



Royal Rangers

Merit Requirements: **Red-Bordered Merit**

ART

1. Choose FOUR of the following art mediums: pen and ink, watercolor, pencil, colored pencil, chalk or pastels, finger paint, acrylic paint, or marker. Find out what supplies and equipment are needed for each. As you do each of the art projects for this merit, show that you know how to care for, clean, and store these supplies and equipment.
2. Using a grid technique, draw the outline of an object. Fill in the object using pencil, colored pencil, chalk (or pastels), or marker. Repeat using the same object, art medium, and color, only this time color in the background around the object and not the object itself. Explain how these different “filling-in” techniques make your object look different.
3. After choosing a simple object, draw this object by using each of the following drawing techniques: flat line, stipple, crosshatch, and scribble. Explain how these techniques create different appearances of your object, and which one you like best.
4. A technique using shapes can be used to portray natural objects. Looking at a photograph, identify basic shapes (square, circle, etc.) you can see. Make a pencil drawing of the same photograph by simplifying the objects in the picture to the basic shapes you have identified. Next, using a combination of drawing techniques learned in Requirement 3, go back over your basic lines to add details. Create and tell a story using your picture.
5. A collage is a good way to create with texture. Collect a variety of textures such as sand, cloth, foil, wood, and magazine photos. Cut or tear the materials and arrange them into shapes by color and texture. Glue these shapes to a sheet of paper to create a face.
6. Pick an object such as a barn, tree, flower, or house. Using the four art mediums you chose in Requirement 1, paint or draw four pictures of this object using a different art medium each time.
7. Answer the following questions:
 - a. Which art medium was easier to work with? Why?
 - b. How did the different art mediums cause your object to look different in the four pictures?
 - c. Which picture do you like best and why?
8. Using any combination of these techniques and art mediums, sketch a patrol flag design.
9. Discuss ways you could serve God by using what you have learned, and list what types of jobs use artistic skills.
10. Pick out one art picture you have created and give it as a gift to someone. Write down which picture you chose and to whom you will give it.



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BGMC—BOYS AND GIRLS MISSIONARY CRUSADE

Note: Ask your commander for a copy of *What is BGMC?*
It is contained in the leader's merit reference materials.

1. Answer the following questions about BGMC.
 - a. What does BGMC stand for?
 - b. When was it created?
 - c. Why was it created?
 - d. Why should we have BGMC in our church?
 - e. Where do BGMC offerings come from?
 - f. What is a faith promise?
 - g. List five things that missionaries can buy with money from BGMC.
2. Read four stories found in the BGMC Missions Education Curriculum and write a fifty word report on each. Answer the following questions in each report.
 - a. Who was the story about?
 - b. What was the problem?
 - c. How did God solve the problem?
 - d. What did you learn from this story?
3. With your parents' help, choose a BGMC faith promise amount and give it three months in a row. Put your offering in an envelope you have marked for your faith promise before you place it in the offering.
4. Find out what your church gave to BGMC last year. List two ways you can help raise money for BGMC in your church.



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BIRD STUDY

1. Define "ornithology." Tell how birds are important members of the ecological system.
2. Locate on a diagram of a bird some of the key areas to look at when identifying a bird. Learn these parts of a bird.
3. Learn how to use a bird field guide by doing the following for at least three bird species found in your area (the red-tailed hawk, hairy woodpecker, and song sparrow are all found in most of the U.S.):
 - a. Find the bird in the index.
 - b. Locate the bird on the page.
 - c. Find the dimensions of the bird's size.
 - d. Look at the map to make sure it is found in your area.
 - e. Read the information about the bird to determine what type of habitat you could expect to find it in.
4. Make a list of at least fifteen bird species you have learned to identify from pictures in a bird field guide, posters, or birding web site, and three birds you have identified in your yard, neighborhood, or church area. These should all be birds that are found in your area. The list should include the following information:
 - a. Specific common name of the bird.
 - b. Where you saw it (poster, yard, etc.).
 - c. The date you observed it.
 - d. Specific markings on the bird that helped you identify it.
 - e. Is it a year-round resident in your area or does it migrate?
5. Make a list of at least ten birds that prey on insects and rodents such as mice and rats.
6. Do ONE of the following:
 - a. Visit a bird exhibit in a natural history museum, zoo, or local park interpretive center and make a report of your visit.
 - b. Make a written or oral report about a great ornithologist, such as James Audubon or Roger Tory Peterson. Describe Audubon's or Peterson's major contributions to bird study.
7. Do ONE of the following:
 - a. Construct a birdhouse for a particular type of bird. Explain why it is suitable for this type of bird.
 - b. Construct a bird feeder.
 - c. Construct a bird bath.
8. Explain what may be done to protect bird life in your area.
9. List three Scripture references regarding birds.



