

## Inquiry Project

**APPLICATIONS OF GENETICS**

You will be researching and presenting a topic in Genetics. These projects will be presented **Thursday, March 9<sup>th</sup>**.

**Requirements:**

- a **one-page digital or hand-drawn poster** (max size 11x17) presenting your topic
- Visuals on poster as well as text
- Oral presentation of the information (not all of it needs to be on the poster)

**Please include the following:**

- 1. Clear Topic Title** Example: *Genetic Engineering in agriculture*
  - a. Specific example or examples  
Example: *Creating an apple that does not go brown when cut open.*
- 2. Information on your topic**
  - a. Genetic Science explanation:
    - i. Using the appropriate key terms: Genes, alleles, recessive/dominant, DNA (bases etc), inheritance, trait, phenotype, genotype, protein etc.
    - ii. Make connections with what we have learned in our classes about genetics.
  - b. Why was this application developed? (optional)
  - c. How is it being used in the real world (if it is out of the experimental phase)
  - d. How does this application affect the Diversity of Living things?**
  - e. Why do you find this interesting?
- 3. Ethical issues and effects (your opinion must be included)**
  - a. What are the ethical issues
  - b. What is next for this technology? (future research?)
- 4. ON A separate page:**
  - a. Why did you find this interesting?
  - b. What is your opinion on the use of this genetic application?

**TOPIC OPTIONS and IDEAS:**

- Genomics
- GMOS
- Agricultural Applications
- Bacterial modifications
- Medical applications
- Gene Therapy
- Cloning
- Stem Cell
- Reproductive Technology
- Species
- Population and ecosystems
- Forensics
- Genetic Engineering
- Other – come and see to approve other topics.

Once you have decided. Please tell me so that we do not have to too much overlap of topics.

**BE CREATIVE!!!**

	1 Not complete	2 Not meeting	3 Approaching	4 Meeting	5 Exceeding
<b>Project completion</b>  (has all elements required)	Student started but did not complete the project	Student hands in project late  Project contains only 1-3 elements required.	Project has most of the elements and is on time  OR has all elements but is handed in late	Project is completed with text and visuals.  Project is handed in on time.	Completed project and put extra effort to make the poster extraordinary.  Project handed in on time.
<b>Topic And Sources</b>	Topic is not chosen or is very vague/broad	Student needs considerable help to choose a topic and is unable to identify examples.  Only 1 source is used.	Topic is basic and chosen from the first google search result on "applications of genetics"  More than 1 source is used.	Topic is interesting specific and realistic  More than 2 sources are used.	Topic is interesting, specific and realistic  Several sources are used to research.
<b>Evaluating and processing of data and information</b>	Student does not attempt to make any connections to the Science 10 genetics topics.	Student is not able to make the connection to the Science 10 genetics topics.	Able to make connections to Science 10 genetics without clear explanations of why	Able to connect learning in Science 10 to the genetic application	Able to interpret information and relate it clearly to our learning of Genetics in Science 10
<b>Evaluating and Communicating</b>	Student does not use terms from Science 10 genetics lessons.  Does not describe the topic.  Student cannot show that they understand the topic.	Uses less than 2 terms from Science 10 genetics lessons.  Does not describe the topic in their own words.  Does not form an opinion on the topic.	Able to use some terms from science 10 genetics unit correctly.  Somewhat describes the idea in their own words.  Forms an opinion that is not based on scientific evidence.	Able to use scientific terms from science 1 genetics unit appropriately.  Able to describe the basic idea of the Genetic application.  Forms an opinion of the topic using scientific evidence.	Able to use visual and verbal models to describe the genetic application.  Uses key terms learned in Science 10  Able to construct an opinion based on evidence and using scientific language.

