etc.) Next to those circles, list the names of people that you know in these areas (if you don’t know a name, list them by description such as, “the tall cashier with wire glasses.”) Post this chart where you can see it daily. Personalize it with Bible verses, specific prayers for individuals, quotes, or artwork to help you focus on your personal mission field.



19. (PiPa) **MISSIONS IN MY COUNTRY:** There are many opportunities for teens to participate in a mission experience. Youth groups and individuals may be involved in: taking a Vacation Bible School to an impoverished area or to a large city; joining a work crew to assist with home repairs in a needy area; volunteering a week at a camp for kids with special needs; or interacting with other church youth at a week-long mission camp. Find an experience that takes you away from home for a one-week or longer mission experience. Remember to prepare for your trip with prayer and develop a funding plan early to finance the trip. Share this experience with your Troop to encourage others to give it a try!



20. (PiPa) **MISSIONS AROUND THE WORLD:** Anyone going into a foreign country for mission work will be visiting a different culture. Choose a country you may wish to enter as a missionary and create a multi-media presentation answering the following questions:

- How does this culture enforce rules?
- How is it governed?

- c. What is the economy like?
- d. What language is spoken?
- e. How does it satisfy aesthetic needs (art, music, dance, etc)?
- f. How does it regard “family” and marriage? What are the responsibilities of members of a family?
- g. How does it train/educate children?
- h. How does it care for the sick and elderly?
- i. What is the primary belief/religious system?
- j. Is there a general acceptance of Christianity?
- k. What are some things that you might do that would be detrimental to the mission?

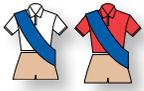
OR

If you have gone on a mission trip to another country, prepare a multi-media presentation providing information about the country, your experience in the country, any successes/disappointments, the impact on your life, and ways you would prepare to go again.



21. (PiPa) Personal stories resonate with others. Sharing stories of what God has been doing in your life is a great way to share the reasons for the hope that is within you (1 Peter 3:15). Remembering times where God has

impacted your life or you have felt His presence in your life also helps to dispel times of doubt or uncertainty. Read Joshua 4. Create your own “Stones of Remembrance Journal.” Take time to reflect on times you remember God’s presence in your life and write these in your journal. Keep this journal as a place to write down the amazing things God is doing in your life. Share one of your stories with your Troop Shepherd or church youth leader.



22. (PiPa) Preparation is key to the life of a missionary. Not only is training in the Christian faith and scripture necessary but there are other skills and preparations that must be addressed. How do you think an overseas missionary must prepare physically, mentally, emotionally, and spiritually for an assignment? How would the preparations differ for a state-side mission trip? How would you need to prepare for a local mission assignment? Locate a seminary, university, or mission training facility that offers missions training and investigate the course descriptions. What additional trainings would you need to prepare for the type of mission assignment that sounds most interesting to you? What recommendations may be required by a mission-sending organization? Interview a career missionary, pastor, priest, youth minister or Christian ministry worker. What education and experience do they have? How did it prepare them for their work? What educational or other types of preparations do they still need?

23. Many missionaries, both overseas and state-side, will state that they feel more blessed by what they receive than what they give. The rewards are great, but there are many risks to mission work. Often the people who are the neediest in our world live in the most dangerous situations. Not only is there spiritual conflict but there is usually physical danger from fighting factions, unsanitary conditions, and naturally occurring risks. Choose three countries you would like to visit and discover the physical risks that may be encountered. How would a missionary prepare for these risks? Create a chart of risks and risk preparation and management techniques. Email this information to: missionminded@ahgonline.org.

24. Everything costs money! There are many ways to raise funds to support a mission trip or a missionary besides everyone’s favorite bake sale or car wash. There are individuals and foundations that are willing to support a great cause. Choose one of the following fundraising methods to investigate:

- a. Grant writing: What is a grant? Use the internet and library to find a Christian foundation that offers grants for mission work and Christian causes. Using this foundation’s grant writing guidelines, write a mock grant to present to your Unit Leader.
- b. Social entrepreneurship/cause marketing: What are these methods of raising funds or selling goods? How do businesses or organizations do this? How could this method



be used locally? Globally? Develop a speculative plan/proposal using this method. Get outrageous; it's all pretend! Include a strategy for promoting your idea. Can you "sell" your Unit on your idea?

_____ 25. There are many missionary groups and individuals that are seeking funds to support their mission work. Deciding on sponsoring an individual, supporting a missionary family, or giving money to a ministry is a big decision. You will want to be sure that the monies donated will be used as intended. Investigate one of the following to learn more about how to decide on the best place for you to provide monies, if and when you decide to donate:

a.) A charity-rating organization – what criteria do they use to rate charities? What would you consider a "good" rating? Look up an organization with whom you are familiar and find their rating.

b.) A charity's financial statement – for tax purposes, any organization that is considered a charity must make their financial statements available to supporters. Review a financial statement from a charity. What questions do you have about their expenditures? Ask for assistance with understanding if you are not familiar with some of the terms.

_____ 26. Be a social-media missionary. If you are involved with any type of social media you know that many people see your comments. How are you sharing the love of Christ with the virtual world? Read back through your last two weeks of posts. Are you representing Christ with humility, integrity, cultural sensitivity, commitment, and patience? Mark a date two weeks from now and review again your posts. Have you improved or continued to shine as a Christian? Have your posts made any impact? Continue to be known as a positive role model in your social media posts.

_____ 27. Create a multi-media presentation identifying examples of different types of mission organizations such as medical, educational, pastor support, building, orphanage, child oriented. Include organizations that have outreach into diverse cultures such as extreme sports, hobbies, activities, professions, etc. Identify whether they are local, national, or overseas missions; if they are denominationally or independently sponsored; if they are short-term or career oriented; and who is able to participate. Carefully evaluate each organization you present to make sure they are not in conflict with the mission and values of American Heritage Girls. Present your findings to your entire Troop or at a multi-Troop event.

_____ 28. Do you know yourself well? Do others mention your special gift or talent? Learning about your personality, spiritual gifts, and strengths can assist you as you plan for your future. With your parent's or guardian's permission and guidance, take a Christian personality, spiritual gifts, strengths finder or career profile survey. Remember to not allow such tests to "pigeon hole" you – it is a tool only to assist in understanding more about you at this particular moment.

Leader's Signature (Tenderheart Level)

Date

Leader's Signature (Explorer Level)

Date

Leader's Signature (Pioneer or Patriot Level)

Date



PUBLIC SPEAKING

Being able to express yourself with words in front of an audience gives you the opportunity to share your thoughts, express your point of view and impact the world around you. Speaking eloquently and winsomely takes skill and practice while also being fun and rewarding.

“Speak up for those who cannot speak for themselves, for the rights of all who are destitute. Speak up and judge fairly; defend the rights of the poor and needy.” (New International Version, Proverbs 31:8-9)



1. (T) Standing in front of an audience and talking about something that is meaningful to you is a great way to start as a public speaker. Following a standard plan for a speech, called a three-point speech, also makes speaking easier. Learn about the parts of a three-point speech: introduction with thesis statement (or hook), body, and conclusion. With your Troop or family, participate in a Show & Tell event. Bring an item to show and give a three-point speech as you tell about your item.



2. (T) There are many different types of speeches you may want to give, depending on what is it you want to say, to whom you will be speaking, and the occasion. Investigate each of the following types of speeches. Share with a parent or Leader what you have learned and when you would use each type of speech.

- Impromptu
- Persuasive
- Informative
- Entertainment
- Interpretive
- Illustrated



3. (T) When young people are prepared to answer questions, do so confidently and are well-spoken, people take notice! Quick thinking and putting your thoughts into words takes practice. Speaking clearly and articulating words is important as well. You'll need to do two things to master this skill: speech drills & impromptu practice. Speech drills are one way to get your tongue saying what your mind is thinking. Speech drills are also fun (most people call them “tongue twisters”)! Find a book of tongue twisters, silly sayings, or rhyming poems you can say quickly and then say them over and over again for 15 minutes. For impromptu practice, have a Leader, older girl, or parent choose objects, quotes, theme words, or questions for you to answer; then, take four minutes to organize your thoughts and then give a two- to five-minute speech you've made up on the spot (no notes). Over the course of one month, do at least 15 speech drills and 15 impromptu practices.

4. Being a good listener can help you become a better speaker. Attend three different speaking events such as a lecture, sermon, speech, or other speaking performance by an individual (a character actor at historical site would qualify if reenacting a speech, for instance, but a play at a theater would not.) Listen carefully to the words they choose, how loudly or softly they speak, their tone, inflections and the energy they put into their performance. Observe their body language, how they move in the physical space around them, their eye contact with the audience members, what they do with their hands. Discuss with a parent or Leader your observations about each of the speakers you heard and watched. What did you learn, what did you like best, what did you not like? What was one thing the speaker did extremely well that you would want to be sure to do as a speaker? What was one thing the speaker could improve on that you want to avoid doing when you speak?



_____ 5. Do you have a favorite character in a book or movie that gave a great speech or monologue? Perhaps you admire an historical figure that rallied people with a resounding speech. Learn their speech and then give it to an audience of at least 10 people. Do not use props or costumes, let your words, tone, inflection, and passion inspire and entertain your audience.

_____ 6. Public speaking is not just about what you say. Bad habits can distract your audience. Instead of listening to the important things you have to say, they may be wondering why you are twirling your hair or shuffling your feet. Videotape yourself giving a speech. Do you notice any distracting habits? Practice in front of a mirror and then videotape yourself giving the same speech again. Do you notice improvements? Did you add another distracting habit? Save the before and after videos and show them to your parent or Leader. Explain how your work has helped you improve your physical presentation style.



_____ 7. (E) If you did not earn this Badge as a Tenderheart, complete Requirements #2 and #3. Also, learn about the parts of a three-point speech: introduction with thesis statement (or hook), body, and conclusion. Try using this format when practicing impromptu, especially at the beginning of your speaking career.



_____ 8. (E) Having the chance to share with an audience something that interests you can be fun and makes the exciting world of public speaking more personal and meaningful. Speeches which include visual aids builds confidence quickly as you share pictures or other information visually with the audience, giving you benchmarks along the way as you speak. Design two to five presentation boards to go along with a six- to ten-minute speech. Practice your speech as you work on your presentation boards, organizing your thoughts and the best way to present your topic. Give your presentation to a group of at least ten people.



_____ 9. (E) Giving feedback to other speakers and getting feedback from those that listen to you speak can help you fine tune your skills while helping others fine tune theirs. This fine tuning means honoring others as you give feedback with respect, and being able to accept feedback graciously when given to you. Remembering that you have something important to say and want to improve will help you accept both compliments and helpful critiques. Remembering that other speakers are entitled to respect as they say what is important to them will help you balance giving praise and offering points for improvement. In a small group of three to five fellow speakers, give a memorized speech of five to seven minutes on a topic of your choice. Each member of the group should give a speech and receive feedback from the other members. The format you should use to give feedback is to start your first sentence with "What I really liked was...." Then, give helpful suggestions by starting with, "What I think could be improved is..." Remember to consider your words as you live by the Creed and everyone will enjoy working on their speaking skills. Use the compliments you receive as encouragement to keeping working hard and use the constructive comments to improve your audience's enjoyment of your hard work. Practice your speech for at least one week after hearing from your small group. Then, give your speech to a Leader, other adult, or another small group gathering, asking for feedback to gage your improvement.



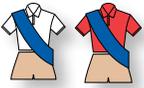
_____ 10. (E) Choose a speech type that you have never given (i.e. Persuasive, Informative, Entertainment, Interpretive) and give it in front of an audience of at least ten people at least two times. By the second time, you should not need to use your script.

_____ 11. Reading aloud in public is also public speaking. Practice reading aloud different types of reading materials such as a children's book, the Bible, building instructions, cooking directions, magazine articles and novels. Read aloud so that at least one other person is listening (younger children and senior citizens especially love being read aloud to.) Keep track of your time and complete at least two hours of reading aloud total.