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CHURCH

1. Answer the following:
 - a. How does the Old Testament define church in the following Scripture references?
Exodus 25:8-9; 1 Kings 5:5
 - b. How does the New Testament define church in the following Scripture references?
Acts 11:25-26; 1 Corinthians 12:27-28, Ephesians 1:22-23, Colossians 1:18
 - c. How do these two definitions differ?
2. Using the following Scripture verses, list some of the things that we as part of the Church, the Body of Christ, do. Pick ONE of the following verses to work on for the next two weeks. Each day make a list of those things you have done to put your Scripture verse into action.
 - a. John 13:34-35
 - b. Mark 16:15-16
 - c. Matthew 28:19-20
 - d. 1 Timothy 4:12
 - e. Galatians 5:13
 - f. Romans 14:13
 - g. Colossians 3:15
 - h. Hebrews 10:24
3. Explain in writing how your church body is organized and who fills each position. Do they volunteer or get paid? What are their main job responsibilities? Be certain to include such jobs as the pastor, youth pastor, children's pastor, deacons or board members, elders, department heads, secretary, maintenance help, and bookkeeper. Read the following two Scripture references and explain why these verses are important to remember when choosing and appointing church leadership: 1 Peter 5:1-3 and 1 Timothy 3:1-10.
4. Write a one-page report or make a poster to show the history of your church building and body. Include the following: Who was given the vision for starting the church, who was the first pastor, where was the first church building located, when was the church started, and what important events are a special part of the church history?
5. Using 1 Corinthians 12:21-26, explain what it means to be a member of the body of Christ. List the requirements for church membership in your local church body. Explain why membership in a local church body is important.
6. Explain how your church is financed. Give three Scripture references on tithing. Keep track of your tithing to the church for one month.
7. Read 1 Corinthians 15:58 and Colossians 3:23. Then select (with your commander's approval) TWO of the following, to serve the Lord in your church body.
 - a. Be an active member for at least one month in your church choir, band, Junior Bible Quiz, etc.
 - b. Help set up or serve as a waiter or busboy at a church banquet or fundraiser.
 - c. Serve as an usher for a one-week series of special meetings or for one month for regular services.
 - d. Spend at least two hours helping with yard work or parking lot cleanup at your church.
 - e. Spend at least two hours promoting your church in visitation or neighborhood outreach.



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- f. Spend at least two hours vacuuming or doing other cleaning jobs in the church building.
- g. Spend at least two hours assisting the secretary in making church bulletins, mailings, or other promotional materials.
- h. Spend at least two hours being a pastor's assistant by helping with tasks assigned by the pastoral staff.



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COMPASS

1. List the two main types of compasses.
2. List the four main parts of a compass.
3. List the eight major directions and their bearings.
4. Define these terms: magnetic north, true north, declination, and magnetic variation.
5. Demonstrate how to orient your compass.
6. Demonstrate how to find a bearing.
7. Give a good example of a sighting point.
8. List three methods for estimating distances and tell which is the most accurate method.
9. Calculate your average step and average stride using the step method.
10. Demonstrate how to determine directions without a compass using the following:
 - a. The face of a standard watch
 - b. The stars
11. Demonstrate your understanding of a topographic (topo) map by doing the following:
 - a. Tell what the standard topo map colors represent.
 - b. Demonstrate your ability to read a topo map.
 - c. Demonstrate your ability to identify topo map symbols.
 - d. Draw and label ten topo map symbols from memory.
12. Describe what to do if you get lost.
13. List three Scripture references regarding features on a map, such as rivers, mountains, trees, highways, and cities.
14. Successfully complete the compass skills activity provided by your leader.

