Human Genetic Disorder Project

You have been challenged to incorporate your knowledge about cells, cell division, genetics, and DNA to research and present on a specific genetic disorder. You have already completed your basic study about the ideas of genetics and mutations. Now with the information that you have you are being asked to research a specific genetic disorder.

- **IN YOUR OWN WORDS**, using complete sentences, paragraph style, summarize the information in the spaces provided.
- **DON’T just COPY and PASTE** information from the INTERNET!
  Analyse Information from at least 2-3 sites and summarise them in your own words.
- **IMAGES** – at least 3 good and appropriate images need to be included in your report
- You must have the following **sub-headings** in your project.

**Introduction**

- What is the name of the disorder that you are researching?
- Who discovered this disorder, when and where, etc?
- What is the incidence of this disorder? (eg. One in 10,000 Australia, more in males – males: females = 7:3, is it more often in some ethnic groups)
- Is this disorder more likely to occur in certain populations?

**Cause of the Disorder**

- What category of genetic disorders does this disorder fit into (single gene defect, multifactorial defect, mitochondrial disorder or chromosome abnormalities)
- Is it a recessive or dominant trait?
- Is it sex-linked
- Which chromosome is the gene for the disorder located on?
- Are there environmental factors or influences?

**Genetic Diagrams(s)**. Make a drawing of how the disorder is inherited (such as a Genetic diagram, Punnett square or pedigree). You need other information if Punnett square is not applicable to your selected disorder.

**Signs and symptoms**

- How do these problems affect the patient’s daily life?
- List the parts of the body that are affected.
- How does the disorder progress? Over time, what happens to the person who has the disorder?
• Is the disorder dangerous?

**Treatment of this disorder**

• Don’t just mention – no cure!
• Since the patient has a lot of associated problems – what sort of medication, physiotherapy etc may help to alleviate his or her problems.
• What is the status of research on the disorder? This information could also include therapy or ways the individual with the disorder adapts.

**Prevention of this disorder**

• A description of any protocols that may be used to determine carriers and/or individuals who might have the disorder and the probabilities of their passing the disorder to their offspring.
• Genetic Counselling, Genetic Tests

**References**

• 3 References need to be included – Be specific
  Don’t just simply site: Google image, Wikipedia etc.
• When you site the internet information, you need to write down the Title and the publisher other than the actual site:

  Eg. Genetic Disorder Information from genomics.energy.gov

• If it is a book or journal, you need to include the author, year of publication, Title of the book or journal, edition, publisher, page numbers.

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<table>
<thead>
<tr>
<th>DNA</th>
<th>You have yet to describe the basic processes by which genetic information is passed from one generation to the next</th>
<th>You have described with some examples, the basic processes by which genetic information is passed from one generation to the next with scientific terms</th>
<th>You have explained, with a variety of examples, the basic processes by which genetic information is passed from one generation to the next with scientific terms</th>
<th>You have explained in depth, the basic processes by which genetic information is passed from one generation to the next with scientific terms</th>
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<tbody>
<tr>
<td>Punnett squares</td>
<td>You have yet to explore patterns in the inheritance of genetically controlled characteristics</td>
<td>You have described patterns in the inheritance of genetically controlled characteristics</td>
<td>You have explained patterns in the inheritance of genetically controlled characteristics with accuracy and provide a variety of examples</td>
<td>You have coherently explained, patterns in the inheritance of genetically controlled characteristics with accuracy, provide a variety of examples</td>
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<tr>
<td>Variation</td>
<td>You have yet to describe biological ideas relating to genetic variation</td>
<td>You have explained the importance of variation within a changing environment</td>
<td>You have explained the importance of variation within a changing environment, providing various examples</td>
<td>You have coherently explained, the importance of variation within a changing environment, providing various examples</td>
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<tr>
<td>Overall</td>
<td>Working below curriculum level</td>
<td>Working At curriculum level</td>
<td>Working Above curriculum level</td>
<td>Working Beyond curriculum level</td>
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