



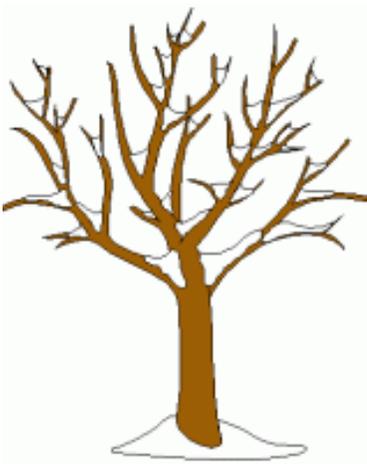
Tips and Tricks for Group Leaders at Minnesota Valley National Wildlife Refuge

- **Do** remind your students what it means to be a naturalist – being observant, quiet, curious, etc. This is a great way to get everyone focused and back on track!
- **Do** stay in front of the group. That way, everyone will have the same chance to see wildlife and share their discoveries.
- **Do** stop and sit down from time to time with your students. It's important to have quiet time in your group and work on your journal pages.
- **Do** ask questions to keep students engaged. (Ex. what do you see? What do you hear? Who might have made this hole? etc.) Even if you know the answer, allow them to make discoveries, even if they're "wrong."
- **Do** foster participation from all of your students.
 - If someone is reluctant, give them a "job" to do, or ask specific questions.
 - If one student is answering everything, encourage them to give others a chance.
 - If students are distracted or unfocused, bring them back into the task by asking a direct question, or encouraging them to explore a specific object.
- **Do** let the students figure out how to use the equipment - this is part of their learning process!
- **Do** encourage students to fill out their journal pages completely. Remember, they do *not* have to be perfect. (For example, you do not have to spell words for them...they can sound them out).
- **Don't** feel like you have to know all the answers. "I don't know" is acceptable, but "I don't know, but let's sketch it or make some notes and see if we can find out together when we get back" is even better! We encourage you to come back with unanswered questions!
- **Don't** be afraid to jump right in and explore, journal, and share discoveries with your group of students – everyone will enjoy themselves more if you're involved, and you can lead by example!

"If a child is to keep alive his inborn sense of wonder...he needs the companionship of at least one adult who can share it, rediscovering with him the joy, excitement and mystery of the world we live in."

- Rachel Carson





Winter Tree Math

Group Leader Guidelines

Students will follow a map to locate and then measure circumference, crown spread, and height of selected refuge trees.

What to Do at Each Tree

- Start by estimating the circumference, crown spread and height.
- Take each measurement as a group OR pair up students and have these smaller teams.
- Make sure each student has a job to do.
- As you move from tree to tree, make sure all students participate at least once in each of the measurements.
- **Remember....your role is to provide guidance...not do the work for them.**
- Allow time for students to simply explore the tree after they have taken their measurements. Look for signs that wildlife are using this tree!
- Don't forget to refer to the **Tree Guide** for information about the tree: its leaves, fruit, and other characteristics.

	Circumference	Crown Spread	Height
Tangent Height Gauge			•
Tape Measure	•		•
Tape Reel	•	•	•

Tangent Height Gauge



Tape Measure



Tape Reel



Have fun and enjoy being outside and making discoveries with your students!