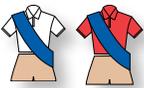
12. Interviewing someone in front of an audience is another form of public speaking – both for you and for the one being interviewed! In front of your Troop or Unit, interview another Troop member or Leader. Plan your interview questions ahead of time, but be ready to delve into any interesting answers they give you. Imagine what you might want to know if you were in the audience. Give your interviewee a chance to answer the questions, but at the same time be mindful of being in charge of the interview. In front of your Troop or Unit also be interviewed by another Troop member or Leader so you have the chance to be on both sides of the interview process.

13. Everyone engages in public speaking sometime – even if they don't realize it! You are a public speaker when you help with a fund raiser, pass out flyers, or raise awareness of an issue at school or in your community. Participate in an event that gives you the opportunity to speak to at least 25 people you do not know as you communicate to them your reason for speaking to them at the event. Try choosing a variety of words and approaches and pay attention to the results to learn what works best. Do certain words or phrases work better with certain people and not others? Knowing your audience is an often overlooked attribute of being a successful public speaker!

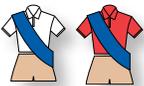
14. (Pi/Pa) If you did not earn this Badge as an Explorer, complete Requirement #7.



15. (Pi/Pa) Speech preparation might take research to make sure you get your facts straight. When you research and use facts, quotes, ideas, and materials created by other people, you must be sure to be ethical. Giving credit where credit is due is the right thing to do and it has the bonus of providing you with credibility! When speaking, it is important to verbally acknowledge the source for any material not specifically your own work. Investigate the meaning of the following terms: copyright, slander, libel, plagiarism. Discover the proper rules for source citation in your written speech and how to properly cite sources while speaking. Share what you have learned in a presentation to a younger Unit and remember to cite your sources!

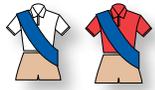


16. (Pi/Pa) Public speakers often use technology to add excitement to their presentation. Sadly, it can also be used incorrectly and make a presentation boring. Presentation slides, video clips, and other visual aids should be well-planned, used only when needed, and should not distract your audience. Never plan a speech where you will just read off of the slides! Choose a topic that sparks your interest or that you have a passion to share, and develop a ten minute speech utilizing technology or other visual aids of your choosing. Give your presentation to a group of at least ten people at least three times.



17. (Pi/Pa) Debate requires good public speaking skills as well as excellent listening skills and critical thinking skills. Investigate the two most common high school debate formats: Lincoln-Douglas Values Debate and Team-Policy Debate. In debate competitions, debaters must be ready to debate both sides of an issue, one side is called the affirmative, the other the negative. Debaters debate a topic called a resolution. Organize a debate round robin with one to three other people. Each person should choose a debate resolution that is easy to debate without doing a lot of research (examples: "Dogs are better than cats;" "Students should be required to study a foreign language;" "When sick, eating soup is more highly valued than getting rest.") Before the debate round robin, spend a few minutes on a couple of the examples given to discuss as a group how you would affirm these resolutions and how you might negate these resolutions. This exercise will give you practice thinking of creative arguments and get everyone ready for the debate rounds. When time to start the round robin debates: One at a time, each participant should introduce their resolution and then affirm it with a three- to five-minute speech. Other participants should negate the resolution with a two- to three-minute speech. After each negative speaker, the affirmative speaker should be allowed one to three minutes of rebuttal.





18. (Pi/Pa) Every speaker has their own point of view and style. Deciding what to speak about and how to present material to an audience can look very different depending on the speaker. With a small group of at least five speakers, together decide on a speaking topic or ask a Leader to assign one. The topic should be a general theme or word that could have many interpretations, such as heart or bear. Allow one or two weeks for each participant to prepare a ten-minute speech, of any type, based on the theme. Enjoy a time of fellowship as each participant gives their presentation and enjoy the variety!



19. (Pi/Pa) Robert's Rules of Order is the most common parliamentary procedure used in meetings to give a standard of behaviors, rules, and methods for holding and maintaining order. Attend a meeting where Robert's Rules of Order are used and followed. Hold a Troop or other meeting which you preside over following Robert's Rules of Order. OR Give a presentation on Robert's Rules of Order teaching others what you have learned.

20. Speaking about your beliefs and explaining why you believe what you believe is a special speaking and writing genre called apologetics. Apologetics prepares you as instructed in 1 Peter 3:15 to "be ready always to give an answer to every man who asks you to give the reason for the hope that you have." With your pastor, priest, youth leader, Troop Leader, or through Christian speaking organization websites, write down ten questions you want to be ready to answer. Prepare your answer and practice giving a two- to five-minute verbal response to those ten questions. Have an Adult or Leader ask you to answer two to three questions they randomly choose.

21. Compete in a speaking tournament or oratorical contest. Events with multiple rounds are preferred in order to gain the most speaking experience and receive the most feedback.

22. Compete in two debate tournaments or one large debate tournament with multiple rounds. You, as an individual debater, or together with your debate partner, if competing in team debate, should debate at least twice as the affirmative and twice as the negative.

23. Start a speech and/or debate club in your Troop, homeschool group or at your school. Hold at least six club meetings. Compete in one tournament as a club OR hold your own tournament or speaking showcase. Invite your community to come, listen, and judge (if holding a competition, as this gives the most feedback to the speakers.)

OR

Organize and teach a speaking class for younger students to introduce them to public speaking. The class should meet a minimum of six times.

24. Extemporaneous speaking is a special speaking style most often associated with knowing and analyzing current events. Investigate extemporaneous speaking to learn more about what it is and what types of extemporaneous speaking opportunities are available to you. Compete in at least three rounds of extemporaneous speaking at a tournament.

OR

Organize a research group with at least 2 other people on an area of interest to all (economics; local, state, domestic, or international affairs). Practice writing questions for others and answering questions that you receive (not your own nor have received in advance.) You should give five- to seven-minute extemporaneous speeches at least three times.



_____ 25. Invite a professional speaker to give a presentation to your Troop or Unit. After their presentation, invite them to stay to answer questions about their speaking career.

_____ 26. Many individuals suffer from speech difficulties. Investigate five common speech disorders, their causes, and effects. Discover treatment strategies and professions that work with children or adults with speech disorders. Job shadow a speech professional for a day.



_____ Leader's Signature (Tenderheart Level) Date

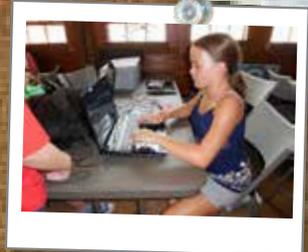
_____ Leader's Signature (Explorer Level) Date

_____ Leader's Signature (Pioneer or Patriot Level) Date



"Great are the works of the Lord, studied by all who delight in them."
(ESV, Psalm 111:2)

Science Club
Th 4:00



Science and Technology Frontier
Architecture
Freshwater & Marine Biology
Robotics





ARCHITECTURE

Architecture combines design and construction in the creation of physical structures that reflect cultures, time periods, and are often magnificent works of art. Discover the realms of architecture in nature, your neighborhood, in cultures past, and design a dream home while engaging in the world of architecture.

“For every house is built by someone, but He who built all things is God.” (New Revised Standard Version, Catholic Edition, Hebrews 3:4)



1. (T) Discover the architecture around you. Go for a walk around your neighborhood. Identify architectural elements and their purpose. Look for the following elements: door, window, chimney, roof, driveway, garage, column, gate, sidewalk, hedge, column, fence, playground, plus two others that you find. With three of the elements, find two examples and name what is the same and what is different about them.



2. (T) Learn about five structural elements architects use. Find a picture of a dome, a column, an arch, a flying buttress, and a cantilever. With your friends, act out the shapes made by these types of structures.



3. (T) Architects use different types of drawings, one of which is called an elevation. Make an elevation of your bedroom. Draw a picture of each wall of your bedroom. Include items such as windows, doors, mirrors, and furniture. Think about the size of each object in relation to the other objects in your pictures as you draw, this is also known as recognizing scale.



4. (T) Build a house out of a shoe box or a cereal box. Think about the different types of materials you could use for the exterior of the building. How do these different materials protect the house from the environment? Arrange your house into a streetscape with the other houses your Troop has made. How does everyone's house differ? Find at least one similarity and one difference between your house and each of the other houses in the streetscape.

5. Architects learn about ancient Greek buildings because of their design, beauty, and structural elements. Learn about the Parthenon in Athens, Greece. What was its original purpose? Draw the Parthenon using only squares, rectangles, and triangles.

6. Proportion is important in art and architecture. Imagine if a banana was drawn twice as big as the fruit bowl or if a building had windows taller than the walls! Learn about human proportions. What measurements before tape measures were based on the human body? Do we still use any of these same measurements today? How long is an inch in finger widths? How many of your feet make up a yard? Measure your bedroom based on your body. Then, measure using a tape measure.

7. Create a giant cardboard maze, castle, or other structure utilizing at least three large boxes. Ask for adult help with cutting out any doors, windows or passageways. Work with a group, if desired, to create a larger maze, castle or other structure. Invite younger girls to play and enjoy your creation.





8. (E) Visit a nature center to see architecture in nature. Learn about the different ways animals make homes to protect themselves from their environment. How do we use some of the same principles animals use in our architecture? Some examples: beaver dam, beehives, bird nests, spider webs, coral, prairie dog colonies. How do the different social structures of these animals relate to their housing structures?



9. (E) Architects often refer to the building “skin” or “skeleton”. What part of a building is like our skin and hair, our skeleton, our digestive system, our nervous system, and our respiratory system? Make a comparison chart with pictures of the different building systems next to pictures of the human body systems. Then draw a simple elevation of a house and add human features to the drawing. What part of the building might be comparable to eyes, mouth, hair, and other features?



10. (E) Houses come in different shapes and sizes. Find five different types of house designs. Take pictures, make a display, or other presentation to share. What are their features, advantages, and disadvantages? What type of house design is your house? Is it a common house for your street and neighborhood or is it unique? Were some house designs more popular in certain decades? Are some house designs more popular in certain countries or geographical areas?



11. (E) Learn about public utilities. What types of utilities come into your home? What are some alternatives to typical public utilities? How do utilities link communities together? What happens when the power goes out - is it just for one house or for the whole street? Call the utility company that interests you most and invite someone to visit your Troop to tell about their job, how their utility is important to the community, and how it is delivered and used inside buildings.

12. Research types of building foundations. Why is it necessary for a building to have a strong foundation? Read Matthew 7:24-27. Why is it necessary for us to have a strong foundation?

13. Design your dream home. Start by creating a program chart that lists the different types of rooms you want in your house, the size you want them to be, and the furniture that will go in them. Be creative when thinking about the types of rooms in your dream home. Do you need a special room for your hobby? How many bedrooms do you want? Do you want a kitchen for entertaining or do you mostly want to eat out? All of these decisions will affect the program and ultimately the design of your house. Draw a plan of your dream house. Don't forget you may need hallways to get from room to room; you'll need doors and windows as well.

14. Imagine the craziest house idea you can. It might be built in a strange location, have a theme, or even be upside down! Draw a picture of the outside of the house: front, back, and sides. Has someone else had this idea and already built something similar? Use the internet (with adult permission) or library to research. Share your crazy design and one crazy design you found with your Leader.

15. Design a house for your pet or other animal. Make a list of your “client’s” needs and wants. Do they like to climb, jump, scratch, and chew? Be sure to accommodate all of the animal’s needs and wants. Visit a zoo or other animal nature center to discover how the animal habitats there have been built. If possible, talk with the animal caretakers about the animal’s needs and how their home has been designed, especially parts you may not be able to easily see.

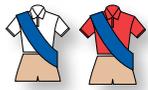


16. (Pi/Pa) Learn about the different types of architectural drawings. Plan, reflected ceiling plan, section, and elevation. Draw your home or apartment in plan. If you have more than one floor, draw a plan for each floor. Also, draw exterior elevations of each side of your house or apartment building. Using graph paper will help with scale and straight lines.

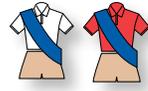


17. (Pi/Pa) Research three American architects from different time periods. Look at the types of buildings they designed, the materials they used, and the proportions of the buildings. Did these architects do anything innovative? What were they known for? Which is your favorite? Why? Share this information with a younger Unit or younger group.





