

Mapping Genetic Variations

A WebQuest for Career: Genetic Counselor/Genetic Testing and Support

Introduction

As researchers probe the complexities of human chromosomes and genes, they are finding more diseases and disorders for which some people have a genetic predisposition. Scientists have found that 99.9 percent of DNA sequences in the human genome are the same from person to person. The remaining 0.1 percent is the location of genetic variations that cause people to be more susceptible to diseases or disorders. In this WebQuest, you will explore the International HapMap Project, which provides a map of human genetic variations. Then, you will write a newspaper article on the topic.

Task

You are a reporter who works for the local newspaper. A well-known scientist has come to town to give a speech about the work of the International HapMap Project. Your task is to cover the speech and to write an article about the project.

Process

Use the resources listed in the Resources section to begin your research. The Web sites listed are good starting points, but further Internet research will be necessary. Record your answers to the following questions. You will use them to write a newspaper article at the end of the project.

1. What is a haplotype?
2. What is the HapMap?
3. What is the goal of the International HapMap Project?
4. Who owns the HapMap?
5. Which countries are involved in the International HapMap Project?
6. What benefits does the HapMap provide?

Newspaper Article

Once you have completed your research, organize your information and write a newspaper article about the International HapMap Project. The article is slated to fill the newspaper's Sunday science page, so it should be at least 800 words. Make sure to include your sources. In the article, when you write about the local speech of the "well-known scientist," you can either create a person to fill this role, or you can use a scientist whose name you find connected to the project when you are doing your research. Your teacher will display your article and those of your classmates in your classroom, so that everyone can read each other's work.

Resources

[National Institutes of Health](#)

[National Geographic](#)

[The International HapMap Project](#)

[Centers for Disease Control and Prevention](#)

Evaluation

Read this rubric to see how you will be scored on this activity.

	Criteria				Points
	0	5	10	15	
Task	The task was not completed.	It appears that some effort was made to complete the task, but major ideas are missing.	The task was completed, but some information was incorrect.	The task was completed with great attention to detail and thorough documentation	
Process	The process was not followed.	The process was followed, but not all of the questions were answered.	The process was followed but some answers were incorrect.	It was clear that much research went into this project. The questions were thoroughly and correctly answered.	
Newspaper Article	The newspaper article was too short and was not well prepared.	The newspaper article was completed, but it did not include some necessary information about the International HapMap Project.	The newspaper article was the correct length, but it included some incorrect information about the International HapMap Project.	The newspaper article was well done. It flowed well from idea to idea, and it incorporated the “speech” of the “well-known scientist.”	
Total Score					