

Weather Merit Badge Worksheet

Hiller Aviation Museum

This worksheet is not required but is designed to help you complete the Aviation Merit Badge requirements. No one can add to or subtract from the Boy Scout Requirements #33215. Requirements revised 2018. Worksheet revised February 2021.

The Hiller Aviation Museum program addresses sufficient requirements to complete the Weather Merit Badge except for Requirements 2 and 9A. Only those requirements included in the Hiller Aviation Museum program are included. Requirement 9A must be met through home study and its separate observation sheet approved by a Merit Badge Counselor to qualify for the Weather Merit Badge.

Scout's Name: _____

Unit: _____

Counselor: _____

Hiller Aviation Museum
(650) 654-0200

1. Define meteorology. Explain the difference between weather and climate, and how weather affects agriculture, maritime transport, aviation and outdoor construction. Describe the value of weather forecasts to each of these groups.

2. Identify 5 dangerous weather-related conditions. What safety rules apply to each?

- a. _____

- b. _____

- c. _____

- d. _____

- e. _____

Explain the difference between severe weather watches and warnings, and discuss the relevant safety rules.

3. Explain the difference between high and low pressure systems, and the relationship of each to fair and poor weather.

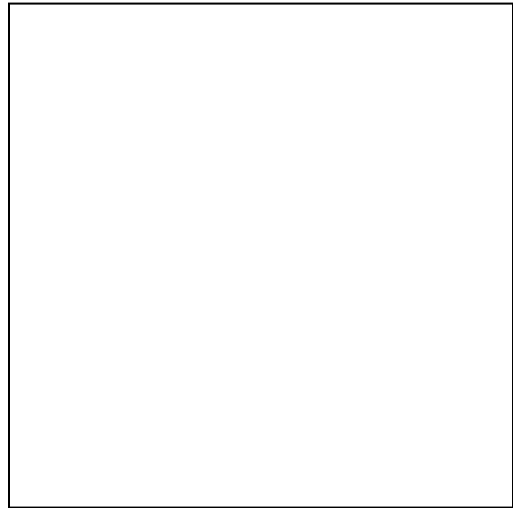
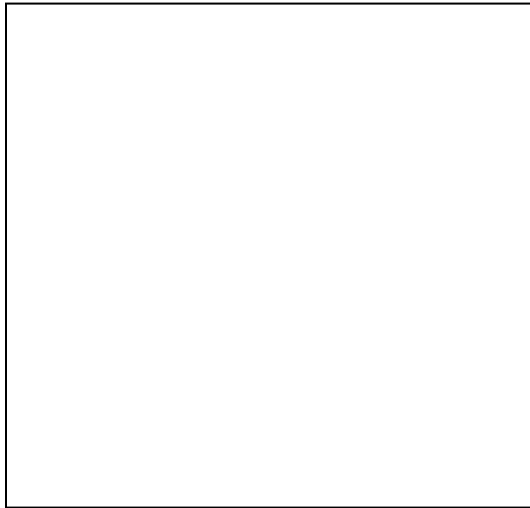
High Pressure: _____

Low Pressure: _____

Draw a cross-section of a cold front and a warm front labeled to show air temperature, direction of movement, front shape, cloud types and precipitation.

Cold Front

Warm Front



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

Wind: _____

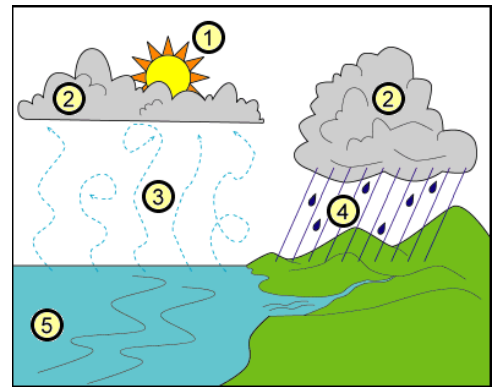
Rain: _____

Lightning: _____

Hail: _____

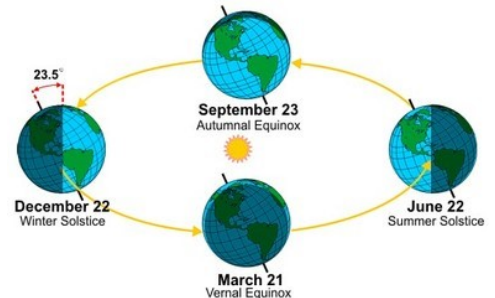
5. Identify high, middle, low and vertically developed clouds, and relate to specific types of weather.

6. Diagram the water cycle and label its major processes.



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.



9. PART A: Build a weather station with a working wind direction indicator. Record weather data daily for seven consecutive days and compare to data acquired from local television, radio or online sources using the separate observation sheet.

10. Prepare and present a talk of at least 5 minutes to a group of Scouts explaining the outdoor safety rules in the event of lightning, flash floods, and tornadoes.

11. Find out about a weather-related career opportunity that interests you. Discuss the training, education and responsibilities required for this position.

Scout Presentations

Outdoor Weather Safety + Weather Careers (11 + 10)

Prepare a short presentation to your counselor and other Scouts in your breakout group about weather safety and a career in weather that you may be interested in. Weather hazards will be assigned by your counselor, weather careers may be selected by the Scout.

Outdoor Safety

My Hazard (Circle):

- | | |
|-----------------|---------------------|
| 1. Thunderstorm | 4. Tornadoes |
| 2. Flash Flood | 5. Icing/Ice Storms |
| 3. Lightning | 6. Hypothermia |

My Assignment (Circle):

- | | |
|--------------------|-----------------|
| A. Describe Hazard | B. Safety Rules |
|--------------------|-----------------|

Careers in Weather

Career of Interest (Circle):

- | | |
|----------------------------|------------------------|
| 1. Weather Forecaster | 4. FAA Weather Briefer |
| 2. Broadcast Meteorologist | 5. Weather Researcher |
| 3. Climatologist | 6. Storm Chaser |
| 7. Other: _____ | |

What education and training are needed for this position, and what are the job duties?