18. (Pi/Pa) Arrange a visit to a construction site (could be for a house, an addition, or a commercial project.) Talk with the foreman about safety on a job site, sequence of construction, and the building they are constructing. Have the foreman give you a tour of the site. Make sure you wear long pants and closed toed shoes to the site. Have an adult go with you on this visit.



19. (Pi/Pa) Arrange a tour of an architecture firm. Discuss the process of becoming a registered architect, a typical day in the life of an architect, what kinds of projects the firm works on, and career opportunities in the field today. Share this information with your Unit, Troop, or family. You can find a list of architects in your area at www.architectfinder.aia.org.

20. Architecture is not just about drawing buildings, it is about solving a problem. No two situations are exactly the same, even if the needs are similar. All clients have different aesthetic ideas and priority lists. Much of the design process is all about critical thinking. Visit www.discoverdesign.org and design a medium or large design project from the website. Make sure you use the full six-step design process: define the problem; collect information; brainstorm and analyze ideas; develop solutions and build a test model; present your design to others and get feedback; and improve / finalize your design. Complete this individually or as a group project.

21. While architecture is about critical thinking and solving problems, there are certain tools that architects use to explain their ideas to the clients and create their working documents from which buildings are built. One of the newest trends in architecture is Building Information Modeling (BIM). Learn about the benefits and challenges about using BIM, the different computer programs that are considered BIM, and how it has changed the construction industry.

22. 3-D modeling is another tool that architects use to express their designs in an easy to understand way. Download Google SketchUp (it's free) or other 3-D modeling software and model your dream home. Use the Requirements from #13.

23. The practice of architecture is predominantly a male profession. Research a famous female architect and learn about what it took for her to break into this field. Research the difference between the number of women graduating from architecture school and the number of women registered architects. What keeps women from getting their license? Interview a female architect to help you gain some insight.

24. Visit a college architecture department or research a college that has a degree in architecture. What is required for someone to become an architect (licensure, degree, experience, apprenticeship, etc.)? What classes are required? How many years is the program? Are some architecture schools more well-known for certain types of architecture (landscape, commercial, etc.)?

Leader's Signature (Tenderheart Level)

Date

Leader's Signature (Explorer Level)

Date

Leader's Signature (Pioneer or Patriot Level)

Date





FRESHWATER & MARINE BIOLOGY

So you want to be a freshwater or marine biologist? You will need an intense and sound background in science, mathematics, and writing, but for the time being, let your curiosity lead you to observing as much as possible about your surroundings. Seek out water habitats and the aquatic creatures and plants that live there. God created a multitude of mysterious and fascinating creatures.

“How many are your works, LORD! In wisdom you made them all; the earth is full of your creatures. There is the sea, vast and spacious, teeming with creatures beyond number – living things both large and small.” (New International Version, Psalm 104:24-25)



1. (T) What is an aquatic animal? Identify at least one aquatic animal that lives in each of the following environments: salt water, fresh water, brackish water. Create a puppet, mask or mobile representing at least two of these animals.



2. (T) Visit a stream or river with your family or Unit. Take photos of animals you see living in or around the water. How many different habitats did you find? What other types of habitats for aquatic creatures might you find around the world? With adult supervision, search the internet to identify the common name and scientific name for the animals you photographed.



3. (T) Color is used by aquatic animals for protection, camouflage, and intimidation. What do these terms mean and how do they apply to life under water? Name some aquatic animals that use these methods for survival. What colors would you use for protection, camouflage and intimidation if you were an aquatic animal?



4. (T) Fish aren't afraid of the dark. Some sea creatures in the deepest ocean zone create their own light; they are called bioluminescent organisms. Why would these animals need light? Find pictures of at least five of these animals. Create a flashlight game where each participant uses their light as a bioluminescent organism would.

5. Read a story about aquatic animals. Create a skit or puppet show to re-tell the story.

6. Marine life comes in all sorts of sizes and shapes. Demonstrate how the following aquatic animals move: fish, crab, clam, octopus, sponge, whale, and eel. Play a game with your friends to see if they can guess which creature you are representing.

7. Investigate how to grow an algae sample in a bottle and give it a try.

OR

Create an “ocean in a bottle” craft using at least the three ingredients of oil, water and food coloring.



8. (E) Identify an example of each of these aquatic animals: mammals, reptiles, amphibians, fishes, and invertebrates. Identify three examples of aquatic plants. Create a diorama, ocean box or drawing showing these animals in the layer of the ocean or fresh water body where they live.





9. (E) Visit a fresh water lake or pond and identify four animals and plants living there. Take photos of the animals/plants and make a collage which you show to your family, Leader or Unit. How many different habitats did you find? What other types of habitats for aquatic creatures might you find around the world? With adult supervision, search the internet to identify the common name and scientific name for the animals you photographed.



10. (E) Scientists use a system of classification (called a dichotomous key) to identify all living things. What are the divisions of the classification system? Choose four aquatic animals and list their classifications. A hint for remembering the classification system is the mnemonic: King Philip Came Over For Good Spaghetti.



11. (E) Some aquatic animals are food sources for humans. Aquaculture is used throughout the world as one way to satisfy the growing demand for seafood. Investigate aquaculture methods, advantages, disadvantages, and the locations where different types of products are located around the world. How does aquaculture protect or endanger wild species? What contaminants may be present in food products from water sources?

OR

With your family or Unit, hold a tasting dinner of fish, shellfish, mollusks and crustaceans. Collect reviews of each dish from your guests and write your own review of each dish. Compile the responses and analyze the results to share with your Leader or Unit. Include details on smell, taste, texture, and cooking method. Be aware that some people have allergies to aquatic animal food sources.

12. Visit a coastal zone and collect three types of seashells. Identify the creature that lived in each shell. In which ocean zone did each creature live? What is each creature's place in the ocean food chain or food web? Share with a younger Unit what you found interesting about one of the creatures.

13. Watch a documentary on ocean life with your family or Unit. What is your favorite fictional movie or book about marine life?

14. Take a trip to an aquarium, oceanarium, or zoo (if it includes water habitat exhibits.)

15. Have someone from the aquarium visit your Troop and present an aquatic animal educational program.



16. (Pi/Pa) Investigate a local state or national park with a water habitat. Interview a park ranger from this park addressing the following: What aquatic animals can be found at this park? How is the health of the water habitat maintained? What is the diversity of marine plants and animals? What special training does a park ranger need to oversee a water habitat?



17. (Pi/Pa) What are the ocean depth levels? What aquatic animals are found at each level? What are the ecological threats to each of these levels? Create an interactive presentation to teach this information to a younger Unit or other group.





18. (Pi/Pa) Define the following terms: nekton, benthos, sessile, phytoplankton, zooplankton. Find photos of two examples of each term.



19. (Pi/Pa) Make a dichotomous key for four marine invertebrates and four marine vertebrates.

- _____ 20. Create and maintain a fresh or salt water aquarium with aquatic plants and animals. Keep a two-month record of feedings, populations and activity observations. Record the scientific name and description of each specimen in your aquarium.
- _____ 21. Participate in a marine life educational program camp at a local aquarium or university extension service. Create a slideshow or other multi-media presentation about your experience to share with your Troop.
- _____ 22. Watch an educational video on ocean symbiosis, ocean ecology, or trophic relationships. Consider how the topic relates to the health of the ocean environment. Does the health of the ocean affect the health of land and air? Teach one concept to a younger girl or Unit using a fun method they will enjoy.
- _____ 23. Many cultures have a strong relationship with the rivers, lakes, and oceans they are near, depending on them for food, transportation, and industry. Identify two cultures/countries that express this relationship in literature. Read examples and create a skit or puppet show based on one example to present to your Troop. Write your own poem or story about a river, lake, or ocean.
- _____ 24. Visit one of these water environments during at least two seasons of the year: intertidal zone, estuary, river, lake, or pond. Keep a log of observations, and take photos or make sketches of the animals observed. What differences and similarities did you record during your visits?
- _____ 25. Interview a biologist working in an aquatic field. What qualifications are required for their job? What courses did they take in college? What additional experience is required for their field? What does their daily work routine include? If possible, tour their workplace or job shadow them for a day.

Leader's Signature (Tenderheart Level)

Date

Leader's Signature (Explorer Level)

Date

Leader's Signature (Pioneer or Patriot Level)

Date





ROBOTICS

A robot is a machine, usually equipped with arms, legs or wheels, that operates automatically. Robots can be found in most industries and are sometimes used to do tasks that would otherwise be dangerous, difficult or tedious for people. Learning about Robotics will stretch your imagination and activate your logic!



1. (T) What does robotic mean? What makes a robot different from other machines? Find at least five photos or drawings of robotic machines to show to your Unit. These should include a minimum of three robotic machines that are useful. Describe what these robots do.



2. (T) Think of a task you do every day that you would like a robot to do. What type of movements would it need to perform the job? What senses (touch, sight, smell, etc.) would it need to accomplish the task? Draw what this robot would look like.



3. (T) Robots are used in factories to do repetitive tasks and in environments that are too harsh and dangerous for humans. Find three examples of these types of robots. How are these helpful to humans?



4. (T) Using common materials, or model building supplies (Legos, paper tubes, etc.), build a robot model. This robot does not need to move or work. Share your model with your Unit.

5. There are six different types of simple machines (lever, screw, wedge, inclined plane, pulley, wheel and axle). Make a drawing or bring examples of each of these simple machines found in your home. Are there simple machines in items that you use every day? How would these simple machines be useful in the design of a robot?

6. What is the name of the tool or attachment found at the end of a robotic arm? To your parent or Leader, describe several different variations of this part. What other parts do robots have both externally and internally? What could a robot use to move around, grab things, know what is around it, or follow instructions?

7. Build something that uses mechanical devices (such as pulleys or gears) or a simple machine to perform a task. You may use a kit or design your own.



8. (E) Learn about the various parts of a basic Robot. Draw a robot modelled on a human- a humanoid. Include a Vision Sensor, Wireless Communication Receiver, Sound Sensor, Gripper, Actuator and a Power supply in your drawing.





9. (E) Learn about Simple Robots often referred to as BEAM robots. What does the BEAM acronym represent? What makes a BEAM robot different than a more complex “intelligent” robot? What type of movements and positioning mechanisms are typical of a BEAMbot?



10. (E) Robots have many applications and are used in many types of environments, but all of them have elements from three scientific fields: electrical engineering, mechanical engineering, and computer science. What does each of these fields contribute toward the making of a robot? List five different types of robots used today. For one of these robots, name three mechanical, electrical, and computer science aspects utilized in the creation of this robot. What are some of the biggest challenges to making a robot perform like a human?



11. (E) Robots use gears to give motors purpose because they can be used to change direction, power and speed of rotation. Explore how changing the size and the number of gears changes what they do. How does the number of teeth on two gears relate to the speed of each gear when they are linked together and one is turned? To demonstrate this, create a display with interchangeable gears made of cardboard, wood or metal gears.

12. Design and build a simple robot using a robotics kit or design of your own. What are sensors and how can you incorporate them into your design? Demonstrate the functions of your robot to your Unit or Troop. Explain the function of your robot. Document your design in an engineering notebook or journal.

13. With your family or Unit, visit a factory that uses robotics. Did humans perform these tasks previously? What environmental inputs, decisions, and end effectors do the robots have? What are the cost benefits of using them? What new jobs, if any, were created due to the use of robotics in this factory?

14. Robotics teams and competitions are a fun way to jump into the fascinating world of robotics! Discover if there are teams or competitions for your age group in your area. Join a team for a season of competition **OR** compete in an event with a robot you design and build **OR** with your family or Unit purchase and build a robotics science kit from a hobby store.

15. Actuators are devices that drive, or cause movement, in the joints of a robot. These devices operate with an energy source such as electric current, hydraulic fluid pressure, or pneumatic pressure. With permission and assistance of your parent, locate an internet instructional for constructing a simple hydraulic robot. Construct the robot and demonstrate its function to your Unit or Troop. What are the advantages to using hydraulic fluid pressure rather than pneumatic pressure? Where would pneumatic pressure be more useful?

16. Interview someone who works with robots or teaches robotics. Why did they become interested in robotics? What educational plan did they follow to learn about robotics? Do they use robots in their everyday life? How do they think robots help humans? Share your findings in a Troop newsletter or school publication.



