

**HUMAN CLONING! DNA FINGERPRINTING! DESIGNER BABIES!  
THERE ARE SO MANY FASCINATING DEVELOPMENTS IN GENETICS  
TO EXPLORE!**

We obviously cannot cover all of these exciting topics in class. Thus, you and a partner will be selecting a topic that interests you and doing an investigative PowerPoint project on it over the next few weeks. Here are some of the topics that you could pursue:

- Human cloning and its implications
- Animal cloning (the story of the first cloned dog or milk from cloned cows)
- Genetic engineering in food — mutant corn, non-rotting tomatoes, pest-resistance
- The life and research of the monk Gregor Mendel, the founder of modern genetics
- DNA structure and replication (tough topic but intriguing!)
- The use of DNA profiling in criminal investigations
- How James Watson and Francis Crick discovered the structure of DNA
- The story of Rosalind Franklin and her contributions to determining the structure of DNA
- Male pattern baldness or other hereditary conditions and how they are passed down through families
- Sickle cell anemia, Tay-Sachs Disease, Thalyssemia, Hemophilia, Xeroderma Pigmentosum or another genetic disease
- The effect of radioactivity on genes
- “ANDi” the genetically-altered monkey
- How genetic mutations occur
- Genetic mutations caused by the Chernobyl radiation disaster in Ukraine (1986)
- The story of Dolly the Lamb, the first cloned mammal
- Gene therapy – how does it work? What are the latest advances?
- Down Syndrome, Trisomy 18, Trisomy 13, Prader-Willi Syndrome, Fragile X Syndrome or another chromosomal disorder
- Any other topic that you would like to pursue!

You and your partner will create a PowerPoint presentation on your topic. We will be using the Middle School computer lab for your research and most of our work on the presentations. (Please see attached schedule for a listing of our lab times.) The presentation will consist of 7-8 slides, including a title page and citations page.

You must devote one (1) slide to ethical considerations pertaining to your topic. For example: There are “pros”/advantages/benefits and ”cons”/disadvantages/dangers to cloning humans. Try to list them. (Note: Not all topics will yield obvious ethical considerations. Therefore, please see Ms. Chandler if you are having trouble with this aspect of the presentation.)

Your project will culminate in a five to ten minute oral presentation of your slideshow and research.

## **Project Details**

The project will consist of 4 basic steps: research and note-taking, storyboard development, Speech and PowerPoint development, and presentation.

- 1) Record at least twenty (20) separate facts about your topic on twenty (20) separate index cards. See next page for more details. (20 cards minimum per pair of students)
- 2) Design a working draft (on paper) of your “storyboard” or layout of your slideshow presentation. Slides will include Headings and bullet points.
- 3) Write your speeches and design your PowerPoint. All presentations must include fact-based research **IN YOUR OWN WORDS!** You will cite the sources for your factual content as well as all of your images/photos and diagrams on a citations page (the last slide of your PowerPoint).

You should NOT use complete sentences on your PowerPoint slides. Bullet points are more appropriate for this type of presentation format. **PLEASE DO NOT USE MORE THAN FIVE (5) BULLET POINTS PER PAGE!**

Your presentation will consist of 7-8 slides that follow an outline of your speech. Title page, citations page, and ethical considerations page are required.

**Slide 1:** Title page - Include the title of your presentation; the first and last names of you and your partner; and the month and year.

**Slides 2-5 (or 6):** These will be the body of your presentation. **All slides must have a heading at the top. Five or more slide should have an image.**

Suggested heading include:

Introduction

Explanation/Definition/What is it?

Background Information/History - Give your audience the background behind your topic.

General Information

How it Works

Case Study or Interview

**Slide 6 (or 7):** You must also devote one (1) slide to ethical considerations pertaining to your topic. For example: There are “pros”/advantages/benefits and ”cons”/disadvantages/dangers to cloning humans. Try to list them. (Note: Not all topics will yield obvious ethical considerations. Therefore, please see Ms. Chandler if you are having trouble with this aspect of the presentation.)

Your opinion (optional) or Conclusion

**Last slide:** Citations