Use as master. Make copies and cut out the individual cards.

Compass Course Scorecard – Page 98, Leader’s Red Merits Reference

Card #1

Start a stake marked: “A”

Proceed 310, 30, 96, 161, 218

Markers Reached

Card #2

Start a stake marked: “E”

Proceed 356, 62, 137, 195, 253

Markers Reached

Card #3

Start a stake marked: “I”

Proceed 36, 111, 176, 235, 310

Markers Reached

Card #4

Start a stake marked: “O”

Proceed 96, 161, 218, 293, 356

Markers Reached

Card #5

Start a stake marked: “U”

Proceed 137, 195, 253, 316, 36

Markers Reached

Card #6

Start a stake marked: “L”

Proceed 176, 235, 310, 30, 96

Markers Reached

Card #7

Start a stake marked: “Z”

Proceed 218, 293, 356, 62, 137

Markers Reached

Card #8

Start a stake marked: “P”

Proceed 253, 316, 36, 111, 176

Markers Reached

Card #9

Start a stake marked: “A”

Proceed 316, 62, 161, 235, 310

Markers Reached

Card #10

Start a stake marked: “E”

Proceed 30, 111, 195, 293, 356

Markers Reached



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COOKING

Note: This merit is required to earn the Gold Medal of Achievement.

1. Provide the following food pyramid information:
 - a. Draw a food pyramid diagram.
 - b. List the five major food groups.
 - c. List what items are at the top of the food pyramid.
 - d. Show on the diagram where the food groups fit inside the food pyramid.
 - e. Show on the diagram the recommended number of servings per day for each food group.
2. Plan the menus for three one-day campouts or outings for a six-boy patrol. This will be a total of nine meals. Each meal should be planned to include items from each of the food groups. Three of the required meals must be trail or backpack trip meals.
3. Make a list of cooking equipment and utensils needed to complete the meals in Requirement 2.
4. Make a list showing the cost and amount of food needed to complete the meals in Requirement 2.
5. Cook two different individual items and, in addition, cook four complete meals using at least three different cooking methods, such as baking, boiling, frying, broiling, or aluminum foil dinner. Campfire or charcoal cooking is preferred; however, a camp or backpack stove may be substituted (if local restrictions do not allow open fires).
6. Set up a dish wash station using the “wash-rinse-rinse” method demonstrated in Adventures in Camping. Properly wash all cooking utensils for at least three meals using this washing method.
7. On a separate sheet of paper write down the rules for safely handling foods, and explain the reasons why safe food handling is important.



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FAMILY LIFE

Note: This merit or the God and Family Award is required to earn the Gold Medal of Achievement.

1. Write the answers to the following questions:
 - a. What is a family?
 - b. How are the family members affected if one of the members is sick?
 - c. How are the family members affected if one of the members leaves?
 - d. How are the family members affected if one of the members has received an award?
 - e. How are the family members affected if one of the members is angry?
 - f. How are the family members affected if one of the members fights with another family member?
2. Read Luke 2:41-52. Then write the answers to the following questions:
 - a. Why were Mary and Joseph worried about Jesus?
 - b. When Jesus went back to Nazareth with Mary and Joseph, what did he do?
 - c. Why was that important?
3. Explain why it is important to have rules in a family.
4. Read Luke 15:11-32. Then write the answers to the following questions:
 - a. Why is it so hard to forgive?
 - b. Why did the father forgive the son?
 - c. Why didn't the older brother forgive?
 - d. Why is forgiveness important in a family?
5. Make a list of home duties or chores (at least five) and do them for five weeks. Keep a record of how often you do each of them.
6. Do the following:
 - a. List the steps to planning and having a family discussion.
 - b. Plan and carry out a family discussion on TWO of the following subjects:
 - i.) How to avoid the use of drugs and drug abuse
 - ii.) Understanding the growing-up process
 - iii.) Personal and family finances
 - iv.) The wise selection of friends
7. Plan and carry out a project that involves the participation of your family. Use the family discussion outline to decide what project the family will work on together. After carrying out the project, write a one-page report that includes the following information:
 - a. The objective or goal of the project
 - b. How individual members of your family participated
 - c. The results of the project
8. List ten reasons why you are important to your family.