17. (Pi/Pa) What is the role of CPU, a sensor, and an actuator? Name three different types of actuators commonly used in Robots. What is the difference between Artificial Intelligence (A.I.) and Biological Systems and why is there a debate amongst robot scientists?



18. (Pi/Pa) Explain what is meant by robotic “degrees of freedom.” How many degrees of freedom are typically associated with the human arm? Find pictures or diagrams which illustrate the degrees of freedom, and find a minimum of three types of robotic actuators and three types of end effectors. Give examples of where each type is used. Share this information in a presentation to a younger Unit or group.



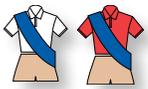


19. (Pi/Pa) Give the “Three Laws of Robotics.” Where did they originate? How has science fiction played a role in developing technology? Write a science fiction story (minimum 500 words) that includes a new form of “artificial intelligence” and include one illustration.



20. (Pi/Pa) Create a presentation of the definitions and examples of the following terms to share with your Unit and an Explorer unit:

- Actuator
- Articulated
- Autonomous Behavior
- Feedback
- End effector
- Input devices
- Sensor



21. (Pi/Pa) Explain the role of pneumatics in robotics. Why would a designer choose pneumatics over another form of actuation? Create a simple robot using pneumatics as an actuator. Share your robot with a Tenderheart Unit.

22. Robotics has been utilized in industry and in the military for quite a while. The 21st Century has seen increased growth in the use of robots and robotics technology in the medical industry. Create a presentation for your Unit on the uses of robotics technology in the medical industry. Include your ideas for medical uses for robots in the future.

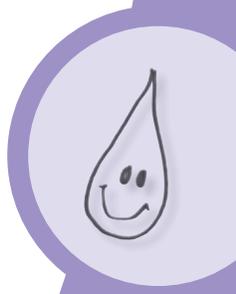
23. Explore the basics of a programming language specific to robotics (RobotC, NXT-G, EV3, Robotic python, etc). Write a program that will let a robot perform a specific task.

24. Join an upper-level robotics team (FTC, FRC, or other age-appropriate robotics program). Participate for a full season/school year.

25. Research the necessary components of a successful robotics competition. Organize and hold a robotics competition for your Troop. Include competition levels that will allow Explorers to compete. This Requirement may be completed with 2-3 Pioneers or Patriots working together. This must be accomplished as an event complete with logistical planning, promotion, and evaluation; each girl working for the Requirement must share equally in the tasks necessary for a successful event.

26. Learn about career opportunities in the field of Robotics. Consider three and learn about the education, training and experience required for these careers. Choose one that interests you the most and share it with your parent, Unit Leader or Advancement Chair.

Leader’s Signature (Tenderheart Level)	Date
Leader’s Signature (Explorer Level)	Date
Leader’s Signature (Pioneer or Patriot Level)	Date



Notes



AHG Sports Pin Program

The American Heritage Girls, in an effort to encourage life-long health through exercise, has instituted the AHG Sports Pin Program. This program is designed to introduce AHG members to both group and individual sports and to encourage teamwork, respect for authority, goal setting, and good sportsmanship. AHG members may work together on these pins or may participate individually through community and church teams or clubs. The goal is to GET ACTIVE and PLAY SAFE!

A few points to consider:

- The AHG Sports Pin Program supplements the existing Badges and Level Awards program.
- Work done towards the Sports Pin is not eligible to be counted towards Badge Requirements.
- Participation may take place at home, within the community, with the family, or within the AHG Troop.
- Adult participation and supervision is necessary for each of these activities.
- Emphasis is placed on introducing a girl to a sport, encouraging her participation in it, and demonstrating good sportsmanship.
- American Heritage Girls who have disabilities may alter the activities, designing their own fitness program with the help of their physician, teacher, or parent.

Who is eligible?

All registered American Heritage Girls from Tenderheart to Patriot. A Sports Pin is earned once and may be moved from vest to sash while the girl remains involved in the sport. Extra hours of sport participation can be designated by colored disks worn behind the $\frac{3}{4}$ -inch triangular metal pin. For each additional 100 hours of participation in the same sport, a colored disk may be earned.

What Sports Pins are being offered?

The AHG Sports Pin Program currently includes the following sports: basketball, bowling, competitive swimming, gymnastics, competitive cycling, running, rugby, soccer, softball, tennis, and lacrosse. In future years more sports may be added that are not already featured as an AHG Badge.

100 hours: Red
200 hours: White
300 hours: Blue

Where are the Sports Pins worn?

The pins may be worn on the front of the vest, along the bottom hem of the right side or near the bottom of the sash.

How will I track the Sports Pin requirements?

Your Troop Advancement Manager may track requirements using the AHG Sports Pin Achievement Record and the girls' Sports Pin requirement sheets. Your coach, parent, or mentor may "sign off" on your activities.

"Therefore, I urge you, brothers and sisters, in view of God's mercy, to offer your bodies as a living sacrifice, holy and pleasing to God--this is your true and proper

Who will pay for the cost of the pins?

If the pins are earned individually through the community or with the family, the pins should be at the family's expense. If the pins are earned as a Unit or Troop, the Troop may choose to incur the expense from their insignia budget. However the pins are funded, the decision rests with your Troop Board and their budgetary constraints.

Why this program?

Overweight children are a fast growing population in our nation today. Girls who are raised in a climate where physical activity is encouraged and enjoyed from a young age are more likely to continue physical activity as an adult. Sports and recreational physical activities coupled with good nutritional choices will insure better health for tomorrow's leaders. Good physical health is vital in fully serving the Lord. This program is designed to be noncompetitive, enjoyable and allow girls to try new skills in the safe setting of their Troop, family, school, church and community.

My Troop has girls with disabilities, how will this program work for them?

- *Girls should be involved to the best of their abilities.* If this requires a unique role such as timekeeper, equipment manager or team manager, that is fine. Sometimes shortening the length of the activity will make the sport "doable," or using assistive equipment, such as a wheelchair. Girls should work with their parents, Leaders and/or physician to determine appropriate modification to Sports Pin requirements.
- *Allow leniency in rules* – when appropriate.
- *Participation in Special Olympics can be used for many of the pins.*
- If you have questions about adapting the Sports Pin Program to fit the special needs of a girl in your Troop, please don't hesitate to contact Member Services for suggestions.

Bill of Rights for Young Athletes

1. Right of the opportunity to participate in sport regardless of ability level
2. Right to participate at a level that is commensurate with each child's developmental level
3. Right to have qualified adult leadership
4. Right to participate in safe and healthy environments
5. Right of each child to share the leadership and decision-making of their sport participation
6. Right to play as a child, not as an adult
7. Right to proper preparation
8. Right to equal opportunity to strive for success
9. Right to be treated with dignity by all involved
10. Right to have fun through sport

National Association of Sport and Physical Education (NASPE)

Safety

To help you avoid injury while playing sports, follow these safety tips from the American Academy of Pediatrics, the American Academy of Orthopedic Surgeons, the U.S. Consumer Product Safety Commission, and other sports health organizations:

1. Before you begin a sports or exercise program, be sure to have your health evaluated by a physician.
2. Make sure you wear all the required safety gear every time you play and practice.
3. Allow for proper warm up time before playing or practicing any sport.
4. Learn to listen to your body and not play through the pain. If you are injured, you should be treated appropriately and allowed to heal.
5. Do not wear jewelry. It can be caught on the equipment or can cause injury to you or another player.
6. Be sure you remain properly hydrated during practices and games.
7. Be sure first aid is available at all games and practices.
8. It is important that you follow, and your coaches and referees enforce, all rules of the game.



For Further Information

No matter how good you are or how long you have played any sport, you can always improve your skills and knowledge. Here are some suggested resources to help you grow:

- **Your local library** – Ask the librarian to help you find books and other resources on your favorite sport. This will include biographies on famous athletes from around the world.
- **Sport magazines** – Current periodicals keep up to date on the events in the sports world around the globe. Some sports have their own special magazines. There are also magazines that cover sports in general.
- **School and community programs** – Most communities have sports programs at a variety of levels that continue through adulthood.



AHG Sports Pin Achievement Record



	Completed Requirements	Competitive Cycling	Disc Sports	Field Hockey	Jump Rope
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				
	10				
	11				
	12				
	13				
	14				
	15				
	16				
	17				
	Date Completed				
	Date Awarded				
<i>Initial and indicate date completed for each Participation Disk.</i>					
Additional Participation Hours	25 hours				
	50 hours				
	75 hours				
Red Disk	100 hours				
	125 hours				
	150 hours				
White Disk	175 hours				
	200 hours				
	225 hours				
Blue Disk	250 hours				
	275 hours				
	300 hours				

	Completed Requirements	Lacrosse	Performance Dance	Rugby	Triathlon
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				
	10				
	11				
	12				
	13				
	14				
	15				
	16				
	17				
	Date Completed				
	Date Awarded				
Additional Participation Hours	25 hours				
	50 hours				
	75 hours				
Red Disk	100 hours				
	125 hours				
	150 hours				
White Disk	175 hours				
	200 hours				
	225 hours				
Blue Disk	250 hours				
	275 hours				
	300 hours				



Competitive Cycling



Rules:

1. Learn the hand signals used when cycling on the street, and what street traffic rules also apply to cyclists.
2. Learn when and how to change gears.
3. Learn about four different types of mountain biking.



Equipment:

4. Learn basic bike maintenance.
5. Learn what type of clothing, footwear, and safety equipment should be worn while cycling, mountain biking, and BMX.
6. Learn about the different types of bike designs. Learn which type of bike design is best for racing, street, mountain, BMX, etc.

Practice:

7. Ride your bike 3 times a week for a month.
8. Go on a group bike ride utilizing proper hand signals, safety rules, and traffic rules.
9. Prepare and complete a training plan for an upcoming bike race you are planning to enter.

Play:

10. Participate in a bike race. Choose a race appropriate to your age, training, and experience level.
11. Watch a bike race, either in person or on television.
12. Read a biography of a famous cyclist.

Disc Sports



History and Rules:

1. Learn the "10 Simple Rules" of Ultimate.
2. Learn the rules and courtesies of Disc Golf.
3. Research the histories of Ultimate and Disc Golf.
4. Learn how to score a game of Ultimate and of Disc Golf.

Equipment:

5. Know which types of discs are used for Ultimate, and be able to identify which discs are putters, drivers, mid-range, and stability in Disc Golf.
6. Know the two main types of offense and defense in Ultimate and know the difference between a handler and a cutter.
7. Draw a diagram of an Ultimate field and know the difference between home and away.
8. Know the components of a Disc Golf course and design a course in your neighborhood.

Practice:

9. Be able to show how to throw backhand and forehand using the correct grips and be able to tell when you would use each of these throws.
10. Try two other types of throws and know when you would use them.
11. Toss with a partner to practice the different throws and catches

Play:

12. Research the highest level of competition for Ultimate OR Disc Golf. Explain how to reach that level.
13. Attend an Ultimate OR Disc Golf tournament.
14. Play on an Ultimate team OR Play 5 games of Disc Golf on three different courses.



Field Hockey



History and Rules:

1. Learn the rules of field hockey.
2. Research the early history of field hockey.
3. Identify and define each of the major positions played on the field.

Equipment:

4. Learn about the basic field hockey equipment including: ball, stick, goal, shin guards, mouth guards, and cleats. What are the rules for field hockey sticks and how have they changed over the years?
5. Learn what extra equipment the goalkeeper is required to wear.
6. Draw a detailed diagram of a field hockey field including measurements.

Practice:

7. Learn and demonstrate how to dribble and shoot the ball.
8. Learn and demonstrate three types of passes.
9. Participate in a field hockey camp or clinic.

Play:

10. Play a season of field hockey on a community or school team.
11. Watch a field hockey game played by professional or college players, either in person or on television.
12. Read a biography of a female field hockey player.

Jump Rope



History and Rules:

1. Describe the different types of competitive jump rope events: Speed, Freestyle, and Team.
2. Research the history of jump rope. Describe why it is difficult to figure out the origins.
3. Name five health benefits to jumping rope.
4. Learn basic terminology such as: double under, triple under, switch, traveler, two-in-one, and wheel.

