



# Fall Brook Tree Farm for Charity

## A STEM Community Service Learning Project



### Outline of Activities:

For most of the school year, we dedicated about 1 hour a week to this project. More time per week was spent on this project as the students prepared for community presentations. Many of the following activities were multiple lesson periods. The bold, highlighted words within the activities represent attachments you can access!

#### **Activity 1: Creating and Maintaining a Holiday Tree Farm!**

Students viewed PowerPoint [Creating and Maintaining a Holiday Tree Farm](#). Each slide title is a question, and students created a brainstorm of why they wanted to create a holiday tree farm. The words in black font on the slides represent their ideas. The students then crafted an email and sent it to the Vice Principal / Principal to make them aware of our project. In essence, this community service learning project creates a learning environment for students, a habitat for animals, and in the future, the trees will be harvested and sold. With the money earned the students will donate it to local charities or areas of community need. It should be noted that throughout the project, students sent emails to our principal and vice principal, keeping them apprised of our progression through the project.

#### **Activity 2: Finding the area of our Tree Farm Space**

In order for the students to determine how many trees they could plant in that space, they realized they needed to find the area of the land we will use for the tree farm. Using Trundle Wheels and meter sticks, students worked in partners to find the length and width of the space. Students recorded their findings in their tree farm journals and created a diagram depicting the size of the space. Students then found the area of the space based on the length and width.

#### **Activity 3: Determining how many trees can fit in our Tree Farm space**

A guest speaker, who was a former engineer, came in to speak to the students about how to find the number of trees that can fit in our tree farm space. Earlier, students had found that each tree needs about a 1.8 meter radius of open space in order to grow. Students took that knowledge and used it to find the area that each tree needs to grow. By using  $\text{area} = \pi * r^2$ , students determined each tree needs about 10 square meters of space around it. Finally they divided the total area by 10, and found that we could fit about 80 trees! All of this was recorded in their tree farm journals.

#### **Activity 4: Researching the best holiday trees to plant**

Students viewed PowerPoint [Balsam Fir and Fraser Fir](#). Via internet Web Quest, [Balsam fir and Fraser Fir Research](#) students researched both trees to determine which tree would best for our climate and soil. Students recorded their research on their [Balsam and Fraser Fir Response Sheet](#). After sharing out research, students brainstormed a list of reasons why each tree would be best. At the end of much discussion, students determined that both were suitable for this climate so they chose to plant both! Lastly, students began brainstorming ways to publish this information to the school and community, in hopes of sharing their project and their knowledge with the public. They decided to 'spread the word' by creating poster, flyers, and brochures for the school and community. The students also wanted to create a PowerPoint to display on our jumbo-tron, a large television in the foyer of our school building.



### **Activity 5: Designing our Posters, Flyers, Brochures, and PowerPoint**

Students began this process by brainstorming and drafting a list of important information they want to include in their pieces in hopes of making people aware of their community service learning project. The children viewed a number of posters, flyers and brochures, some on the internet, and analyzed the vital components of each. Students then decided they wanted to create a Vision Statement which succinctly explained our ideas about the project. Students read a number of different vision statements on-line, and decided what important features are included. They worked together to craft their vision.

The aforementioned brainstorm and list was documented in the word document **The purpose for making brochures**. From this point, students were broken into groups, based on what they chose to create. Multiple learning blocks were dedicated to this piece of the project and students had to ensure their creation contained all of the important elements listed in, **The purpose for making brochures**. Most of these items will be distributed in the spring as we come closer to planting.

### **Activity 6: Ordering Trees!**

After researching various companies that sells trees, the students decided to purchase their trees from Red Rock Farm in Vermont. The students wrote an email to the farm explaining our community service learning project, and asked a series of questions they had regarding the purchasing, shipping, and transplanting process for the trees. They also inquired about how they would take care of the trees. Students then ordered 49 trees for a total of roughly \$130.

<http://www.christmastrees.net/>

### **Activity 7: Creating a Public Service Announcement**

The students were asked to present their Tree Farm for Charity project on *Inside Leominster*, the Mayor's weekly television show on LATV, Leominster Access Television. The students were also asked to speak to the School Committee as well. Because of this, the students decided to create a PSA or Public Service Announcement highlighting this Community Service Learning Project, what it is, who it benefits, and all they have done to this point. Their plan is to show the PSA to both the School Committee and their Mayor as a way to include all students who are not able to attend those events. After the students were broken into groups, they developed group scripts, and created visuals to accompany their portion of the PSA.

### **Next Steps:**

Over the course of the next few months, the students will continue their work on their Holiday Tree Farm for Charity project.

**1. School Committee Meeting:** The students will focus their presentation on how all STEM subjects were incorporated into this project. They will decide which activities lent themselves to Science, Technology, Engineering and Math, and share that with the school committee. For part of the Engineering piece, I have posed the following problem to them, but they will not be working on this until later in the spring:

***On the day of our planting, we will need to dig holes, unpack the trees, care for the roots, plant and water the trees. We have 48 students, 10 shovels, 10 watering cans, and enough scissors for every***

**student. Please design a system so that we are able to plant the trees in an efficient, effective manner, using all of the above materials. Remember we are planting 49 trees. You should have a sketch/diagram of some aspect of your system as well as a clear and detailed explanation.**

**2. Soil Testing:** When the ground thaws, students will be testing the soil to ensure it is suitable for the Fraser and balsam fir. Although this would have been a better activity prior to purchasing the trees, we did not have soil testing kits in the fall. With research alone, students realized that our soil is an appropriate soil for these firs.

**3. Community Outreach:** Students will decide in which local businesses we should post our flyers and brochures. Students will then create a plan for how that will happen.

**4. Planting:** When the ground is ready we will be planting!

**5. School Outreach:** *Teaching younger students!!* Students will share their knowledge with all grade levels, take them on a tour of our Tree Farm and share its importance to our school community.

**6. Involving all grade levels:** Students will create a plan to involve all grade levels in caring for and maintaining the tree farm. For instance, some grade levels may measure the trees each month, start composting food to be used as fertilizer, or record animal life in the farm.

**7. Fundraising:** This year, most of the fundraising was done by teachers and parents. I would like the students to think of a way NEXT year's fifth graders can establish a student developed fundraiser.

If you have any questions at all, please don't hesitate to email: [lynn.fiandaca@leominster.mec.edu](mailto:lynn.fiandaca@leominster.mec.edu)