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FINGERPRINTING

1. Make a timeline showing the history of fingerprinting.
2. Explain how people leave fingerprints and why fingerprints are considered so important in the identification of people. Name the surfaces of the body where friction or papillary ridges are found.
3. Describe the Bertillon system of identification. List one example of when the Bertillon system failed to show the difference between two people, while the fingerprint comparisons showed the difference.
4. Explain the Henry Classification System of fingerprint identification. Be able to identify the arch, loop, and whorl pattern divisions. Also be able to identify the deltas and cores of fingerprints.
5. Identify ten different ways law enforcement agencies use fingerprints.
6. Describe two ways fingerprints can be taken from a person, and where these fingerprints are stored. Take a clear set of your fingerprints. Identify which pattern fits each of your prints and find the deltas and cores.
7. Define "latent" fingerprints. Explain on a separate sheet of paper how fingerprints are found at a crime scene and how they are removed, stored, and used.
8. Make a list of career opportunities working with fingerprints. List examples of job titles, job responsibilities, and special schooling necessary.
9. List some other types of "fingerprinting" or forms of identification (such as DNA testing of hair, footprints, etc.) that forensic specialists use to determine who was at a crime scene.



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FIRE CRAFT

1. List the fire safety rules for a campfire. Include the rules for selection and preparation of a good campfire site.
2. Assemble and explain the use of campsite fire-fighting equipment.
3. Obeying all fire safety rules, demonstrate your ability to start a campfire.
4. Demonstrate the proper method of putting out a campfire.
5. Demonstrate how to build six different types of campfires and explain their purposes.
6. Explain the safety rules for a propane stove.
7. Explain fire-fighting procedures in the following settings:
 - a. Home
 - b. Woods
 - c. Open fields
8. Assemble four forms of tinder. Assemble kindling and fuel. Use one of the forms of tinder to light a campfire for Requirement 3.
9. As a patrol, plan and conduct a council fire service for your outpost. Construct the campfire and provide a unique fire-lighting method.
10. List five chemicals for coloring flames.



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FIRST AID SKILLS

1. Explain the purpose of first aid.
 - a. Explain the meaning of first aid.
 - b. What is the first concern when giving first aid?
2. Explain the proper steps for contacting local authorities in the event of an emergency.
 - a. List the four pieces of information necessary for the EMS or 911 operator.
 - b. Explain when EMS should be contacted.
3. List the four steps of victim assessment.
4. Explain when an injured person should and should not be moved.
5. Explain and demonstrate treatment for shock.
 - a. Demonstrate how to treat hypovolemic shock.
 - b. Demonstrate how to treat shock due to allergic reactions.
6. Explain and demonstrate treatment for weather-related emergencies.
 - a. Hyperthermia
 - b. Hypothermia
7. Explain and demonstrate how to assist someone who is choking.
 - a. Demonstrate Heimlich.
 - b. Demonstrate abdominal thrusts.
8. Explain and demonstrate treatment for injuries related to the following:
 - a. A cut
 - b. A blister
 - c. A puncture
 - d. Arterial bleeding of an extremity
9. Explain and demonstrate treatment for the following:
 - a. An insect sting or bite
 - b. A splinter and tick
 - c. Poisonings
10. Explain and demonstrate treatment for the following:
 - a. A heat burn
 - b. A chemical burn
 - c. An electrical injury
11. Assemble a personal first aid kit.
 - a. Explain the purpose of each item you have selected.
 - b. Explain where it should be placed.