Equipment:

5. Describe what kinds of ropes should be used for different events.
6. Describe what equipment can be used in jump rope competitions.
7. Describe what equipment can be used in jump rope performances.

Practice:

8. Practice jumping rope four times a week for a month.
9. Participate in a jump rope workshop, camp, or team.
10. Learn and demonstrate five single rope skills.
11. Learn and demonstrate how to turn and jump Double Dutch, and do one trick.

Play:

12. Attend or watch a jump rope tournament.
13. Research and report on the U.S. National Jump Rope Championship.
14. Participate in a jump rope performance with a team or make up a 3-minute performance with your friends or Troop.



Lacrosse



History and Rules:

1. Learn the history of lacrosse and the possible origin of the name.
2. Learn about and discuss some of the differences between: 1) field and box lacrosse, 2) men's and women's lacrosse, 3) U.S. and international lacrosse.
3. Identify and define each of the major positions played on the field.

Equipment:

4. Draw a detailed diagram of a lacrosse field including measurements.
5. Learn about the lacrosse stick or crosse.
6. List and describe any safety equipment mandatory for women's lacrosse in the U. S., including goalie equipment.

Practice:

7. Learn and demonstrate how to cradle, pass, catch, and pick up balls from the ground.
8. Learn and demonstrate how to legally check in girls lacrosse.
9. Attend a lacrosse camp or clinic.

Play:

10. Play a season of lacrosse on a community or school team.
11. Watch a lacrosse game by professional or college players, either in person or on television.
12. Research and report on the history and future of lacrosse in the Olympics.

Performance Dance



History and Rules:

1. Learn the history and origins of the type of dance in which you primarily participate, plus one other.
2. Learn and understand the importance of stretching before dancing.
3. Explain the scoring system for a competition in your primary form of dance, plus one other.

Equipment:

4. Describe the proper footwear and clothing to wear during the type of dancing in which you primarily participate, plus one other.

Practice:

5. Practice at least 3 times a week for one month.
6. Learn and demonstrate popular dances from 3 different time periods.
7. Choreograph a dance that your Troop or friends could easily learn.
8. Participate in a dance class, camp, or lessons.

Play:

9. Join a dance company or group that performs or competes regularly.
10. Attend a dance performance for your form of dance, plus one other.
11. Watch a dance competition or participate in a dance competition.
12. Read a biography of a famous dancer.



Rugby



Rules:

1. Learn the basic differences between flag rugby, rugby, and rugby sevens.
2. Define a scrum, ruck, maul, try, and line-out.
3. Identify and define each of the major positions played on the field. Learn the numbers that coordinate with each position for standard rugby.
4. Learn how rugby is scored.

Equipment:

5. Draw a detailed diagram of a rugby field including measurements.
6. Learn about the equipment used in rugby.
7. Discuss what protective equipment is required to play.

Practice:

8. Learn and demonstrate how to properly throw and catch a rugby ball.
9. Learn the proper way to tackle and practice on a tackling dummy.
10. Learn how to do a line-out and practice with proper supervision.
11. Engage in 3 different rugby practice drills.

Play:

12. Play a season of rookie rugby or rugby sevens on a community or school team.
13. Watch a college or professional rugby/rugby sevens match.
14. Research and report on the history and future of rugby in the Olympics.

Triathlon



Rules:

1. Learn the origins of triathlon.
2. Explain the different race distances: youth, sprint, Olympic/international, half, and full.
3. Learn what drafting is and when it is acceptable. List some etiquette rules for passing while swimming, biking, and running.
4. Learn how to set up a transition area. Discuss safety for leaving the pool and for entering and exiting the transition area for both the bike and the run.

Equipment:

5. Describe appropriate clothing and footwear options for triathlon.
6. List the equipment that is required and essential. List the equipment that is optional, but recommended.
7. Discuss how to properly care for your triathlon equipment.
8. Prepare an effective checklist for proper race planning. Include all of the equipment, nutrition, and supplies.

Practice:

9. Warm up before and cool down after each training session and race.
10. Work up to being able to swim the standard race distance for your age group using your most comfortable stroke(s).
11. Work up to being able to ride your bike the standard race distance for your age group.
12. Work up to being able to run (or run/walk) the standard race distance for your age group.
13. In training, do six “bricks” (back to back disciplines): two swim-to-run, two swim-to-bikes, two bike-to-run. These should be done at different training sessions, not all at once.
14. Practice the two transitions (T1 & T2) until you are comfortable with them.

Play:

15. Watch a triathlon, either live or televised.
16. Contact a triathlete to ask them any questions you have about the race. Discuss why they started racing and why they like the sport.
17. Participate in a triathlon. Choose a race appropriate to your age, training, and experience level.



Shooting Sports Appendix

Shooting Sports Appendix - Table of Contents

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TENDERHEARTS - BB GUN PLINKING GAME GUIDELINES

*This activity should only be done under the supervision of a parent, guardian, or Troop leader.
All girls need to have parental consent to participate in a troop target shoot. Eye protection should be worn
for every activity that involves shooting a BB gun.*

Together with your parent or Leader, set up your own backyard BB gun plinking game. Most AHG Troops are using the Crosman 760 BB Gun. This is a great BB gun for the backyard plinking game. The Crosman 760 will need to be cocked or pumped three times to make sure BB's penetrate or break targets instead of potentially ricocheting off of them. Other BB guns may require more or less than that. Parent/Leaders should test fire the BB gun to ensure that it will adequately break targets without ricocheting.

The line you will shoot from is called the firing line. Make sure your firing line is not facing a house, garage, other building, or an area where people are located. Measure 20 ft. from your firing line. This is where you will place your targets.

To complete this elective you will need to pass two levels of difficulty.

For the first level, place a gallon milk jug with the cap removed at the 20 ft. target line down range. The milk jug should have two or three inches of water, sand or pebbles to prevent it from falling over.

Standing at the firing line, your task is to hit the milk jug ten times. Before you begin, you need to recite three important safety rules for shooting firearms.

1. Treat your BB gun as if it is loaded, even if you are sure it is empty. Never point it in the direction of a person. Keep the gun pointed upward until it is time to shoot.
2. Always keep the muzzle of your BB gun pointed upward until you are at the firing line. If someone is on the firing range between you and the target keep your gun pointed up.
3. Never put your finger inside the trigger guard or anywhere near the trigger until it is time to shoot. Instead, place your index finger alongside the trigger guard until it is time to shoot. This is called indexing.

When it is time to shoot be sure to line up the target with the front and rear sights on the gun and your eye. This will help you to make accurate shots.

Once you have shot the milk jug ten times, complete the same exercise at 20 ft., shooting ten balloons blown up about the size of a grapefruit.

You will have successfully completed this elective once you have popped the ten balloons.

NOTE: Parent and leaders, making sure the BB gun is properly sighted in will give your girl(s) a much better chance to succeed.

TENDERHEARTS – BB GUN TROOP TARGET SHOOT GUIDELINES

This activity should only be done under the supervision of a parent, guardian, or Troop leader. All girls need to have parental consent to participate in a troop target shoot. Eye protection should be worn for every activity that involves shooting a BB gun.

Troop leader: Notes for setting up the range. Most AHG Troops are using the Crosman 760 BB Gun. This is a great BB gun for the Troop target shoot. The Crosman 760 will need to be cocked or pumped three times to make sure BB's penetrate or break targets instead of potentially ricocheting off of them. Other BB guns may require more or less than that. Leaders should test fire the BB gun to ensure that it will adequately break targets without ricocheting.

The line the girls will shoot from is called the firing line. Make sure the firing line is not facing a house, garage, other building, or an area where people are located. Measure twenty feet from your firing line. This is where you will place your targets.

Cardboard boxes make great target holders. Targets can be taped, glued or thumbtacked onto them. Since boxes can be easily obtained from area grocery stores etc., it is recommended that there be a box for each girl participating in the shoot.

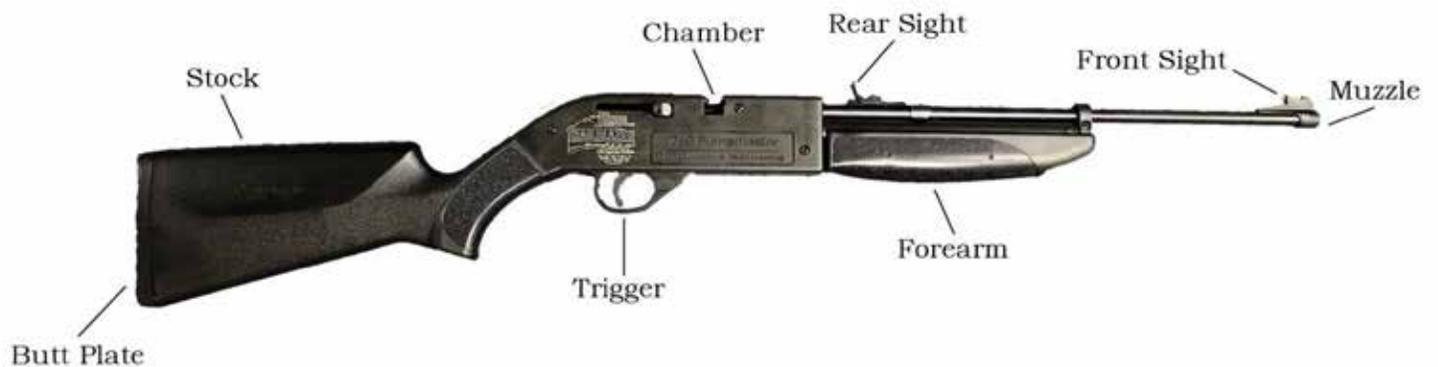
For the Tenderheart Troop Shoot, the object of the activity is for each girl to break ten crackers that are secured to her cardboard box. Other targets may be used instead of crackers, but special attention needs to be given to whether or not targets are more prone to ricochet. Round crackers such as Ritz crackers make good targets because they are not prone to ricochet and "shatter," which is fun for the girls.

Girls: before you begin, you need to recite three important safety rules for shooting firearms.

1. Treat your BB gun as if it is loaded, even if you are sure it is empty. Never point it in the direction of a person. Keep the gun pointed upward until it is time to shoot.
2. Always keep the muzzle of your BB gun pointed upward until you are at the firing line. If someone is on the firing range between you and the target keep your gun pointed up.
3. Never put your finger inside the trigger guard or anywhere near the trigger until it is time to shoot. When it is time to shoot be sure to line up the target with the front and rear sights on the gun and your eye. This will help you to make accurate shots. You should only aim at the targets that are on your box.

You will have successfully completed this elective once you have broken all ten crackers.

Parts of a BB Gun and Safety Rules



Always point the muzzle of the gun in a safe direction.

Never put your finger on the trigger until it is time to shoot.

Never assume that the gun is empty. Treat every gun as if it is loaded.

NOTE: BB gun pictured is the Trailblazer Adventure Program edition of the Crosman 760 Pumpmaster.

CLEANING YOUR BB GUN

Target shooting of BB guns and firearms provides safe and enjoyable recreation for millions of Americans. However, with the fun comes the responsibility of taking care of your BB gun or firearm.

Taking a few minutes after shooting to clean your BB Gun will make sure that it continues to be good working order and most importantly that it continues to operate safely.

Since BB guns are made of steel, over time contact with your hands, and any moisture associated with being outside will corrode it. For this reason, it's important to take a soft oily rag (an old t-shirt works great) and wipe down the entire BB gun. WD40 or similar readily available oil may be used.

NOTE: Cleaning your BB gun should only be done under the direct supervision of a parent, guardian or leader who has permission from your parents.

PARENTS NOTE: Make sure the BB gun is empty before proceeding with wiping it down. Even if you are sure that the gun is not loaded, continue to practice muzzle discipline, never pointing the gun at anyone.

RANGE COMMANDS

These are the standard commands that competitive shooters in the country use to keep themselves safe while using a range. Learning them now, while you are also learning to shoot a firearm is a great way to prepare for the future and let other shooters know that you know how to be safe on the range. Recreational shooting is an incredibly safe sport because everyone learns and obeys these commands. The commands will be given by the person in charge or the Range Safety Officer (RSO).

