Team Number: MELES41   **School Name:** Melrose Elementary

Area of Science: Ecology, Agriculture, Chemical Safety

Project Title: **THIS Contrail has a Purpose!**

Problem:

We want to do our project about crop dusting.   Crop dusting is where you use a plane to spray crops with chemicals to help the m grow.   Farmers use crop dusters when they need to quickly get a problem taken care of with insects or diseases, or when the field is too wet for a tractor to get into the field.

However, using an airplane can cause problems when you are putting out a chemical spray. The wind can make it drift to places where people don't want it, and if it doesn't hit the field, the farmer loses money.   Our computer project will show how all of these things work together.

We got interested in this idea because one of our teachers in Grade School is married to a crop duster, and her son also works with the company.   We will get to use them to help us with information as we work on this project, and they will let us see their airplanes and equipment.   Also, we were told that they can help us to see if our project works like real life.

Problem Solution:

We will make a model that uses the program NetLogo. Our teacher has been showing us how it works, and we will use it to show a field, the crop, the crop duster airplane, and any nearby houses.   Things that can change in the model will be the types of sprays, the amount and direction of wind, and the height the plane flies.

Progress to Date:

We have started making a computer model of a farm field near a housing development. This is kind of like how they would be near our town.   As we learn more we will add more to it.   We're still learning lots of different things that NetLogo can do!

Expected Results:

We think this project is important because it can help to make crop dusting safer to the people near it, and to help make more money for the farmers.

Citations:

We have done interviews with our teachers, and with the owner of a crop dusting service.   He said he will bring us more materials to read and research.

Team Members: Lily MacFarlane, Heidi MacFarlane,   Michael Cardonita,   Eughan Knight,   Rykor Loomis.

Teacher: Mr**.** Daugherty