In the coming week, you will journey to Syngenta, a biotechnology company in RTP. We have two main objectives for our trip:

1. See the process of genetic engineering in action and learn the steps involved in creating transgenic Bt corn that is resistant to the corn rootworm.
2. Meet the scientists involved in creating Bt corn and gain a deeper understanding of their jobs and background.

The first objective relates to some of the biology that we have done already in class, and it relates to the genetic transformation lab that we will do in class later in March where we will insert a gene from jellyfish into bacteria to make the bacteria glow.

The second objective is important because it will help us better understand just a few of the many careers in biology, and more specifically biotechnology, one of the fastest growing fields of science. Through this exploration, you might find that you are interested in a possible future career in the field of biotechnology.

To prepare for our trip to Syngenta, we will do three things:

1. Review the process of genetic engineering: <http://www.youtube.com/watch?v=ujZHrR1mro8>

and <http://www.youtube.com/watch?v=EFNtTfhhQ70>  **THIS WAS YOUR HOMEWORK LAST NIGHT**

1. Examine the process for making Bt corn

<http://passel.unl.edu/pages/informationmodule.php?idinformationmodule=957879329&topicorder=3&maxto=9>

Write a 1-2 sentence summary of each of the 5 steps outlined at the above link

STEP 1:

STEP 2:

STEP 3:

STEP 4:

STEP 5:

1. Research the roles of the different scientists involved in the production of Bt corn

Imagine you are the project manager for the Bt corn project. You now need to assemble a team of scientists to carry out the work of creating a Bt corn product. Each of you will be assigned one of the 5 major types of scientists involved in the production of Bt corn. You will write a position description for that scientist that will be posted on a job board for scientists looking for a career in biotechnology.

To get started, first look at a couple examples of position descriptions posted at other biotechnology companies:

<http://jobs.basf.us/job/Research-Triangle-Pa-Scientist-Plant-Science-Job-NC-27701/2371322/>

<http://www.biogenidec.com/careers_job_search.aspx?ID=5841>

Now you will research the position assigned to you and construct a position description for that job at Syngenta. Your position description will include:

1. Job title
2. Syngenta Company Overview – use the Syngenta website <http://www.syngenta.com/global/corporate/en/about-syngenta/Pages/Strategy.aspx> and

<http://www.syngenta.com/global/corporate/en/careers/why-syngenta/Pages/why-syngenta.aspx>

but **use your own words** for the overview

1. Bt corn division overview – use the Syngenta website

<http://www.syngenta.com/global/corporate/en/products-and-innovation/research-and-development/biotechnology/Pages/biotechnology-bt-corn.aspx>

but use your own words

1. Description of duties – What will a person in this position do on a daily basis?
2. Necessary skills – What scientific skills does a person in this position need?
3. Education – What level and discipline of education is required for this position? ex) Masters degree in microbiology, PhD in genetics, etc.

You will be assigned one of the following job titles. Please make note of your assignment.

**JOB TITLES:**

1. **Research Scientist, Corn Transformation**
2. **Research Scientist, Protein Analysis**
3. **Research Scientist, Greenhouse**
4. **Research Scientist, Plant Analysis Technology**
5. **Research Scientist, Insect Control**

Many of the components of this job description you will be able to find through researching on the Syngenta website and other biotechnology sites. Finding details about specific duties for some of the different scientists might be difficult. Any information that you cannot find in your independent research, you can ask about when we travel to Syngenta.

While you will focus on one of the five scientist positions, you should pay close attention to all 5 positions during our visit. After the visit, you will be asked to decide which of the five positions you would apply for.