

Anita Louise Trail

SkyQuest 2016

When it comes to weather, Lake Linganore is an exciting place to live. We see a wide variety of conditions – hot and cold, humid and dry, windy and calm. Summertime thunderstorms sometimes produce very heavy rain, gusty winds and hail. During the winter, we often get snow, sleet and freezing rain.

The goal of this quest is to learn about observing weather conditions, how to create a weather log, and above all have fun!

For this quest, take a trip (drive, bike, walk, etc.) to the Linganore Pinehurst Bowl and walk around the Lake Anita Louise Trail (Trail 4). Before leaving, make sure to check the latest official observation at nearby Frederick Airport at <http://w1.weather.gov/data/obhistory/KFDK.html>. For your first weather log entry, enter the most recent observation information from Frederick Airport.

Parking: Small parking area on Hemlock Point Road next to the Bowl can take 2, maybe 3 cars. Larger parking area down the road toward the gazebo/bus stop can take about 6 cars.

Recommended Equipment: Internet, Pencil, Paper, Clipboard, Camera, Lake Linganore ID card, LLA Trail Map, Compass, Hat, Umbrella, Kite

Your Quest starts at the benches near the Bowl parking area and Dog-I-Pot station.

1. Take notes on the sky. Are there any clouds? For your second weather log entry, describe what you see. Make sure to list the time of day! Compare what you see to the clouds listed and pictured on <http://www.srh.noaa.gov/jetstream/clouds/cloudchart.htm>. You may want to take a picture of the sky for your records, but do so *safely*... don't look directly at the sun!
2. Direction is a key component of recording weather conditions, especially wind. While still at the benches, make note of which way the wind is blowing. If the wind is blowing from South to North, then that is a South (S) wind. A wind blowing from West to East is a West (W) wind. Other abbreviations for wind directions: N for North, NE for Northeast, E for East, SE for Southeast, SW for Southwest, NW for Northwest.
3. Walk down the hill from the benches toward the north side of Lake Anita Louise. Do you notice a difference in the wind direction or wind speed? If so, enter your thoughts and observations for your next weather log entry.
4. An anemometer would allow you to measure the wind speed, but you don't have one with you. Can you estimate it by looking at the trees? See the descriptions and pictures on <http://www.kiteworks.ca/tips/beaufort3.htm> for help. If you brought a kite, is it windy enough to fly your kite today? If so, make sure to take a picture of you flying your kite. Don't forget to add notes to your weather log!

5. Continue walking and turn left into the woods to enter the Lake Anita Louise Trail. Now that you're in the woods, do you notice a difference in the winds? How about the temperatures. Write notes on each for your next weather log entry.
6. Stop at the Lake Anita Louise dock and take a picture of the lake. Where does the water come from? Obviously, we need rainfall to help fill the lake. Meteorologists use rain gauges to measure how much rain falls. Radar can help a meteorologist estimate how much rain fell during a given storm, but it is much better to have direct observations. Do you have a rain gauge at home? If not, consider getting one!
7. Every day, meteorologists record these weather variables, and more! Variables not included in this quest include visibility (did you see any fog or haze today?), dew point and humidity (was it humid today?), and pressure.

To complete this quest, make sure to create a weather log similar to the Sample Log Sheet below.

Include a print-out of your weather log in the Lake Quest log book. Email any photos to <quest email address>.

Bonus math challenge:

Approximately how many gallons of water fall into Lake Linganore when we get 1" of rain? Hint: Use the acreage of Lake Linganore (https://en.wikipedia.org/wiki/Lake_Linganore,_Maryland) and the number of gallons of water in one inch of rain (<http://water.usgs.gov/edu/earthrain.html>).

Sample Log Sheet

| Date: January 18, 2016 | | | | | |
|-------------------------------------|--------------------|--------------|---------------------------------|----------------------|-----------------------|
| Time | Temperature | Winds | Clouds | Precipitation | Other Notes |
| 5:00am | 14 | W 14 | Scattered | Trace | Skiff of snow in yard |
| 12:30pm | 17 | W 17 | Mostly sunny, a few high clouds | None | Gusty West winds |
| | | | | | |
| Bonus math challenge answer: | | | | | |