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INSECT STUDY

1. Do the following:
 - a. Describe the typical features of insects.
 - b. Explain how spiders and centipedes are different from insects.
 - c. Give information about the populations of the various groups of insects on earth.
2. Identify the main parts of an insect on an insect diagram or drawing.
3. Compare the life cycle of a grasshopper to that of a butterfly. Describe a spiritual lesson based on these life cycles.
4. Describe a social insect group and compare it to a solitary insect.
5. Collect and correctly mount and label twenty-five different insect species. (Some insects in your area may be protected under the Endangered Species Act of 1973. Check which ones these may be and do not collect any of them.)
6. Name five diseases that are transmitted to humans by insects and name their insect carriers. Briefly describe methods that people have used to attempt to control these pests.
7. Name four insect species that are helpful to humans and describe how they are helpful.
8. Explain the importance of insects in the food chains of other insects, fish, birds, and mammals.
9. List three Scripture references that mention insects.



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LASHING

1. Properly demonstrate square lashing.
2. Properly demonstrate diagonal lashing.
3. Properly demonstrate shear lashing.
4. Properly demonstrate round lashing.
5. Properly demonstrate continuous lashing.
6. Properly demonstrate ONE of the following projects. (Your leader must agree with the choice.)
You may pair up with another Royal Ranger, perform equal amounts of work, and receive equal credit for completing the lashing project.
 - a. Table
 - b. Tool rack
 - c. Chippewa kitchen



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MODELS AND DESIGN

1. Define the word model as it relates to cars, trains, planes, or buildings.
2. Give an example describing the history of model making in ancient times.
3. Explain why professionals use models in their work.
4. Cite some examples of how models are used in non-business ways.
5. Choose ONE of the following: Build a model from a kit appropriate for your skill level.
 - a. Build a model from scratch.
 - b. Build a Pinewood Derby car.
Note: You cannot use the same model or Pinewood car used to complete a requirement of the Hobby Merit.
6. As you build your model, keep notes on the following things and then demonstrate them.
Proper planning method
 - a. Appropriate choice of materials
 - b. Proper and safe use of tools
 - c. Appropriate choice and proper use of adhesives, paints, and finishes
 - d. Proper cleanup and storage of all materials and tools
7. After completing Requirement 5, do ONE of the following:
 - a. Create a method for displaying your model.
 - b. Run the Pinewood Derby car in a race.



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ROCKETRY

1. Write a 200-word essay on the history and design of rockets.
2. Build a skill-level 1 and a skill-level 2 rocket.
3. Explain what the numbering and lettering on the rocket engine means.
4. Write a one-page essay on the flight of a rocket beginning with the time it is on the launch pad.
5. Explain the procedure for rocketry countdown.
6. Make a rocket altitude finder; explain and show how it works.
7. Take the "Model Rocketry Safety Code Test" and score at least ninety percent.
8. Identify the parts of a single-stage rocket.
9. Launch a rocket for at least three flights.



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ROPE CRAFT

1. Properly identify the parts of a rope.
2. Properly coil a rope.
3. Properly whip the end of a rope.
4. Properly tie the following knots and give the use for each:
 - a. Figure eight
 - b. Square
 - c. Sheet bend
 - d. Clove hitch
 - e. Two half hitches
 - f. Taut-line hitch
 - g. Bowline
 - h. Sheepshank



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SAFETY

Note: This merit is required to earn the Gold Medal of Achievement.

1. Demonstrate how you would make yourself visible on a nighttime hike. List three precautions.
2. Learn and plan with your family what procedures you would follow in the event of a fire, tornado, or accident in your home. Explain the preparations you and your family can take to prepare yourselves for two such emergencies.
3. Explain and demonstrate the proper safety procedures for riding a bike on a public road. List three pieces of safety equipment you should have on your bike.
4. Explain what safety precautions should be taken in a swimming area. Learn the Eight Defenses Plan for Swimming Safety.
5. Explain what safety precautions should be taken before venturing out in a small watercraft.
6. Make a safety inspection (under adult supervision) of the family car. Check such things as the lights, turn signals, wiper blades, tires, brakes, exhaust, and emergency lights, listing anything that could be hazardous. Talk to your parents about how these conditions could be remedied.
7. List ten pieces of safety equipment that should be carried in the family car.