1. "Shooters to the Line" – It is safe to carry your firearm to the firing line.
2. "Is the line ready?" – At this time you should look to see if there is anything that might be unsafe. If you see anything wrong, raise your hand. If there is the RSO will correct the situation before continuing.
3. "The line is ready" – This means that the range is safe, and it is almost time to shoot.
4. "Load" – At the point you can load one round into the chamber.
5. "Commence firing" – You can shoot.
6. "Cease fire" – Immediately open the action, put the gun down. You can call "Cease fire" if you see anything on the range that might be unsafe. If you open the action, and there is a live round that does not eject from the firearm, raise your hand immediately so the RSO can come and assist you.
7. "The line is safe" – Do not proceed down range to change targets until the RSO says that the line is safe and that you may go down range.

EXPLORERS - BB GUN PLINKING GAME GUIDELINES

This activity should only be done under the supervision of your parent, guardian, or an adult that has the permission of your parent or guardian. Eye protection should be worn for every activity that involves shooting a BB gun.

Together with your parent or Leader, set up your own backyard BB gun plinking game. Most AHG Troops are using the Crosman 760 BB Gun. This is a great BB gun for the backyard plinking game. The Crosman 760 will need to be cocked or pumped three times to make sure BB's penetrate or break targets instead of potentially ricocheting off of them. Other BB guns may require more or less than that. Parent/Leader should test fire the BB gun to ensure that it will adequately break targets without ricocheting.

The line you will shoot from is called the firing line. Make sure your firing line is not facing a house, garage, other building, or an area where people are located. Measure 25 ft. from your firing line. This is where you will place your targets.

To complete this elective you will need to pass two levels of difficulty.

For the first level, place a ½ gallon milk jug with the cap removed at the 25 ft. target line down range. The milk jug should have two or three inches of water, sand or pebbles to prevent it from falling over. Standing at the firing line, your task is to hit the milk jug ten times. Before you begin, you need to recite three important safety rules for shooting firearms.

1. Treat your BB gun as if it is loaded, even if you are sure it is empty. Never point it in the direction of a person. Keep the gun pointed upward until it is time to shoot.
2. Always keep the muzzle of your BB gun pointed upward until you are at the firing line. If someone is on the firing range between you and the target keep your gun pointed up.
3. Never put your finger inside the trigger guard or anywhere near the trigger until it is time to shoot. When it is time to shoot be sure to line up the target with the front and rear sights on the gun and your eye. This will help you to make accurate shots.

Once you have shot the milk jug ten times, complete the same exercise at 25 ft., shooting ten balloons blown up about the size of an orange.

You will have successfully completed this elective once you have popped the ten balloons.

NOTE: Parent and Leaders, making sure the BB gun is properly sighted in will give your girl(s) a much better chance to succeed.

EXPLORERS - MAKE YOUR OWN TARGETS FOR TROOP BB GUN/PELLET RIFLE SHOOT

Ingredients:

2 cups of Baking Soda
1¼ Cup of Water
1 cup of Corn Starch

Directions:

Mix ingredients together and cook in pot.

Continue to stir until mixture has consistency of dough.

Remove from heat and allow to cool to a temperature that is not too hot to handle.

Place mixture on flat surface. Recommend using wax paper coated with a bit of flour to prevent sticking.

Using rolling pin, roll to desired thickness (1/4" works well)

Using cookie cutters or empty soup cans or pizza cutter, cut to desired shape and size. (Take care to leave very little if any space between cuts as scrap cannot be reused.)

Allow to dry on wire mesh or cookie drying rack that will allow circulation of air. Targets will be ready to paint or shoot in 24 - 30 hours.

Food coloring can be used in the mixture, or targets can be painted once they are dry. Allow an additional 8 hours for paint to dry.

While mixture is still soft, use a tooth pick to make a hole so that target can be hung from a string on a cardboard box.

(Note: These can also be used as Christmas decorations!)

EXPLORERS – BB GUN/PELLET RIFLE TROOP TARGET SHOOT GUIDELINES

This activity should only be done under the supervision of a parent, guardian, or Troop Leader. All girls need to have parental consent to participate in a Troop target shoot. Eye protection should be worn for every activity that involves shooting a BB gun or pellet rifle.

Troop Leader: Notes for setting up the range. Most AHG Troops are using the Crosman 760 BB Gun or the Crosman Model 1077 CO2 pellet rifle. These are both great for the Troop target shoot. The Crosman 760 will need to be cocked or pumped three times to make sure BB's penetrate or break targets instead of potentially ricocheting off of them. Other BB guns may require more or less than that. Leaders should test fire the BB gun to ensure that it will adequately break targets without ricocheting. Leaders should become familiar with the specific model of CO2 pellet rifle a girl may use.

The line the girls will shoot from is called the firing line. Make sure the firing line is not facing a house, garage, other building, or an area where people are located. Measure twenty five feet from your firing line. This is where you will place your targets.

Cardboard boxes make great target holders. Targets can be taped, glued or thumbtacked onto them. Since boxes can be easily obtained from area grocery stores etc., it is recommended that there be a box for each girl participating in the shoot.

For the Explorer Troop Shoot, the object of the activity is for each girl to break ten of the homemade targets that she made in the previous elective. The targets should be secured to her cardboard box. If homemade targets are unavailable, crackers may be used. Other targets may be used instead of crackers, but special attention needs to be given to whether or not targets are more prone to ricochet. Round crackers such as Ritz crackers make good targets because they are not prone to ricochet and "shatter," which is fun for the girls.

Girls: before you begin, you need to recite three important safety rules for shooting firearms.

1. Treat your BB gun/pellet rifle as if it is loaded, even if you are sure it is empty. Never point it in the direction of a person. Keep the gun pointed upward until it is time to shoot.
2. Always keep the muzzle of your BB gun/pellet rifle pointed upward until you are at the firing line. If someone is on the firing range between you and the target keep your gun pointed up.
3. Never put your finger inside the trigger guard or anywhere near the trigger until it is time to shoot.

When it is time to shoot be sure to line up the target with the front and rear sights on the gun and your eye. This will help you to make accurate shots. You should only aim at the targets that are on your box.

You will have successfully completed this elective once you have broken all ten homemade targets.

NOTE: Parent and Leaders, making sure the BB gun/pellet rifle is properly sighted in will give your girl(s) a much better chance to succeed.

EXPLORERS – BB GUN/PELLET RIFLE TROOP MARKSMANSHIP COMPETITION GUIDELINES

This activity should only be done under the supervision of a parent, guardian, or Troop Leader. All girls need to have parental consent to participate in a Troop marksmanship competition. Eye protection should be worn for every activity that involves shooting a BB gun.

Troop Leader: Notes for setting up the range. Most AHG Troops are using the Crosman 760 BB Gun or the Crosman Model 1077 CO2 pellet rifle. These are both great for the Troop marksmanship competition. The Crosman 760 will need to be cocked or pumped three times to make sure BB's penetrate or break targets instead of potentially ricocheting off of them. Other BB guns may require more or less than that. Leaders should test fire the BB gun to ensure that it will adequately break targets without ricocheting. Leaders should become familiar with the specific model of CO2 pellet rifle a girl may use.

The line the girls will shoot from is called the firing line. Make sure the firing line is not facing a house, garage, other building, or an area where people are located. Measure twenty feet from your firing line. This is where you will place your targets.

Cardboard boxes make great target holders. Targets can be taped, glued or thumbtacked onto them. Since boxes can be easily obtained from area grocery stores etc., it is recommended that there be a box for each girl participating in the shoot. If there are more than ten girls participating, it is recommended that there be rounds or flights to crown a champion. We recommend the NRA Official 50 ft. pistol target (B-2) for this exercise.

For the Explorer Troop Marksmanship Competition, the object of the activity is for the girls to compete at shooting to see who earns the highest score. Ribbons or trophies or other such recognition can be awarded to the Troop champion.

Girls: before you begin, you need to recite three important safety rules for shooting firearms.

1. Treat your BB Gun/pellet rifle as if it is loaded, even if you are sure it is empty. Never point it in the direction of a person. Keep the gun pointed upward until it is time to shoot.
2. Always keep the muzzle of your BB Gun/pellet rifle pointed upward until you are at the firing line. If someone is on the firing range between you and the target keep your gun pointed up.
3. Never put your finger inside the trigger guard or anywhere near the trigger until it is time to shoot.

When it is time to shoot be sure to line up the target with the front and rear sights on the gun and your eye. This will help you to make accurate shots. You should only aim at the targets that are on your box.

Each girl gets ten shots to shoot the target attached to the cardboard box. Shots closer to the center earn higher scores. Once ten shots are made, the target should be presented to the official troop scorekeeper and logged in to a score sheet. The girl with the highest score wins.

You will have successfully completed this elective by fully participating in the marksmanship competition.

NOTE: Parent and Leaders, making sure the BB gun/pellet rifle is properly sighted in will give your girl(s) a much better chance to succeed.

THE DIFFERENCE BETWEEN A SHOTGUN AND A RIFLE

Historically the differences between a shotgun and a rifle were distinctive. Today, the lines have been blurred by technology somewhat. Here are the historical differences:

Rifles

A rifle is fired from the shoulder (a long gun), and has a barrel with grooves called rifling cut into the wall of the barrel. The rifling causes a projectile, normally called a bullet, to spin. This spin prevents the bullet from tumbling or wobbling when it leaves the barrel. Think of how a football that has been thrown in a spiral looks compared to a poorly thrown “wounded duck.” Rifling allows the use of pointed bullets, which improve range and accuracy because they are aerodynamic.

Rifles have a front and rear sight, and often are used with a scope. Rifles are typically used for longer shots including big game hunting (deer, elk, moose), for military purposes and for target shooting.

Shotguns

A shotgun is fired from the shoulder (long gun), and fires a number of small pellets called shot, or a solid projectile called a slug. A shotgun barrel is normally smoothbore, which means that it is not rifled. Shotgun pellets look like BB’s and come in many different sizes used for various purposes.

The pellets spread upon leaving the barrel of the shotgun, which produces a pattern of shot capable of covering more area than just one bullet. Shotguns typically have just a front sight. The range of a shotgun is much shorter than a rifle. Shotguns are used for hunting birds and other small game, deer at closer range, military and law enforcement purposes, home defense, and clay bird-target shooting (skeet, trap etc.)

New Technologies Blur the Lines Between Shotguns and Rifles

In recent years, engineers have applied many of the attributes of a rifle to shotguns. Many slug barrels for shotguns are now also rifled. Advances in shotgun slug ammunition have resulted in a more aerodynamic slug. Last, scopes are now commonly used on shotguns for both deer and turkey hunting. All of these changes greatly increase both the range and accuracy of shotguns.

Still, even though the distinctions have been blurred by technology, it is still accurate to refer to a rifle as a more long range and accurate firearm, normally for shooting stationary or slower moving targets. And it is still true that a shotgun is a shorter range firearm that is much more efficient for shooting at flying targets.

PIONEER / PATRIOT - BB GUN PLINKING GAME GUIDELINES

This activity should only be done under the supervision of your parent, guardian, or an adult that has the permission of your parent or guardian. Eye protection should be worn for every activity that involves shooting a BB gun.

Together with your parent or Leader, set up your own backyard BB gun plinking game. Most AHG Troops are using the Crosman 760 BB gun. This is a great BB gun for the backyard plinking game. The Crosman 760 will need to be cocked or pumped three times to make sure BB's penetrate or break targets instead of potentially ricocheting off of them. Other BB guns may require more or less than that. Parents should test fire the BB gun to ensure that it will adequately break targets without ricocheting.

The line you will shoot from is called the firing line. Make sure your firing line is not facing a house, garage, other building, or an area where people are located. Measure 25 ft. from your firing line. This is where you will place your targets.

To complete this elective you will need to pass two levels of difficulty.

For the first level, place ten balloons, blown up about the size of an orange, at the 25 ft. target line down range. Standing at the firing line, your task is pop all ten balloons. Before you begin, you need to recite three important safety rules for shooting firearms.

1. Treat your BB gun as if it is loaded, even if you are sure it is empty. Never point it in the direction of a person. Keep the gun pointed upward until it is time to shoot.
2. Always keep the muzzle of your BB gun pointed upward until you are at the firing line. If someone is on the firing range between you and the target keep your gun pointed up.
3. Never put your finger inside the trigger guard or anywhere near the trigger until it is time to shoot.

