Weather

Merit Badge Workbook

This workbook can help you but you still need to read the merit badge pamphlet.

This Workbook can help you organize your thoughts as you prepare to meet with your merit badge counselor.
You still must satisfy your counselor that you can demonstrate each skill and have learned the information.
You should use the work space provided for each requirement to keep track of which requirements have been completed,
and to make notes for discussing the item with your counselor, not for providing full and complete answers.
If a requirement says that you must take an action using words such as "discuss", "show",
"tell", "explain", "demonstrate", "identify", etc, that is what you must do.

Merit Badge Counselors may not require the use of this or any similar workbooks.

No one may add or subtract from the official requirements found in Boy Scout Requirements (Pub. 33216 – SKU 637685).

The requirements were last issued or revised in 2018 • This workbook was updated in January 2018.

Scout's Name:_____ Unit: _____

Counselor's Name: _____ Counselor's Phone No.: _____

http://www.USScouts.Org • http://www.MeritBadge.Org

Please submit errors, omissions, comments or suggestions about this **workbook** to: Workbooks@USScouts.Org
Comments or suggestions for changes to the **requirements** for the **merit badge** should be sent to: Merit.Badge@Scouting.Org

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1. Define meteorology.

Explain what weather is and what climate is.

Weather:

Climate:

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Discuss how the weather affects farmers, sailors, aviators, and the outdoor construction industry.

Farmers:	
Sailors:	
Aviators:	
Outdoor construction:	

Tell why weather forecasts are important to each of these groups.

Farmers	
Sailors:	
Aviators	
Outdoor construction	

2. Name five dangerous weather-related conditions. Give the safety rules for each when outdoors

	Condition	Safety Rules
1.		
2.		
3.		
4.		
5.		

and explain the difference between a severe weather watch and a warning.

severe weather watch	
severe weather warning	

☐ Discuss the safety rules with your family.

3. Explain the difference between high and low pressure systems in the atmosphere.

Tell which is related to good and to poor weather.

Draw cross sections of a cold front and a warm front showing the location and movements of the cold and warm air, the frontal slope, the location and types of clouds associated with each type of front, and the location of precipitation.

Cold Front	Warm Font

4. Tell what causes wind, why it rains, and how lightning and hail are formed.

What causes wind:

Why does it rain:

How is lightning formed:

How is hail formed:

5. Identify and describe clouds in the low, middle, and upper levels of the atmosphere.

Low:

Middle:

High:

Relate these to specific types of weather.

6. Draw a diagram of the water cycle and label its major processes.

Explain the water cycle to your counselor.

7. Identify some human activities that can alter the environment, and describe how they affect the climate and people.

8. Describe how the tilt of Earth's axis helps determine the climate of a region near the equator, near the poles, and across the area in between.

Near the equator	
Near the poles	
Across the area in between	

9. Do ONE of the following:

☐ a. Make one of the following instruments: ☐ wind vane, ☐ anemometer, ☐ rain gauge, ☐ or hygrometer.

Keep a daily weather log for 1 week using information from this instrument as well as from other sources such as local radio and television stations, NOAA Weather Radio All Hazards, and Internet sources (with your parent's permission). Record the following information at the same time every day: wind direction and speed, temperature, precipitation, and types of clouds. Be sure to make a note of any morning dew or frost. In the log, also list the weather forecasts from radio or television at the same time each day and show how the weather really turned out.

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Time							
Wind Speed							
Direction							
Temperature							
Precipitation							
Cloud Types							
Dew or Frost							
Forecasted							
Actual							

☐ b. Visit a National Weather Service office or talk with a local radio or television weathercaster, private meteorologist, local agricultural extension service officer, or university meteorology instructor.

Date: _____ Location: _____ Person's name:_____

Find out what type of weather is most dangerous or damaging to your community.

Determine how severe weather and flood warnings reach the homes in your community.

10. Give a talk of at least 5 minutes to a group (such as your unit or a Cub Scout pack) explaining the outdoor safety rules in the event of lightning, flash floods, and tornadoes. Before your talk, share your outline with your counselor for approval.

11. Find out about a weather-related career opportunity that interests you. _____

    Discuss with and explain to your counselor what training and education are required for such a position, and the responsibilities required of such a position.

Training:	
Education:	
Responsibilities:	

When working on merit badges, Scouts and Scouters should be aware of some vital information in the current edition of the *Guide to Advancement* (BSA publication 33088). Important excerpts from that publication can be downloaded from http://usscouts.org/advance/docs/GTA-Excerpts-meritbadges.pdf.
You can download a complete copy of the *Guide to Advancement* from http://www.scouting.org/filestore/pdf/33088.pdf.