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SPACE EXPLORATION

1. Write a 100-word report on the purpose of space exploration including:
 - a. Historical reasons
 - b. Obtaining specific knowledge
 - c. Benefits to mankind (technology and new products)
2. List at least ten main steps in humanity's movement into space.
3. Make a timeline listing the five manned space flights from Requirement 4 and the five unmanned space flights from Requirement 5. Add an additional five space flights. The completed timeline should have at least two flights for each decade from 1960 to the present.
4. Make a list of any five different manned space flights, one of which must be a space shuttle mission. Include the following for each:
 - a. Crewmembers' names
 - b. Project name
 - c. Date of launch
 - d. Reason for and highlights of the mission
 - e. Reason why you chose that particular manned space flight
5. Make a list of any five different unmanned space flights. Include the following for each:
 - a. Project name
 - b. Date of launch
 - c. Reason for and highlights of the mission
 - d. Important discoveries made during the flight
 - e. Reason why you chose that particular unmanned space flight
6. List the name of the first U.S. astronaut to fly in space, the date of his flight, and the name of the project.
7. Explain why the United States space shuttles were built.
8. List seven uses of the space shuttle.
9. Name the oldest man to fly in space, and list his age at the time of his flight.
10. Name the first U.S. woman to fly in space.
11. Write a 250-word report on any aspect of space exploration of most interest to you.
12. Construct a chart of recent information about the planets. For each planet, make a list to include
 - a. Distance from the sun
 - b. Number of moons
 - c. Length of day
 - d. Length of year
 - e. At least two other important facts
13. Make a scrapbook of magazine photographs, news clippings, or web site information, and pictures about space exploration. This scrapbook must contain at least ten pages and/or thirty articles or photos.



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TOOL CRAFT

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1. List ten commonly used hand tools.
2. List five hand tools used on a campout.
3. List and explain the three laws of tool safety.
4. List and identify the parts of each of the following tools:
 - a. Hand ax (14)
 - b. Pocketknife (11)
 - c. Bow saw (4)
5. Demonstrate the proper way to open and close a pocketknife.
6. Demonstrate how to properly pass a:
 - a. Hand ax
 - b. Knife
 - c. Bow saw
 - d. Long-handled ax and other long-handled tools
7. Demonstrate how to properly carry a:
 - a. Hand ax
 - b. Knife
 - c. Bow saw
 - d. Long-handled ax and other long-handled tools
8. Demonstrate how to properly sharpen a pocketknife. (Skills for sharpening an ax are demonstrated in the Knife and Hawk Merit.)
9. Explain how tools should be stored and what tools are inappropriate for use for Royal Rangers.



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WEATHER

1. Define the following terms: meteorology, weather, temperature, air pressure, humidity.
2. Describe the function of the National Weather Service.
3. Describe how clouds are formed.
4. Cumulus, cirrus, and stratus are three main types of clouds. Give the following information for each type:
 - a. Description
 - b. Where it's found in the atmosphere
 - c. What type of weather it predicts
5. Draw and label the water cycle diagram.
6. Match the names of the following weather conditions with their pictures: dew, fog, frost, hail, rain, sleet, and snow.
7. Keep a daily record of the weather for two weeks.
8. Write down safety rules to remember if you find yourself in each of these kinds of storms:
 - a. Blizzard
 - b. Flash flood
 - c. Hurricane
 - d. Lightning and thunderstorm
 - e. Tornado
9. Explain briefly what causes rainbows, lightning, and thunder.
10. Demonstrate your ability to read a thermometer and a rain gauge. Make a barometer, hygrometer, rain gauge, or weather vane, and show your leader.
11. Define a severe weather "watch" and a severe weather "warning."
12. Write three Scripture references regarding weather.