



Curriculum Units by Fellows of the Yale-New Haven Teachers Institute  
1982 Volume VII: Human Fetal Development

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## Genetics

Guide for Curriculum Unit 82.07.03  
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This unit has been designed to cover some of the current material in genetics. It consists of ten lessons with development of a working vocabulary and appropriate activities. Each lesson concerns itself with a different aspect of the science of human genetics and relies on the teacher's background to complete the coverage of the material. The topics of the lessons are:

1. In the Beginning. This is a reading assignment on early genetics and geneticists.
2. So What's a Chromosome? Current concepts of chromosomes and their examination in the form of Karyotypes are introduced.
3. Some Heavy Molecules...and Some Heavy Discoveries explore the make-up of nucleotides and DNA structure.
4. RNA. This section presents the several kinds of RNA and information on coding in RNA for amino acids and proteins.
5. Genes, Alleles and Possibilities. The definition of a gene in terms of molecular biology is combined with Mendelian genetics.
6. Mitosis and Meiosis Revisited Updates and reviews the steps of the cell cycle.
7. Sex Chromosomes and Others. Presents what can go wrong with chromosomes in general and sex chromosomes in particulars
8. Autosomal Recessive Disorders. Introduces the problem of these disorders, lists some and assigns individual research on them.
9. What Can Go Wrong and Teratogens. Gives information relating molecular biology of genetics to birth defects, It should be supplemented by a film from the March of Dimes on birth defects.
10. Genetic Engineering. Acquaints students with a simple version of recombinant technique and hopefully will arouse curiosity about what's happening in this field.

Simple tasks in manipulating the material are presented throughout the unit and the assignments demand the

use of outside research and reading in current literature.

(Recommended for 10th and 11th grade Human Physiology, Biology Higher Levels)

**Key Words**

*Biology Birth Defects Down's Syndrome Sickle Cell Anemia Human Genetics Defects*

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