

Genetic Disease Detectives

Name _____

Date _____ Period _____

Purpose:

Our purpose is to learn more about genetics through the study of genetic diseases.

What kinds of genetic diseases are there? Are all genetic diseases fatal?

Procedure:

Choose a genetic disease.

Research the disease using the library and internet.

Create a PowerPoint that gives information on your genetic disease.

Present your information to your science class.

Hear others present on their genetic diseases.

On the last slide, you need a bibliography. For your research, use at least 3 sources, at least one book or encyclopedia and at least one website. If you cannot find any of these, please see me. For your bibliography, you need to look at page _____ in your agenda. If you use a website, you must know the author of the website (either a person or an organization). Remember a search engine like Google.com is not a source. List the website where you actually got your information and **your assignment will not be accepted without a bibliography!**

My Genetic Disease is: _____

The poster or PowerPoint is due (and I should be ready to present)

on: _____

Genetic Disease List:

Cystic Fibrosis

Huntington's Chorea

Down Syndrome

Sickle Cell Anemia

Diabetes

Hemophilia

ADA Deficiency

Family Hypercholesterolemia

Myotonic Dystrophy

Duchenne Disease (muscular dystrophy/ DMD)

ALD adrenoleukodystrophy

Gaucher's Disease

Retinoblastoma

Malignant Melanoma

Marfan Syndrome

Achondroplasia

Neurofibromatosis

Color Blindness

Albinism

Tay-Sach's Disease

Amyotrophic Lateral Sclerosis

Cri-du-Chat

Patau Syndrome

Familial Colon Cancer

PKU phenylketonuria

- If you would like to study a disease that is not on this list, please ask your teacher first.

PowerPoint Presentation Requirements:

- Follow the example slides below when preparing your PowerPoint presentation
- Make sure you use your own words, and you have *COMPLETE* understanding of everything on the slide
- All slides must have an appropriate graphic that *RELATES* to each slide
- Use the same background for all 5 slides

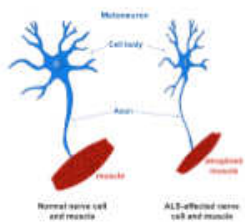
Name of Disease



Your Names


General Description

- Basic description of the disease
 - Must use your own words to explain it
 - Imagine you are teaching to a 4th grader




Facts & Inheritance

- On what chromosome it is located?
- How is it inherited?
- Frequency of the disease
- How can genetic counselors help?




- Symptoms
 -
 -
 -
 -
- Treatments
 -
 -
 -
 -



- Use the same text 5 slides
- Keep transitions minimum

Summary

- Wrap up the most important information here
- 2-3 bullet points



for all
to a

Genetic Disease Detectives Research Worksheet

1. Name of genetic disease:

2. 3 key words to use for Internet searches

a.

b.

c.

3. General description of the disease:

4. On what chromosome is the affected gene located?

5. What is the frequency of the disease? (Note if there is a specific population that has a higher frequency. Ex. Males, Females, Ethnicity)

6. How is the disease inherited? How can genetic counselors help?

7. What are the symptoms or effects of the disease?

8. What treatments are available for patients with the disease?

9. Other interesting facts that you would like people to know

10. Bibliography (3 Informational sources, and one for every graphic *MANDATORY*)

Informational Sources: (Examples in your agenda)

-
-
-
-
-

Image Sources: (ex. American Cancer Society <http://www.cancer.org/>)

Slide 1:

Slide 2:

Slide 3:

Slide 4:

Slide 5

	Poor (3 pts)	Satisfactory (4 pts)	Excellent (6 pts)
Slide 1: Title Page	<ul style="list-style-type: none"> Names Only 	<ul style="list-style-type: none"> Name of Disease Your Names No graphic 	<ul style="list-style-type: none"> Name of Disease Your Names Related Graphic
Slide 2: General Description	<ul style="list-style-type: none"> Insufficient Information No Graphic 	<ul style="list-style-type: none"> Lacking some information Unrelated Graphic 	<ul style="list-style-type: none"> What is the disease Related Graphic
Slide 3: Facts & Inheritance	<ul style="list-style-type: none"> Insufficient Information on inheritance No Graphic 	<ul style="list-style-type: none"> Lacking some information on inheritance Unrelated Graphic 	<ul style="list-style-type: none"> Location Inheritance Frequency Genetic Counseling or testing Related Graphic
Slide 4: Symptoms & Treatment	<ul style="list-style-type: none"> Insufficient Information on symptoms and treatments No Graphic 	<ul style="list-style-type: none"> Lacking some information on symptoms and treatments Unrelated Graphic 	<ul style="list-style-type: none"> At least 4 symptoms At least 2 treatments Related Graphics
Slide 5: Summary	<ul style="list-style-type: none"> Insufficient Summary No Graphic 	<ul style="list-style-type: none"> Moderate Summary Unrelated Graphic 	<ul style="list-style-type: none"> 2-3 bulleted points Related Graphic
Bibliography	<ul style="list-style-type: none"> No Bibliography 	<ul style="list-style-type: none"> 1-2 information sources 1-2 image sources Incorrectly Cited 	<ul style="list-style-type: none"> 3 information sources 3 image sources Correctly Cited
Aesthetics	<ul style="list-style-type: none"> Background and Font consistent Too many distracting transitions 	<ul style="list-style-type: none"> Background and Font vary Random transitions 	<ul style="list-style-type: none"> Background and Font consistent Consistent and Minimal transitions
Presenting	<ul style="list-style-type: none"> Not prepared Group was lost. Failed to answer the audience's questions 	<ul style="list-style-type: none"> Not all of the members spoke on the topic At least 1 person seemed unknowledgeable 	<ul style="list-style-type: none"> All members spoke Good understanding of topic. Questions were answered accurately
Prop	<ul style="list-style-type: none"> Hard to read or see Doesn't relate 	<ul style="list-style-type: none"> Ordinary Most can read/see. 	<ul style="list-style-type: none"> Very creative Big enough for all to see

Tips for Online Research

1. First, skim-read to get a basic idea of whether the site has information that you can use in your project.
2. Then, go back and reread slowly and carefully.
3. Pause frequently to think about what you just read, especially if you didn't fully understand it. Summarize small sections **in your own words**.
4. Talk about it with your partner as you read, to make sure you can say **in your own words** and understand the information.
5. Take notes! Write down the main ideas and important facts so that you have notes to go back to when you are making your project. Draw pictures or make charts too.
6. Look up important words that you don't know. Write definitions **in your own words** so that you can answer questions during your presentation.

-Key Vocabulary:

Sex linked – A gene found on the 23rd set of chromosomes. These diseases are more common in men.

Autosomal – A gene found on the 1st through 22nd chromosomes. These diseases are generally equal in men and women.

Genetic Counselors – Someone (like a doctor) who tests to see if you or your children have a genetic disease. They can help someone learn to live with a genetic disease.