When it is time to shoot be sure to line up the target with the front and rear sights on the gun and your eye. This will help you to make accurate shots.

Once you have popped all ten balloons, complete the same exercise at 25 ft., shooting ten bathroom size disposable cups.

You will have successfully completed this elective once you have put a hole in ten cups.

NOTE: Parent and Leaders, making sure the BB gun is properly sighted in will give your girl(s) a much better chance to succeed.

PIONEER/PATRIOT – BB GUN TROOP TARGET SHOOT GUIDELINES

This activity should only be done under the supervision of a parent, guardian, or Troop Leader. All girls need to have parental consent to participate in a Troop target shoot. Eye protection should be worn for every activity that involves shooting a BB gun.

Troop Leader: Notes for setting up the range. Most AHG Troops are using the Crosman 760 BB Gun or the Crosman Model 1077 CO2 pellet rifle. These are both great for the Troop target shoot. The Crosman 760 will need to be cocked or pumped three times to make sure BB's penetrate or break targets instead of potentially ricocheting off of them. Other BB guns may require more or less than that. Leaders should test fire the BB gun to ensure that it will adequately break targets without ricocheting. Leaders should become familiar with the specific model of CO2 pellet rifle a girl may use.

The line the girls will shoot from is called the firing line. Make sure the firing line is not facing a house, garage, other building, or an area where people are located. Measure twenty five feet from your firing line. This is where you will place your targets.

Cardboard boxes make great target holders. Targets can be taped, glued or thumbtacked onto them. Since boxes can be easily obtained from area grocery stores etc., it is recommended that there be a box for each girl participating in the shoot.

For the Pioneer/Patriot Troop Target Shoot, the object of the activity is for each girl to break ten Necco Wafers that have been secured to her cardboard box. Other targets of similar size may be used instead of Necco Wafers, but special attention needs to be given to whether or not targets are more prone to ricochet. Necco Wafers make good targets because they are not prone to ricochet, they "shatter," which is fun for the girls, and they are a small challenging target for girls of this age.

Girls: before you begin, you need to recite three important safety rules for shooting firearms.

1. Treat your BB gun/pellet rifle as if it is loaded, even if you are sure it is empty. Never point it in the direction of a person. Keep the gun pointed upward until it is time to shoot.
2. Always keep the muzzle of your BB gun/pellet rifle pointed upward until you are at the firing line. If someone is on the firing range between you and the target keep your gun pointed up.
3. Never put your finger inside the trigger guard or anywhere near the trigger until it is time to shoot.

When it is time to shoot be sure to line up the target with the front and rear sights on the gun and your eye. This will help you to make accurate shots. You should only aim at the targets that are on your box.

You will have successfully completed this elective once you have broken all ten Necco Wafers.

NOTE: Parent and Leaders, making sure the BB gun/pellet rifle is properly sighted in will give your girl(s) a much better chance to succeed.

PIONEER/PATRIOT – BB GUN TROOP MARKSMANSHIP COMPETITION GUIDELINES

This activity should only be done under the supervision of a parent, guardian, or Troop Leader. All girls need to have parental consent to participate in a troop target shoot. Eye protection should be worn for every activity that involves shooting a BB gun.

Troop Leader: Notes for setting up the range. Most AHG Troops are using the Crosman 760 BB Gun or the Crosman Model 1077 CO2 pellet rifle. These are both great for the Troop marksmanship competition. The Crosman 760 will need to be cocked or pumped three times to make sure BB's penetrate or break targets instead of potentially ricocheting off of them. Other BB guns may require more or less than that. Leaders should test fire the BB gun to ensure that it will adequately break targets without ricocheting. Leaders should become familiar with the specific model of CO2 pellet rifle a girl may use.

The line the girls will shoot from is called the firing line. Make sure the firing line is not facing a house, garage, other building, or an area where people are located. Measure twenty five feet from your firing line. This is where you will place your targets.

Cardboard boxes make great target holders. Targets can be taped, glued or thumbtacked onto them. Since boxes can be easily obtained from area grocery stores etc., it is recommended that there be a box for each girl participating in the shoot. If there are more than ten girls participating, it is recommended that there be rounds or flights to crown a champion.

For the Pioneer/Patriot Troop Marksmanship Competition, the object of the activity is for the girls to compete at shooting to see who earns the highest score. The Pioneer/Patriot competition is more challenging than the Explorer's version because the distance is five feet greater. We recommend the NRA Official 50 ft. pistol target (B-2) for this exercise. Ribbons or trophies or other such recognition can be awarded to the troop champion.

Girls: before you begin, you need to recite three important safety rules for shooting firearms.

1. Treat your BB gun/pellet rifle as if it is loaded, even if you are sure it is empty. Never point it in the direction of a person. Keep the gun pointed upward until it is time to shoot.
2. Always keep the muzzle of your BB gun/pellet rifle pointed upward until you are at the firing line. If someone is on the firing range between you and the target keep your gun pointed up.
3. Never put your finger inside the trigger guard or anywhere near the trigger until it is time to shoot.

When it is time to shoot be sure to line up the target with the front and rear sights on the gun and your eye. This will help you to make accurate shots. You should only aim at the targets that are on your box.

Each girl gets ten shots to shoot the target attached to the cardboard box. Shots closer to the center earn higher scores. Once ten shots are made, the target should be presented to the official troop scorekeeper and logged in to a score sheet. The girl with the highest score wins.

You will have successfully completed this elective by fully participating in the marksmanship competition.

NOTE: Parent and Leaders, making sure the BB gun/pellet rifle is properly sighted in will give your girl(s) a much better chance to succeed.

Rifle Cleaning Procedure by Otis Technology

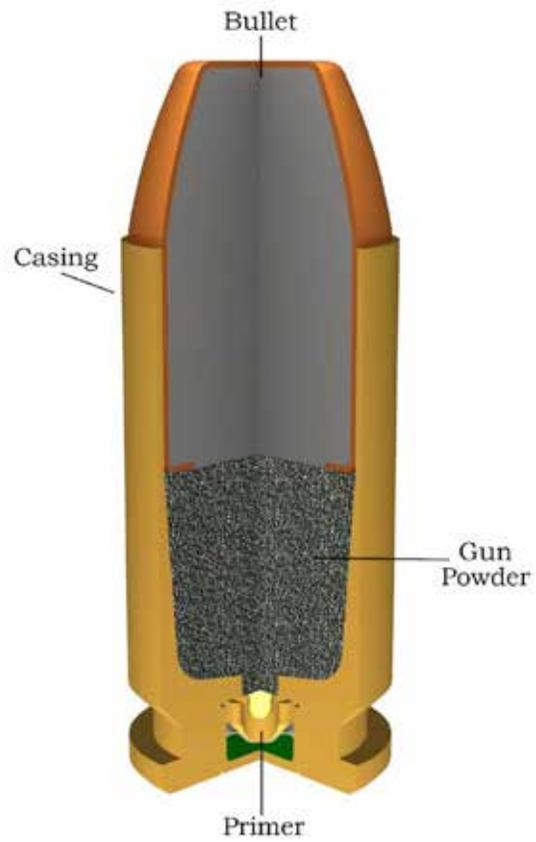
****MAKE SURE THE RIFLE IS UNLOADED
AND NO AMMUNITION IS FOUND IN YOUR
CLEANING AREA****

Barrel Cleaning Procedure

- 1.) Assemble the flexible cleaning rod with a patch holder. Attach the patch to the holder and apply 3-5 drops of solvent.
- 2.) Insert flexible cleaning rod into breech end of the rifle as if you were inserting a round in to the chamber
- 3.) Rotate the patch in the chamber and pull the flexible cleaning rod into the bore. Pull through the entire length of the bore.
- 4.) Remove patch holder and attach bore brush to the flexible cleaning rod. Feed flexible cleaning rod through bore and pull brush through the entire length of the bore.
- 5.) Remove Bore Brush and reattach patch holder to the flexible cleaning rod. Pull a clean dry patch through the bore to mop out fouling and excess solvent.
- 6.) Repeat step 5 with a new clean patch surface until the rifle is clean.
- 7.) Run a final patch with 1-2 drops of oil down the bore to lubricate and protect the barrel.
- 8.) Wipe down the outside of the rifle with a cloth to remove any excess debris.



Components of a Rifle Round

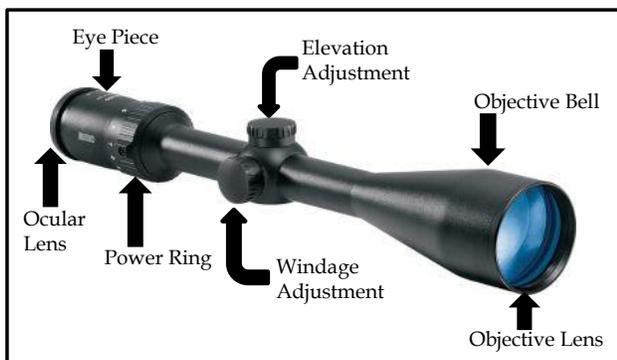


Note: Rifle round diagram furnished by Winchester Olin Corporation

Riflescopes and Sights

Riflescopes and sights help a shooter aim at distant targets. Most have a range of magnifications, allowing you to “zoom in” on what you want to see. A riflescope is mounted on top of the rifle using rings and bases. There are many other types of aiming devices that can be used such as red dot sights, fiber optics and iron sights.

Parts of a Riflescope:



Red Dot



Fiber Optic Sight



Traditional Iron Sight



Modern Iron Sight



What the numbers mean:

The most popular riflescope today is the **3-9x40**.

Magnification: magnification (or *power*) equals the number of times larger an object will appear when viewed through the riflescope. The magnification range is indicated by the numbers before the “x”. The magnification range on a 3-9x40 riflescope is 3x to 9x. Magnification power is selected using the power ring on the riflescope. Scopes that do not have variable magnification will only have one number before the x.

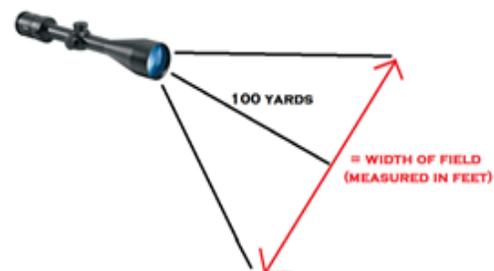
Objective Lens: this is the lens furthest away from your eye when you use a riflescope. The diameter of the lens is measured in millimeters ($\frac{1}{1000}$ of a meter). This measurement is found after the “x”. The objective diameter on a 3-9x40 riflescope is 40mm.

Eye Relief: eye relief is an important number to look at for a scope because it is the optimal distance for your eye to be from the ocular lens. Different types of firearms require different lengths of eye relief to allow for the recoil. **Example:** If you mounted a riflescope designed for a standard hunting rifle onto a handgun you would have to hold the scope too close to your face to shoot safely. The standard eye relief for a hunting riflescope is 4” and a handgun is usually more than 20”.

Field of View: the width of the image seen inside the scope. Usually measured in feet at 100 yards.

Waterproof/Fogproof: means that the optics have been sealed (usually with nitrogen) so that moisture will not get inside the lens system. Fogproof *does not* mean that fog will not occur on the outside of the lens.

Field of View Diagrams:

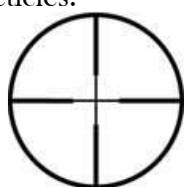


Lens Coatings and Light Transmission

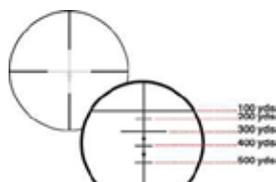
Light Transmission refers to the amount of light that is allowed to pass through each piece of glass. A riflescope has a series of lenses inside that light must go through before the image reaches your eye. To increase the light transmission, scope manufacturers coat the lenses with different materials that optimize brightness at dusk and dawn.

