Genetics Webquest

Introduction
There are thousands of genetic disorders that affect humans, some of which can have profound effects on a person's quality of life. Genetic disorders are passed from parents to offspring in the genetic code, and in some cases, a person may be a carrier for a disease and pass it to their children without knowing. Because genetic diseases are usually caused by errors or mutations in the genetic code, it is extremely difficult to cure the condition, and in most cases, doctors can only treat the symptoms.

TASK:
You have been selected by a local doctor to design a genetic disease brochure for her office. She asked that you select a genetic disease that would present information for patient education. The brochure should be designed so that it can be folded into thirds and displayed in her waiting room.

Procedure:

1. Choose which disease you will research. There are many genetic diseases to choose from, and a list of links that you can use to explore the known human genetic diseases.

Some examples of genetic diseases are:

- Sickle-Cell Disease
- albinism
- Cystic Fibrosis
- colorblindness
- Hereditary Deafness
- Achondroplasia (dwarfism)
- Huntington's Disease
- Trisomy 13 (Edward's Syndrome)
- Klinefelter Syndrome
- Progeria (premature aging)
- Gaucher Disease
- Duchenne Muscular Dystrophy
- Hemophilia
- Phenylketonuria (PKU)
- Tay Sachs Disease
- Adrenoleukodystrophy (Lorenzo's Oil)
- Coffin-Lowry Syndrome
- Fragile X Syndrome
- Marfan Syndrome (Alton Giant)
- Rett Syndrome
- Turner Syndrome
- Xeroderma pigmentosum
- Prader-Willi Syndrome
2. Use the following questions to guide you in your research:

**Medical**
1. How does a person inherit it? Is it dominant or recessive?
2. What are the possible genotypes of the parents? If the disease is a chromosomal abnormality, describe the abnormality.
3. How prevalent is the disease in the population (include statistics)?
4. What are the chances of a person with this disease passing the disease to their offspring (include possible scenarios)?
5. How is the disease diagnosed?
6. What are the physical symptoms of the disease?
7. What is the life expectancy of someone with the disease?
8. How can the disease be treated?

**Personal**
1. What is everyday life like? What is the quality of life?
2. What limitations does the person have?
3. What are some organizations that can help a family cope with a child’s disorder (give web links or contact information)
4. How possible is it that a cure will be found (latest research)?

**Reflection:**

**Helpful websites:**
http://dmoz.org/Health/Conditions_and_Diseases/Genetic_Disorders/

**Webquest Adapted from:**
http://www.tenafly.k12.nj.us/~asandt/genetics.htm
Sickle-Cell Disease
Hemophilia
albinism
Phenylketonuria (PKU)
Cystic Fibrosis
Tay Sachs Disease
colorblindness
Adrenoleukodystrophy (Lorenzo's Oil)
Hereditary Deafness
Coffin-Lowry Syndrome
Achondroplasia (dwarfism)
Fragile X Syndrome
Huntington's Disease
Marfan Syndrome (Alton Giant)
Trisomy 13 (Edward's Syndrome)
Rett Syndrome
Klinefelter Syndrome
Turner Syndrome
Progeria (premature aging)
Xeroderma pigmentosum

Gaucher Disease

Prader-Willi Syndrome

Duchenne Muscular Dystrophy