

Forestry: Alternate Assignment

Name: _____ Date: _____ Per: _____

Materials needed: this paper, Forester's Journal, cm ruler

Directions: Since you were not able to go on our field days, you will be required to complete the assignment using the fictional story below.

My Day in the Woods with an Old Forester

By An Unprepared Student

It was a beautiful Saturday morning in late August. I wanted to sleep in, but my dad woke me up early. An old college buddy of his was in town, and he wanted to take us on a hike in the local boreal forest. His name was Bo Tanist, and he had just retired from working as government forester for 20 years. He had a bushy white beard, stout arms, and eyes that made me nervous. We hopped in his old noisy truck and took a short ride down the road and parked. He grabbed his tools: a meter tape, increment borer, clinometer, some orange flags and some bright colored tape. He shouted "Follow me, kid!" as he disappeared into the bushes.

I pulled out my PSP and was preparing to beat the game (again), when he came roaring back. "We've got 2 hours to get the job done, and you're playing video games?" he yelled. He took my PSP and ground it into the dirt underneath his feet. "Now grab your journal and MOVE!" I didn't argue. What a sorry way to spend an otherwise good Saturday.

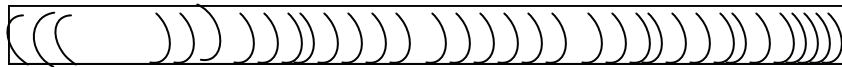
As we entered the forest, he explained that our first job was to establish a sample plot. We did our best to make it a big square, and measured the sides. I measured one side as 9.29 meters, and the other side as 9.38 meters. He mentioned something about rounding those numbers in my journal. He said we could calculate the area of our plot later.

Mr. Tanist sure did know a lot about plants. He pointed out trees with white bark and serrated leaves, some with greenish bark and heart-shaped leaves, and others that looked a bit like our family's Christmas tree from last year. He pointed out some bushes with stinky red berries that grew in clusters. There was another plant with slender, pointy leaves. Mr. Tanist told me it is the first plant to grow back after a forest fire. I couldn't believe it: all those years walking in these woods, and I never learned the names of the plants until now!

My old friend now pulled out his Global Positioning System (GPS) receiver to find our coordinates. "Wouldn't you know? Dead batteries!" He told me that if I asked nicely, I might be able to get on Google Earth or even Google Maps on a computer at school. I could find the latitude and longitude of Teeland Middle School, and that would be close enough.

Now, the tedious measuring work began. We labeled each tree with a number using pink flagging tape, then we measured the circumference of each tree. On the back of this paper, there are a bunch of circles. They are a scale model of our plot. If you measure the diameter of each one (mm), you'll see exactly the dimensions of the trees in our plot (cm). Mr. Tanist asked me if I knew about pi. I said that my favorite flavor was apple, but he smirked. "No, kid. Not that kind of pie. I'm talking about the math number 'pi.' Didn't you learn anything from your math teacher?" Now that he mentioned it, I remember learning all about circumference, diameter, and pi in Mrs. Bunch's math class. I spent some time measuring 5 tree trunks and filling in the boxes on my Sample Plot Data Page. Since I knew the diameter of each tree, I could even figure out the circumference of each tree!

After finishing my calculations, Mr. Tanist brought out his increment borer and took a core sample from tree number 4. He explained how to determine the age of the tree. The core sample looked like this:



After a short snack, we used an instrument called a clinometer to measure the height of the trees. We stood exactly 20 meters away from each tree and looked up through the clinometer to get the height in feet. I recorded the following data in my journal, and then realized I also had to convert the heights from feet to meters. I pulled out my calculator and got to work.

Tree	1	2	3	4	5	6	7	8	9
Species:	birch	birch	spruce	spruce	cotton-wood	birch	spruce	birch	birch
Height (ft)	24	26	40	36	40	37	22	33	42

Next, we looked up at the sky through the leaves using a toilet paper roll. I made a joke about it, but Mr. Tanist didn't even chuckle. It looked like leaves filled up almost half of the tube as I looked toward the sky. I guess that means there's not a lot of sunlight that hits the forest floor, so it's a bit hard for other plants to grow there.

For our last job, we counted up all the trees in the plot. There were 21 trees total. Ten of them had diameters less than 10 cm, but there were 11 that were bigger. I figured I could calculate the tree density of our plot, and compare it with other students who sampled near my school. I could then describe how "thick" the forest is.

It was now almost noon, and we hopped in the old truck to leave. My old grizzled forester friend smiled and said, "Good job today, kid. You should consider a career in forestry." I'm not so sure. However, I will say that a day spent out in the woods is better than a day spent in a classroom! I made a mental note to be prepared to go on every field trip this year as a 7th grader.