Types of Reticles

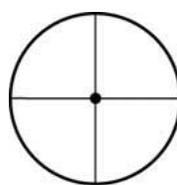
The reticle provides aiming points inside the scope. Below are some of the most popular types of reticles:



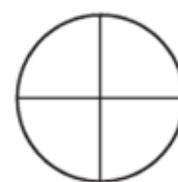
Duplex



Ballistic



Target Dot



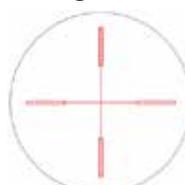
Thin Crosshair



Mil Dot



German #4



Illuminated
Mil-Dot



Illuminated
Circle Dot

How to Sight In a Rifle

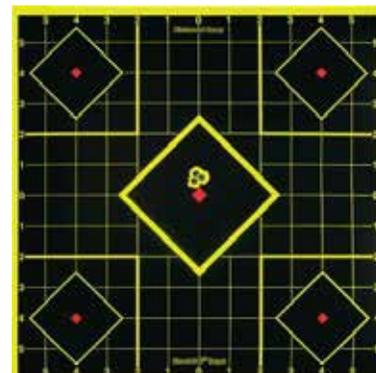
Boresighters are useful tools for helping you get “on the paper” before sighting in the firearm at a shooting range. Boresighting is usually done when a scope is first mounted or moved. The typical distance required for boresighting is 10-25 yards.

When you are ready to sight your rifle in at the range, make sure you have targets, a steady bench or rest, and the ammunition you plan to shoot. If you have already boresighted the scope, you can shoot at 100 yards before making your first adjustments to the turrets. If you did not use a boresighter, you should start at a closer target. It is recommended to shoot three shots between every adjustment.

The most common types of turret adjustments are $\frac{1}{4}$ MOA (minute of angle) which equals one $\frac{1}{4}$ " @ 100 yards.

Example: If you needed to adjust your scope 2" you would need to turn the turret 8 clicks or 2 MOA ($2" \div \frac{1}{4}"$ per click = 8 clicks). * * * Make sure to check markings on turret to decide which way to turn.

* Due to different velocities and bullet weights between types of ammunition, you need to check your sight-in adjustments every time you change types of ammunition.



SEQUENCE OF FIRING A SHOT

The Sequence of Firing a Shot is the order of things that you do leading up to pulling the trigger. Continued practice of this routine will greatly improve your shooting accuracy.

1. **Sight Alignment** - Place the butt of your rifle into your shoulder so that your head does not have to tilt to either side when you lower your cheek to the stock. Line up the target with the front and rear sights on the gun and your eye.
2. **Sight Picture** – Center the bull’s eye of your target in the front sight.
3. **Breath Control** – Once you are able to breathe in a slow, smooth rhythm, stop breathing during an exhale long enough get ready to pull the trigger.
4. **Hold** – Settle your body so there is minimal movement. If you find yourself moving too much, begin breathing again, and repeat step 3.
5. **Trigger Control** – Pull the trigger rearward with smooth even pressure. Concentrate on the front sight and the bull’s eye; not the trigger.
6. **Follow Through** – Remain still for a few seconds after the shot. Focus on the front sight and attempt to call out the location of your shot on the target.

Remember: Eye and ear protection should be worn for every activity that involves shooting a rifle.

Shotgun Cleaning Procedure

****MAKE SURE THE SHOTGUN IS UNLOADED AND NO AMMUNITION IS FOUND IN YOUR CLEANING AREA****

Cleaning Procedure

- 1.) Assemble the flexible cleaning rod with a patch holder. Attach the patch to the holder using the patch saver (see instructions) and apply 3-5 drops of solvent.
- 2.) Insert flexible cleaning rod into breech end of the shotgun as if you were inserting a round in to the chamber and pull the flexible cleaning rod into the bore. Pull through the entire length of the bore.
- 3.) Remove patch holder and attach bore brush to the flexible cleaning rod. Feed flexible cleaning rod through the bore and pull brush through the entire length of the bore.
- 4.) Remove Bore Brush and reattach patch holder to the flexible cleaning rod. Pull a clean dry patch through the bore to mop out fouling and excess solvent.
- 5.) Repeat step 5 with a new clean patch surface until the shotgun is clean.
- 6.) Run a final patch with 1-2 drops of oil down the bore to lubricate and protect the barrel.
- 7.) Wipe down the outside of the shotgun with a cloth to remove any excess debris.

1. Shotgun Patch Assembly



Attach the slotted brass shotgun tip over the end of the cable. It has internal threads.



Insert the brass tip through the slot in the patch.



Slide on the rubber patch saver to the tip.



Take a pinch on the patch and slip through the slot in the tip.



Pull tightly on the tip of the patch.

Pull up on the patch. You have just created a swab that will give you 360 degree coverage on your shotgun barrel.



SHOTGUN GAUGES

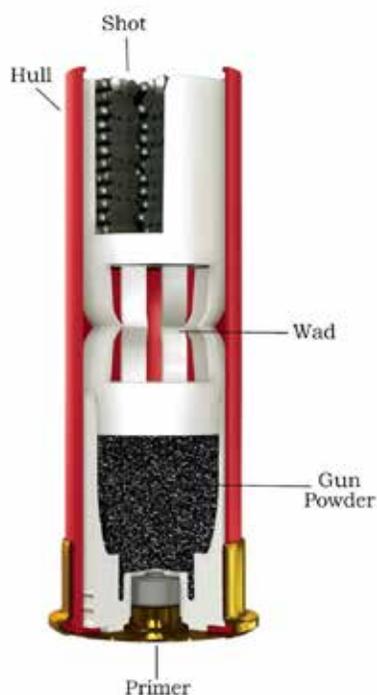
The gauge of a shotgun was first determined by a simple method that used lead balls. A gun maker would use lead balls the same diameter of the shotgun bore, count how many of those balls it took to equal 1 pound of weight, and that would be the gauge of the gun. For example, 12 lead balls the size of a 12-gauge shotgun bore weigh a pound. The only exception is the .410, which is a measurement of the bore in inches. Shotguns and shotgun shells must be matched. Failure to do so can cause firearm damage and/or personal injury.

Note: Black Cloud® 12-gauge loads feature all-black hulls.




**FEDERAL
PREMIUM**
AMMUNITION
Content courtesy of
Federal Premium Ammunition

Components of a Shotgun Shell



Note: Shotgun Shell diagram furnished by Winchester Olin Corporation

SHOTGUN CHOKES

A choke is to a shotgun, like a nozzle is to a water hose.

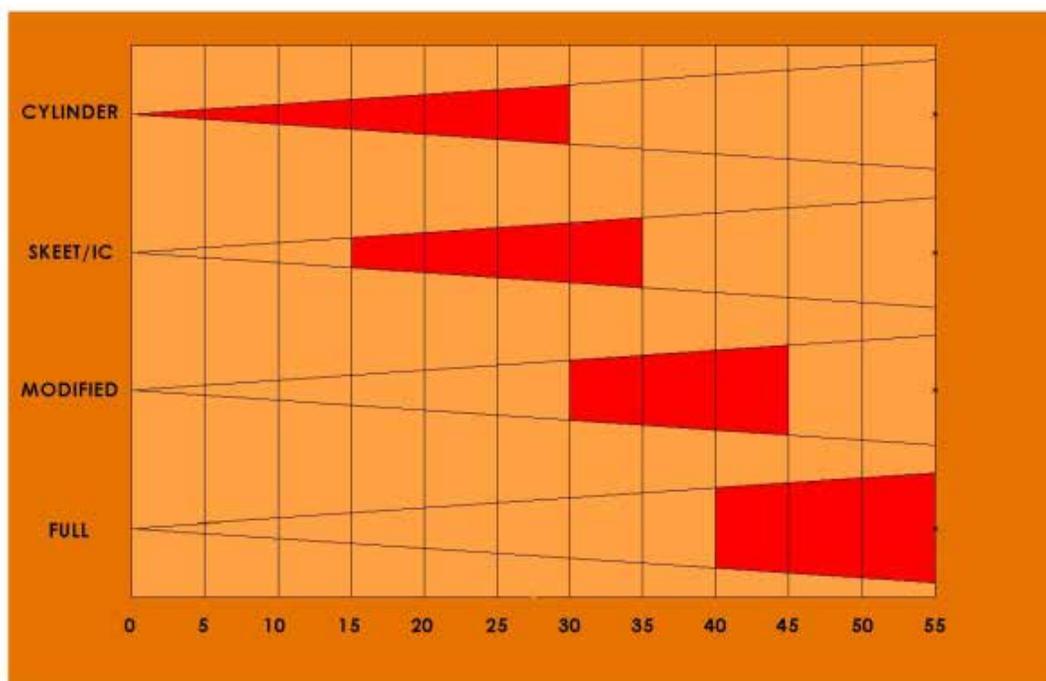
The nozzle of a water hose controls the spray dispersion of many droplets of water. A shotgun choke controls the dispersion of the pellets (sometimes called BB's or shot) that are fired from each shotshell. This dispersion of pellets is called the pattern.

Choke: The choke tube is located at the muzzle end of the barrel (the end farthest from the shooter when firing). Depending on the choke system, it is approximately the last 1" to 3" of a bore (internal diameter of the barrel). The amount of the choke's constriction determines the diameter of the shot dispersion or pattern at a given distance.

Fixed Choke or Cylinder Bore: The term "fixed choke barrel" means the choke constriction is premachined into the barrel at the factory; no choke adjustments can be made. Before interchangeable choke tube systems became popular, most barrels were fixed choke types. Fixed choke or cylinder bore barrels are still offered on guns made for specific shooting purposes; their barrels will be stamped with their specific choke constriction.

Interchangeable Choke Tubes: The majority of today's shotguns feature an interchangeable choke tube system. Instead of fixing the choke in the barrel, each choke tube is internally machined to a specific choke dimension. Chokes can be easily removed and replaced with the assistance of a choke tube wrench. This convenience allows the shooter to perhaps use the "full" choke tube for waterfowl in the morning, and simply change the choke tube (instead of the gun or barrel) for different game that afternoon.

(continued on next page)



(Shotgun Chokes continued)

The most common choke constrictions are “Full”, “Modified” and “Improved Cylinder.”

A *Full* (tight) constriction controls the fired pellets to a narrow column for longer distance. The *Modified* is a medium, all-purpose choke, between Full and Improved Cylinder. The *Improved Cylinder* is a more open constriction that allows the pellets to spread sooner, and in a wider circle. The Cylinder choke has little to no restriction at all, and produces the widest pattern.

Most choke tubes are flush-fitting (fits flush with the end of the muzzle when properly installed). However, in some cases, a choke tube will be an “extended” tube, because the wider portion of it extends beyond the muzzle when properly installed. An extended tube may be used to optimize the pattern when used with certain types of shotshells, such as for turkey and waterfowl (duck and geese) hunting. It also provides protection for the muzzle of your barrel.

There are many BB or shot sizes to choose from when selecting a shotshell. Depending on the shotshell load, they can range from very small #9’s, having around 1,000 pellets in each shell, which are popular for target practice, to large #2’s that are often used for waterfowl, with less than 100 pellets per shell. There are even larger loads, such as buckshot, that may only have nine large pellets, or a “slug,” which is a shell containing a single large projectile. If fired at a sheet of paper, the shot load will produce as many holes as there were BB’s. The round-shaped area of holes that the BB’s produce is called a pattern.

Larger, heavier shot will increase your range. Smaller, lighter shot will decrease your range to some degree. Understanding and controlling the shot pattern is important to obtain good, solid hits. For example: a skeet shooter’s clay targets are flown relatively close, and cross quickly in front of the shooter. In this case, an open choke, producing a wide pattern, is preferred. While at the trap range, the targets are flying straight-away from the shooter at a greater distance. For this type of shooting, a tighter choke constriction and pattern is preferred to keep the shot closer together for a longer time. Skeet and trap shooting are excellent practice exercises, replicating many of the upland bird and waterfowl flight patterns.

Choke tube tightness should be checked periodically and tubes should be removed for cleaning on a regular basis. All removable choke tubes have very fine machined threading and should be handled carefully. Never fire the gun without a choke tube installed. Before attempting to adjust or change any choke tube, be sure to follow all safety warnings found in the firearm’s owner’s manual.

As in any sport, practice and experience are your best instructors.

Information provided by O.F. Mossberg & Sons, Inc. North Haven Connecticut

Notes

Notes



Notes





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